# Welcome to the Joint Meeting of ADSA–ASAS–PSA

Joseph O'Donnell
ADSA President

Terry Etherton
ASAS President

Tony Pescatore
PSA President

We're pleased you've joined us here in St. Louis to see old friends, make new ones, and exchange information with other scientists. This second joint meeting of the American Dairy Science Association, the American Society of Animal Science, and the Poultry Science Association will provide the very best in professional networking and educational opportunities.

We have an outstanding program this year that has something for everyone, including premeeting sessions on dairy foods sensory evaluation, biosecurity, and digestive physiology and metabolic challenges. In his keynote address, Dr. Christopher Delgado, senior research fellow at the International Food Policy Research Institute, will discuss the important topic of global meat and dairy products. The program includes a number of very topical presentations on animal health and welfare, as well as symposia on reducing the environmental impact of animal production, reproductive management, and food safety.

Last year, ASAS and ADSA changed the poster presentations format so that they took place in the morning, before symposia and oral sessions started, to accommodate networking. This format will be used again this year, with poster sessions from 7:30 to 9:30 each morning to allow you the opportunity to review and discuss poster displays.

Award ceremonies have been staggered—with the ASAS ceremony on Monday, July 26, the ADSA ceremony on Tuesday, July 27, and the PSA awards banquet on Wednesday, July 28—to allow you to attend one or all three. An old-fashioned ice cream social open to all will be held Tuesday night after the ADSA award ceremony.

The agenda for this year's meeting is a testament to the program organizers who have invested an enormous amount of time and effort in bringing distinguished scientists in animal agriculture and animal food products to one place. In addition to several invited speakers, this program represents 35 symposia and almost 2,000 presentations. Many thanks to the ADSA/ASAS/PSA program committees and staff of ADSA, PSA, ASAS, and FASS for their hard work. Our program committee, chair Larry Benyshek, John Carey, Joe Ford, and Chuck Schwab, along with FASS staff members Jennifer Gavel, Keely Roy, Lisa Sprinkle, and Kim Surles, did a fantastic job. A special thanks goes out to the executive directors of the three societies—Jerry Baker, Brenda Carlson, James Kessler, and Paula Schultz—for keeping everything headed in the right direction.

Thank you for participating in the ADSA–ASAS–PSA joint meeting and for making it a success.

# Table of Contents



## www.fass.org/2004

## Important Message

In the event that protestors interrupt your meetings, please ignore them. Their goal is to attract attention. Any attention you give them will only help them. Please ignore them and continue your regular business. Convention staff has a plan in place to handle these situations, and they depend on your cooperation. If you are approached by the media for an interview, please politely refuse and direct them to the convention's media room where spokespersons are available. Keep your cool and walk the other way.

***Thank you for your cooperation***.

## Survey of Meeting Attendees

The program committee has provided the meeting attendees an opportunity to help improve benefits to members and attendees. A survey will be available at the Cyber Cafe during the meeting. The survey should only take a few minutes to complete. When you use the Cyber Cafe to access the Internet or check emails, please take advantage of the opportunity to provide your input and complete the survey. Thank you!

# General Meeting Information

## Registration Hours

Registration will be located in Plaza Lobby North of the America's Center. Registration hours for the 2004 ADSA-ASAS-PSA Joint Meeting, including special symposia and other events, will be as follows:

Saturday, July 24 (pre-registered only) ..... 10 am - 5 pm
Sunday, July 25 ..... 7 am - 7 pm
Monday, July 26 ..... 6:30 am - 4 pm
Tuesday, July 27 ..... 6:30 am - 3:30 pm
Wednesday, July 28 ..... 7 am - 3 pm
Thursday, July 29 ..... 8 am - 10 am

## Headquarter Hotels

***Adam's Mark - ASAS HQ***
Fourth St. & Chestnut, St. Louis, MO 63102
Phone: (314) 241-7400; Fax: (314) 241-9839

***Holiday Inn Select - Student HQ***
811 North 9th Street, St. Louis, MO 63101
Phone: (314) 421-4000; Fax: (314) 421-5974

***Renaissance Grand Hotel - ADSA and PSA HQs***
800 Washington Avenue , St. Louis, MO, 63101, USA
Phone: (314) 621-9600; Fax: (314) 621-9601

## Publicity/Public Relations/Media Center

Room 116 will serve as the Publicity and Public Relations Center. Publicity and news releases will be issued from this location.

## Business Center

There is a business center located in the Plaza Lobby of the America's Center. There is also a Kinko's located in the Renaissance Grand across the street from the America's Center.

## Speaker Ready Room

The Speaker Ready Room is located on the first floor of the America's Center in Room 120. This room will be available from 7 am - 5 pm each day of the meeting and will be equipped with an LCD projector, screen, and computer for presentation preparation.

## Hospitality Lounge

This area, located in the Convention Center, Room 120, offers meeting attendees a place to relax, get acquainted, or catch up with old friends. It's also a convenient place when making plans with someone to meet at a specific location. Information on St. Louis will be posted and/or available here.

## Poster Presentations

We have dedicated a two-hour block each morning for poster presentations only. The "open posters" will be from 7:30 am – 9:30 am Monday, Tuesday, and Wednesday in the Convention Center, Exhibit Hall 5. Oral sessions will not begin until 9:30 am Monday and Tuesday, and 10:30 am on Wednesday.

Each poster presentation will be scheduled for public viewing for the entire day, with the presenting authors available during the "open posters" time (7:30 am – 9:30 am). All posters should be mounted on the board one-half hour prior to the beginning of the day's session (posters open at 7:30 am). The exhibit hall will open at 6:15 am on Monday, July 26 – Wednesday, July 28. Posters must be removed by 5 pm each day.

The poster board surface area is 48” high and 96” wide. The top of the poster space should include the abstract number, title, authors, and affiliations. The lettering for this section should be at least 1" high. ***Presenters must furnish their own tacks or push pins.***

## Locating the Correct Poster Board

Please look for the poster board number as noted in the program. Each poster board will have a number, which corresponds to the number in the program. Monday posters will have an “M”, Tuesday a “T”, and Wednesday a “W” preceding the board number.

## ARPAS Continuing Education Units

The ADSA-ASAS-PSA Joint Annual Meeting has been approved for up to 28 continuing education units (CEUs) for the American Registry of Professional Animal Scientists certification requirements. Check the schedule of events for the times and location of the exams.

## Placement Center

The Placement Center is located in Exhibit Hall 5. The job center announcements and resumes will be organized into the following categories for posting and distribution: Animal Health, Environment, and Behavior; Breeding and Genetics; Extension; Food Science; International Animal Agriculture; Growth and Development; Lactation; Meat Science and Muscle Biology; Nutrition; Nonruminant Nutrition; Pharmacology and Toxicology; Poultry; Production and Management; Reproduction; Reproductive Physiology; Ruminant Nutrition; Teaching

## Cyber Café and Internet Connections

Let technology keep you caught up with work and in touch with friends and family during the ADSA-ASAS-PSA Annual Meeting. The Cyber Cafe, sponsored by Diamond V Mills and DSM Nutritional Products, Inc., is located in Exhibit Hall 5. America’s Center also has a complimentary Internet Cafe located in the Plaza Lobby and Wireless Internet connections available in selected areas (Washington Lobby, Plaza Lobby, and Second Floor Atrium) at no charge to the general public.

# Transportation

### *MetroLink*

St. Louis' light rail system, MetroLink, has been called one of the best mass transit systems in the country. The clean, efficient trains are a big hit with visitors and locals alike who want to see many of St. Louis' attractions without a car. The system – which begins at Lambert-St. Louis International Airport and covers 38 miles – ends in suburban Belleville, Illinois and stops at 28 Missouri and Illinois stations in between.

MetroLink's trains pull into stations near many of St. Louis' visitor attractions. These stations, listed in bold, are near the following attractions: Delmar/Loop - Loop neighborhood via buses 58, 91, 97, 60 or 16; Forest Park – Zoo, Art Museum, History Museum, Science Center; Central West End – Central West End neighborhood, restaurants, Cathedral Basilica of Saint Louis; Grand – Saint Louis University, Cupples House, Museum of Contemporary Religious Art, Grand Center entertainment district theaters, Pulitzer Foundation for the Arts, Contemporary Art Museum, via buses 57, 70, 92, 15 or 42; Union Station – Union Station festival marketplace, restaurants, entertainment, hotels; Civic Center – Savvis Center arena, City Hall, hotels; Stadium – Busch Stadium, St. Louis Cardinals Museum, Bowling Hall of Fame & Museum, hotels; 8th & Pine – Central downtown, restaurants, Kiener Plaza, Old Courthouse, hotels; Convention Center – America's Center convention complex, Edward Jones Dome, hotels; Arch-Laclede's Landing – historic district, entertainment, President Casino, restaurants, Gateway Arch, riverboat cruises, hotels; East Riverfront – Casino Queen.

A one-way ride on MetroLink costs $1.25. Tickets may be purchased and validated at each station. Tickets from the airport station to downtown St. Louis cost $3. Day Passes for MetroLink and MetroBus are $4. Trains run every seven minutes during rush hours, every 10 minutes during non-rush hours and every 15 minutes in the evening during the week. A Free Ride Zone allows passengers to board at no charge from Union Station to Arch-Laclede's Landing and all stations in between, Monday through Friday, from 11:30 a.m. until 1:30 p.m. For schedule information, dial (314) 231-2345. TTY: (314) 982-1555.

### *MetroLink Shuttles*

Three shuttle services take visitors from MetroLink stations to even more attractions. From the Forest Park Station, the #90 Hampton bus serves the Forest Park attractions. The Garden Express shuttle runs on weekdays only between the Central West End Station, the Missouri Botanical Garden and Tower Grove Park. The #58 Clayton-Ballas bus leaves from the Forest Park Station for Washington University, the Clayton neighborhood and the Galleria shopping mall. A one-way adult fare costs $1.25.

### *MetroBus and Greyhound*

The Bi-State system – called MetroBus (314) 231-2345 – serves most areas of St. Louis and St. Louis County. Call the Transit Information Center, Monday through Friday, or visit the MetroRide store in the Visitor Information Center at Seventh and Washington in downtown St. Louis from 8:30 a.m.-5:00 p.m. Buses generally run from 4:00 a.m. until 2:00 a.m. The fare is $1.25. Greyhound Bus Lines (314) 231-4485 or (800) 231-2222 operates service to and from the St. Louis station at 1450 N. 13th Street.

### *St. Louis by Car*

An easy-to-use network of interstate highways runs through St. Louis making it a short drive to attractions. From the east, I-70, I-64 and I-55 head west across the Poplar Street Bridge and into downtown St. Louis. I-70 swings through downtown, past the airport and west through Missouri. I-55 turns south past the Anheuser-Busch brewery and continues through southeastern Missouri. I-64, which the locals call Highway 40, continues west through St. Louis, past Forest Park and to the Missouri River. I-44 begins in St. Louis and runs southwest along the former path of Route 66 to Springfield, Missouri.

### *Vans, Taxis & Limousines*

Trans Express Transportation (314) 428-7799 or (800) 844-1985 provides van service from Lambert-St. Louis International Airport to downtown hotels for $13 one-way and $21 round-trip. Other area hotels are also served.

Taxi companies maintain stands at the America's Center convention complex, at the Airport and at major hotels throughout St. Louis. Taxi drivers are uniformed and their vehicles must meet strict standards enforced by the St. Louis Metropolitan Taxicab Commission. Eleven limo services, offering everything from town cars to super-stretch vehicles, also operate in St. Louis.

# Special Events

***Dairy Foods Workshop***
***Saturday, July 24, 1:30 pm - 6 pm***
***and Sunday, July 25, 8:45 am - 1 pm***
***Convention Center, Room 225***

Dairy Product Evaluation: Traditional and Descriptive Techniques is an 2004 ADSA Pre-Meeting Workshop intended for graduate and undergraduate students and others using sensory techniques in their dairy research, as well as those with a general interest in the sensory evaluation of dairy products. The first part of the workshop reviews traditional techniques used in USDA grading of dairy products, and focuses on the judging of Cheddar cheese and ice cream through lectures and practical training sessions. The second part of the workshop covers descriptive analysis, data interpretation and reporting techniques used in dairy research, and includes a practical training session using descriptive techniques for Cheddar cheese. This workshop brings together the expertise of Mr. R. Aschebrock, Dr. R.L. Bradley, Dr. R.T. Marshall and Dr. M.A. Drake for a comprehensive view of the sensory evaluation of dairy products. To facilitate travel to and attendance at the 2004 ADSA Annual Meeting, the workshop will be held from 1:30 pm to 6:00 pm on Saturday July 24 and from 8:45 am to 12:30 pm on Sunday July 25, 2004.

***Opening Session***
***Sunday, July 25***
***7 pm - 8:30 pm***
***Convention Center, Rooms 220-229***

"A Brave New World for Global Meat and Dairy: The Rise of the Developing Countries." In September 2003, Christopher Delgado was appointed the founding Director of the Joint International Livestock Research Institute (ILRI)-International Food Policy Research Institute (IFPRI) Program on Livestock Market Opportunities. ILRI, based in Nairobi, Kenya, and IFPRI, based in Washington, D.C., are international agricultural research centers funded by the Consultative Group on International Agricultural Research (CGIAR), whose secretariat is headquartered in the World Bank. The Joint ILRI-IFPRI Program on Livestock Market Opportunities conducts collaborative research in a large number of developing countries, seeking market-oriented ways to increase the vital contribution of livestock to improved human welfare. Chris continues his twenty-five year affiliation with the Markets, Trade and Institutions Division of IFPRI, where he is also a Senior Research Fellow. In recent years, his work has focused on the growing markets in developing countries for livestock and fisheries products. Author or editor of five books and over one hundred articles in professional journals, he has taught or conducted research at the Center for Development Studies and Education in Chad, the University of Ouagadougou in Burkina Faso, the University of Michigan, the University of Puerto Rico, and the Johns Hopkins School of Advanced International Studies in Washington, D.C. Dr. Delgado received his Ph.D. in Economics from Cornell University and his undergraduate degree in Economics and Philosophy from Tufts University.

***Opening Reception***
***Sunday, July 25***
***8:30 pm - 10 pm***
***Convention Center, Ballroom Foyer***

End the evening on a sweet note by joining us in the Ballroom Foyer after the Opening Session for socializing with colleagues and friends over a delicious dessert buffet.

***ASAS Awards Program***
***Monday, July 26***
***7 pm - 8:30 pm***
***Adam's Mark, St. Louis DE***

All meeting participants, families, and friends are welcome to attend the 2004 ASAS Awards Program. Please join us at this special event congratulating the 2004 ASAS award winners at the Adam's Mark on Monday, July 26.

### *Graduate Student Mixer*
### *Monday, July 26*
### *9 pm - 12 am*
### *Trainwreck on the Landing*

Join your fellow graduate students from ASAS, ADSA, and PSA at a mixer at Trainwreck on the Landing. The mixer will be held on Monday, July 26 from 9 pm - midnight. Trainwreck (www.trainwrecksaloon.com) is an old-time saloon with a restaurant and sports theme. A 2nd story nightclub with high tech lights and music for 350 people wanting to dance the night away is also available. It is located in Laclede's Landing not far from the Convention Center and meeting hotels. This private party for graduate students will include refreshments served up in this establishment that used to be a mid-nineteenth century five-story warehouse, originally occupied by the Buck Stove Company. Come enjoy an event to meet and socialize with other graduate students.

### *Undergraduate Student Mixer*
### *Monday, July 26*
### *8:30 pm - 12:30 am*
### *Holiday Inn Select*

Come ready to rock on Monday, July 26 from 8:30 pm – 12:30 am at the SAD Dance. Plan now to be a part of this great night of dancing, refreshments and fun. This event is open to all meeting attendees, including students, advisors and anyone else looking for a fun evening.

### *5K Fun Run*
### *Tuesday, July 27*
### *6:30 am*
### *Meet at America's Center*

Join in the fun on Tuesday, July 27 at 6:30 am. Runners will leave from the Washington Street entrance of the America's Center. The scenic route will head to the Riverfront and go south to the Poplar Street Bridge and circle back to America's Center offering the runners a great view of the river and St. Louis Arch. Refreshments will be available at America's Center.

### *Spouses Luncheon*
### *Tuesday, July 27*
### *12 pm - 2 pm*
### *Laclede's Landing*

Gateway Arch Riverboats welcomes you aboard a cruise on the Mississippi. The Tom Sawyer riverboat is a replica of their 19th century predecessors; they have all the traditional steamboat charm, plus all the conveniences that modern vessels can offer. The Tom Sawyer vessel is located on the St. Louis Levee below the Gateway Arch. The Spouses lunch cruise is scheduled for Tuesday, July 27; boarding 12 pm; departing 12:30 pm; 1½ hour cruise with lunch. Take a trip back in time with the Captain's historic narration of St. Louis and learn of an era gone by.

### *ADSA Awards Program*
### *Tuesday, July 27*
### *7 pm - 8 pm*
### *Renaissance, Majestic A-D*

All meeting participants, families, and friends are welcome to attend the 2004 ADSA Awards Program. Please join us at this special event in congratulating all of our award winners on Tuesday, July 27 at the Renaissance.

### *2004 ADSA-ASAS-PSA Ice Cream Social*
### *Tuesday, July 27*
### *8:30 pm - 9:30 pm*
### *Renaissance, Majestic A-D*

The ADSA-ASAS-PSA Ice Cream Social will be held from 8:30 pm - 9:30 pm at the Renaissance. All meeting participants, families, friends, and award donors are invited to join us for the joint Ice Cream Social.

***ADSA Foundation Auction & Raffle***
***Tuesday, July 27***
***8:30 pm - 9:30 pm***
***Renaissance, Majestic A-D***

Also while enjoying your ice cream, take one more look at the silent auction items and place your last bid. The 2004 auction promises to be more exciting than ever, with more opportunity to get your hands on some fantastic items while catching up with old friends and making new acquaintances. More than 40 items have been donated to this year's event. Items include an array of milk bottles, framed art, dairy collectibles and much more.

***Golf Tournament***
***Wednesday, July 28***
***12:30 pm***
***America's Center Lobby***

The 2004 Golf Scramble is to take place at Far Oaks Golf Club in St. Louis on Wednesday, July 28 with a tee time of 1 pm. The bus will depart from the America's Center lobby at 12:30 pm.

***PSA Awards Banquet***
***Wednesday, July 28***
***6 pm - 9:30 pm***
***Convention Center, Room 225/226***

All meeting participants, families, and friends are welcome to attend the 2004 PSA Awards Banquet. Please join us at this special event in congratulating all of our award winners on Wednesday, July 28 at the America's Center Ballroom 223-224.

# ADSA-ASAS-PSA Award Donors

## ADSA

Alltech, Inc.
ABS Global, Inc.
ADSA Foundation
American Dairy Science Association
American Feed Industry Association
Cargill Animal Nutrition
DeLaval Inc.
DSM Food Specialties USA, Inc.
Elanco Animal Health
International Association of Food Industry Suppliers
International Dairy Foods Association
Kraft Foods
Land O'Lakes, Inc.
Land O'Lakes Farmland Feed/Purina
Marschall Rhodia, Inc.
Merial
National Milk Producers Federation
Nutrition Professionals, Inc.
Pfizer Animal Health
Pioneer Hi-Bred International, Inc.
West Agro, Inc.

## ASAS

ABS Global, Inc.
American Feed Industry Association
American Society of Animal Science
Bouffault Award Fund
DSM Nutritional Products, Inc.
Elanco Animal Health
Land O'Lakes/Purina
Merial
Monsanto Company
Morrison Award Fund
Omega Protein Corporation
Pfizer Animal Health
The Iams Company

## PSA

Alltech
American Egg Board
American Feed Industry Association
American Poultry Historical Society
Hy-Line International
Land O'Lakes/Purina
Merck
National Chicken Council
National Turkey Federation
Nicholas Turkey Breeder Farms
Phibro
Texture Technologies Corp.
United Egg Products

# Thank you for your support!

# St. Louis Information

St. Louis is known around the world for its collection of fascinating attractions, great restaurants and exciting blues music and nightlife. But what was here on the banks of the Mississippi River before the modern, lively city you see today? Clues are all around in our museums, our architecture and our cosmopolitan outlook on life.

St. Louis was French and Spanish before it was American. And before the European explorers traveled down the great river, this rich land was home to the Mississipians, a mighty Indian civilization of mound builders where more than 20,000 people lived in the fertile river valley. When that culture disappeared during Europe's Middle Ages, only their huge, mysterious earthen structures were left, earning St. Louis its earliest nickname, "Mound City."

In 1764, French fur traders from New Orleans founded a city named for Louis IX, the Crusader King of France. St. Louis was built in Spanish territory on a high bluff just 18 miles south of the confluence of the Mississippi and Missouri rivers - a perfect site from which to trade with Native Americans in the fur-rich lands to the west. France regained rights to St. Louis and the west again in 1800, but Napoleon sold the Louisiana Territory to President Thomas Jefferson in 1803 without taking possession. Overnight the size of the United States had doubled.

When Jefferson sent explorers Lewis & Clark from St. Louis to chart the new Louisiana Territory in 1804, more than 1,000 people, mostly French, Spanish, Indian and both free and slave blacks, lived in the city which already was the center of the fur trade in America. Two years later, after the triumphant explorers returned from the Pacific with their Corps of Discovery, St. Louis became the last stop for mountain men and trappers heading to the newly opened frontier. St. Louis' booming fur trade lasted until 1840, but the westward movement of Americans through St. Louis - "the gateway to the west" - was to last for many more years. For decades, entrepreneurs would make fortunes in St. Louis by selling goods to pioneers and adventurers who gathered their supplies and headed west for land, gold and glory.

## *25 Things To Do in St. Louis*

There's so much to see and do in St. Louis, here are just 25 of the hundreds of ways you can explore St. Louis for yourself:

1. Climb on the giant sculptures in Turtle Playground.
2. Attend one of St. Louis' fascinating ethnic festivals.
3. Explore the free attractions in Forest Park: the Zoo, Art Museum, Science Center and History Museum.
4. Visit St. Louis' historic neighborhoods for dining, shopping and mingling with the locals.
5. Meet Lady Luck on one of our glittering riverboat casinos.
6. Stroll through an authentic Japanese Garden or a tropical rain forest at the Missouri Botanical Garden.
7. Cheer for the Cardinals, Rams, Blues and other teams in North America's Best Sports City.
8. Board a space station at the Science Center's new Space Sciences Center.
9. Thrill yourself on the world-class rollercoasters at Six Flags St. Louis.
10. Mangia bene! Eat well on The Hill, St. Louis' Italian neighborhood.
11. Play Scott Joplin's ragtime tunes at the composer's restored historic home.
12. Talk to the animals at Grant's Farm and Purina Farms.
13. Follow the 1804 adventures of explorers Lewis & Clark at museums, historic sites and the confluence of the Mississippi and Missouri rivers.
14. Cruise the mighty Mississippi on a paddlewheel riverboat.
15. Find out how good feeling bad can be when you visit St. Louis' blues music clubs.
16. Follow Old Route 66 as the "Mother Road" winds through St. Louis.
17. Ride to the top of the Gateway Arch for a 30-mile bird's eye view of St. Louis.
18. Free your inner child at the Magic House, City Museum and other kid-friendly attractions.
19. Discover the past at the Old Courthouse and The Black World History Museum.
20. Dine in style in a city ***Gourmet*** magazine calls a "spirited and flavorful place."
21. Hit the road at Gateway International Raceway or the Museum of Transportation.
22. Count the mosaics at the beautiful Cathedral Basilica of Saint Louis.
23. Visit an ancient civilization at Cahokia Mounds, a United Nations World Heritage Site.
24. Taste the good life on a day trip to Missouri Wine Country.
25. Float through the Butterfly House & Education Center or the Butterfly Dome at the Zoo.

# St. Louis Tour Options

With the abundance of things to do in St. Louis, there will be no formal tours offered during the 2004 ADSA-ASAS-PSA Annual Meeting. Listed below are some exciting tour options for you to consider while in St. Louis.

## Gateway Arch

www.gatewayarch.com

Every year millions of visitors head for the Arch with one goal in mind: a journey to the top. This is where you'll get a stunning glimpse of the St. Louis region from a dizzying height of 630 feet. But how do you get to the top? You take a tram ride from the south or north leg of the Arch.

On your way to the top using the south leg, you'll return to an era in the 1800s when the St. Louis riverfront was bustling with steamboats, fur traders, and merchants. On your way to the top using the north leg, you'll be transported back to 1965 when construction workers wedged the last triangular Arch section into place.

Open 7 days a week 8 am – 10 pm. Adults - $8; Children 13-16 - $5; Children 3-12 - $3

## Gateway Riverboat Cruises

www.gatewayarchriverboats.com; (877) 982-1410

Step aboard a one-hour narrated cruise and your Captain will transport you back in time when steamboats ruled the river. Frequent departures daily from the levee below the Gateway Arch at 10:30, Noon, 1:30, 3:00, 4:30. Fares: $10.00 adults; $4.00 children (3 to 12 yrs); Infants are free

## St. Louis Carriage Company

From the front door of the Adam's Mark Hotel or The Old Spaghetti Factory, step into one of our fine carriages and discover the quiet elegance of horse-drawn transportation.

Your comfortable carriage offers you a charming view of historic Laclede's Landing and the cobblestone riverfront with its variety of boats and bridges, and of the magnificent Gateway Arch, symbol of America's westward expansion. See also the Basilica of St. Louis IX, the Old Courthouse (of Dred Scott fame), the beautifully restored Union Station, St. Louis Soldiers Memorial, Busch Stadium and many other landmarks and famous attractions.

Downtown Rides: 15 Min - $25.00; 1/2 Hour - $45.00; 1 hour - $80.00

## Campbell House Museum

(314) 421-0325

The historic Campbell House Museum is one of the best-preserved 19th century buildings in St. Louis and is the last remaining vestige of the elegant neighborhood Lucas Place. From 1854 to 1938 the house was the home of prominent 19th Century entrepreneur Robert Campbell and his family. The museum opened in 1943 preserving not only the building, but the Campbell collection of original furniture, objects, light fixtures and more than 300,000 pages of family documents.

Campbell House is currently in the midst of a complete restoration using historic documents and photos from the Campbell family papers. Phase One was completed in 2001 at a cost of over $2 million. This stage of the restoration corrected structural problems, installed new mechanical systems and returned the building exterior to its 1880s appearance. Phase Two, the interior decoration, started in 2002. This phase will accurately recreate the Victorian interior of the Campbell House when it was one of the centers of St. Louis society.

A visit to the Campbell House in 2004 represents a once in a lifetime opportunity to see the historic restoration of the house in progress and the discoveries made along the way.

The museum is located at the corner of 15th and Locust streets in downtown St. Louis. Museum hours through December 2004 are Wednesday through Saturday from 10 am to 4 pm. and Sunday from 12 p.m. to 4 p.m. Admission is $4 per person, children 12 and under are free.

### *DeMenil Mansion & Museum*

(314) 771-5828

The Chatillon-DeMenil Mansion, listed on the National Register of Historic Places, is one of only a handful of homes remaining that were built in the Greek Revival style in St Louis. The home, built in three sections with the oldest part dating from 1848, was originally built by Henri Chatillon, a native of the Carondelet area of St. Louis and a hunter and guide for the American Fur Company. Chatillon was immortalized in historian Francis Parkman Jr.'s 1849 bestseller "The Oregon Trail" after their adventures together in the New Frontier. The DeMenil family purchased the home in 1856 and made two additions, 1861-3 and 1875 that transformed the farmhouse into the mansion it is today.

The museum is open 10 am - 4 pm, Tuesday-Saturday. The last tour of the day starts at 3:00 pm. (Opened January by appointment only). Admission: $4, adults; $3, groups over 20 or AAA cardholders; $2 student groups over age 12; $1, children under 12.

### *Anhueser Busch Tours*

www.budweisertours.com

Your tour through the historic 100-acre plant in St. Louis, Missouri, just 3 minutes from the Gateway Arch, will follow the journey of how we create our great beers. You will also have the opportunity to visit the Anheuser-Busch Clydesdale paddock and stable, the beechwood aging cellars, our historic Brew House, the Bevo packaging plant, and everyone's favorite stop, the Hospitality Room. Check the web site to begin the journey of our great beers.

June-Aug: Mon-Sat, 9:00 am - 5:00 pm; Sun, 11:30 am - 5:00 pm

### *St. Louis Zoo*

www.stlouiszoo.com

Free admission, several attractions have separate fees.; open 8 am – 7 pm, parking $8 with limited street parking for free.

### *St. Louis Art Museum*

www.slam.org; (314) 721-0072

The Saint Louis Art Museum is situated in Forest Park, one of the largest urban parks in the United States, just west of downtown St. Louis.

The museum is open Tuesday – Sunday from 10 am – 5 pm and has free admission. Some temporary displays may have a charge.

### *Grant's Farm*

www.grantsfarm.com; (314) 843-1700

Grant's Farm is a 281-acre wildlife preserve and historical site located just south of the city of St. Louis and operated by Anheuser Busch, Inc. The farm is home to hundred of exotic animals from around the world.

The farm takes its name from our 18th president of the United States of America, Ulysses S. Grant. In the 1850's, Ulysses S. Grant farmed a portion of the 281 acres. The land, which later became the ancestral home of the Busch Family, today is preserved as a living symbol of the family's love for animals and Anheuser-Busch's commitment to wildlife conservation and preservation.

The park is open Tuesday – Friday, 9 am – 3:30 pm. Admission is free with a $5 parking fee.

### *St. Louis Union Station*

www.stlouisunionstation.com

St. Louis Union Station, once the largest and busiest passenger rail terminal in the world, is now one of America's great marketplaces. Union Station first opened in 1894, but ceased operation as an active train terminal in 1978. Union Station reopened in August of 1985 as the largest adaptive re-use project in the United States.

Today, this 109-year-old National Historic Landmark of unmatched beauty and elegance has been dramatically restored and redeveloped as a dynamic mixed-use project that includes great shopping, delicious dining and fabulous entertainment.

St. Louis Union Station houses a 539 room Hyatt Regency Hotel, luxury offices, a lake, four active train tracks and a plaza for festivals, concerts and other special events. The century-old St. Louis Union Station boasts a unique and colorful history as well as a bright future. St. Louis Union Station is truly a shopper's delight with over 90 shops and restaurants to choose from. An important part of the Station's special appeal is the variety of unique retail shops, offering everything from fine fashions to one-of-a-kind gifts.

### *Missouri Botanical Gardens*

www.mobot.org; (314) 577-9400

Open 9 am to 5 pm daily. Admission is $7 for ages 13-64. Narrated trams circle the grounds with stops at various locations, weather permitting, and visitors may reboard a later tram. Tram tickets are $3 per person (free for children 2 and under). Free public tours at 1 pm daily.

# Day Trips From St. Louis

## Missouri Wine Country

Traveling west from St. Louis, day trippers will find themselves in the rolling, green hills of the Missouri River valley where immigrants from Germany's Rhine River planted vineyards, constructed wine cellars and created America's first wine district.

Along Highway 94, wineries perch on river bluffs overlooking the site where Daniel Boone once lived. To see the famous pioneer's home, stop in at Historic Boonesfield Village (www.geocities.com/Athens/Parthenon/7109), (636) 798-2005, near the town of Defiance. In Augusta, sit back and enjoy the view at the Mount Pleasant Winery (www.mountpleasant.com), (800) 467-WINE or (636) 482-WINE, located on top of a beautiful terrace high above the river valley.

Sample wines, listen to live music and nibble on snacks from the winery's bistro. Bikers and hikers will enjoy the area's KATY Trail (www.mostateparks.com/katytrail.htm), a former railroad right-of-way converted into a scenic path through the valley.

In the picturesque town of Hermann, Missouri's German heritage is celebrated with Old World enthusiasm. Visit the Stone Hill Winery (www.stonehillwinery.com), (573) 486-2120 or (800) 909-WINE, where visitors are welcome for tours, tastings, just-for-fun grape stomping, food and music throughout the year.

In the heart of Missouri Wine Country, the charming town of Washington offers restaurants, gift shops and galleries along the river where visitors can shop, dine and relax before heading back to St. Louis.

From St. Louis, take I-70 west to Hwy. 19 south into Hermann (70 miles). Travel back to St. Louis along scenic highways 94 or 100 which lead through the towns of Missouri's Wine Country. For more information, contact the Missouri Weinstrasse Association (888) 667-9463. For more information on Washington, MO, dial (888) 792-7466 or (636) 239-7575, or visit www.washmo.org.

## Historic St. Charles

Located just 30 minutes west of downtown St. Louis, this charming community on the Missouri River was founded in 1769 and served as the state's first capital. Explore South Main Street where more than 100 shops, restaurants and cafes welcome visitors to the beautifully preserved historic district. The Frenchtown area, known for its antique shopping, has 58 historic buildings of French Colonial and German architecture. Visit the Lewis & Clark Center (www.lewisandclarkcenter.org) to learn more about the famous explorers or try your luck aboard the expanded Ameristar Casino (www.ameristarcasinos.com). The First Missouri State Capitol (www.mostateparks.com/firstcapitol.htm) building and the Shrine of St. Phillipine Duchesne also are open for tours.

***For more information, contact the Greater St. Charles Convention & Visitors Bureau at (636) 946-7776 or (800) 366-2427 or visit www.historicstcharles.com. From St. Louis, take I-70 west to the Fifth Street exit.***

## Kimmswick

Located south on I-55 just 30 minutes from downtown St. Louis, the tiny river town of Kimmswick was founded in 1859 by German immigrants. Today the community is a living museum stocked with homemade crafts, antiques, historic architecture and simple charms. Browse through specialty shops and enjoy a leisurely lunch at one of the town's famous restaurants known throughout the region for hearty Midwestern cuisine and tempting baked goods. Shops are open year-round and are closed only on Mondays. For more information, contact the Historic Kimmswick Visitor Center at (636) 464-6464.

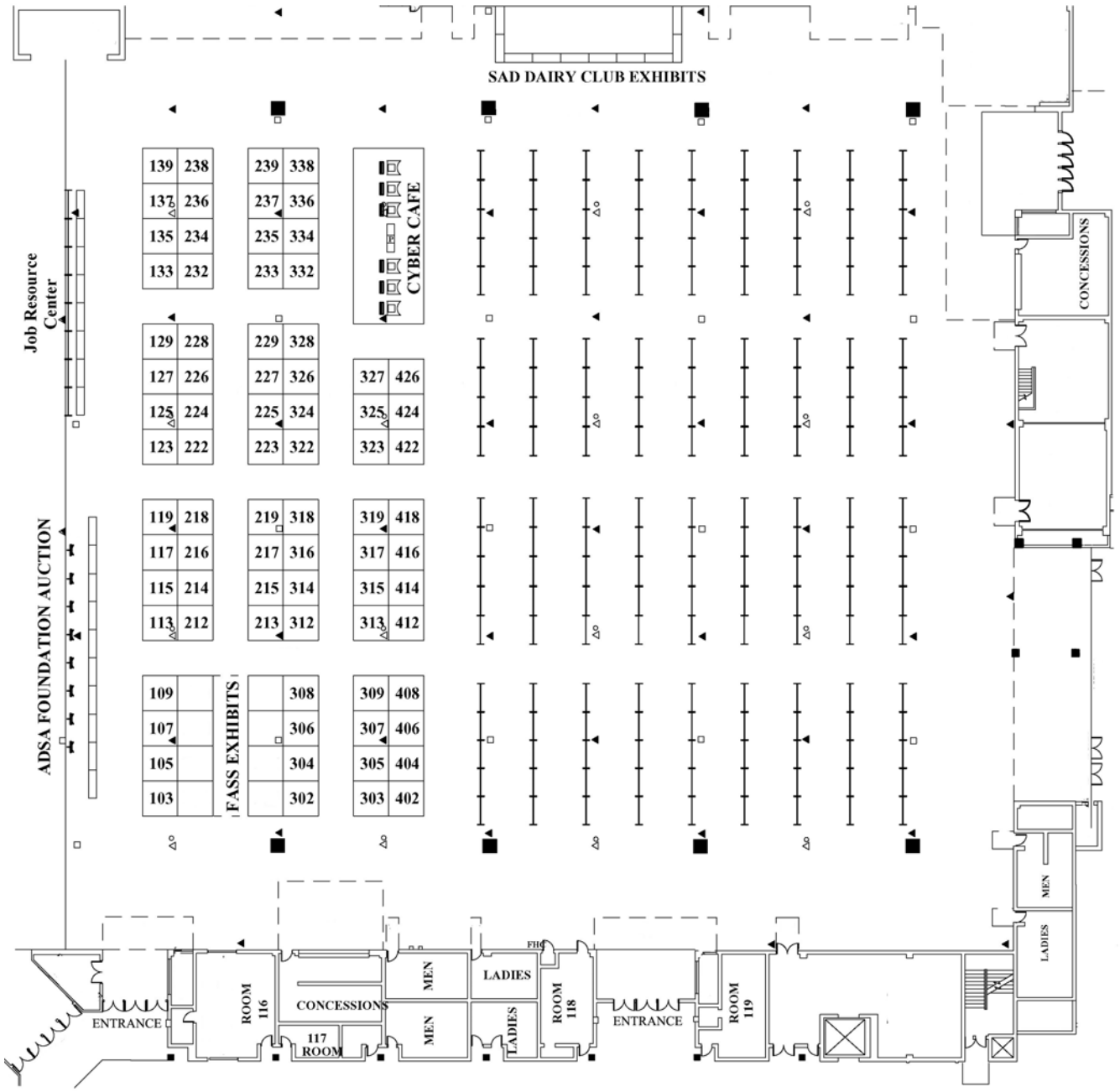
# Exhibit Schedule

## Exhibit Hall 5

| ***Exhibit Hours*** | | ***Exhibitor Setup*** | |
|---|---|---|---|
| ***Monday, July 26*** | ***7:30 am - 5 pm*** | ***Sunday, July 25*** | ***8 am - 5 pm*** |
| ***Tuesday, July 27*** | ***7:30 am - 5 pm*** | ***Exhibitor Teardown*** | |
| ***Wednesday, July 28*** | ***7:30 am - 5 pm*** | ***Wednesday, July 28*** | ***5 pm - 8 pm*** |

# Exhibit Hall Floorplan

## Exhibit Hall 5



# Guide to Exhibitors/Booth Numbers





## A special thank you to our 2004 ADSA-ASAS-PSA Joint Meeting Exhibitors!

# Exhibit Directory

***AAALAC International***
***11300 Rockville Pike, Suite 1211***
***Rockville, MD 20902***
***Phone: (301) 231-5353; Fax: (301) 231-8282***
***Web Site: www.aaalac.org***
***Booth: 214***
AAALAC International (the Association for Assessment and Accreditation of Laboratory Animal Care) offers accreditation and assessment services for agricultural and biomedical animal research programs. Earning accreditation demonstrates your institution's dedication to responsible animal care and use. It also assures customers, funding sources, students and partners of your commitment to quality research and good science. More than 650 institutions in 19 countries have earned AAALAC accreditation.

***Acadian Agritech***
***30 Brown Avenue***
***Dartmouth, Nova Scotia B3B 1X8***
***Canada***
***Phone: (902) 468-2840; Fax: (902) 468-3474***
***Web Site: www.acadianseaplants.ca***
***Booth: 322***
Tasco™ is a functional food designed to address critical production issues in today's beef industry. All-natural, Tasco™ helps modulate functions relative to health, productivity and stress resistance. Numerous University and producer trials have demonstrated cow/calf, stocker, starter and feedlot operations can benefit from feeding programs that include Tasco™.

***Adisseo***
***3480 Preston Ridge Road, Suite 375***
***Alpharetta, GA 30005***
***Phone: (678) 339-1500; Fax: (678) 339-1600***
***Web Site: www.AdisseoNorthAmerica.com***
***Booth: 239***

***Ag Processing Inc. - Amino Plus***
***12700 West Dodge Road***
***Omaha, NE 68154***
***Phone: (402) 498-5559; Fax: (402) 496-6686***
***Web Site: www.amino-plus.com***
***Booth: 307***

***Alltech, Inc.***
***3031 Catnip Hill Pike***
***Nicholasville, KY 40356***
***Phone: (859) 885-9613; Fax: (859) 887-3256***
***Web Site: www.alltech.com***
***Booths: 313, 315, 317, 319, 412, 414, 416, 418***

***ALOKA***
***10 Fairfield Boulevard***
***Wallingord, CT 06492***
***Phone: (203) 269-5088; Fax: (203) 269-6075***
***Web Site: www.aloka.com***
***Booth: 308***

***Alpharma***
***One Executive Drive***
***Fort Lee, NJ 07024***
***Web Site: www.alpharma.com***
***Booth: 236***

***Alternative Design Manufacturing & Supply, Inc.***
***PO Box 6330, 3055 Cheri Whitlock Drive***
***Siloam Springs, AR 72761-6330***
***Phone: (479) 524-4343; Fax: (479) 524-4210***
***Web Site: www.altdesign.com***
***Booth: 109***

***American Dairy Science Association (ADSA)***
***1111 North Dunlap Avenue***
***Savoy, IL 61874***
***Phone: (217) 356-5146; Fax: (217) 398-4119***
***Web Site: www.adsa.org***
***Booth: 202***

***American Registry of Professional Animal Scientists (ARPAS)***
***1111 North Dunlap Avenue***
***Savoy, IL 61874***
***Phone: (217) 356-5390; Fax: (217) 398-4119***
***Web Site: www.arpas.org***
***Booth: 207***

***American Society of Animal Science (ASAS)***
***1111 North Dunlap Avenue***
***Savoy, IL 61874***
***Phone: (217) 356-9050; Fax: (217) 398-4119***
***Web Site: www.asas.org***
***Booth: 204***

***APC, Inc.***
***2425 SE Oak Tree Court***
***Ankeny, IA 50021***
***Phone: (515) 289-7600; Fax: (515) 289-4360***
***Web Site: www.functionalproteins.com***
***Booth: 334***
APC, Inc. is the world leader in the development of functional proteins for animal health and nutrition. Products include: AP920 – petfood, weaning and sow diets, milk replacers and nutritional supplements; Solutein – water supplement during stress; Endure – companion animals; Biofend – aquaculture diets; New Uses – lactation diets & poultry applications.

***Arm & Hammer Animal Nutrition Group***
***469 N. Harrison Street***
***Princeton, NJ 08543***
***Phone: (609) 279-7685; Fax: (609) 497-7176***
***Web Site: www.ahdairy.com***
***Booth: 229***
The ARM & HAMMER® Animal Nutrition Group, a division of Church & Dwight Co., Inc., is the leading manufacturer of specialty dairy feed ingredients. Our family of products include: rumen buffer (ARM & HAMMER® Feed Grade Sodium Bicarbonate, SQ-810® sodium sesquicarbonate, ARMACAD® -G Feed Grade Sodium Sesquicarbonate and DCAD Plus® Feed Grade Potassium carbonate); rumen bypass fats (MEGALAC®, MEGALAC® -R and MEGALAC PLUS™ with 6% methionine equivalent); and rumen fermentation enhancers (BI-CHLOR® and FERMENTEN®).

***A-Systems***
***41, rue des Chantiers***
***Versailles 78 000***
***France***
***Phone: 33 1 39 072675; Fax: 33 1 39 072677***
***Web Site: www.allix-formulation.com***
***Booth: 228***
RUMINIX: Ruminant ration calculation. Allows the user to design his own model and add all the desired parameters (NRC,..). Rations can be calculated by hand or by linear optimization. All Ruminant Species can be modeled.
ALLIX$^2$: Least cost optimization software. This feed formulation program exists in several flexible versions that fit the needs of all departments. Developed around standard databases. Allix$^2$ offers a wide range of functions which are useful for the purchasing department as well as for the nutritionists.

***Balchem Encapsulates***
***PO Box 600***
***New Hampton, NY 10958***
***Phone: (877) 222-8811; Fax: (845) 326-5717***
***Web Site: www.balchem.com***
***Booth: 137***

***Bar Diamond, Inc.***
***PO Box 60***
***Parma, ID 83660***
***Phone: (208) 722-6761; Fax: (208) 722-6686***
***Web Site: www.bardiamond.com***
***Booth: 216***

***Biomin USA, Inc.***
***1852 Lockhill Selma, Suite 105***
***San Antonio, TX 78216***
***Phone: (210) 342-9555; Fax: (210) 342-9575***
***Web Site: www.biomin.net***
***Booth: 107***

***Bioproducts, Inc.***
***320 Springside Drive #300***
***Fairlawn, OH 44333***
***Phone: (330) 665-1999; Fax: (330) 665-2195***
***Web Site: www.dairy1to1.com***
***Booths: 215, 217, 219***
Ener GI Transition Formula is a specific, patented combination of fatty acids designed for the transition period of a dairy cow. Ener GI is the first product in the market developed specifically for this purpose. Benefits include: 1) Increased first milk; 2) lowers milk fat and thus spares cow energy; and 3) provides omega-6 acids that can help reduce days open.

# You prevent coccidiosis, right?

**Well, more or less.**


**We kill more *coccidia*. With less.**


**Rumensin® is proven stronger than Bovatec®, delivering more complete prevention and control in each of the *coccidia* parasite's three reproductive stages.**

A coccidiosis outbreak is no laughing matter, as any cattle producer who has dealt with one can attest. The persistent parasite that causes coccidiosis continually threatens your herd, reinfecting from inside—where it reproduces in the millions, damaging an animal's ability to absorb nutrients—and outside—where its oocysts lay in wait for the next animal to ingest, beginning the cycle all over again.

It's important to know that not all products available for coccidiosis control are equal.

Rumensin is proven to be a more potent product than Bovatec®, delivering both the prevention and control you need to: maintain your herd health; reduce the shedding of oocysts; and break the disease cycle. That's truly doing more with less.

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***1481 Rock Mountain Blvd.***
***Stone Mountain, GA 30083***
***Phone: (770) 723-9211 or (800) 788-4246; Fax: 7707237056***
***Web Site: www.biosentry.com***
***Booth: 233***

***BioZyme Incorporated***
***PO Box 4428***
***St. Joseph, MO 64505***
***Phone: (816) 238-3326; Fax: (816) 238-7549***
***Web Site: www.biozymeinc.com***
***Booth: 129***
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***Blackwell Publishing Professional***
***2121 State Avenue***
***Ames, IA 50014***
***Phone: (515) 292-0140; Fax: (515) 292-3348***
***Web Site: www.blackwellprofessional.com***
***Booth: 223***

***CABI Publishing***
***Nosworthy Way***
***Wallingford, Oxon OX10 8DE***
***UK***
***Phone: 44 1491 832111; Fax: 44 1491 829198***
***Web Site: www.cabi-publishing.org***
***Booth: 326***

***Chelated Minerals Corporation***
***PO Box 27872***
***Salt Lake City, UT 84127***
***Phone: (801) 973-4500; Fax: (801) 972-4068***
***Web Site: www.keylated.com***
***Booth: 303***

***Chr. Hansen, Inc.***
***9015 West Maple Street***
***Milwaukee, WI 53214***
***Phone: (414) 607-5800; Fax: (414) 607-5701***
***Web Site: www.chr-hansen.com***
***Booths: 224, 226***

***Cotton Incorporated***
***6399 Weston Parkway***
***Cary, NC 27513***
***Phone: (919) 678-2369; Fax: (919) 678-2233***
***Web Site: www.cottoninc.com***
***Booth: 422***

***CottonFloZ, LLC***
***1001 Tillman Street, PO Box 80407***
***Memphis, TN 38108-0407***
***Phone: (901) 320-8633; Fax: (901) 320-8204***
***Web Site: www.cottonfloz.com***
***Booth: 312***
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***Council for Agricultural Science and Technology***
***4420 West Lincoln Way***
***Ames, IA 50014***
***Phone: (515) 292-2125; Fax: (515) 292-4512***
***Web Site: www.cast-science.org***
***Booth: 135***

***Dairy Records Management Systems***
***313 Chapanoke Road, Suite 100***
***Raleigh, NC 27603***
***Phone: (919) 661-3100; Fax: (919) 661-3145***
***Web Site: www.drms.org***
***Booth: 306***
DRMS processes DHI data each month on over 14,000 herds with more than 1.7 million cows, making it the largest volume dairy processing center in the US. Dairy herd management software from DRMS includes PCDART, PocketDairy for handheld units, CTAP for data analysis, and DairyMetrics, a web-based system benchmarking system.

***Dalex Computer Systems***
***240 Industrial Blvd.***
***Waconia, MN 55387***
***Phone: (800) 421-3834***
***Web Site: www.dalex.com***
***Booth: 324***
Consulting Nutritionist is a flexible ration-balancing program designed for Dairy, Beef, Swine and Horse. Lab Assay import, graphing and FeedTags available for all species! This program provides ration-balancing and ration-modeling using up-to-date scientific data including NRC-Dairy-2001, CNCPS-Model, NRC-Swine-1998 and NRC-Beef-1996. Come see our newest release in booth 324. Call 1-800-421-3834.

***Diamond V Mills***
***838 1st Street NW***
***Cedar Rapids, IA 52407***
***Phone: (319) 366-0745; Fax: (319) 366-6333***
***Web Site: www.diamondv.com***
***Booths: 113, 115, 117***

***Distillers Grains Technology Council***
***University of Louisville, 435 Lutz Hall***
***Louisville, KY 40292***
***Phone: (800) 759-3448; Fax: (502) 852-1577***
***Web Site: www.distillersgrains.org***
***Booth: 304***

***DSM Nutritional Products, Inc.***
***45 Waterview Boulevard***
***Parsippany, NJ 07054***
***Phone: (800) 526-0189; Fax: (973) 257-8653***
***Web Site: www.nutraaccess.com***
***Booth: 404***

***Elsevier***
***360 Park Avenue South***
***New York, NY 10010***
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***5937 US Route 11, PO Box 88***
***Homer, NY 13077***
***Phone: (607) 749-5747; Fax: (607) 749-5634***
***Web Site: www.farme.com***
***Booth: 406***

***Fats & Proteins Research Foundation***
***16551 Old Colonial Road***
***Bloomington, IL 61704***
***Phone: (309) 829-7744; Fax: (309) 829-5147***
***Web Site: www.fprf.org***
***Booth: 237***
The Fats and Proteins Research Foundation Inc. is a not-for-profit organization founded in 1962 and dedicated to support the utilization of animal byproducts. Its mission is to provide an institution for evaluation, soliciting and supporting research initiatives to utilize rendered animal byproducts in enhanced or new use applications. Proposals for research grants are accepted for evaluation September 15 and March 15 of each year. Details can be acquired on the foundation's website www.fprf.org.

***FDA Center for Veterinary Medicine***
***7519 Standish Place***
***Rockville, MD 20855***
***Phone: (301) 827-3800; Fax: (301) 827-4065***
***Web Site: www.fda.gov/cvm***
***Booth: 316***

***Federation of Animal Science Societies (FASS)***
***1111 North Dunlap Avenue***
***Savoy, IL 61874***
***Phone: (217) 356-3182; Fax: (217) 398-4119***
***Web Site: www.fass.org***
***Booths: 208, 209***

***Feed Management Systems, Inc.***
***6120 Earle Brown Drive, Suite 300***
***Brooklyn Center, MN 55430***
***Phone: (763) 560-8139; Fax: (763) 560-8160***
***Web Site: www.feedsys.com***
***Booth: 119***

***Feedstuffs Newspaper***
***12400 Whitewater Drive, Suite 100***
***Minnetonka, MN 55343***
***Phone: (952) 930-4374; Fax: (952) 938-1832***
***Web Site: www.feedstuffs.com***
***Booth: 213***
Feedstuffs is the only weekly, paid news journal for agribusiness. Our subscribers are the world's leading animal feed and petfood manufacturers, as well as the industry's most influential nutritionists, veterinarians and feed formulators.

***Format International, Inc.***
***10715 Kahlmeyer Drive***
***St. Louis, MO 63132***
***Phone: (314) 428-2671; Fax: (314) 428-4102***
***Web Site: www.formatinternational.com***
***Booth: 338***
Format International, Inc. designs, authors and markets a wide range of software products for the petfood, animal feed, human food and other allied industries worldwide. We have a global reputation for providing profit-enhancing formulation and resource optimization tools.

***GrowSafe Systems Ltd***
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***Airdrie, Alberta T4B 2A3***
***Canada***
***Phone: (403) 540-4177; Fax: (403) 948-6351***
***Web Site: www.growsafe.com***
***Booth: 332***

***Hoard's Dairyman***
***PO Box 801***
***Fort Atkinson, WI 53538-0801***
***Phone: (920) 563-5551; Fax: (920) 563-7298***
***Web Site: www.hoards.com***
***Booth: 105***

***International Ingredient Corporation***
***4240 Utah Street, Box 22106***
***St. Louis, MO 63116***
***Phone: (314) 776-2700; Fax: (314) 776-3395***
***Web Site: www.iicag.com***
***Booth: 305***

***LignoTech USA/Soypass***
***100 Grand Avenue***
***Rothschild, WI 54474***
***Phone: (715) 359-6544; Fax: (715) 355-3648***
***Web Site: www.bypassprotein.com***
***Booth: 227***

***MetaFarms, Inc.***
***2980 Commers Drive, Suite 400***
***Eagan, MN 55121***
***Phone: (651) 905-7438; Fax: (651) 905-7434***
***Web Site: www.metafarms.com***
***Booth: 225***

***Mosdal Scale Systems, Inc.***
***15411 Mosdal Road***
***Broadview, MT 59015***
***Phone: (406) 667-2233; Fax: (406) 667-2232***
***Web Site: www.mosdal.com***
***Booth: 402***

***MS Specialty Nutrition***
***PO Box 278***
***Dundee, IL 60118***
***Phone: (847) 426-3411; Fax: (847) 426-3636***
***Web Site: www.msspecialtynutrition.com***
***Booth: 133***
MS Specialty Nutrition Key Brands: ENERGY BOOSTER 100®: More Energy for High Producing Cows; Highest $NE_L$ in the market; More dry matter intake; More components; More return per lactation; Transition Energy for ALL Cows; Fed only 21 days prior to calving; Reduced days open; Increased % pregnant; More return post transition. EXCELERATE®: The original "intensified growth" formula; Establishing the research standard; BIGGER, leaner calves; BETTER development; FASTER returns on investments. KWIK MIX®: The mark of a great milk replacer; Easier mixing crystals.

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***Web Site: www.omegaproteininc.com***
***Booth: 408***
Omega Protein, Inc is the largest fish meal producer in North America. Omega Protein produces three grades of fish meal – Special Select™, Sea-Lac™, and FAQ; Neptune fish concentrate; and various refined and crude oils. Products are available in bulk, bag, or drums and can be shipped in containers or bulk vessels.

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***Pfizer Animal Health***
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***New York, NY 10017-5612***
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***Web Site: www.pfizer/ah***
***Booth: 314***
Pfizer Animal Health is a world leader in animal health, committed to providing high-quality innovative health products, including pharmaceuticals and biologicals for livestock and companion animals. Pfizer Animal Health is a business unit of Pfizer Inc., a research-based pharmaceutical company with global operations.

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***Rockford, IL 61105-0117***
***Phone: (800) 874-3723; Fax: (815) 968-7316***
***Web Site: www.piercenet.com***
***Booth: 302***

***Poultry Protein & Fat Council***
***1530 Cooledge Road***
***Tucker, GA 30084***
***Phone: (770) 493-9401; Fax: (770) 493-9257***
***Web Site: www.poultryegg.org***
***Booth: 139***

***Poultry Science Association (PSA)***
***1111 North Dunlap Avenue***
***Savoy, IL 61874***
***Phone: (217) 356-5386; Fax: (217) 398-4119***
***Web Site: www.poultryscience.org***
***Booth: 203***

***Probiotech International Inc.***
***105 Echo***
***St Eustache, QC J7P 3W3***
***Canada***
***Phone: 45 09747252; Fax: 45 09749509***
***Booths: 123, 222***

***Saf Agri/Lesaffre Feed Additives***
***433 East Michigan Street***
***Milwaukee, WI 53202***
***Phone: (414) 615-4046; Fax: (414) 615-4003***
***Web Site: www.saf-agri.com***
***Booth: 235***

***SODA Feed Ingredients LLC***
***306 11th Street #3***
***Brookings, SD 57006***
***Phone: (866) 763-2872; Fax: (605) 692-7632***
***Web Site: www.soda-ingredients.com***
***Booth: 234***

***Soybean Meal Information Center***
***4554 NW 114th Street***
***Urbandale, IA 50322***
***Phone: (515) 251-8640; Fax: (515) 251-8657***
***Web Site: www.soymeal.org***
***Booth: 325***

***SoyBest***
***PO Box 157***
***West Point, NE 68788***
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***Booth: 327, 426***
SoyBest® High Bypass Soybean Meal delivers excellent bypass protein. Produced by the mechanical process, this product contains no chemical solvents and is all-natural. Importantly, SoyBest® is an economical source of metabolizable methionine and lysine. These essential amino acids are critical for ration balancing and profitable dairy production.

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***Booth: 328***
Trouw Nutrition USA manufactures and markets feed additives for feed manufacturers, livestock producers and pet food manufacturers worldwide. Products include OPTiMIN® Proteinated Trace Minerals; Protimax® Spray Dried Egg; ProtiOne™ Globulin Protein Source; NovaSilplus™ Hydrated Aluminosilicate; Milkivit™ Milk Replacer; Pedicure™ Equine Supplement, Vitamin Premixes, Mineral Premixes, Calcium Propionate, Sodium Propionate and Specialty Feed Additives. The company also offers custom manufacturing.

***USDA, Agricultural Research Service***
***5601 Sunnyside Avenue, MS 5144***
***Beltsville, MD 20705-5144***
***Phone: (301) 504-3271; Fax: (301) 504-1740***
***Web Site: www.ars.usda.gov***
***Booth: 127***

***USDA/Animal Welfare Information Center***
***10301 Baltimore Avenue, 4th Floor***
***Beltsville, MD 20705***
***Phone: (301) 504-6212; Fax: (301) 504-7125***
***Web Site: www.nal.usda.gov/awic***
***Booth: 125***
The Animal Welfare Information Center, a unit of the United States Department of Agriculture, provides information for the improved care and use of animals used in research, testing, teaching, and exhibition. The staff also assists people and institutions in complying with information requirements of the Federal Animal Welfare Act. Services provided include free publications, workshops, and custom literature searches performed on a cost-recovery basis.

***Varied Industries Corporation***
***905 South Carolina Avenue***
***Mason City, IA 50401***
***Phone: (641) 423-1460; Fax: (641) 423-0832***
***Web Site: www.vi-cor.com***
***Booth: 309***

***West Central Soy***
***406 First Street***
***Ralston, IA 51459***
***Phone: (800) 843-4769; Fax: (712) 667-3215***
***Web Site: www.westcentralsoy.com***
***Booth: 318***

***Western Yeast Company***
***305 West Ash Street***
***Chillicothe, IL 61523***
***Phone: (309) 274-3160; Fax: (309) 274-5393***
***Web Site: www.westernyeast.com***
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***Web Site: www.zinpro.com***
***Booth: 103***

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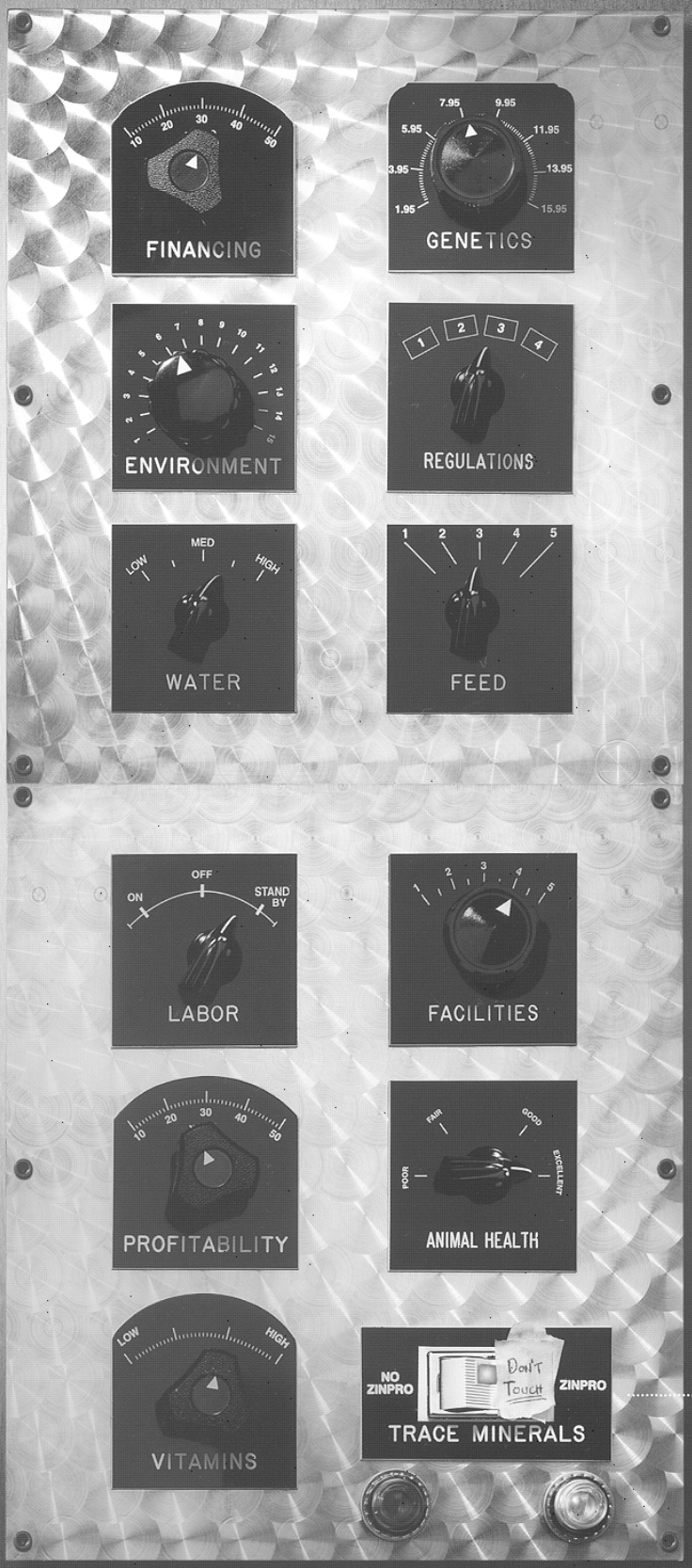


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Akey
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# Schedule of Events

You may refer to the scientific program section in this program for detailed information for oral and poster presentations. Please note: all rooms and times are subject to change. Always be sure to check room signs and/or hotel marquees for any last minute room changes or cancellations.



## Friday, July 23

| | | |
|---|---|---|
| 3 pm – 5 pm | ADSA New Board Orientation | Renaissance, Hawthorne/Lucas |
| 5:30 pm – 10 pm | ADSA Board of Directors Meeting | Renaissance, Hawthorne/Lucas |

## Saturday, July 24

| | | |
|---|---|---|
| 8 am – 12 pm | ADSA Board of Directors Meeting | Renaissance, Parkview/Aubert |
| 8 am – 5 pm | ASAS Board of Directors Meeting | Adam's Mark, St. Louis BC |
| 8 am – 5 pm | PSA Board of Directors Meeting | Renaissance, Portland |
| 10 am – 5 pm | Registration Open (pre-registered, badge & material pick up only) | Convention Center, Plaza Lobby North |
| 1 pm – 3 pm | ADSA-SAD Farm Tour | Monsanto |
| 1:30 pm – 6 pm | Dairy Foods Workshop | Convention Center, Room |
| 7:30 pm – 9 pm | ARPAS Executive Committee Meeting | Adam's Mark, Directors Row 46 |

## Sunday, July 25

| | | |
|---|---|---|
| 7 am – 7 pm | Registration Open | Convention Center, Plaza Lobby North |
| 8 am – 10 am | ADSA-ASAS-PSA Joint Board of Directors Meeting | Renaissance, Landmark 1/2 |
| 8 am – 5 pm | Triennial Growth Symposium | Convention Center, Room 124 |
| 8 am – 5 pm | Ancillary Scientist Symposium | Convention Center, Room 132 |
| 8 am – 5 pm | Informal Nutrition Conference | Convention Center, Room 131 |
| 8 am – 5 pm | Exhibit Set Up | Convention Center, Exhibit Hall 5 |
| 8 am – 5 pm | Hospitality Lounge | Convention Center, Room 120 |
| 8 am – 5 pm | ARPAS Governing Board Meeting | Adam's Mark, Directors Row 46 |
| 8:45 am – 1 pm | Dairy Foods Workshop | Convention Center, Room 225 |
| 10 am – 12 pm | ADSA-ASAS Joint Board of Directors Meeting | Renaissance, Landmark 1/2 |
| 10 am – 12 pm | WPSA-USA Meeting | Renaissance, Landmark 3 |
| 10:30 am – 5 pm | PSA Board of Directors Meeting | Renaissance, Portland |
| 11 am – 12 pm | ADSA-SAD Officers and Advisor Meeting | Convention Center, Room 230 |
| 11 am – 12 pm | ADSA JDS Editors Meeting | Renaissance, Parkview/Aubert |
| 12 pm – 1 pm | PSA Ancillary Scientist Luncheon | Convention Center, Room 130 |
| 12 pm – 1 pm | ADSA-SAD Midday Mixer & Pizza Party | Convention Center, Room 231/232 |
| 12 pm – 1 pm | ADSA JDS Editors and Journal Management Committee Luncheon | Renaissance, Parkview/Aubert |
| 1 pm – 5 pm | ADSA Journal Management Committee Meeting | Renaissance, Parkview/Aubert |
| 1 pm – 5 pm | ADSA-SAD Quiz Bowl Seating/Preliminary Rounds | Convention Center, Rooms 240-241 |
| 2 pm – 3 pm | ADSA Production Division Council Meeting | Convention Center, Room 125/126 |
| 2 pm – 3:30 pm | ADSA Foundation Board of Trustees Meeting | Renaissance, Pershing/Lindell |
| 2 pm – 3:30 pm | ASAS Foundation Trustees Meeting | Renaissance, Westmoreland/Kingsbury |
| 2 pm – 4 pm | ADSA Committee on Evaluation of Dairy Products | Convention Center, Room 130 |
| 3 pm – 4 pm | ADSA Production Division Nominating Committee | Convention Center, Room 125/126 |
| 3 pm – 4 pm | ADSA Production Division Resolutions Committee | Convention Center, Room 123 |
| 3 pm – 5 pm | ADSA-ASAS-PSA 2004 Program Chairs & Vice Chairs Meeting | Convention Center, Room 127 |
| 3 pm – 5 pm | ADSA ASAS 2005 Program Chairs & Vice Chairs Meeting | Convention Center, Room 127 |
| 3:30 pm – 5 pm | ADSA-ASAS Joint Foundation Board of Trustees Meeting | Renaissance, Landmark 1/2 |
| 5 pm – 6 pm | ADSA Dairy Foods Division Council Meeting | Convention Center, Room 123 |
| 6:30 pm – 7 pm | ADSA-SAD Quiz Bowl Final Round | Convention Center, Room 240 |
| 7 pm – 8:30 pm | 2004 ADSA-ASAS-PSA Opening Session | Convention Center, Rooms 220-229 |
| 8:30 pm – 10 pm | 2004 ADSA-ASAS-PSA Opening Reception | Convention Center, Rooms 220-229 |

## Monday, July 26

| | | |
|---|---|---|
| 6:30 am – 8 am | ADSA Production Division Extension Breakfast | Renaissance, Portland/Benton |
| 6:30 am – 8 am | ADSA Journal Editorial Board Breakfast/Meeting | Renaissance, Westmoreland/Kingsbury |
| 6:30 am – 8 am | Michigan State University Breakfast | Renaissance, Parkview/Aubert |
| 6:30 am – 4 pm | Registration Open | Convention Center, Plaza Lobby North |
| 7:15 am – 8:15 am | ADSA-SAD Exhibit Set up | Convention Center, Exhibit Hall 5 |
| 7:30 am – 9:30 am | PSA Foundation Breakfast and Meeting | Convention Center, Room 123 |
| 7:30 am – 9:30 am | Poster Presentations | Convention Center, Exhibit Hall 5 |
| 7:30 am – 5 pm | Commercial Exhibits & ADSA-SAD Exhibits Open | Convention Center, Exhibit Hall 5 |
| 7:30 am – 5 pm | Job Resource Center | Convention Center, Exhibit Hall 5 |
| 8 am – 5 pm | National Combined Extension Workshop | Convention Center, Room 222 |
| 8 am – 5 pm | Hospitality Lounge | Convention Center, Room 120 |
| 8:30 am – 9:15 am | ADSA-SAD Business Meeting | Convention Center, Rom 230 |
| 8:30 am – 9:30 am | ADSA 2006 Centennial Publications Committee Meeting | Convention Center, Room 229 |
| 9:30 am – 10:30 am | ADSA-SAD Judging of Yearbooks, Scrapbooks, Annual Reports | Convention Center, Room 231 |
| 9:30 am – 10:30 am | ADSA-SAD Interviews for Outstanding Student and Advisor Awards | Convention Center, Room 232 |
| 9:30 am – 10:30 am | ADSA-SAD Activities Symposium | Convention Center, Room 230 |
| 9:30 am – 5 pm | Scientific Sessions | Convention Center |
| 10 am – 11 am | Poultry Science Section Editors' Meeting | Renaissance, Portland |
| 10 am – 12 pm | ARPAS Exam | Convention Center, Room 229 |
| 11 am – 12 pm | Poultry Science and JAPR Editors' Luncheon | Renaissance, Portland |
| 11 am – 12:15 pm | ADSA-SAD Undergraduate Paper Presentations | Convention Center, Room 230 |
| 11 am – 1 pm | ASAS Publications Committee Luncheon | Adam's Mark, Directors Row 44 |
| 12 pm – 1 pm | JAPR Subject Editors' Meeting | Renaissance, Portland |
| 12 pm – 1 pm | National Extension Workshop Luncheon | Convention Center, Room 228 |
| 12 pm – 1 pm | WPSA-USA Branch Luncheon | Convention Center, Room 123 |
| 12 pm – 2 pm | ADSA Past President's Luncheon | Renaissance, Westmoreland/Kingsbury |
| 12 pm – 2 pm | ASAS Past President's Luncheon | Adam's Mark, St. Louis B |
| 1 pm – 5 pm | ADSA-SAD Undergraduate Paper Presentations | Convention Center, Room 230 |
| 2 pm – 3:30 pm | ADSA DISCOVER Conference Steering Committee Meeting | Convention Center. Room 123 |
| 5:15 pm – 6:30 pm | ADSA Town Hall Meeting | Convention Center, Room 260 |
| 5:30 pm – 7 pm | ASAS Award Winners Reception and Photo Session | Adam's Mark, Rose Garden Room |
| 7 pm – 8:30 pm | ASAS Awards Program | Adam's Mark, St. Louis DE |
| 8:30 pm – 11 pm | Iowa State Social | Adam's Mark, St. Louis F |
| 8:30 pm – 12:30 am | Undergraduate Student Dance/Mixer | Holiday Inn Select |
| 9 pm – 12 am | ASAS/ADSA/PSA Graduate Student Mixer | Trainwreck on the Landing |

## Tuesday, July 27

| | | |
|---|---|---|
| 6:30 am | Fun Run | Off Site |
| 6:30 am – 8 am | ADSA Dairy Foods Division Extension Breakfast | Renaissance, Benton |
| 6:30 am – 8 am | University of Illinois Breakfast | Adam's Mark, St. Louis A |
| 6:30 am – 8 am | Kentucky Breakfast | Renaissance, Parkview/Aubert |
| 6:30 am – 8 am | Penn State Breakfast | Adam's Mark, St. Louis B |
| 6:30 am – 8 am | Triennial Poultry Extension Workshop | Renaissance, Portland |
| 6:30 am – 8:30 am | ASAS New Board Orientation Breakfast | Adam's Mark, Directors Row 41 |
| 6:30 am – 3:30 pm | Registration Open | Convention Center, Plaza Lobby North |
| 7:30 am – 9:30 am | Poster Presentations | Convention Center, Exhibit Hall 5 |
| 7:30 am – 5 pm | Commercial Exhibits & ADSA-SAD Exhibits Open | Convention Center, Exhibit Hall 5 |
| 7:30 am – 5 pm | Job Resource Center | Convention Center, Exhibit Hall 5 |
| 8 am – 5 pm | Hospitality Lounge | Convention Center, Room 120 |
| 8:30 am – 10 am | ADSA-SAD Business Meeting – Election of Officers | Convention Center, Room 230 |
| 9:30 am – 5 pm | Scientific Sessions | Convention Center |
| 10 am – 11:30 am | ADSA-SAD Student Careers Symposium: Leaders in Training | Convention Center, Room 230 |
| 11 am – 12 pm | ADSA Production Division Business Meeting | Convention Center, Room 224 |
| 11 am – 12 pm | ADSA Dairy Foods Division Business Meeting | Convention Center, Room 260 |
| 12 pm – 1 pm | ARPAS Business Meeting | Convention Center, Room 227 |
| 12 pm – 1 pm | National Poultry Waste Management Luncheon | Convention Center, Room 226 |
| 12 pm – 1 pm | PSA Graduate Student Luncheon | Convention Center, Room 225 |
| 12 pm – 1 pm | ADSA Dairy Foods Division Program Planning Lunch | Renaissance, Benton |
| 12 pm – 1 pm | NE ASAS/ADSA Executive Committee Luncheon | Convention Center, Room 228 |
| 12 pm – 1:30 pm | ASAS Division/Associate Editors Luncheon | Adam's Mark, Directors Row 44 |

| | | |
|---|---|---|
| 12 pm – 2 pm | ADSA-SAD Awards Luncheon | Convention Center, Room 231/232 |
| 12 pm – 2 pm | 2004 Spouses' Luncheon | Gateway Arch Riverboats |
| 1 pm – 2 pm | WPSA Lecture | Convention Center, Room 274 |
| 1 pm – 3 pm | ARPAS Exam | Convention Center, Room 229 |
| 1 pm – 5 pm | Southern Branch ADSA Symposium and Business Meeting | Convention Center, Room 124 |
| 2 pm – 3 pm | ADSA-SAD Award Photos | Convention Center, Room 231/232 |
| 2 pm – 3:30 pm | ADSA-SAD Committee Meeting – Old and New Officers & Advisors | Convention Center, Room 230 |
| 2:15 pm – 4 pm | PSA Business Meeting | Convention Center, Room 274 |
| 3:30 pm – 5:30 pm | ASAS JAS Forum (Division/Associate Editors and Authors) | Convention Center, Room 123 |
| 5 pm – 6:30 pm | ADSA Award Donor Dinner | Renaissance, Portland/Benton |
| 5 pm – 7 pm | Informal Calf Gathering | Renaissance, Majestic G |
| 5 pm – 7 pm | Texas A&M Poultry Science Reception | Convention Center, Room 225 |
| 6 pm – 9 pm | Korean Scientists and Students Dinner | Off Site |
| 7 pm – 8 pm | ADSA Awards Program | Renaissance, Majestic A-D |
| 8:30 pm – 9:30 pm | 2004 ADSA-ASAS-PSA Ice Cream Social | Renaissance, Majestic A-D |
| 8:30 pm – 9:30 pm | ADSA Foundation Auction & Raffle | Renaissance, Majestic A-D |

## Wednesday, July 28

| | | |
|---|---|---|
| 6:30 am – 8 am | Purdue Breakfast | Adam's Mark, St. Louis A |
| 6:30 am – 8 am | National Organic Animal Production and Processing Resolutions Committee Breakfast | Renaissance, Benton |
| 7 am – 3 pm | Registration Open | Convention Center, Plaza Lobby North |
| 7:30 am – 9:30 am | Poster Presentations | Convention Center, Exhibit Hall 5 |
| 7:30 am – 5 pm | Job Resource Center | Convention Center, Exhibit Hall 5 |
| 7:30 am – 5 pm | Commercial Exhibits & ADSA SAD Exhibits Open | Convention Center, Exhibit Hall 5 |
| 8 am – 5 pm | Hospitality Lounge | Convention Center, Room 120 |
| 9:30 am – 10am | Joint ADSA-ASAS Business Meeting | Convention Center, Room 125/126 |
| 9:30 am – 5 pm | Scientific Sessions | Convention Center |
| 10 am – 10:30 am | ADSA Business Meeting | Convention Center, Room 124 |
| 10 am – 10:30 am | ASAS Business Meeting | Convention Center, Room 127 |
| 11 am – 1 pm | ASAS Board of Directors Meeting | Adam's Mark, St. Louis BC |
| 11 am – 1 pm | ADSA Board of Directors Meeting | Renaissance, Parkview/Aubert |
| 11 am – 1 pm | NE ASAS/ADSA Business Meeting and Awards Luncheon | Convention Center, Room 123 |
| 11:30 am – 1 pm | ADSA DF Division Milk Proteins & Enzyme Committee | Renaissance, Lucas |
| 12 pm – 1 pm | APHS Luncheon | Renaissance, Hawthorne |
| 12 pm – 1 pm | WPSA-Canada Business Meeting | Convention Center, Room 227 |
| 12 pm – 2 pm | Block & Bridle Club Advisors Meeting | Adam's Mark, St. Louis A |
| 1 pm – 3 pm | ARPAS Exam | Convention Center, Room 229 |
| 1 pm – 5 pm | Golf Outing | Far Oaks Golf Club |
| 2:30 pm – 3:30 pm | 2004 Retirees Social | Convention Center, Room 123 |
| 4:30 pm – 6 pm | 2004 International/Closing Reception | Convention Center, Rooms 230-232 |
| 5 pm – 8 pm | Commercial Exhibits Dismantle | Convention Center, Exhibit Hall 5 |
| 6 pm – 9:30 pm | PSA Reception and Awards Banquet | Convention Center, Room 225/226 |

## Thursday, July 29

| | | |
|---|---|---|
| 7:30 am – 9:30 am | ADSA-ASAS-PSA Joint Executive Committee Breakfast | Adam's Mark, St. Louis BC |
| 8 am – 10 am | Registration Open | Convention Center, Plaza Lobby North |
| 8 am – 12 pm | Scientific Session | Convention Center |

# ADSA Student Affiliate Division Schedule of Events

## Saturday, July 24

| | | |
|---|---|---|
| 11:00 pm – 2:00 pm | SAD Tour | Monsanto |
| 3:05 pm | St. Louis Cardinals vs. San Francisco Giants | Busch Stadium |

## Sunday, July 25

| | | |
|---|---|---|
| 8:00 am – 5:00 pm | Student Dairy Clubs Set Up Exhibits | Convention Center, Exhibit Hall 5 |
| 11:00 am – 12:00 pm | Advisor-Officer Meeting | Convention Center, Room 230 |
| 12:00 pm – 1:00 pm | SAD Midday Mixer and Pizza Party | Convention Center, Room 231/232 |
| 1:00 pm – 5:00 pm | Dairy Quiz Bowl Seating and Preliminary Rounds | Convention Center, Rooms 240 & 241 |
| 6:30 pm – 7:00 pm | Quiz Bowl Final Round | Convention Center, Room 240 |
| 7:00 pm – 8:00 pm | ADSA-ASAS-PSA Opening Session | Convention Center, Rooms 220-229 |
| 8:30 pm – 10:30 pm | ADSA-ASAS-PSA Opening Reception | Convention Center, Ballroom Foyer |

## Monday, July 26

| | | |
|---|---|---|
| 7:15 am – 8:15 am | Student Dairy Clubs Set Up Exhibits | Convention Center, Exhibit Hall 5 |
| 8:30 am – 9:15 am | Student Affiliate Division Business Meeting | Convention Center, Room 230 |
| 9:30 am –10:30 am | Student Affiliate Judging of Yearbooks, Scrapbooks, Annual Reports | Convention Center, Room 231 |
| 9:30 am – 10:30 am | Interviews for Outstanding Student and Advisor Awards | Convention Center, Room 232 |
| 9:30 am – 10:30 am | Student Activities Symposium | Convention Center, Room 230 |
| 11:00 am – 12:15 pm | SAD Undergraduate Paper Presentations | Convention Center, Room 230 |
| 1:00 pm – 5:00 pm | SAD Undergraduate Paper Presentations | Convention Center, Room 230 |
| 8:30 pm – 12:30 am | Undergraduate Student Mixer | Holiday Inn Express |

## Tuesday, July 27

| | | |
|---|---|---|
| 8:30 am – 10:00 am | Student Affiliate Division Business Meeting - Election of Officers | Convention Center, Room 230 |
| 10:00 am – 11:15 am | Student Careers Symposium: Leaders in Training | Convention Center, Room 230 |
| 12:00 pm – 2:00 pm | Student Awards Luncheon | Convention Center, Room 231/232 |
| 2:00 pm – 3:00 pm | SAD Pictures | Convention Center, Room 231/232 |
| 2:00 pm – 3:30 pm | SAD Committee Meeting: Old & New Officers and Advisors | Convention Center, Room 230 |
| 2:00 pm – 5:00 pm | Open to Attend Scientific Sessions | Convention Center |
| 2:30 pm – 4:00 pm | Tear-down SAD Exhibits | Convention Center, Exhibit Hall 5 |
| 7:00 pm – 10:00 pm | ADSA Awards Ceremony, Ice Cream Social and Fun Auction | Renaissance, Majestic A-D |

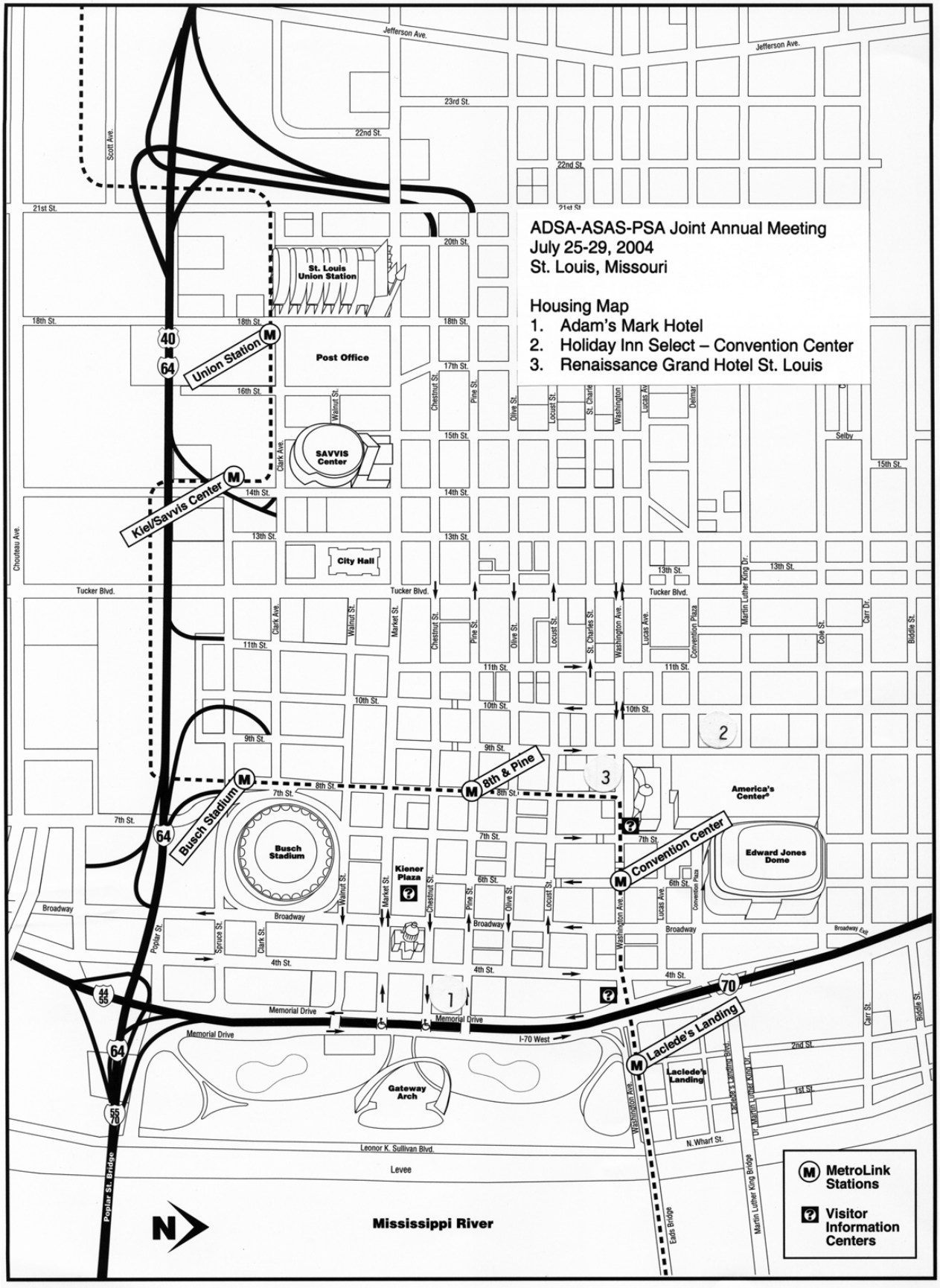
## Wednesday, July 28

| | | |
|---|---|---|
| 7:30 am – 5:00 pm | Scientific Sessions and Exhibits | Convention Center |

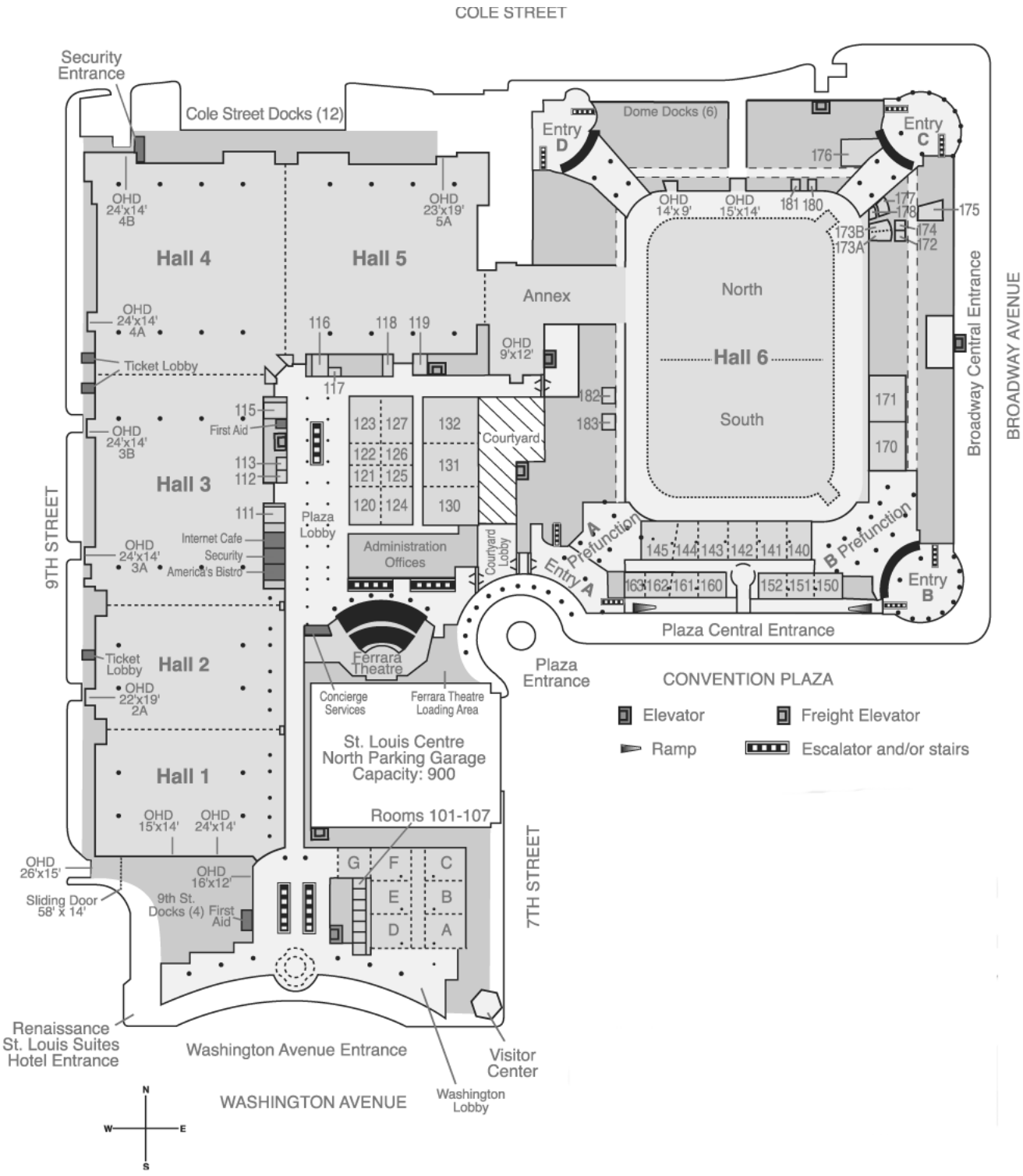
## Thursday, July 29

| | | |
|---|---|---|
| 8:00 am – 12:00 pm | Scientific Sessions | Convention Center |

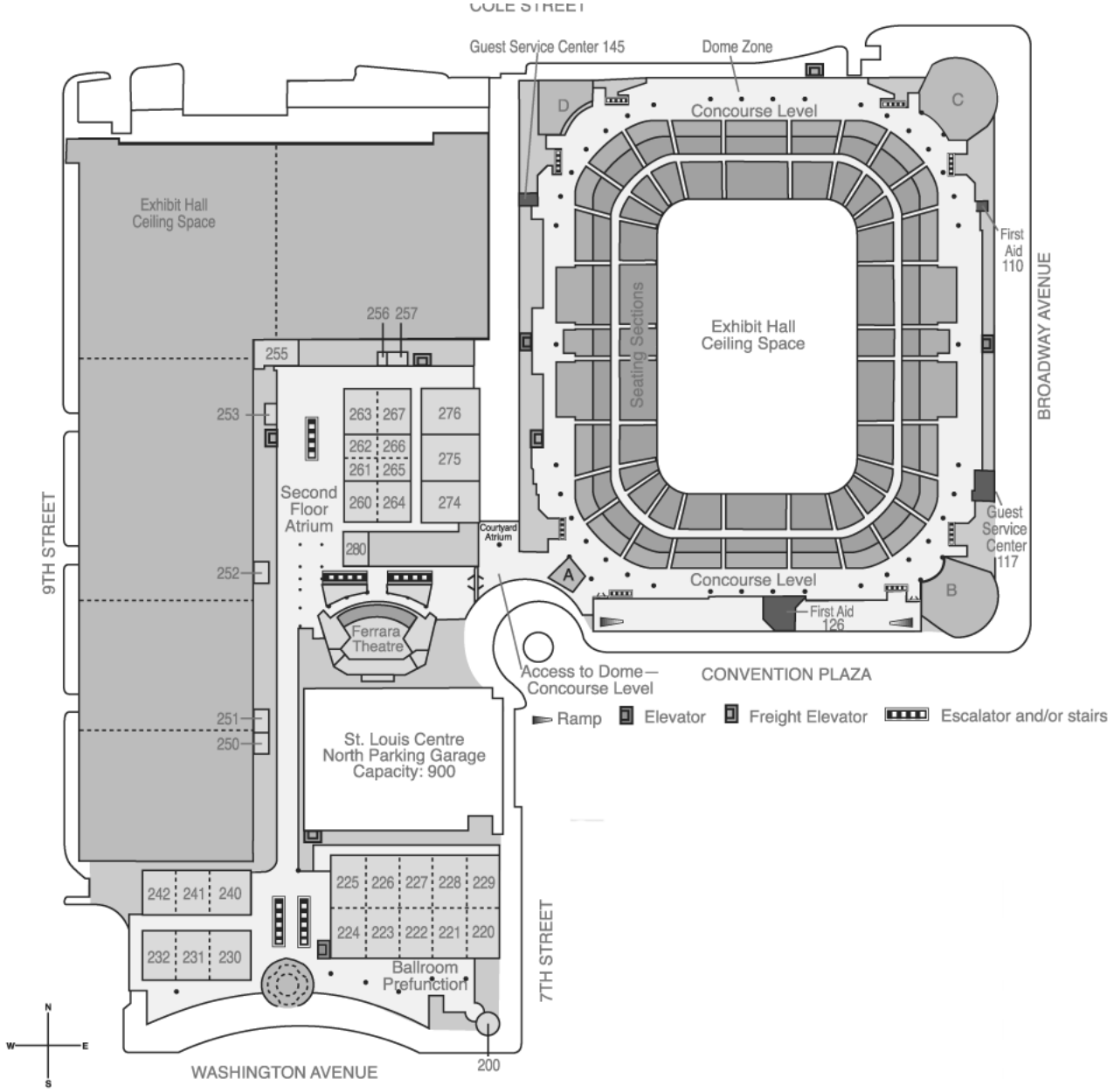
# Housing Map
# Downtown St. Louis



# America's Center
# Level 1 Floorplan



# America's Center
# Level 2 Floorplan



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# Scientific Program
# Table of Contents

(See pages 189–214 for an Author Index)

## *SATURDAY, JULY 24*



## *SUNDAY, JULY 25*



## *MONDAY, JULY 26*

### *Poster Session*



### *AM Symposia & Workshops*

## *AM Oral Sessions*



## *PM Symposia & Workshops*



## *PM Oral Session*

## *TUESDAY, JULY 27*

### *Poster Sessions*



### *AM Symposia & Lectures*



### *AM Oral Sessions*

## *PM Symposia & Lectures*



## *PM Oral Sessions*



## *WEDNESDAY, JULY 28*

### *Poster Sessions*

## *AM Symposia & Lectures*





## *AM Oral Sessions*



## *PM Symposia*



## *PM Oral Sessions*

## *THURSDAY, JULY 29*

### *AM Symposia*



### *AM Oral Sessions*

## *Saturday, July 24, 2004*
## *DAIRY FOODS WORKSHOP*

***Dairy Product Evaluation***

***Traditional and Descriptive Techniques***

Sponsor: California Dairy Research Foundation

Room: 225

***Traditional Session***

| | |
|---|---|
| 1:30 PM | Registration & Refreshments |
| 2:00 PM | Welcome |
| 2:10 PM | USDA Grading. Ms. Charlsia Fortner |
| 2:40 PM | National Collegiate Judging Competition. Dr. Robert L. Bradley |
| 3:10 PM | Break |
| 3:25 PM | Practical Session - Cheddar. Dr. Robert L. Bradley |
| 4:40 PM | Practical Session - Ice Cream. Dr. Robert T. Marshall |
| 6:00 PM | Session End |



## *Sunday, July 25, 2004*
## *DAIRY FOODS WORKSHOP*

***Dairy Product Evaluation***

***Traditional and Descriptive Techniques***

Sponsor: California Dairy Research Foundation

Room: 225

***Descriptive Session***

| | |
|---|---|
| 8:45 AM | Refreshments |
| 9:00 AM | Opening Remarks |
| 9:10 AM | Descriptive Analysis Techniques. Dr. MaryAnne Drake |
| 9:55 AM | Interpretation & Reporting of Sensory Data. Dr. MaryAnne Drake |
| 10:40 AM | Break |
| 11:05 AM | Practical Session - Cheddar. Dr. MaryAnne Drake |
| 12:30 PM | Session End |

# *PSA Ancillary Scientists Symposia*

Co-Chairs: Lee Cartwright, Texas A&M University and Robert Smith, USDA-CSREES

Room: 132

## *Agricultural Biosecurity: Emerging Issues in Homeland Security and Food Safety*

| Time | Abstract # | |
|---|---|---|
| 8:00 AM | | Introduction of the Deputy Secretary. Lee Cartwright, Texas A&M University |
| 8:10 AM | | Priority: Homeland Security. Jim Moseley, Deputy Secretary of Agriculture, USDA |

## *Microbiology, Antibiotics, and the Poultry-Human Health Interface*

| | | |
|---|---|---|
| 9:00 AM | | Emerging Zoonotic Disease. Dawn Norton, Centers for Disease Control and Prevention, Foodborne and Diarrheal Disease Division, Atlanta, GA |
| 9:30 AM | | Antibiotic Resistance in Poultry, Humans, and the Environment. Suresh Pillai, Texas A&M University, Poultry Science, College Station, TX |
| 10:00 AM | | Antibiotic Alternative: Dietary Additives, Competitive Exclusion and Bacteriophage. Billy Hargis, University of Arkansas, Poultry Science Department, Fayetteville, AR |
| 10:30 AM | | Break |

## *Antibiotics, Prions, and Mycotoxins in Animal Feeding*

| | | |
|---|---|---|
| 11:00 AM | 1 | Antibiotic Use in Animals and the Impact of the Growth Promoter Ban in Europe. Ronald B. Phillips*; Animal Health Institute, Washington, DC |
| 11:30 AM | 2 | Enzymatic Degradation of Prions and Prevention of Transmissible Spongiform Encephalopathies. Jason Shih*; Department of Poultry Science, North Carolina State University, Raleigh |
| 12:00 PM | 3 | Mycotoxin Detoxification and Microorganisms in Feeds. G. Schatzmayr*[1], D. Schatzmayr[1], M. Täubel[1], S. Nitsch[1], A.P. Loibner[2], E.M. Binder[3]; [1]Biomin IAN GmbH, Industriestr. 21, 3130 Herzogenburg, Austria, [2]IFA-Tulln, Department of Environmental Biotechnology, Konrad Lorenzstrasse, 3430 Tulln, Austria, [3]Erber AG, Industriestrasse 21, 3130 Herzogenburg, Austria |
| 12:30 PM | | Lunch |

## *Global Trade: Disease and Epidemic Control*

| | | |
|---|---|---|
| | 4 | Withdrawn by author |
| 2:00 PM | | Economics and Trade Impact of Animal Disease Outbreaks. Parr Rosson*; Agricultural Economics Department, Texas A&M University |
| 2:30 PM | 5 | Avian Influenza, Vaccines and Control. David Swayne; USDA-ARS, Southeast Poultry Research Laboratory |
| 3:00 PM | | Systems Approach to Food Safety. Shelly McKee, Poultry Science Department, Auburn University, Auburn |
| 3:30 PM | | Break |

## *Homeland Security and Poultry Biosecurity*

| | | |
|---|---|---|
| 4:00 PM | | Animal Traceabilty and Microbial Detection Analysis. David Harry, Genomic Foundations, Nappa, CA |
| 4:30 PM | | Chicken Genome: Application to Food Safety and Genetic Resistance to Disease. Jerry Dodgson, Department of Microbiology and Molecular Genetics, Michigan State University, East Lansing |
| 5:00 PM | | Summation and Discussion. Muquarrab Qureshi, NPL, Animal Genetics, USDA-CSREES |

## *Triennial Growth Symposium 2004*

### *Applications of Genomics and Proteomics to Production Animal Development and Growth Research*

Chair: Clifton Baile, University of Georgia

Sponsor: Elanco Animal Health

Room: 124

| Time | |
|---|---|
| 8:30 AM | History of the animal genomes-including bovine, porcine and chicken. Jerry Steiner, Monsanto Company |
| 9:30 AM | Applications of SNP's to animal production systems. Sue Denise, MetaMorphix Genomics |
| 10:00 AM | Break |
| 10:30 AM | Gene discovery associated with animal growth. Daniel Pomp, University of Nebraska |
| 11:30 AM | Applications of genomics to the beef industry. Mike Engler, Cactus Feedlots |
| 12:30 PM | Lunch |
| 2:00 PM | Applications of genomics to the hog industry. Graham Plastow, Sygen International |
| 3:00 PM | Applications of genomics to the broiler industry. Milton Boyle, Hubbard ISA/Merial |
| 4:00 PM | Break |
| 4:15 PM | A vision for animal genetics-livestock cloning and genomics for the animal industries. Steve Stice, University of Georgia |
| 5:15 PM | General Discussion |

## *PSA Informal Nutrition Conference*

### *Digestive Physiology, Metabolic Challenges and Nutritional Opportunities*

"In Honor of our Great Academic Advisors and Life Mentors"

Chair: Mamduh Sifri, ADM Animal Health & Nutrition

Room: 131



| Time | |
|---|---|
| 1:00 PM | The Advisor and The Mentor – Their Long Term Impact on the Students. Mamduh Sifri, ADM Animal Health & Nutrition |
| 1:15 PM | Comparative Digestive Systems, Metabolic Challenges and Potential Opportunities – An Overview. Kirk C. Klasing, University of California, U.S.A. |
| 2:00 PM | Digestive, Functional and Adaptation of the Digestive Tract to Nutritional Changes. Zehava Uni, Hebrew University, Israel |
| 2:25 PM | Development of Defense Mechanisms in the Gastrointestinal Tract of the Chicken. David J. Sklan, Hebrew University, Israel |
| 3:10 PM | Digestive Physiology and Metabolic Characteristics Unique to Dogs and Cats. George C. Fahey, University of Illinois, U.S.A. |
| 3:45 PM | Comparative Gut Microflora, Metabolic Challenges and Potential Opportunities. Juha Apajalahti, Alimetrics, Helsinki, Finland |
| 4:25 PM | Discussions, Conclusions, Messages and Recommendations. Walter G. Bottje, University of Arkansas, U.S.A. and Wilhelm Guenter, University of Manitoba, Canada |
| 5:00 PM | Adjourn; Celebrate Those Who Guided Us During Our Journey |

# Opening Session

Sponsor: Zymetrics

Room: America's Ballroom

7:00 PM Welcome. Terry Etherton, ASAS President; Joseph O'Donnell, ADSA President, Anthony Pescatore, PSA President

7:05 PM A Brave New World for Global Meat and Dairy: The Rise of the Developing Countries. Dr. Christopher L. Delgado, Director of the Joint International Livestock Research Institute (ILRI)-International Food Policy Research Institute (IFPRI) Program on Livestock Market Opportunities, Washington, DC

8:25 PM Closing. Terry Etherton, ASAS President; Joseph O'Donnell, ADSA President, Anthony Pescatore, PSA President

8:30 PM Opening Reception

# MONDAY, JULY 26, 2004

## *POSTER PRESENTATIONS*

Room: Exhibit Hall 5

Presentation Time: 7:30 AM – 9:30 AM

### *Breeding and Genetics*

Abstract #

M1 The impact of herd opportunity and milk recording periods in estimating lifetime net income. Eunsun Yook*, Ronald E. Pearson, Bennet G. Cassell; Virginia Tech, Blacksburg

M2 Genotype by environment interactions in the association among milk yield, age and body weight at first calving in Holstein cows. Ricardo Ruiz-Sánchez[1], Hilda Castro-Gámez[2], Fausto Sánchez y GF[1], Héctor Castillo-Juarez*[1]; [1]Universidad Autónoma Metropolitana, Unidad Xochimilco, [2]Universidad Nacional Autónoma de México

M3 Heritabilty of body weight at 130 days from hatching in the Pacific white shrimp (Litopenaeus vannamei) using an animal model. Hector Castillo-Juarez*; Universidad Autonoma Metropolitana, Unidad Xochimilco

M4 Merit of obtaining genetic evaluations of milk yield for each parity on Holstein bulls. H. D. Norman, J. R. Wright*, R. L. Powell, P. M. VanRaden; Animal Improvement Programs Laboratory, Agricultural Research Service, USDA, Beltsville,MD

M5 Joint genetic evaluation of male and female fertility using longitudinal binary responses. Romdhane Rekaya, Travis Averill*; Department of Animal and Dairy Science, University of Georgia, Athens

M6 Evaluation of net energy efficiency for lactation and economic performance as selection criteria in dairy cattle. Pouya Zamani*[1], Seied Reza Miraei Ashtiani[1], Abasali Naserian[2], Ali Nik Khah[1], Mohammad Moradi Shahrbabak[1]; [1]Department of Animal Science Faculty of Agriculture, University of Tehran, Karaj, Iran, [2]Department of Animal Science Faculty of Agriculture, University of Ferdowsi, Mashhad, Iran

M7 Estimates and relationships of growth curve parameters in N'Dama cattle . Osaro Mgbere[1,2], Ikhide Imumorin*[3], O. Olutogun[1], A.R. Abdullah[1]; [1]Dept of Animal Science, University of Ibadan, Ibadan, Nigeria, [2]Dept. of Animal Science, Rivers State University of Science & Technology, [3]Dept of Biology, Valdosta State University

M8 Analysis of daughter pregnancy rates and estimated relative conception rates for a bimodal distribution . Heather N. Schlesser*[1], Roger D. Shanks[1], Sandra L. Rodriguez-Zas[1], John S. Clay[2], Paul M. VanRaden[3], P. Jeffery Berger[4], Mary H. Healey[4]; [1]University of Illinois Urbana-Champaign, [2]Dairy Records Management Systems, [3]Animal Improvement Programs Laboratory, [4]Iowa State University, Ames

M9 Genetic variation in residual energy intake and its association with body weight, milk yield, fat corrected milk yield and economic merit in dairy cattle. Pouya Zamani*[1], Seied Reza Miraei Ashtiani[1], Abasali Naserian[2], Mohammad Moradi Shahrbabak[1], Ali Nik-Khah[1]; [1]Department of Animal Science Faculty of Agriculture, University of Tehran, Karaj, Iran, [2]Department of Animal Science Faculty of Agriculture, University of Ferdowsi, Mashhad, Iran

M10 Designer pork studies with small-scale farmers targeting niche markets . Teo Barrios*[1], Charles Talbott[1], Todd See[2], Rick Pfortmiller[3]; [1]North Carolina Agricultural and Technical State University, Greensboro, [2]North Carolina State University, Raleigh, [3]National Swine Registry, West Lafayette, IN

M11 Contribution of inbreeding and recessive defects to early embryo loss. P. M. VanRaden, R. H. Miller*; Animal Improvement Programs Laboratory, Agricultural Research Service, USDA, Beltsville, MD

M12 Relationships among measures of growth performance and plasma urea nitrogen (PUN) in barrows. J. Klindt*; USDA-ARS; U.S. Meat Animal Research Center, Clay Center, NE

M13 Relationship between performance test traits and subsequent reproductive performance of Yorkshire females. Z. B. Johnson*[1], R. A. Nugent, III[2]; [1]University of Arkansas, Fayetteville, [2]The Pork Group, Tyson Foods, Inc. Springdale, AR

M14 Evaluation of the effects of heterosis on reproductive efficiency and milk yield in South Florida. Sergio I Madrid*, Timothy A. Olson, Albert de Vries, Carlos A. Risco, Peter J. Hansen; Department of Animal Sciences, University of Florida, Gainesville

M15 Analysis of sow longevity in commercial herds using competing risks. B. R. Southey*[1], S. L. Rodriguez-Zas[1], R. V. Knox[1], J. F. Connor[2], J. F. Lowe[2], B. J. Roskamp[2]; [1]University of Illinois, Urbana, [2]Carthage Veterinary Services Ltd., Carthage, IL

M16 Estimation of correlation between maternal permanent environmental effects of related dams in beef cattle. H. Iwaisaki[1], S. Tsuruta*[2], I. Misztal[2], J. K. Bertrand[2]; [1]Niigata University, Niigata, Japan, [2]University of Georgia, Athens

M17 Effects of climate and photoperiod on feed intake of beef bulls during feedlot performance tests. G. T. Tabler, Jr.*, A. H. Brown, Jr., Z. B. Johnson, E. E. Gbur, Jr., I. L. Berry, D. W. Kellogg, K. C. Thompson; University of Arkansas, Fayetteville

M18 Feed efficiency in the West Virginia Bull Test Evaluation Program. E. E. D. Felton*, J. E. Warren, Jr., W. R. Wagner, J. W. Yates; West Virginia University, Morgantown

M19 Maternal and reproductive performance of crossbred cows mated to moderate or high weaning weight EPD sires. S.M. DeRouen*[1], F.A. Thrift[2]; [1]Louisiana State University Agricultural Center, Homer, [2]University of Kentucky, Lexington

M20 Selection for meat tenderness in Angus. L Praharani*, T.A. Olson, D.D. Johnson, R.L. West; University of Florida, Gainesville

M21 Genetic parameters estimated with multi-trait and linear spline random regression models using Gelbvieh early growth data. H. Iwaisaki[1], S. Tsuruta*[2], I. Misztal[2], J. K. Bertrand[2]; [1]Niigata University, Niigata, Japan, [2]University of Georgia, Athens

M22 Estimated genetic parameters for growth, carcass, and tenderness traits of Brahman steers. Donald E. Franke*[1], Trent Smith[1], Joshua D. Domingue[1], Thomas D. Bidner[1], Joseph C. Paschal[2]; [1]LSU Agricultural Center, Baton Rouge, LA, [2]Texas A&M University, Corpus Christi, [3]University of Nebraska, Lincoln

M23 The use of real time ultrasound to estimate variance components for growth and carcass traits in Nelore cattle. Cláudio U. Magnabosco*[1,2], Fabiano R. C. Araujo[1,3], Fernando Manicardi[4], José Roberto Hofig Ramos[5], Carina U. Faria[2], Raysildo B. Lôbo[6], Luiz A.F. Bezerra[6], Thomas R. Famula[1], Roberto D. Sainz[1]; [1]University of California Davis, [2]Embrapa Cerrados, Bolsista CNPq Brasilia, DF, Brasil, [3]Aval Serviços Tecnológicos S/S Uberaba, MG, Brasil, [4]Grupo OMB Pontes e Lacerda, MT, Brasil, [5]Grupo HoRa Cornélio Procópio, PR, Brasil, [6]Universidade de São Paulo Ribeirão Preto, SP, Brasil

M24 Assessment of temperament at weaning in calves produced from diallel matings of Angus, Brahman, and Romosinuano. D. G. Riley*[1], C. C. Chase, Jr.[1], S. W. Coleman[1], R. D. Randel[2], T. A. Olson[3]; [1]USDA, ARS, Brooksville, FL, [2]TAES, Overton, [3]University of Florida, Gainesville

M25 Estimates of adaptability and stayability for postweaning weight gain in crossbred beef cattle raised in five environments in Brazil. Júlio Cesar de Carvalho Balieiro*[1,2], João Bosco Gonçalves Barros[2], José Bento Sterman Ferraz[1], Joanir Pereira Eler[1], Edson de Souza Balieiro[3], Luis Gustavo Girardi Figueiredo[1], Elisangela Chicaroni Mattos[1]; [1]University of São Paulo, Av. Duque de Caxias Norte, 225. Pirassununga/SP-Brazil, [2]University Center of Av. Dr. Octávio da Silva Bastos, s/n. S. João da Boa Vista/SP-Brasil, [3]Federal Rural University of Rio de Janeiro, Rodovia BR-465, km 47. Seropédica/RJ-Brasil

## *PSA-Genetics*

Abstract #

M26 Interaction genotype and protein level on feed efficiency of Japanese quail in dry tropic weather. J.J. Portillo*[1], R. Barajas[1], M.A. Carmona[2], F.G. Rios[1], G. Contreras[1]; [1]FMVZ - Universidad Autónoma de Sinaloa (Mexico) Carr. Culiacan-Mazatlan km 3.5, [2]FES Cuautitlan UNAM (Mexico) Cuautitlan Izcalli, Estado de México

M27 Interaction genotype - protein level on egg quality of Japanese quail in dry tropic weather. J.J. Portillo*[1], R. Barajas[1], M.A. Carmona[2], F.G. Rios[1], G. Contreras[1], I.V. Ferrer[1]; [1]FMVZ - Universidad Autonoma de Sinaloa (Mexico) Carr. Culiacán-Mazatlan km 3.5, [2]FES Cuautitlan - UNAM (Mexico) Cuautitlan Izcalli, Estado de Mexico

M28 Effect of genotype and protein level on hatchability of Japanese quail in dry tropic weather. J.J. Portillo*[1], R. Barajas[1], M.A. Carmona[2], F.G. Rios[1], G. Contreras[1], S. Aza[1]; [1]FMVZ - Universidad Autonoma de Sinaloa (Mexico) Carr. Culiacan-Mazatlan km 3.5, [2]FES Cuautitlan - UNAM (Mexico) Cuautitlan Izcalli, Estado de Mexico

M29 Relationship between internal and external egg characteristics of Japanese quail. J.J. Portillo*, G. Contreras, F.G. Rios, I.V. Ferrer; FMVZ-Universidad Autonoma de Sinaloa (Mexico) Carr. Culiacan-Mazatlan km. 3.5

M30 Interaction of Breed-by-Chitosan Supplementation on Growth and Feed Efficiency at Different Supplementing Ages in Broiler Chickens. Yoon O. Suk*[1], Hyung C. Sung[2]; [1]Dept. of Applied Animal Science, Sahmyook University 26-21 Kongneung Dong, Nohwon-Ku, Seou, South Korea, [2]EZ Life Science Co., Ltd., 335 Yangjae Dong, Seocho-Ku, Seoul, South Korea

M31 Male and female fertility and hatchability in chickens: A longitudinal mixed model approach. R. L. Sapp*[1], R. Rekaya[1], I. Misztal[1], T. Wing[2]; [1]The University of Geogia Athens, GA, [2]Cobb-Vantress, Inc. Siloam Springs, AR

M32 Growth Parameters of Live Body Weight, Feather and Protein Weight of Four Commercial Laying-type pullet Strains. Rafael Neme[1], Nilva Sakomura*[1], Flavio Fialho[2], Elma Carrilho[1], Fabiana Santos[1]; [1]Faculdade de Ciencias Agrarias e Veterinarias-Universidade Estadual Paulista Jaboticabal-SP Brazil, [2]EMBRAPA Bento Gonçalves - RS

M33 A Comparison of Carcass Fat Variables in Different Meat- type Breeds of Chickens. Zhuye Niu*, Fuzhu Liu, Shaowei Zhai; College of Animal Science & Technology, Northwest Sci-Tech University of Agriculture & Forestry

M34 Identification of virulence genes in Salmonella enteriditis required for survival in chicken infection. R.K. Gundelly*, Y.M. Kwon; University of Arkansas, Fayetteville

M35 Specific gene cloning and sequencing in pectoral muscle of Korean native chicken. Sangsoo Sun*, Namoh Kim, Seok Kim, Daeseong Kim; Chonnam National University 300 Yongbong-dong, Buk-gu, Gwangju, 500-757, Korea

M36 Chicken and quail microsatellite primers are not efficient markers for guinea fowl. S. N. Nahashon*, N. Adefope, A. Amenyenu, D. Wright; Institute of Agricultural and Environmental Research, Tennessee State University, Nashville

M37 Withdrawn by author

M38 Dioxin-induced changes in chicken macrophage (HD11) gene expression. N. Puebla-Osorio*[1], K.D. Ramos[3], D. Abi-Ghanem[1], M.H. Falahatpisheh[3], L.R. Berghman[1,2]; [1]Department of Poultry Science, Texas A&M University, College Station, [2]Department of Veterinary Pathobiology, Texas A&M University, College Station, [3]Center for Genetics and Molecular Medicine, University of Louisville Health Sciences Center, Louisville, KY

M39 The expression of genes related to egg production performance in the liver of Taiwanese country chickens. S. T. Ding*[1], Y. H. Ko[1], M. C. Huang[2], Y. P. Lee[2], W. T. K. Cheng[1]; [1]Dept. of Animal Science, National Taiwan University, Taipei 106, Taiwan, [2]Dept. of Animal Science, National Chung Hsiung University, Taichung, Taiwan

M40 Withdrawn by author

## *PSA-Processing and Products*

Abstract #

M41 Preparation and characteristics of spent hen meat enzymatic hydrolysate. Orn Sangthcrapitikul, Y.C. Chen*, T.C. Chen; Poultry Science Department, Mississippi State University, Mississippi Sate

M42 Spent hen meat enzymatic hydrolysate as a flavoring base. Orn Sangthcrapitikul, Y.C. Chen*, T.C. Chen; Poultry Science Department, Mississippi State University, Mississippi State

M43 ***Listeria monocytogenes*** prevalence and distribution within a poultry further processing plant over 12 months. Mark E. Berrang*[1], Richard J. Meinersmann[1], Joseph F. Frank[2], Douglas P. Smith[1]; [1]USDA-ARS-Russell Research Center, Athens GA, [2]Food Science and Technology, University of Georgia, Athens

M44 Antimicrobial Susceptibility Patterns of ***Salmonella*** from Fresh Whole Chicken Carcasses. Scott R. Ladely*[1], Mark E. Berrang[1], Paula J. Fedorka-Cray[1], Mustafa Simmons[2], Daniel L. Fletcher[3]; [1]USDA-ARS-Russell Research Center, Athens, GA, [2]Food Science and Technology, University of Georgia, Athens, [3]Poultry Science, University of Georgia, Athens

M45 Influence of irradiation and storage on the quality of ready-to-eat turkey breast rolls. Meijun Zhu*, Aubrey Mendonca, Eun Joo Lee, Dong Ahn; Iowa State University, Ames

M46 Effects of extended storage on egg quality factors. D. R. Jones*, M. T. Musgrove; Russell Research Center, Poultry Processing and Meat Quality Research Unit, USDA-ARS, Athens, GA

M47 Chemical analyses of commercial shell egg wash water collected from three different operations. J. K. Northcutt*, M. T. Musgrove, D. R. Jones; USDA, Agricultural Research Service, Russell Research Center, Athens, GA

M48 Evaluation of carcasses obtained from broilers fed with ostrich oil and/or soybean oil as energy source. W Martinez, E Posadas, E Avila, M.P. Castañeda*; Universidad Nacional Autonoma de Mexico, Salvador Diaz Miron s/n, Col Zapotitlan, México D.F.

M49 Effects of post-defeathering electrical stimulation on moisture retention characteristics of broiler carcasses and phosphate-marinated breast fillets. L. L. Young*[1], D. P. Smith[1], J. A. Cason[1], R. J. Buhr[1], J. M. Walker[2]; [1]USDA, Athens, GA, [2]Stork-Gamco, Inc., Gainesville, GA

## *Meat Science and Muscle Biology*

Abstract #

M50 DFD-like (Dark, Firm, Dry) Meat in a Broiler Commercial Plant. Juliane Schneider[2,3], Sandra H. I. Oda[1], Adriana L. Soares[1], Elza I. Ida*[1], Paulo D. Guarnieri[2], Rubison Olivo[3], Massami Shimokomaki[1,2]; [1]Department of Food and Drug Technology, Londrina State University, Londrina, PR, Brazil, [2]Food Science Graduate Program, Faculty of Pharmaceutical Sciences, São Paulo University, São Paulo, SP, Brazil, [3]Globalfood Advanced Food Technology Alberto Sampaio, São Paulo, S, Brazil

M51 Biochemical and Ultrastructural Evaluation of PSE (Pale, Soft, Exudative) Broiler Breast Meat in a Commercial Plant. Massami Shimokomaki*[1,2], Adriana L. Soares[1], Paulo D. Guarnieri[2], Rubison Olivo[3], Elza I. Ida[1], Rosa M. G. Macedo[4], Juliane Schneider[2,3]; [1]Department of Food and Drug Technology, Londrina State University, Londrina, PR, Brazil, [2]Food Science Graduate Program, Faculty of Pharmaceutical Sciences, São Paulo University São Paulo, SP, Brazil, [3]Globalfood Avanced Food Technology Alberto Sampaio, São Paulo, SP, Brazil, [4]Maringa State University Maringa, PR, Brazil

M52 Effect of feeding program and sex on productive performance and carcass quality of Iberian crossbred pigs . M. P. Serrano[1], D. G. Valencia[1], R. Lázaro*[1], M. Nieto[2], G. G. Mateos[1]; [1]Universidad Politécnica de Madrid Ciudad Universitaria sn, [2]Copese S.A. Conde de Sepúlveda 24

M53 Effect of sex and slaughter weight on productive performance and carcass quality of Iberian crossbred pigs . M. P. Serrano[1], D. G. Valencia[1] R. Lázaro*[1], J. Viguera[1], M. Nieto[2], G. G. Mateos[1]; [1]Universidad Politécnica de Madrid Ciudad Universitaria sn, [2]Copese S.A. Conde de Sepúlveda, 24

M54 Early postmortem pH influences proteolysis of cytoskeletal proteins during aging in porcine longissimus muscle. G. Bee*[2], S. M. Lonergan[1], E. Huff-Lonergan[1]; [1]Iowa State University Ames,1, [2]Swiss Federal Research Station for Animal Production and Dairy Products 1725 Posieux, Switzerland

M55 Oxidation, ionic strength, and pH affect porcine skeletal muscle calpain and calpastatin activity. K.R. Maddock*, E. Huff-Lonergan, L.J. Rowe, S.M. Lonergan; Iowa State Univerisity, Ames

M56 The use of creatine as a means of improving the belly/bacon quality of market barrows fed 4.5 g/ton Paylean®. C.A. Stahl*, M.S. Carlson, T.B. Schmidt, G. Rentfrow, E.K. Burger, E.P. Berg; University of Missouri-Columbia, Columbia

M57 Physical parameters of lamb meat as affected by aging time. Jorge Zapata*; Universidade Federal do Ceará

M58 Extracellular matrix (ECM) properties of lamb skeletal muscle as related to age and muscle. F. Filetti, G. Maiorano*, A. Ciarlariello, M. Gambacorta, A. Manchisi; University of Molise Campobasso, Italy

M59 Carcass and meat quality in three varieties of rainbow trout (***Oncorhynchus mykiss***). Ana Luisa Renteria Monterrubio*[1], Jose Arturo Garcia Macias[1], Martin Espinosa[2]; [1]Universidad Autonoma de Chihuahua, Periferico Francisco R. Almada. Km 1, Chihuahua, Chihuahua, [2]Asociacion de Productores de Trucha, Region de Madera, A. C.

M60 Effects of sedated-harvest on channel catfish fillet color, pH, and drip-loss. Brian G. Bosworth*, Denise J. Gregory; Catfish Genetics Research Unit, USDA-ARS, Stoneville, MS

M61 Effect of sexual condition and slaughter weight on carcass traits from buffaloes finished in feedlot. André Mendes Jorge*[1], Cristiana Andrighetto[2], Danilo Domingues Millen[3], Michel Golfetto Calixto[2]; [1]UNESP-FMVZ-DPEA-Botucatu, [2]UNESP-FMVZ-PGZOO-Botucatu, [3]UNESP-FMVZ-DPEA-Botucatu

M62 Quantitative carcass traits from buffaloes of three genetic groups finished in feedlot and slaughtered at different stages of maturity. André Mendes Jorge*[1], Cristiana Andrighetto[2], Danilo Domingues Millen[3], Michel Golfetto Calixto[2]; [1]UNESP-FMVZ-DPEA-Botucatu, [2]UNESP-FMVZ-PGZOO-Botucatu, [3]UNESP-FMVZ-DPEA-Botucatu

M63 Physical carcass composition and tissue relations from buffaloes of three genetic groups finished in feedlot and slaughtered at different stages of maturity. André Mendes Jorge*[1], Cristiana Andrighetto[2], Danilo Domingues Millen[3], Michel Golfetto Calixto[2]; [1]UNESP-FMVZ-DPEA-Botucatu, [2]UNESP-FMVZ-PGZOO-Botucatu, [3]UNESP-FMVZ-DPEA-Botucatu

M64 Chemical composition, meat quality and consumer acceptability in Mexican retail beef. E. J. Delgado[1], M. S. Rubio*[1], F. A. Iturbe[2], R. D. Mendez[1], L. Cassis[3], R. Rosiles[1]; [1]Facultad De Medicina Veterinaria Y Zootectnia, Universidad Nacional Autonoma De Mexico Circuito Exterior, Ciudad Universitaria, Mexico , [2]Facultad De Quimica, Universidad Nacional Autonoma De Mexico Circuito Exterior, Mexico , [3]Departamento Tecnologia Alimentos, Universidad La Salle Benjamin Franklin 47, Col. Condesa, Del. Cuauhtemoc

M65 Effects of sodium lasalocid and electrolytes on carcass characteristics of young bulls from north-central Mexico, finished with a brewery grain-based ration. F Winston-Bennett, JJJ Chavez *, R Bañuelos, S Mendez, CF Arechiga, F Echavarria; Universidad Autonoma de Zacatecas, Zacatecas, Mexico.

M66 Hanging the beef carcass by the forequarter to improve tenderness of the ***Longissimus dorsi***. Albino Luchiari-Filho*[1], Renato Prates Macedo[2], Angélica Simone Cravo Pereira[1], Saulo da Luz e Silva[1], Paulo Roberto Leme[1], Guilherne Ferrareze Feitoza[1]; [1]Faculdade de Zootecnia e Engenharia de Alimentos - USP, Pirassununga, SP Brazil, [2]Marfrig Brazilian Beef Via Dr. Shuhei Uetsuka, km 02, Promissão, SP, Brazil

M67 Estimation of percentage of lean meat on rib loin by computer image analysis for carcass cross section of Wagyu cattle. Mio Hasegawa*[1], Keigo Kuchida[1], Satoshi Hidaka[1], Hironao Houkiyama[2], Toshifumi Sakai[2], Yusuke Yamamoto[2], Yukinobu Sato[2]; [1]Obihiro University of Agriculture and Veterinary Medicine Obihiro-shi Hokkaido 080-8555 Japan, [2]Hokkaido Animal Research Center Shintoku-cho Hokkaido 081-0038 Japan

M68 Development of new photography equipment for carcass cross section of Wagyu beef and its potential use in meat quality evaluation using digital images. Keigo Kuchida*[1], Takeshi Hori[2], Toshinori Honma[2], Michitaka Nami[2], Kenichiro Takahashi[1], Mio Hasegawa[1], Hironao Hokiyama[3], Toshifumi Sakai[3], Yusuke Yamamoto[3]; [1]Obihiro University of Agriculture and Veterinary Medicine Obihiro-shi Hokkaido 080-8555 Japan, [2]Hokkaido Industrial Research Institute Sapporo-shi Hokkaido 060-0819 Japan, [3]Hokkaido Animal Research Center Shintoku-cho Hokkaido 081-0038 Japan

M69 Correlations among carcass traits taken by ultrasound and after slaughter in Mediterranean (Bubalus bubalis) bulls fed in feedlot. André Mendes Jorge*[1], Cristiana Andrighetto[2], Danilo Domingues Millen[3], Michel Golfetto Calixto[2]; [1]UNESP-FMVZ-DPEA-Botucatu, [2]UNESP-FMVZ-PGZOO-Botucatu, [3]UNESP-FMVZ-DPEA-Botucatu

M70 Effect of dietary vitamin E supplementation and storage time on physical characteristics of ten muscles from beef cattle. F. G. Rios*, R. Cortina, G. Contreras, J.J. Portillo; FMVZ-Universidad Autonoma de Sinaloa, Mexico Carr. Culiacan-Mazatlan km. 3.5

M71 Tenderness improvement in fresh and frozen/thawed beef strip loins treated with hydrodynamic pressure processing. Morse B. Solomon*, Martha Liu, Jitu Patel, Ernie Paroczay, Janet Eastridge; USDA, ARS, FTSL

M72 Recombinant hepatocyte growth factor (rHGF) over-expressed by C2C12 myoblasts is biologically active. Caiyun Zeng*[1], David E. Gerrard[1], Kevin H. Hannon[2], Alan L. Grant[1]; [1]Department of Animal Sciences, Purdue University, West Lafayette, IN, [2]Department of Basic Medical Sciences, Purdue University, West Lafayette, IN

M73 Correlations and prediction equations for fatty acids and sensory characteristics of beef longissimus rib steaks from three forage rations and commercial USDA Choice and Select rib steaks. R. T. Baublits*[1], F. W. Pohlman[1], A. H. Brown, Jr.[1], Z. B. Johnson[1], D. C. Rule[2], C. M. Murrieta[2], D. O. Onks[3], B. A. Sandelin[1], H. D. Loveday[3], C. J. Richards[3], R. B. Pugh[3]; [1]University of Arkansas, Fayetteville, [2]University of Wyoming, Laramie, [3]University of Tennessee, Knoxville

M74 Characterization of Romosinuano breeding on palatability traits and retail shelf life of beef steaks. W. J. Horne*[1], J. C. Brooks[1], S. W. Coleman[2], W. A. Phillips[3], D. G. Riley[2], C. C. Chase Jr.[2], M. F. Miller[1]; [1]Department of Animal and Food Sciences, Texas Tech University, Lubbock, [2]USDA, ARS, SubTropical Agricultural Research Station, Brooksville, FL, [3]USDA, ARS, Grazinglands Research Laboratory, El Reno, OK

M75 Comparison of beef tallow versus poultry fat in the finishing diets of steers on muscle and subcutaneous fatty acid profiles. Shanna Hutchison*[1], Elizabeth B. Kegley[1], Jason K. Apple[1], Troy J. Wistuba[2], Daniel C. Rule[3]; [1]University of Arkansas, Fayetteville, [2]Morehead State University Morehead, KY, [3]University of Wyoming, Laramie

M76 Comparison of beef tallow versus poultry fat in the finishing diets of steers on beef quality during retail display. Shanna Hutchison*[1], Jason K. Apple[1], Elizabeth B. Kegley[1], Troy J. Wistuba[2]; [1]University of Arkansas, Fayetteville, [2]Morehead State University, Morehead, KY

M77 Glycolytic intermediates in muscle and adipose tissue of cattle fed different sources and amount of energy. R. D. Rhoades*, J. T. Vasconcelos, D. K. Lunt, J. E. Sawyer, K. Y. Chung, S. B. Smith; Department of Animal Science, Texas A&M University, College Station

## *Nonruminant Nutrition*

## *Weanling Pig - Vitamin & Mineral*

Abstract #

M78 Is vitamin B6 a modulator of the effect of supplementary tryptophan on tryptophan metabolism and growth responses in weanling pigs? J. Jacques Matte*[1], Nathalie LeFloc'h[2], Claire Relandeau[3], Laurent Le Bellego[3], Alain Giguère[1], Martin Lessard[1]; [1]Agriculture and Agri-Food Canada, Lennoxville, QC, Canada, [2]Institut National de la Recherche Agronomique, St-Gilles, France, [3]Ajinomoto Eurolysine S.A.S., Paris, France

M79 Vitamin C and ß-carotene in weanling pig diets. Demian M. Fernandez*[1], Jose A. Cuaron[2]; [1]Universidad Nacional Autonoma de Mexico Mexico City, [2]Instituto Nacional de Investigaciones Forestales, Agricolas y Pecuarias Queretaro, MX

M80 Ontogeny of mitochondrial carnitine palmitoyltransferase I in porcine liver and skeletal muscle. Pasha Lyvers Peffer*[1], Xi Lin[1], Lori Averette Gatlin[1], Jason Woodworth[2], Jack Odle[1]; [1]North Carolina State University, Raleigh, [2]Lonza, Inc., Fairlawn, NJ

M81 Determination of true digestible calcium and phosphorus requirements in weaned pigs. Ming Fan*[1], Yingran Shen[1], Tania Archbold[1], Amanda Holt[1], Yulong Yin[2]; [1]University of Guelph, Guelph, ON, Canada, [2]The Chinese Academy of Sciences, China

M82 Diet buffer capacity and mineral sources alter growth and Salmonella prevalence in nursery pigs. Peter Bahnson, Melissa E. Glenn, Thomas D. Crenshaw*; University of Wisconsin, Madison

M83 Effect of supplementing zinc oxide and biotin with or without carbadox on nursery pig growth performance. H.D. Wilt*, M.S. Carlson; University of Missouri, Columbia

M84 Impact of feeding herbal extracts and additional copper plus zinc on growth performance and immune function of newly weaned piglets. H. Namkung*, C. F. M. de Lange; Department of Animal and Poultry Science, University of Guelph, Guelph, ON, Canada

M85 The role of high dietary zinc oxide in cholecystokinin and insulin-like growth factor I secretion and growth in weaned pigs. Defa Li*, Jingdong Yin; Ministry of Agriculture Feed Industry Center,China Agricultural University, Yuanmingyuan, Beijing



## *Nonruminant Nutrition*

## *Weanling Pig - Energy & Protein*

Abstract #

M86 The interaction between cereal source and lactose level on piglet growth performance post weaning. J.M. O'Connell*, J.J. Callan, J.V. O'Doherty; Department of Animal Science and Production, University College, Dublin, Ireland

M87 Performance and nutrient digestibility of low tannin sorghum fed to pigs from 10 to 30 kg. Elias Tadeu Fialho*, Paulo Borges Rodrigues, Jose A. Freitas Lima, Hunaldo Oliveira Silva, Vladimir Oliveira; University Federal of Lavras - UFLA- Brazil

M88 Effect of different sources and levels of lipids on the performance of pigs postweaning. Maria Emilia Pimenta[2], Jose Augusto Lima*[1], Elias Tadeu Fialho[1], Priscila Logato[1], Luiz David Murgas[1]; [1]University Federal of Lavras - UFLA, Brazil, [2]Universidade de Alfenas-UNIFENAS, Brazil

M89 Piglets at weaning or three weeks post-weaning prefer rice to sorghum. David Solà-Oriol[1], Eugeni Roura*[2], David Torrallardona[1]; [1]IRTA, Centre de Mas Bové Apartat 415, Reus, Spain, [2]Lucta SA Montornés del Vallès, Barcelona, Spain

M90 Enzyme supplementation of piglets fed diets containing barley, wheat, and corn. J. Sánchez[1], A. Fuentetaja[2], J. C. González[1], J. Peinado[1], M. I. Gracia*[1]; [1]Imasde Agropecuaria, S.L. Spain, [2]Copese, S.A. Spain

M91 Technical feasibility of processed corn and soybeans in diets of piglets from 21 to 56 days of age. Patricia Azevedo Castelo Branco, Jose Augusto Lima, Elias Tadeu Fialho*, Priscila Vieira R. Logato, Rilke Tadeu Freitas; University Federal of Lavras - UFLA, Brazil

M92 Efficacy of a vegetable-based peptide product as a replacement for plasma protein in nursery pig diets. E. A. Halbrook*[1], C. V. Maxwell[1], M. E. Davis[1], Z. B. Johnson[1], D. C. Brown[1], R. Dvorak[2], R. Musser[3]; [1]University of Arkansas, Fayetteville, [2]Alltech Inc., Nicholasville, KY, [3]Hubbard Feeds, Mankato, MN

M93 Effect of reduced protein in weanling pig diets. MarcioGilberto Zangeronimo, Elias Tadeu Fialho*, Jose A. Freitas Lima, Paulo Borges Rodrigues, Luis David solis Murgas; University Federal of Lavras-UFLA, Brazil

M94 Effects of feeding rice protein concentrate on growth performance and ileal digestibility in early weaned pigs. Chae Byung-Jo*, Yun Jung-Ho, Yong Ji-Soon, Choi Jae-Yong, Kim Jae-Kyoung, Lohakare Jayant; Kangwon National University, Chunchon, South Korea.

M95 Effect of RPC (Rice Protein Concentration) as a substitute for protein sources in weaning pigs. O. S. Kwon*[1], B. J. Min[1], K. S. Son[1], J. H. Cho[1], J. D. Kim[2], I. H. Kim[1], S. H. Ahn[3], H. S. Ahn[3]; [1]Dankook University, Cheonan, Korea, [2]CJ Feed Co. Ltd., Korea, [3]EUNJIN International Co. Ltd., Korea

M96 Influence of a soy protein hydrolysate on the productive performance of early weaned pigs under an enterotoxigenic E. coli (ETEC) colibacilosis or under a healthy status. Gabriele Ferrini[1], Elisabet Borda[2], Daniel Martinez-Puig*[2], Edgar Garcia-Manzanilla[1], Susana Martin-Orue[1], Jose Perez[1]; [1]Universitat Autonoma de Barcelona Spain, [2]BIOIBERICA Spain

M97 Liquid diets containing vegetable proteins accelerate piglet growth above milk-protein-based diets. A. Ebert[1], A.S. Berman[1], R.H. Harrell[2], S.G. Cornelius[1], J. Odle*[1]; [1]North Carolina State University, Raliegh, [2]Milk Specialties Co., Dundee, IL

M98 Interaction between threonine and avilamycin on piglet growth performance post weaning. J.M. O' Connell*, J.J. Callan, J.V. O' Doherty; Department of Animal Science and Production, University College, Dublin, Ireland

M99 Developmental regulation of fructose and amino acid transporter gene expression in the small intestine of pigs. X. Xiao*, E. A. Wong, K. E. Webb, Jr.; Department of Animal and Poultry Sciences, Virginia Polytechnic Institute and State University, Blacksburg

## *Nonruminant Nutrition*

## *Weanling Pigs - Additives*

Abstract #

M100 Evaluation of organic acid blends and antibiotics for promoting growth of young pigs. Donald W. Giesting*[1], Murray J. Pettitt[2], Eduardo Beltranena[2,3]; [1]Cargill Animal Nutrition, Minnetonka, MN, [2]Prairie Swine Centre, Inc., Saskatoon, SK, Canada, [3]Provincial Department of Agriculture-Alberta, Edmonton, AB, Canada

M101 Interaction between lactose, avilamycin and inulin on piglet growth performance and nutrient digestibility post-weaning. K. M. Pierce*[1], J. J. Callan[1], P. McCarthy[2], J. V. O'Doherty[1]; [1]University College, Dublin, Ireland, [2]Volac International Ltd, UK

M102 Effects of probiotic supplementation on gut histometry and fecal microflora in weaned pigs. Valentino Bontempo*[1], Alessia Di Giancamillo[1], Cinzia Domeneghini[1], Mauro Fava[1], Carla Bersani[1], Richard Paratte[1], Eric Chevaux[2], Vittorio Dell'orto[1], Giovanni Savoini[1]; [1]Department of Veterinary Sciences and Technologies for Food Safety, University of Milan, Italy, [2]lallemand Animal Nutrition, Blagnac, France

M103 Antimicrobials, probiotics, prebiotics and herbal extracts as growth promoters on performance of weanling pigs. Carlos E. Utiyama*, Liliana L. Oetting, Pedro A. Giani, Urbano S. Ruiz, Valdomiro S. Miyada; Escola Superior de Agricultura "Luiz de Queiroz" da Universidade de São Paulo, Piracicaba-SP, Brazil

M104 The effect of bacillus and active yeast complex supplementation on the performance, fecal bacillus counts and ammonia nitrogen concentrations in weaned pigs. B. J. Min*[1], O. S. Kwon[1], K. S. Son[1], J. H. Cho[1], W. B. Lee[1], J. H. Kim[2], B. C. Park[3], I. H. Kim[1]; [1]Dankook University, Korea, [2]Agribrands Purina Korea, Inc., Seoul, Korea, [3]CTC Bio. Inc., Korea

M105 Efficacy of addition of ***B. licheniformis*** and ***B. subtilis*** in pig diets from weaning to slaughter. M. I. Gracia*[1], S. Hansen[2], J. Sánchez[1], P. Medel[1]; [1]Imasde Agropecuaria, S.L. Spain, [2]Chr Hansen A/S Denmark

M106 Isolation of ***Bacillus*** strains to inhibit pathogenic ***E. coli*** and enhance weanling pig performance. Dorrie S. Parrott*, Tom G. Rehberger; Agtech Products, Inc., Manhattan, KS

M107 Effects of dietary herbal extracts (Animon Plus®) on growth performance and blood composition in nursery and growing pigs. K. S. Son*[1], O. S. Kwon[1], B. J. Min[1], W. B. Lee[1], J. H. Kim[2], J. W. Hong[1], I. H. Kim[1], H. S. Kim[3]; [1]Dankook University, Cheonan, Korea, [2]Agribrands Purina Korea, Inc. Seoul, Korea, [3]Kumbo Trading Co., Korea

M108 Efficacy of antimicrobials and herbal extracts as growth promoters of weanling pigs. Liliana L. Oetting*, Carlos E. Utiyama, Pedro A. Giani, Urbano S. Ruiz, Valdomiro S. Miyada; Escola Superior de Agricultura, Piracicaba-SP, Brazil

M109 Effect of dietary melatonin on serum melatonin level and growth performance of weaned pigs. G. H. Lee, J. G. Kim*, K. Y. Whang; Korea University, Seoul, Korea

M110 Botanical additives masked by a flavor do not affect feed intake, growth, or fecal consistency in weanling pigs. Eugeni Roura*[1], Ramon Fontanillas[1], Paul Bikker[2]; [1]Lucta SA Barcelona, Spain, [2]Schothorst Feed Research, Lelystad, The Netherlands

M111 Effect of bedding with mycotoxin contaminated straw and low levels of dietary mycotoxin on piglet performance. B. E. Strickler, P. Spring*; Swiss College of Agriculture, Zollikofen, Switzerland

M112 Influence of diet on microbial community structure and activity in the intestinal tract of weanling pigs. Andrea Piva*[1], Luca Magnani[1], Gabriele Casadei[1], Pier Paolo Gatta[1], K.M. Selig[2], John A. Patterson[2]; [1]University of Bologna, Italy Via Tolara di Sopra, 50, Ozzano Emilia (BO), [2]Department of Animal Sciences, Purdue University, West Lafayette, IN

## *Forages and Pastures*

Abstract #

M113 Nutritive quality of ***Poa pratensis*** in model grassland communities exposed to ground-level ozone. D. Dodson*[1], J. Bender[2], J. Lin[1], R. Muntifering[1]; [1]Auburn University, Auburn, AL, [2]Federal Agricultural Research Center, Braunschweig, Germany

M114 Effect of increased cutting height of corn silage on nutritive value, milk yield and milk composition. D. Dominguez-Diaz*[2], L. D. Satter[1,2]; [1]Dairy Forage Research Center, USDA-ARS, Madison, WI, [2]Dairy Science Department, University of Wisconsin-Madison, Madison

M115 Site and extent of digestion of diets containing brown midrib-3, low-cut, or high-cut corn silage. D. Dominguez-Diaz*[2], L. D. Satter[1,2]; [1]Dairy Forage Research Center, USDA-ARS, Madison, WI , [2]Dairy Science Department, University of Wisconsin-Madison, Madison

M116 Nutritive quality of early-season ***Trifolium*** forage as influenced by nitrogen and ground-level ozone. K.E. Kittendorf*[1], B. Sanchez-Gimeno[2], J. Sanz[2], J. Lin[1], R.B. Muntifering[1]; [1]Auburn University, Auburn, AL, [2]Centro de Investigaciones Energeticas, Medioambientales y Tecnologicas, Madrid, Spain

M117 Forage production and quality of triticale cultivars in the Tennessee Valley. M. Lema*[1], E. Cebert[2]; [1]Tennessee State University, Nashville, [2]Alabama A & M University, Normal

M118 Effects of a bacterial inoculant on fermentation, quality, degradability and aerobic stability of whole head grain sorghum ensiled at two stages of grain maturity. L.O. Abdelhadi*[1], J.M. Tricarico[2]; [1]Est. El Encuentro, Research and Extension in Ruminant Nutrition. Cnel. Brandsen, Argentina., [2]Allech Biotechnology Inc., Nicholasville, KY.

M119 Estimating degradable intake protein on producer farms in northern Arkansas. W. K. Coblentz*, J. E. Turner, R. K. Ogden, K. P. Coffey, F. W. Pohlman, A. H. Brown, M. B. Daniels, J. L. Gunsaulis, M. L. Thomas, J. B. Humphry; University of Arkansas, Fayetteville

M120 Comparison of mechanically processed barley silage with regular barley silage on lactational performance of Holstein cows. Jong-Su Eun[1], Sung-Ho Hong*[2], Karen Beauchemin[1]; [1]Agriculture and Agri-Food Canada, Lethbridge, AB, Canada, [2]Sahmyook College Cheongnyangni, Seoul, Korea

M121 Effect of forage diversity on intake and productivity of grazing lactating dairy cows over two grazing seasons. K J Soder*[1], M A Sanderson[1], J L Stack[2], L D Muller[2]; [1]USDA-ARS, Pasture Systems and Watershed Management Research Unit University Park, PA, [2]The Pennsylvania State University, University Park

M122 Nitrogen Characteristics and Nitrogen Degradation Kinetics of Crabgrass Harvested in Northern Arkansas. Robin K Ogden*, Wayne K Coblentz, Kenneth P Coffey, James E Turner, Dean A Scarbrough, John A Jennings, Micheal D Richardson; University of Arkansas AFLS, Fayetteville

M123 Chemical composition and in vitro digestibility of three cultivars of Guinea grass (Panicum maximum Jacq) at three ages of cut under tropical dry forest conditions. María A Cuauro, Baldomero Gonzalez, Omar Araujo-Febres*, Juan Vergara; La Universidad del Zulia, Facultad de Agronomía Maracaibo, Venezuela

M124 Effects of a bacterial inoculant on fermentation, quality, degradability and aerobic stability of whole-plant grain sorghum and corn silages. L.O. Abdelhadi*[1], J.M. Tricarico[2]; [1]Est. El Encuentro, Research and Extension in Ruminant Nutrition. Cnel. Brandsen, Argentina., [2]Alltech Biotechnology Inc., Nicholasville, KY

M125 Biomass yield and nutritive quality of eastern gamagrass (***Tripsacum dactyloides***) exposed to ground-level ozone. J. Lin*, J. Lewis, R. Muntifering, S. Ditchkoff, A. Chappelka; Auburn University Auburn, AL

M126 Effect of type of concentrate on grazing behaviour of dairy cows. R.G. Pulido*, E. Felmer, A. Hinostroza, F. Wittwer; F. Cs. Veterinarias, Universidad Austral de Chile, Valdivia, Chile

M127 The Effects of Xylanase Addition on the Fermentation of Distillers Wet Grains in Laboratory Silos. V. Akay*; Alltech, Inc., Nicholasville, KY

M128 Herbage and animal performance responses to management intensity of continuously stocked bahiagrass pastures. R.L. Stewart, Jr.*, L.E. Sollenberger, J.C.B. Dubeux, Jr., J. M. B. Vendramini; University of Florida, Gainesville

M129 Responses by steers compared under continuous and frontal grazing. H. Lippke, T. D. A. Forbes*, E. Rivera, P. G. Soderstrom, B. G. Warrington; Texas Agricultural Experiment Station, Uvalde, TX.

M130 Kura Clover Spreading Ability with Grass Competition. Byongwan Kim*[1], Kenneth Albrecht[2]; [1]College of Animal Resources science, Kangwon National University 192-1, Hyoja2-Dong, Chunchon, Kangwon-Do, 200-701, South Korea, [2]Department of Agronomy, University of Wisconsin-Madison, Madison

M131 The Effects of Addition of Pectinase on the Levels of Soluble Sugars during Ensiling of Whole Sugar Beets in Laboratory Silos. V. Akay*, P. Karnezos; Alltech, Inc. Nicholasville, KY

M132 Comparison of forage drying methods. T.W. White*, A.J. Phelps, H.G. Bateman, C.C. Williams; Louisiana State University Agricultural Center, Baton Rouge

M133 Effect of winter stocker growth rate and finishing diet on beef longissimus fatty acid composition. Carolina Realini[1], Susan Duckett*[1], Jim Neel[2], Joe Fontenot[3], William Clapham[2]; [1]University of Georgia Athens, GA, [2]USDA-ARS Beaver, WV, [3]Virginia Tech University, Blacksburg

M134 Effect of winter stocker growth rate and finishing diet on beef rib composition, quality and palatability. Carolina Realini[1], Susan Duckett*[1], Jim Neel[2], Joe Fontenot[3], William Clapham[2]; [1]University of Georgia Athens, GA, [2]USDA-ARS Beaver, WV, [3]Virginia Tech University, Blacksburg

M135 Effect of winter period rate of gain on finishing growth rate, final weight and carcass parameters from pasture or feedlot finished cattle. J. P. S. Neel*[1], J. P. Fontenot[2], W. M. Clapham[1], S. K. Duckett[3]; [1]USDA-ARS, AFSRC Beaver, WV, [2]Virginia Tech University, Blacksburg, [3]The University of Georgia, Athens

M136 Effects of γ-terpinene, terpinolene, a-copaene, and a-terpinene on consumption of alfalfa pellets by sheep. Rick E. Estell*[1], Ed L. Fredrickson[1], Dean M. Anderson[1], Kris M. Havstad[1], Marta D. Remmenga[2]; [1]USDA/ARS Jornada Experimental Range, [2]New Mexico State University, Las Cruces

M137 Forage quality differences between grass hay stored as dry large round bales or wet wrapped round bales. Edward B. Rayburn, William L. Shockey*, Rodney M. Wallbrown; West Virginia University, Morgantown

M138 Assumption testing of the optimal sampling schedule of diet components. Branislav Cobanov*, Normand R. St-Pierre; The Ohio State University, Columbus

M139 Effects of Source and Level of Two Legumes or Cotton Seed Meal on Intake and Digestibility of Coastal Bermudagrass (***Cynodon dactylon***) Hay Diets by Goats. Jamie L Foster*[1], William C Ellis[2], James P Muir[1], Jason Sawyer[2]; [1]Texas Agricultural Experiment Station, Stephenville, TX, [2]Texas A&M Universtiy, College Station

M140 Effect of corn silage chop length on lactation performance of dairy cows on a commercial farm – a case study. T. D. Nennich*[1], J. H. Harrison[1], D. L. Davidson[1], J. Werkhoven[2], A. Werkhoven[2]; [1]Washington State University Puyallup, [2]Werkhoven Dairy, Monroe, WA

M141 Peanut stover and bermudagrass hay for wethers on summer hardwood range in north central Texas. Catherine E Packard*[1,2], James P Muir[1], Rodger Wittie[2], Randy Harp[2]; [1]Texas Agriculture Experiment Station, Stephenville, TX, [2]Tarleton State University, Central Texas

M142 Forage intake, digestibility and gain by five beef breedtypes grazing rye-ryegrass-bermudagrass pasture and subsequent feedlot performance. T.D.A. Forbes*[1], F.M. Rouquette[2], R.D. Randel[2], J.J. Cleere[3]; [1]Texas Agricultural Experiment Station, Uvalde, [2]Texas Agricultural Experiment Station, Overton, [3]Texas Cooperative Extension, Overton

M143 Soybean by-products for feeding grazing dairy cows. 1. Milk production and composition. R.F. Gregoret*[1], M.C. Gaggiotti[1], M.R. Gallardo[1], S.E. Valtorta[2], G.A. Conti[1], C. Arakaki[3]; [1]Experimental Station Rafaela INTA Ruta 34 km 227 Rafaela 2300 Santa Fe Argentina, [2]National Research Council (CONICET) CC 22 Rafaela 2300 Santa Fe Argentina, [3]CICV INTA CC 77 Castelar 1712 Buenos Aires Argentina

M144 Soybean by-products for feeding grazing dairy cows. 2. Rumen fermentation. M.C. Gaggiotti*[1], C. Arakaki[2], M.R. Gallardo[1], R.F. Gregoret[1], S.E. Valtorta[3], G.A. Conti[1], O. Quaino[1]; [1]Experimental Station Rafaela INTA Ruta 34 km 227 Rafaela 2300 Santa Fe Argentina, [2]CICV INTA CC 77 Castelar 1712 Buenos Aires Argentina, [3]National Research Council (CONICET) CC 22 Rafaela 2300 Santa Fe Argentina

M145 Evaluating the use of indigestible neutral detergent fiber to predict dry matter intake of cattle fed high forage diets. R. Driskill*, J.R. Russell, K. Bormann, W.J. Powers; Iowa State University, Ames

M146 Visual Assessment versus Compressed Sward Heights as Predictors of Forage Biomass in Cool-Season Pastures. Ronaldo E Vibart*[1], Sharon L White-Bennett[2], James T Green[2], Steven P Washburn[1]; [1]Department of Animal Science, North Carolina State University, Raleigh, [2]Department of Crop Science, North Carolina State University, Raleigh

M147 Effect of swine manure application on winter wheat tissue growth and nitrogen, phosphorus, and potassium content. D.M. Sholly*, M.C. Walsh, B.C. Joern, A.L. Sutton, B.T. Richert; Purdue University, West Lafayette

M148 Effect of grass nonstructural carbohydrates on milk yield and composition and dry matter intake of dairy cattle. A. Buyserie*, P. French, T. Downing; Oregon State University, Corvallis

M149 Number of experimental units required to detect differences in grazing time. D. H. Seman*[1], J. A. Stuedemann[1], L. W. Douglass[2]; [1]USDA-ARS, Watkinsville, GA, [2]University of Maryland, College Park

M150 Relationship of rate of appearance of vaccenic acid and pH during in vitro biohydrogenation of linolenic acid from alfalfa hay. C.V.D.M. Ribeiro*, M.L. Eastridge; The Ohio State University, Columbus

M151 Comparison of biohydrogenation of fatty acids in lyophilized forage and air dried forage with sucrose additions. C.V.D.M. Ribeiro*, M.L. Eastridge; The Ohio State University, Columbus

M152 Effects of level of protein supplementation on performance of crossbred calves grazing Tifton 85 bermudagrass. S. A. Woods*[1], F. M. Rouquette, Jr.[2], G. E. Carstens[1], T. D. A. Forbes[3], W. C. Ellis[1]; [1]Texas Agricultural Experiment Station, College Station, TX, [2]Texas Agricultural Experiment Station, Overton, TX, [3]Texas Agricultural Experiment, Station, Uvalde, TX

M153 Forage quality of perennial grass as influenced by stubble height. J.H. Cherney*, D.J.R. Cherney; Cornell University, Ithaca, NY

M154 Evaluation of tall fescue, soybean hulls and ionophores ***in vitro***. L.A. Briggs*, J.C. Waller, H.M. Blalock, C.J. Richards; The University of Tennessee, Knoxville

M155 Effects of stocking method and rate on seasonal cow-calf performance and forage quality. W. E. Wyatt*[1], B. C. Venuto[2], J. M. Gillespie[3], D. C. Blouin[3]; [1]Louisiana State University Agricultural Center, Jeanerette, [2]Grazing Lands Research Laboratory, USDA, ARS, El Reno, OK, [3]Louisiana State University Agricultural Center, Baton Rouge

M156 Evaluation of ensiled sorghums with and without condensed tannins as feeds for ruminants. H. Carneiro*[1], P. B. Arcuri[1], J. A. Rodrigues[2], F. S. Sobrinho[1], S. S. Brum[1], M. Villaquiran[3]; [1]Embrapa Gado de Leite Juiz de Fora, MG, Brazil, [2]Embrapa Milho e Sorgo Sete Lagoas, MG, Brazil, [3]E (Kika) de la Garza American Institute for Goat Research, Langston University, Langston, OK



## *Ruminant Nutrition*

Abstract #

M157 Effect of increasing sodium bicarbonate proportion in high concentrate diets on ruminal fermentation in finishing beef heifers. L. González*, A. Ferret, S. Calsamiglia, X. Manteca; Universitat Autònoma de Barcelona Edifici V, Campus UAB, Bellaterra, Barcelona, Spain

M158 Effects of sodium bicarbonate on ruminal pH and feed intake in feedlot cattle. L. Paton*[1], M.A.G. von Keyserlingk[1], K.A. Beauchemin[2], D.M. Veira[3]; [1]Animal Welfare Program, University of British Columbia, Vancouver, British Columbia, Canada, [2]Agriculture and Agri-Food Canada, Lethbridge, AB, Canada, [3]Agriculture and Agri-Food Canada, Kamloops, British Columbia, Canada

M159 Effects of monensin and different dose levels of essential oils on feed intake, growth performance and feed efficiency of beef cattle. Benchaar Chaouki*[1,2], Charmley Ed[3], Duynisveld John[3]; [1]Dairy and Swine R&D Centre, Agriculture and Agri-Food Canada, Lennoxville, QC, Canada, [2]Nova Scotia Agricultural College, Truro, NS, Canada, [3]Crop and Livestock Research Centre, Agriculture and Agri-Food Canada, Nappan, NS, Canada

M160 Monensin or decoquinate in high concentrate diets fed to Santa Ines lambs . I. Susin*[1,2], C.Q. Mendes[1,2], A.V. Pires[1,2], I.U. Packer[1,2]; [1]University of São Paulo, [2]ESALQ

M161 Effects of yeast culture in barley-based backgrounding and finishing diets for cattle on health, growth performance, and fecal ***Escherichia coli*** populations. Yuxi Wang*[1], Tim A. McAllister[1], Susan J. Bach[1], Darryl J. Gibb[1], Ilkyu Yoon[2]; [1]Agriculture and Agri-Food Canada Research Centre, Lethbridge, Canada, [2]Diamond V Mills, Inc., Cedar Rapids, IA

M162 Effects of alcohol-fermented feedstuff with live yeast on growth characteristics, serum metabolites, and meat compositions in Korean native bulls. Shin Jong Suh*, Park Byung Ki, Hong Byong Ju; Department of Animal Resources Science, Kangwon National University, Chunchon, Korea

M163 Rate and extent of ***in situ*** DM disappearance of feedstuffs in cows fed different strains of yeast. Julio C. Silva*, L. Wayne Greene; Texas Agricultural Experiment Station, Amarillo, TX

M164 Fermentable and Nutritional Characteristics of Fermented Feedstuffs Added Aspergillus oryzae and Saccharomyces cerevisiae. Park Byung Ki, Ra Chang Six, Shin Jong Suh*; Department of Animal Resources Science, Kangwon National University, Chunchon, Korea

M165 Effects of chlortetracycline (CTC) and steroidal implant on growth and plasma growth hormone (GH) and thyroid hormone release after challenge with thyrotropin-releasing hormone (TRH) and GH-releasing hormone (GHRH) in beef steers. S.E. Kitts*[1], J.C. Matthews[1], G.L. Sipe[1], T.S. Rumsey[2], T.H. Elsasser[2], S. Kahl[2], R.L. Baldwin[3], K.R. McLeod[1]; [1]University of Kentucky, Lexington, KY, [2]Growth Biology Laboratory, ARS, USDA, Beltsville, MD, [3]Bovine Functional Genomics Laboratory, ARS, USDA, Beltsville, MD

M166 Effects of salinomycin and virginiamycin on performance and carcass traits of feedlot steers. S.L. Silva[1], R. Almeida*[2], D. Schwahofer[1], P.R. Leme[1], D.P.D. Lanna[3]; [1]FZEA/USP Pirassununga, SP, Brazil, [2]UFPR and PUCPR & LNCA-ESALQ/USP Piracicaba, SP, Brazil, [3]LNCA-ESALQ/USP Piracicaba, SP, Brazil

M167 Effects of semduramicin on performance and carcass traits of feedlot steers. R. Almeida*[1], S.L. Silva[3], R.T.Y.B. Souza[3], D.P.D. Lanna[2], P.R. Leme[3]; [1]UFPR and PUCPR & LNCA-ESALQ/USP Piracicaba, SP, Brazil, [2]LNCA-ESALQ/USP Piracicaba, SP, Brazil, [3]FZEA/USP Pirassununga, SP, Brazil

M168 Chlortetracycline, but not Synovex-S, Differentially Affects Tissue Expression of High-Affinity Glutamate Transporters in Fattening Steers . Geri L. Sipe*, Susanna E. Kitts, Kyle R. McLeod, James C. Matthews; Department of Animal Sciences, University of Kentucky, Lexington

M169 Influence of genotype and diet on steer performance. C.L. Ferrell*, E.D. Berry, H.C. Freetly, D.N. Miller; USDA-ARS; U.S. Meat Animal Research Center, Clay Center, NE

M170 Zinc increases differentiation of bovine intramuscular adipocytes by suppressing nitric oxide production and increasing PPARγ2 gene expression. Young Sook Oh[1], Stephen B. Smith[2], Chang Bon Choi*[1]; [1]Department of Animal Science, Yeungnam University, Gyeongsan, Korea, [2]Department of Animal Science, Texas A & M University, College Station

M171 Performance And Residual Feed Intake Differences Between Steers Housed In Individual Or Group Pens. Pedro V. Paulino*[1,2], Fernanda C. Castro[1], Ana C. Magnabosco[1,3], Roberto D. Sainz[1]; [1]University of California, Davis, [2]Universidade Federal de Vicosa, Vicosa, MG, Brasil, [3]Universidade Catolica de Goias, Goiania, GO, Brasil

M172 Effect of supplemental chromium on tissue chromium concentrations in cattle. Jerry W. Spears*[1], K. E. Lloyd[1], M. E. Tiffany[1], M. T. Socha[2]; [1]North Carolina State University, Raleigh, [2]Zinpro Corp, Eden Prairie, MN

M173 Magnesium sulfate affects water consumption and drinking behavior of beef cattle. A.S. Grout[1], D.M. Veira*[2], D.M. Weary[1], M.A.G. von Keyserlingk[1], D. Fraser[1]; [1]Animal Welfare Program, University of British Columbia, Vancouver, British Columbia, Canada, [2]Agriculture and Agri-Food Canada, Kamloops, British Columbia, Canada

M174 Selenium concentration of colostrum and milk from beef cows receiving different forms of selenium supplementation. P. A. Davis*, L. R. McDowell, R. Van Alstyne, E. Y. Matsuda-Fugisaki, N. S. Wilkinson; Department of Animal Sciences, University of Florida, Gainesville

M175 Effect of high-level copper supplementation on copper status and performance of beef heifers consuming molasses-based supplements. John D. Arthington*, Findlay M. Pate; University of Florida, Range Cattle Research and Education Center, Ona, FL

M176 Supplemental phosphorus removal for finishing yearling Holstein steers. A. M. Brokman*[1], J. W. Lehmkuhler[1], D. J. Undersander[1]; [1]University of Wisconsin-Madison, Madison, [2]Agronomy, University of Wisconsin, Madison

M177 Evaluation of machine milking and weigh-suckle-weigh technique for quantification of milk production at six or twelve hour udder-fill intervals. W. J. Sexten*, D. B. Faulkner, J. M. Dahlquist; University of Illinois, Urbana

M178 Effect of esterase enzyme treatment on the in situ rumen degradability and soluble carbohydrate content of tropical grasses. N. A. Krueger*, A. T. Adesogan, D. B. Dean, W. K. Krueger; University of Florida, Gainesville

M179 Effect of exogenous amylase and corn type on performance and carcass characteristics of finishing beef heifers. Susan M. Speight*[1], Katie C. Hanson[1], Juan Tricarico[2], Kyle R. McLeod[1], David L. Harmon; [1]University of Kentucky, Lexington, [2]Alltech Biotechnology, Inc., Nicholasville, KY

M180 Effect of an exogenous fibrolytic enzyme on intake and ruminal variables in lambs fed Guinea grass (***Panicum maximum*** var. Mombasa) hay. J. H. Avellaneda-Cevallos[1], S. S. González*[2], J. M. Pinos-Rodríguez[3], A. Hernández[2], R. Bárcena-Gama[2], M. Cobos[2], D. Hernández-Sánchez[2]; [1]Universidad Técnica Estatal de Quevedo UTEQ, Quevedo, Ecuador, [2]Colegio de Postgraduados Montecillo, Estado de México, México, [3]Universidad Autónoma de San Luis Potosí UASLP, Estado de San Luis Potosí, México

M181 Evaluation of modified sodium silicate as a grain conditioner for corn and grain sorghum. C. R. Richardson*[1], K. F. Wilson[1], T. C. Bramble[1], J. H. Mikus[1], I. Cisneros[2]; [1]Texas Tech University, Lubbock, [2]Concorde Technologies, Odessa, TX

M182 Effects of replacing rice straw with wormwood (***Artemisia Montana*** Pampan) silage in the diets of Korean Hanwoo steers on performance, carcass characteristics and muscle fatty acid profile. S. C. Kim*[1], J. H. Kim[2], J. H. Shin[2], A. T. Adesogan[1], Y. D. Ko[2]; [1]Department of Animal Science, University of Florida, Gainesville, [2]Division of Applied Life Science, Gyeongsang National University, Jinju, Korea

M183 Rumen digestibility of receiving rations for feedlot steers containing wheat midds and soybean hulls. Paul M. Walker*[1], Kyle E. Earing[1], Lindsey A. Mathews[1], Jennifer E. Ringler[2]; [1]Illinois State University, Normal, [2]University of Kentucky, Lexington

M184 Effect of vitamin E and method of administration on performance and meat color of beef cattle. Iván García*[1], Ramiro Alderete[1], Alma Alarcón[1], Carlos Rodríguez[1], Juan Ortega[1], José Pedraza[2], Omar Medina[2]; [1]Facultad de Zootecnia, Universidad Autónoma de Chihuahua Periferico Fco. R. Almada km. 1.5 C.P. 31031. Chihuahua, Chih. México, [2]Facultad de Química, Universidad Nacional Autónoma de México Cd. Universitaria, Del. Coyoacan, C.P. 04510. Distrito Federal, México.

M185 Effect of monensin on milk production, composition and body condition score of Murrah buffalo cows in early lactation. André Mendes Jorge*[1], Cristiana Andrighetto[2]; [1]UNESP-FMVZ-DPEA-Botucatu, [2]UNESP-FMVZ-PGZOO-Botucatu

M186 The effect of Acid Buf in dairy cow diets on production response and rumen parameters. Christian W Cruywagen*[1], J Pieter Swiegers[2], Stephen J Taylor[3], Ewie Coetzee[4]; [1]Department of Animal Sciences, University of Stellenbosch, Stellenbosch, South Africa, [2]Bokomo Feeds, Malmesbury, South Africa, [3]Celtic Sea Minerals, Carrigaline, Co. Cork, Ireland, [4]Formufeed, Villiersdorp, South Africa

M187 Effect of malate supplementation on rumen fermentation and milk production in postpartum cows. Maria Devant[1], Alex Bach*[1,2]; [1]IRTA-Unitat de Remugants, Barcelona, Spain, [2]ICREA, Barcelona, Spain

M188 The effect of an inoculant containing ***Lactobacillus buchneri*** 40788 on fermentation and aerobic stability of corn silage at two packing densities. Marcos Antoniali[1], Oscar C.M. Queiroz[2], Renato J. Schmidt*[3], Limin Kung, Jr[3]; [1]Universidade Estadual Paulista Jaboticabal, SP, Brazil, [2]Universidade de Sao Paulo, Piracicaba, SP, Brazil, [3]University of Delaware, Newark

M189 Effect of feeding ***Aspergillus oryzae*** fermentation culture to lactating dairy cows on milk yield, composition, and rumen fermentation. Tetsunari Sato*, Toru Takano, Kazuma Murata; ZENNOH National Federation of Agricultural Co-operative Associations 1708-2 Tsukuriya Tsukuba Ibaraki, Japan

M190 Effect of live yeast Saccharomyces cerevisiae on milk production, quality and health status of Saanen dairy goats. R. Paratte*[1], A. Stella[1], G. Cigalino[1], G. Soncini[1], L. Valnegri[1], E. Chevaux[2], G. Savoini[1], V. Dell'Orto[1]; [1]Dept. of Vet. Sci. Tech. Food Safety, University of Milan via Celoria, 10 Milano-Italy, [2]Lallemand SA rue de Briquetiers, 19 Blagnac Cedex-France

M191 Dose response of a direct-fed microbial on milk yield, milk components, body weight, and days to first ovulation in primi- and multiparous Holstein cows. D. R. Stein*[1], D. T. Allen[1], K. W. Gates[1], T. G. Rehberger[2], K. J. Mertz[2], D. A. Jones[1], L. J. Spicer[1]; [1]Oklahoma State University, Stillwater, [2]Agtech Products, Inc., Waukesha, WI

M192 Effect of Forage to Concentrate Ratio on B-Vitamins in Different Ruminal Fractions. D. E. Santschi*[1], J. Chiquette[2], R. Berthiaume[2], R. Martineau[3], J. J. Matte[2], A. F. Mustafa[1], C. L Girard[2]; [1]McGill University Ste-Anne-de-Bellevue, QC, Canada, [2]Dairy and Swine R&D Centre, Lennoxville, QC, Canada, [3]Universite Laval Quebec, QC, Canada

M193 A statistical evaluation of early- or mid-lactation dairy cow responses to dietary sodium bicarbonate. W. Hu*, M. R. Murphy; University of Illinois, Urbana

M194 Fate of Supplemental B-Vitamins in the Gastrointestinal Tract of Dairy Cows. D. E. Santschi*[1], R. Berthiaume[2], J. J. Matte[2], A. F. Mustafa[1], C. L. Girard[2]; [1]McGill University Ste-Anne-de-Bellevue, QC, Canada, [2]Dairy and Swine R&D Centre, Lennoxville, QC, Canada

M195 Ruminal degradability of nitrogen, phosphorus, and potassium from dairy feedstuffs. A. N. Hristov*[1], A. Melgar[1], A. E. Foley[1], R. Kincaid[2]; [1]Department of Animal and Veterinary Science, University of Idaho Moscow, [2]Department of Animal Sciences, Washington State University Pullman

M196 Effects of a fibrolytic enzyme formulation on forages, co-products, and byproducts fermented in vitro. K.F. Wilson*[1], G.V. Pollard[2], C.R. Richardson[3]; [1]Animal Feed Technologies Greeley, CO, [2]Texas State University, San Marcos, [3]Texas Tech University, Lubbock

M197 Effects of fibrolytic enzymes and fat supplementation on fiber digestibility, nitrogen metabolism and fermentation profile in continuous culture system. Amine Bouattour, Lorena Castillejos, Ramon Casals, Sergio Calsamiglia*, Elena Albanell; Universitat Autonoma de Barcelona

M198 Effects of fibrolytic enzymes on in vitro ruminal degradation and gas production of alfalfa hay. Jong-Su Eun*[1], Sung-Ho Hong[2], Karen Beauchemin[1], Michael Bauer[3]; [1]Agriculture and Agri-Food Canada, Lethbridge, AB, Canada, [2]Sahmyook College, Cheongnyangni, Seoul, Korea, [3]Syngenta Biotechnology Inc., Research Triangle Park, NC

M199 Ranges of optimal cellulase activity of commercial fibrolytic enzyme preparations used in ruminant diets. Eliel González*, Elena Albanell, Gerardo Caja, Ramón Casals; Grup de Recerca en Remugants, Departament de Ciència Animal i dels Aliments, Universitat Autònoma de Barcelona, Bellaterra, Spain

M200 Effects of a supplemental amylase enzyme preparation on lactational performance in commercial dairy herds. 1. Whole herd responses. G. A. Harrison*, J. M. Tricarico; Alltech Biotechnology, Inc., Nicholasville, KY

M201 Effect of a supplemental amylase enzyme preparation on lactational performance in commercial dairy herds. 2. Individual cow responses. G. A. Harrison*, J. M. Tricarico; Alltech Biotechnology, Inc., Nicholasville, KY

M202 Effect of increased residual water-soluble carbohydrate concentration in ryegrass silage on intake, milk production, and N excretion in dairy cows. J. M. Moorby*, W. J. Fisher, R. T. Evans; Institute of Grassland and Environmental Research, Aberystwyth, UK

M203 An evaluation of FuzZPellet™ whole cottonseed product on milk production in post-peak Holstein cows. Porter, P. A., N. L. Scott, Land O'Lakes, Inc. and R. B. Harding, Buckeye Technology, Memphis, TN. Paul A. Porter*[1], Naomi L. Scott[1], R. Bruce Harding[2]; [1]Land O'Lakes Inc, Gray Summit, MO, [2]Buckeye Technology, Memphis, TN

M204 Effect of feeding red clover or ryegrass silage to dry dairy cows on milk productivity in the next lactation. J. M. Moorby*[1], P. H. Robinson[2], W. J. Fisher[1], D. W. R. Davies[1]; [1]Institute of Grassland and Environmental Research, Aberystwyth, UK, [2]UCCE, Dept. of Animal Science, University of California, Davis

M205 Coffee Hulls in Diets of Dairy Cows: Nitrogenous Compounds Balance. Alexandre Lima de Souza*[1], Rasmo Garcia[2], Luciano Cabral[1], Fernando Salgado Bernardino[2], Joanis Tilemahos Zervoudakis[1], Fernanda Cipriano Rocha[2], Rilene Ferreira Diniz Valadares[2]; [1]Universidade Federal de Mato Grosso DZER/FAMEV/UFMT, [2]Universidade Federal de Viçosa DZO/UFV

M206 Treated extruded soybean meal as a source of fat and protein for dairy cows. A. L. Ure*[1], T. R. Dhiman[1], M. D. Stern[2], K. C. Olson[1]; [1]Utah State University, Logan, UT, [2]University of Minnesota, St. Paul

M207 Forage quality of legume hays fed to dairy cows in the tropics. Teodoro M. Ruiz*, Mario Rosario-López; University of Puerto Rico, Mayaguez, PR

M208 Lactational response of Holstein dairy cows to grinding and heat processing of cottonseed. A. R. Foroughi*, R. Valizadeh, A. A. Naserian, M. Danesh; Ferdowsi University of Mashhad

M209 Factors affecting the concentration of hydrogen sulfide in the rumen gas of dairy cows. RJ Dewhurst*, LJ Harris, RT Evans; Institute of Grassland and Environmental Research, Aberystwyth, UK

M210 Sorting by dairy cows fed a dry diet in a tie-stall or free-stall barn. C Leonardi*, L Armentano; University of Wisconsin, Madison

M211 Utilization of rejected milk in dairy farms by ensiling with rice hulls for animal feeding. Maritere Crespo*, Angel A. Custodio, Abner A. Rodríguez; University of Puerto Rico, Mayaguez, PR

M212 Effect of different whole cottonseed concentrations on some hematologic data in dairy cattle. F. Sefika Hatipoglu*[1], Mehmet S. Gulay[1], Fatma Karakas Oguz[2], Numan Oguz[2]; [1]Department of Physiology, Burdur Veterinary Faculty, Akdeniz University, [2]Department of Animal Nutrition, Burdur Veterinary Faculty, Akdeniz University

M213 Effects of conservation of timothy on nitrogen metabolism in lactating dairy cows. R. Martineau*[1], H. Lapierre[2], D.R. Ouellet[2], D. Pellerin[1], R. Berthiaume[2]; [1]Université Laval, Québec, Canada, [2]Dairy and Swine R&D Centre, Agriculture and Agri-Food Canada, Lennoxville, Québec, Canada

M214 Fermentation characteristics of ensiling wet corn distillers grains in combination with wet beet pulp. K. F. Kalscheur*, A. D. Garcia, A. R. Hippen, D. J. Schingoethe; South Dakota State Unversity, Brookings.

M215 Effect of two forms of lauric acid on ruminal protozoa and fermentation pattern in dairy cows. Antonio P. Faciola*[1,2], Glen A. Broderick[1], Alexander N. Hristov[3], Maria I. Leão[2]; [1]U. S. Dairy Forage Research Center, Madison, WI, [2]Universidade Federal de Viçosa MG, Brazil, [3]University of Idaho, Moscow

M216 Effects of forage source on the response of milk fatty acid composition to soybean and marine algal oil supplementation in ewes. C. K. Reynolds*[1], S. C. Loerch[1], G. D. Lowe[1], D. D. Clevenger[1], P. A. Tirabasso[1], V. L. Cannon[1], J. R. Abril[2]; [1]The Ohio State University, Wooster, [2]Martek Biosciences, Boulder, CO

M217 Use of liquid whey, urea and molasses as additives to ensiled wheat straw. F.T. Sleiman*, N.J. Rebeiz, M.G. Uwayjan, M.T. Farran, R.A. Zurayk, E.K. Barbour, S.K. Hamadeh; American University of Beirut

M218 Undegradable intake protein content and digestibility of brome, birdsfoot trefoil, and heat-treated alfalfa samples. H.L. Haugen, S.K. Ivan*, T.J. Klopfenstein; University of Nebraska, Lincoln

M219 Preliminarly report on dry matter degradability of Cassia tora. Juan A Vergara-Lopez*, Rover E Maldonado; Instituto Nacional de Investigaciones Agricolas (INIA) municipio Catatumbo, estado Zulia, Venezuela

M220 Roundup ready® alfalfa is compositionally equivalent to conventional alfalfa. Melinda McCann*[1], Glennon Rogan[1], Sharie Fitzpatrick[2]; [1]Monsanto Company, St. Louis, MO, [2]Forage Genetics International, West Salem, WI

M221 Digestibility of ***Streptomyces*** solubles and effects of its inclusion in diets of lactating dairy cows. M. R. Murphy, M. A. Shah, W. Hu*, A. C. Norman, C. J. Laesch; University of Illinois, Urbana

M222 Effect of replacing concentrates with wormwood on nitrogen balance and ruminal fermentation characteristics in sheep. Y. D. Ko*[1], J. H. Kim[1], M. D. Lee[1], A. T. Adesogan[2], S. C. Kim[2]; [1]Divison of Applied Life Science, Gyeongsang National University, Jinju , Korea, [2]Department of Animal Sciences, University of Florida, Gainesville

M223 Effects of nonstructural carbohydrate and protein sources on performance, ruminal fermentation, total tract digestibility and feeding behavior in growing calves. A. Rotger, A. Ferret, S. Calsamiglia*, X. Manteca; Universitat Autònoma de Barcelona Edifici V, Campus UAB, Bellaterra 08193, Barcelona, Spain

## *Rabbit Species*

Abstract #

M224 Effects of dietary mannan oligosaccharide in comparison to oxytetracyclin on cecal fermentation and performance of rabbits. A.P. Fonseca[1], L. Falcão[1], P. Spring*[2], A. Kocher[3]; [1]Universidade Técnica de Lisboa Instituto Superior de Agronomia, Lisboa, Portugal, [2]Swiss College of Agriculture, Zollikofen. Switzerland, [3]Alltech Biotechnology Center, Dunboyne, Co. Meath, Ireland

## *Production, Management and the Environment*

## *Systems, Economics, and Miscellaneous*



Abstract #

M225 Minimum Dry Period Length to Maximize Performance. Melvin T. Kuhn*, Jana L. Hutchison, H. Duane Norman; Animal Improvement Programs Laboratory, Agricultural Research Service, USDA, Beltsville, MD

M226 Effect of photoperiod on milk production in lactating dairy cows. M. J. VanBaale*[1], D. V. Armstrong[1], R. M. Mattingly[2], J. B. Fiscalini[2]; [1]The University of Arizona, Tucson, [2]Fiscalini Dairy Farm, Modesto, CA

M227 Reasons and timing of cows leaving dairy herds in Florida and Georgia. B. L. Butler*, A. de Vries; Department of Animal Sciences, University of Florida, Gainesville

M228 Effect of automatic milking systems on milk yield in Italian conditions. Marisanna Speroni, Giacomo Pirlo*, Susanna Lolli; Animal Production Research Institute via Porcellasco, Cremona, Italy

M229 Relationship between international body condition scoring systems. JR Roche*[1], PG Dillon[2], CR Stockdale[3], L Baumgard[4], K Macdonald[1], M VanBaale[4]; [1]Dexcel, Hamilton, New Zealand, [2]Teagasc Moorepark, Fermoy, Co. Cork, Ireland, [3]Primary Industries Research Victoria, Kyabram, Victoria, Australia, [4]The University of Arizona, Tucson

M230 Evaluation of alternative body measurements for growing heifers. Daniel M. Lefebvre*, Bruno Gosselin, René Lacroix; PATLQ - Quebec DHI Ste-Anne-de-Bellevue, QC, Canada

M231 Effect of bedding materials and modified rubber free-stall bases on stall usage by lactating dairy cows. R. Panivivat*[1], E. B. Kegley[1], D. W. Kellogg[1], J. A. Pennington[2], Z. B. Johnson[1]; [1]Department of Animal Science, University of Arkansas, Fayetteville, [2]University of Arkansas Cooperative Extension Service, Little Rock AR

M232 Use of ambient and physiological markers to predict production changes in dairy cows resulting from acute heat challenge. J.D. Sampson*, D.E. Spiers, J.N. Spain, R.P. Rhoads, M. Ellersieck; University of Missouri, Columbia

M233 Investigating effects of heat stress on milk production and composition of Iranian Holstein dairy cattle. Abasali Naserian*, Behnam Saremi, Farhad Karavan; Animal Science Department, Ferdowsi University of Mashhad

M234 Effects of different bone preparation methods (fresh, dry, and fat-free dry) on bone parameters and the correlations between bone-breaking strength and the other bone parameters. W.K. Kim*[1], L.M. Donalson[1], P. Herrera[1], C.L. Woodward[1], L.F. Kubena[2], D.J. Nisbet[2], S.C. Ricke[1]; [1]Texas A & M University, College Station, [2]USDA-ARS, Southern Plains Agricultural Research Center, College Station, TX

M235 Interrelationships of traits measured on male Angora goats during a central performance test. Faron A. Pfeiffer*, Christopher J. Lupton, Daniel F. Waldron; Texas Agricultural Experiment Station, Texas A&M University System, San Angelo

M236 Factors affecting performance and carcass characteristics of beef cattle: a meta-analysis. Malcolm J. McPhee*, Jim W. Oltjen, Tom R. Famula, Robert D. Sainz; Department of Animal Science, University of California, Davis

M237 Cow and calf performance in a management system including twinning and early weaning. R. Wasson*[1], J. E. Larson[2], D. R. Brown[1], A. DiCostanzo[2], J. D. Arthington[3], G. C. Lamb[1]; [1]North Central Research and Outreach Center, University of Minnesota, Grand Rapids, [2]Department of Animal Science, University of Minnesota, St. Paul, [3]Range Cattle Research and Education Center, University of Florida, Ona

M238 Acute phase protein response to weaning and transport in calves produced by matings of Romosinuano, Angus, and Brahman. J. D. Arthington*[1], D. G. Riley[2], C. C. Chase, Jr.[2], W. A. Phillips[3], S. W. Coleman[2]; [1]Univ. of Florida, Gainesville, [2]USDA, ARS, Brooksville, FL, [3]USDA, ARS, El Reno, OK

M239 Effects of fasting and handling stress of market pigs on plasma concentrations of stress-associated enzymes and carcass quality. D.H. Kim*, J.T. Seo, D.M. Ha, C.Y. Lee; Regional Animal Industry Research Center, Jinju National University, 150 Chilamdong, Jinju, Korea

M240 Economic evaluation of gestation crates versus loose-housing systems for gestating sows. Mike Ellis, Matthew E. Kocher*, Gary D. Schnitkey; University of Illinois, Urbana

## *Horse Species*

Abstract #

M241 Handling method influences equine urinary calcium and nitrogen. Cara I. O'Connor*, Brian D. Nielsen, Marti Mayack; Michigan State University, East Lansing

M242 The Effects of FEB-200 on Serum Progesterone and Cortisol Levels of Pregnant Mares in Early Gestation Grazing on Endophyte-Infected Tall Fescue Pastures. V. Akay*[1], R. Stepp[2], P. Karnezos[1]; [1]Alltech, Inc., Nicholasville, KY, [2]Southern States Cooperative, Inc., Richmond, VA.

M243 The effect of MOS supplementation on immune response of mares and their foals. Kelly R. Spearman*, Edgar A. Ott; University of Florida, Gainesville

M244 Influence of extender and processing method on fertility and motility of cold stored stallion semen. C. L. Dekat*, G. W. Webb, K. E. Harrison; Southwest Missouri State University, Springfield

M245 Affect of pyruvate and cholesterol on post thaw motility of frozen stallion spermatozoa. K. E. Harrison*, G. W. Webb, C. L. Dekat; Southwest Missouri State University, Springfield

M246 Influence of season and cooling device during commercial shipment of stallion semen. G. W. Webb*[1], M. J. Arns[2], M. A. Harris[2], C. L. Dekat[1]; [1]Southwest Missouri State University, Springfield, [2]University of Arizona, Tucson,

M247 Massage as a recovery method in exercising horses. C.A. Shea Porr*, K. Bennett-Wimbush; Ohio State University, Wooster

M248 Comparisons of Behavioral Testing on Morgan Horses at Different Training Levels. K.M. Holt, M.C. Nicodemus*; Animal & Dairy Sciences, Mississippi State University, Mississippi State

Abstract #

M249 Residual feed intake (RFI) and serum concentrations of insulin in developing Brangus. heifers from sires with differing EPDs for growth and scrotal circumference. K.L. Shirley*[1], M.G. Thomas[1], D.H. Keisler[2], D.M. Hallford[1], D.M. Montrose[1], G.A. Silver[1], M.D. Garcia[1]; [1]New Mexico State University, Las Cruces, [2]University of Missouri, Columbia

M250 Inhibition of development of bovine embryos by gossypol – timing of inhibitory effects and possible involvement of apoptosis. Joel Hernández-Cerón[1], Frank D. Jousan*[2], Paolete Soto[2], Peter J. Hansen[2]; [1]Universidad Nacional Autónoma de México México, México, [2]University of Florida, Gainesville

M251 Distinct steroidal regulation of mRNAs for aromatase and gonadotropin receptors in bovine granulosa cells. W. X. Luo*, M. C. Wiltbank; University of Wisconsin-Madison, Madison

M252 Expression of genes encoding steroidogenic enzymes and in vitro steroidogenesis by dominant bovine follicles during the 1st follicular wave. KE Valdez*[1], SP Cuneo[2], PJ Gorden[3], AM Turzillo[4,5]; [1]Physiological Sciences, University of Arizona, Tucson, [2]Department of Veterinary Science and Microbiology, University of Arizona, Tucson, [3]Dairy Veterinary Services, Chandler, AZ, [4]Department of Physiology, University of Arizona, Tucson, [5]Department of Animal Sciences, University of Arizona, Tucson

M253 Effects of dietary supplemental fat on reproductive performance and body composition in pre-puberal beef heifers. Alecsandro R. Dos Santos*[1], Scott T. Willard[2], O. J. Sharpe[3], Rhonda C. Vann[1]; [1]Brown Loam Experiment Station, Raymond, MS, [2]Mississippi State University, Mississippi State, [3]Sharpe Farm, Rolling Fork, MS

M254 Lipid transport in the developing bovine follicle: mRNA expression for selective uptake receptors increases and for endocytosis receptors decreases. Nurit Argov*[1], Uzi Moallem[2], David Sklan[1]; [1]Hebrew University, Rehovot, Israel, [2]ARO, Bet Dagan, Israel

M255 The expression and localisation of angiogenic growth factors in the porcine corpus luteum. Robert S Robinson*, Amanda J Hammond, George E Mann, Morag G Hunter; Division of Animal Physiology, University of Nottingham, Sutton Bonington Campus, Loughborough, Leics, UK

M256 Factors associated with multiple ovulation in lactating dairy cows. H. Lopez*[1], D.C. Caraviello[1], L.D. Satter[1,2], M.C. Wiltbank[1]; [1]Dairy Science Department, University of Wisconsin, [2]US Dairy Forage Research Center, USDA-ARS, Madison

M257 What regulates ovine placental steroidogenesis? C Weems*, Y Weems, C Yin; University of Hawaii, Honolulu

M258 Evaluation of an SNP in steroidogenic acute regulatory (STAR) protein for reproductive traits in swine. Jong G. Kim*, Jeffrey L. Vallet, Ronald K. Christenson, Gary A. Rohrer, Danny J. Nonneman; USDA, ARS, U.S. Meat Animal Research Center, Clay Center, NE

M259 Ontogeny of uterine gene expression in the prepuberal pig. R. Les Richardson*[1], Gary J. Hausman[1], Romdhane Rekaya[2], Laura Lee-Rutherford [1], Robert R. Kraeling[1], C. Richard Barb[1]; [1]USDA-ARS, Athens, GA, [2]University of Georgia, Athens

M260 Observed frequency of monozygotic twinning in lactating Holstein cows. Noelia Silva Del Rio*, Brian W. Kirkpatrick, Paul M. Fricke; University of Wisconsin - Madison, Madison

M261 Ontogeny of ovarian gene expression in the prepuberal pig. R. Les Richardson[1], C. Richard Barb[1], Romdhane Rekaya[2], Laura Lee-Rutherford [1], Robert R. Kraeling[1], Gary J. Hausman*[1]; [1]USDA-ARS, Athens, GA, [2]University of Georgia, Athens

M262 Ovarian activity of dairy cows fed two amounts of phosphorus. S. K. Tallam*, A. D. Ealy, L. C. Griel, Jr., K. A. Bryan, Z. Wu; Pennsylvania State University, University Park

M263 Association between plasma urea nitrogen levels and reproductive fluid urea nitrogen and ammonia concentrations in lactating dairy cows. Douglas S Hammon*[1], G Reed Holyoak[2], Tilak R Dhiman[1]; [1]Utah State University, Logan, [2]Oklahoma State University, Stillwater

M264 Gonadotropin secretion and ovarian activity in non-pregnant mares treated continuously with GnRH during the anovulatory season. Stephanie Morton*[1,2], Dorota Zieba[1,2], Gary L. Williams[1,2]; [1]Texas A&M University Agricultural Research Station, Beeville, TX, [2]Texas A&M University, College Station

M265 Effect of genetic strain, feed allowance, and parity on interval to first ovulation and the first estrous cycle in pasture-managed dairy cows. J.P. Meyer*[1], G.A. Verkerk[2], P.J. Gore[2], K.A. Macdonald[2], C.W. Holmes[3], M.C. Lucy[1]; [1]University of Missouri, Columbia, [2]Dexcel Ltd., Hamilton, New Zealand, [3]Massey University, Palmerston North, New Zealand

M266 Effect of ovulation rate on development of the ovine corpus luteum. S. E. Echternkamp*, R. A. Cushman, R. K. Christenson; USDA, ARS US Meat Animal Research Center, Clay Center, NE

M267 A comparison of the anti-luteolytic activities of recombinant ovine IFN-tau and alpha in sheep. M.P. Green*[1], L.D. Spate[1], J.A. Bixby[1], A.D. Ealy[2], R.M. Roberts[1]; [1]Dept. of Animal Science, University of Missouri, Columbia, [2]Dept. of Dairy & Animal Science, Pennsylvania State University, University Park

M268 Effects of monensin supplementation peripartum in metabolic and reproductive parameters in anestrous postpartum Nellore cows. MC Matos*[1], DF Biluca[2], JLM Vasconcelos[2]; [1]FCAV-UNESP Jaboticabal, SP, Brazil, [2]FMVZ-UNESP Botucatu, SP, Brazil

M269 Progesterone intravaginal device and/or calf removal on anestrous Angus/crossbred cows during a 60-day breeding season. JLM Vasconcelos*, GC Perez, RM Santos, ATN Silva, ABB Maciel; FMVZ-UNESP Botucatu, SP, Brazil

M270 Effect of subluteal concentrations of progesterone on an estradiol cypionate induced LH surge in lactating Holstein cows. T.B. Hatler *, D.L. Ray, S.H. Hayes, W.J. Silvia; Department of Animal Science, University of Kentucky, Lexington

M271 Effect of subluteal concentrations of progesterone on follicular phase events in lactating Holstein cows. T.B. Hatler*, D.L. Ray, S.H. Hayes, W.J. Silvia; Department of Animal Sciences, University of Kentucky, Lexington

## *PSA-Environment and Management*

Abstract #

M272 Comparative Study of Body Characteristics of Broiler Chickens from Different Rearing Systems . Amber O. Best*, Willie L. Willis, Celestine Murray; Department of Animal Sciences, North Carolina A&T State University, Greensboro

M273 ***Campylobacter Jejuni*** Asssessment in Organic vs. Conventional Reared Broiler Chickens. LaReese T. Donaldson*, Willie L. Willis, Celestine Murray; Department of Animal Sciences, North Carolina A&T State University, Greensboro

M274 Withdrawn by author

M275 Effect of molting on in vitro tissue invasion by ***Salmonella enteritidis***. Randle W. Moore*, Peter S. Holt; United States Department of Agriculture, Agricultural Research Service, Southeast Poultry Research Laboratory, Athens, GA

M276 Influence of experimental chlorate product (ECP) in drinking water on environment of the gastrointestinal tract and ***Salmonella enteritidis*** (SE) in laying hens during an induced molt. L. F. Kubena*[1], J. L. McReynolds[1], J. A. Byrd[1], R. C. Anderson[1], S. C. Ricke[2], D. J. Nisbet[1]; [1]USDA-ARS,SPARC, Food & Feed Safety Research Unit, College Station, TX, [2]Department of Poultry Science, Texas A & M University, College Station

M277 Impact of the laying hen cycle and molting on the prevalence and populations of ***Salmonella***. X. Li*, J.B. Payne, F.B.O. Santos, K.E. Anderson, B.W. Sheldon; Department of Poultry Science, North Carolina State University, Raleigh

M278 Late Post-molt Egg Production in Laying Hens Molted with Different Rations of Alfalfa and Layer Ration. L.M. Donalson*[1], W.K. Kim[1], C.L. Woodward[1], P. Hererra[1], L.F. Kubena[2], D.J. Nisbet[2], S.C. Ricke[1]; [1]Department of Poultry Science, Texas A&M University, College Station, [2]USDA Agricultural Research Service, College Station, TX

M279 Evaluating bone and eggshell parameters of molted hens at the end of 2nd laying cycle compared to non-molted hens. W.K. Kim*[1], L.M. Donalson[1], P. Herrera[1], C.L. Woodward[1], L.F. Kubena[2], D.J. Nisbet[2], S.C. Ricke[1]; [1]Texas A & M University, College Station, [2]USDA-ARS, Southern Plains Agricultural Research Center, College Station, TX

M280 Reduction of ***Salmonella typhimurium*** (ST) Yeast Agglutination and Intestinal Colonization in Broilers by Galactose or Mannose Liberated from Guar Gum. J. T. Lee*, S. E. Tichy, C. A. Bailey, A. L. Cartwright, D. J. Caldwell; Texas A&M Univeristy System

M281 Attachment of ***Salmonella*** and ***Campylobacter*** spp., to Chicken Spermatozoa viewed by Scanning Electron Microscopy. Nelson A. Cox[1], J. Stan Bailey[1], Douglas E. Cosby*[1], R. Jeff Buhr[1], L. Jason Richardson[1], Jeanna L. Wilson[2], Dianna V. Bourassa[2], W.L. Steffans[3], Mary B. Ard[3]; [1]U. S. Department of Agriculture, Russell Research Center, Athens, GA, [2]Department of Poultry Science, University of Georgia, Athens, [3]Department of Veterinary Pathology, University of Georgia, Athens

M282 Efficacy of Sal CURB® ASF liquid antimicrobial against various Salmonella species in a meat and bone meal matrix. Meredith L. Burke*, Jeff K. Murphy, Vincent J.H. Sewalt; Kemin Americas, Inc., Des Moines, IA

M283 Effect of Storage Time on ***Campylobacter Jejuni*** Isolation and Drug Sensitivity in Broiler Wings. Willie L. Willis*, Kamisha Smith, Celestine Murray; Department of Animal Sciences, North Carolina A&T State University, Greensboro

M284 Effect of Immustim® and Protimax® on ***Campylobacter jejuni*** and ***Salmonella typhimurium*** Populations in Broilers. J. Spruill*, R. Plunske, J. Grimes, P. Ferket, B. Sheldon; North Carolina State University, Raleigh

M285 Acidified Sodium Chlorite application in the drinking water to control ***Salmonella*** colonization in market age broilers. P. Mohyla*[1], S.F. Bilgili[1], D.E. Conner[1], C.C. Warf[2], G.K. Kemp[2]; [1]Auburn University, Auburn, [2]Alcide Corporation, Redmond, WA

M286 Changes in intestinal microbiota and ileal susceptibility to pathogen attachment in broilers subjected to 24 hr heat stress. K.B. Selig*, J.A. Patterson; Purdue University, West Lafayette, IN

M287 Case Study: The effect of drinking water treated with KEM SAN™ brand liquid acidifier on the livability of breeder candidates. J.K. Murphy*[1], P.A. Welch[2], V.J.H. Sewalt[1]; [1]Kemin Americas, Inc., Des Moines, IA, [2]Nutritional Services Consulting, LLC, Laurel, MS

M288 Comparison of antibiotic resistance frequency of ***Salmonella Typhimurium*** growth in glucose-limited continuous culture at slow and fast dilution rates. N. Karabasil[1], S. Bulajic[1], W. K. Kim*[2], K. D. Dunkley[2], T. R. Callaway[3], T. L. Poole[3], S. C. Ricke[2], R. C. Anderson[3], D. J. Nisbet[3]; [1]University of Belgrade, Belgrade, Serbia-Montenegro, [2]Texas A & M University, College Station, [3]USDA-ARS, FFSRU, College Station, TX

M289 The Influence of a Fructooligosaccharide (FOS) Prebiotic with Feed Substrates on ***in vitro Salmonella typhimurium*** growth of Laying Hen Cecal Bacteria. L.M. Donalson*[1], W.K. Kim[1], P. Hererra[1], C.L. Woodward[1], L.F. Kubena[2], D.J. Nisbet[2], S.C. Ricke[1]; [1]Department of Poultry Science, Texas A&M University, College Station, [2]USDA-ARS ,College Station, TX

M290 Comparison of ***Aspergillus*** Meal or Inulin Prebiotics as Substrates for ***Salmonella*** or Lactobacilli ***in vitro***. G.M. Nava*[1], V. Davila[2], L. Newberry[1], G. Tellez[1], A.M. Donoghue[3], B.M. Hargis[1]; [1]University of Arkansas Center of Excellence for Poultry Science, University of Arkansas, Fayetteville, [2]Universidad Nacional Autonoma de Mexico CEIEPA, FMVZ-UNAM, Mexico City, [3]PPPSRU/ARS/USDA, Fayetteville, AR

M291 Antibiotic, prebiotic and probiotic programs for ***Salmonella*** sp. reduction in chicks, pullets, hens and their eggs. Alison St. John*[1], Brenda Love[2], Daniel Shaw[2], Paul Patterson[1]; [1]Department of Poultry Science, The Pennsylvania State University, University Park, [2]Department of Veterinary Science, The Pennsylvania State University, University Park

M292 Evaluation of alternative host bacteria as vehicles for oral administration of bacteriophages. L.R. Bielke*, S.E. Higgins, K.L. Guenther, G.I. Tellez, B.M. Hargis; University of Arkansas, Fayetteville

M293 Effects of nitrocompounds and feedstuffs on ***in vitro*** methane production in chicken cecal contents. S. Saengkerdsub *[1], W. K. Kim [1], T. R. Callaway [2], R. C. Anderson [2], D. J. Nisbet [2], S. C. Ricke [1]; [1]Texas A & M University, College Station, [2]USDA, Agricultural Research Service, Southern Plains Agricultural Research Center, College Station, TX

M294 Incidence of ***Clostridium perfringens*** in yolk follicles of broiler breeder hens. G R Siragusa*[1], N A Cox[1], J S Bailey[1], L J Richardson[1], R J Buhr[1], K L Hiett[1], D E Cosby[1], J L Wilson[2], D V Bourassa[2]; [1]USDA-ARS, Russell Research Center, [2]Department of Poultry Science, University of Georgia, Athens

M295 Response of broilers to graded levels of sodium chlorite and citric acid in water. P. Mohyla*[1], S.F. Bilgili[1], C.C. Warf[2], G.K. Kemp[2]; [1]Auburn University, Auburn, AL, [2]Alcide Corporation, Redmond, WA

M296 Effect of high flow rate nipple drinkers on the performance of 21 d old male broiler chicks. W. B. Roush*[1], B. D. Lott[2], S. L. Branton[1]; [1]USDA-ARS Poultry Research Unit, Mississippi State, MS, [2]Poultry Science Department, Mississippi State, Mississippi State

M297 Turkey strain effects on commercial turkey tom and hen performance. J. L. Grimes*[1], A. N. Crouch[2], P. R. Ferket[1], A. G. Gernat[1], J. L. Godwin[1], R. Neely[1]; [1]Dept of Poultry Science, N. C. State University, College of Agriculture & Life Sciences, Raleigh, [2]B.U.T.A, Lewisburg, WV

M298 The effect of vitamin C supplementation to breeder hens and light during incubation on embryonic development and hatchability. Talat El-Sheikh*[1], Nabil Makled[2], Abdalla El-Gammal[2]; [1]T.M. El-Sheikh Faculty of Agriculture, South Valley University,Sohag, Egypt, [2]M.N.Makled Faculty of Agriculture, Assiut University, Assiut, Egypt, [3]A.M.El-Gammal Faculty of Agriculture, Assiut University, Assiut, Egypt

M299 Evaluation of different means of feeding corticosterone to broilers to elicit a stress response. W. S. Virden*[1], C. D. Zumwalt[1], J. P. Thaxton[1], S. L. Branton[2], M. T. Kidd[1]; [1]Mississippi State University, Mississippi State, [2]United States Department of Agriculture

M300 The impact of egg weight on hatchability, chick weight, chick length, and chick weight to length ratios. Josh J. Lawrence*, Ashley D. Gehring, April D. Kanderka, Gaylene M. Fasenko, Frank E. Robinson; Department of AFNS, University of Alberta, Edmonton, AB, Canada

M301 Detection of early changes in fertile eggs during incubation using a hyperspectral imaging system. Douglas P. Smith*[1], Joseph M. Mauldin[2], Kurt C. Lawrence[1], Bosoon Park[1], Gerald W. Heitschmidt[3]; [1]USDA, ARS, Russell Research Center, Athens, GA, [2]Department of Poultry Science, University of Georgia, Athens, [3]Biological and Agricultural Engineering, University of Georgia, Athens

M302 Broiler Litter Sampling Procedures. Armando S. Tasistro, Casey W. Ritz*, David E. Kissel; University of Georgia, Athens

M303 Effects of organic acid on control of bacteria growth in drinking water for broilers. G.M. Pesti*[1], R.I. Bakalli[1], P.F. Vendrell[2], H.-Y. Chen[3]; [1]Department of Poultry Science, University of Georgia Athens, GA, [2]Agricultural and Environmental Services Laboratories, University of Georgia, Athens, [3]Kemira Oyj Helsinki, Finland

## *PSA-Extension/Instruction*

Abstract #

M304 Development of a Quality Control Laboratory Design Project for Poultry Science Undergraduate Students Enrolled in an Advanced Food Microbiology Course. R.S Hardin*, M.M. Kundinger, C.L Woodward, L.M Donalson, J.L Golbach, S.C Ricke; Department of Poultry Science, Texas A&M University, College Station

M305 Student understanding of molecular genetics concepts. Bonnie S. Walters*, Tim J. Buttles; University of Wisconsin, River Falls

M306 What does the poultry industry want when recruiting undergraduates? - an ongoing perspective survey to evaluate the importance of certain employable skills to the poultry industry. K.M. Downs*[1], J.E. Mehlhorn[2], J.B. Hess[3], J.L. Wilson[4]; [1]Middle Tennessee State University, Murfreesboro, [2]The University of Tennessee at Martin, Martin, [3]Auburn University, Auburn, AL [4]The University of Georgia, Athens

## *Milk Protein and Enzymes: Dairy Foods*

Abstract #

M307 Exploring the structure and dynamics of labeled ß-lactoglobulin using high field NMR spectroscopy. Patrick J B Edwards[1], Geoffrey B Jameson[1], Gillian E Norris[2], Trevor S Loo[2], K A N S Ariyaratne[1], Dusan Uhrín[3], Paul N Barlow[3], Lawrence K Creamer*[4]; [1]Institute of Fundamental Sciences Massey University, Palmerston North, [2]Institute of Molecular Biosciences Massey University, Palmerston North, New Zealand, [3]Edinburgh Protein Interaction Centre University of Edinburgh, Edinburgh, Scotland, [4]Fonterra Research Centre Palmerston North, New Zealand

M308 Water distribution in cheese and cheese models: Application of NMR techniques, including the inverse 2D-LaPlace transform. Antje Gottwald[1], Penny L Hubbard[1], Paul T Callaghan[1], Philip J Watkinson[2], Lawrence K Creamer*[2]; [1]School of Chemical and Physical Sciences ,Victoria University of Wellington, New Zealand, [2]Fonterra Research Centre, Palmerston North, New Zealand

M309 Effects of genetic modification, pressure, and heat on the binding of various probes to ß-lactoglobulin. Hasmukh A Patel[1,2], Therese Considine[1,3], Skelte G Anema[3,2], Harjinder Singh[3], Lawrence K Creamer*[1]; [1]Fonterra Research Centre, Palmerston North, New Zealand, [2]Institute of Nutrition, Food and Human Health, Massey University, Palmerston North, New Zealand, [3]Riddet Centre, Massey University, Palmerston North, New Zealand

# MONDAY, JULY 26, 2004

# SYMPOSIA AND ORAL SESSIONS

### *Combined Animal, Dairy and Poultry Extension Workshop*

Chair: Theresia Lavergne, Louisiana State University

Room: 222

| Time | Abstract # | |
|---|---|---|
| | | ***Introduction*** |
| 9:30 AM | | Welcome. David Baker, Assistant Dean, University of Missouri |
| 9:35 AM | 6 | Washington Update. R. Reynnells; National Program Leader, Animal Production Systems, USDA-CSREES |
| | | ***Environmental Session*** |
| 9:45 AM | 7 | Confined Animal Feeding Operation (CAFO) regulations impact and record keeping requirements for livestock operations. G. E. Erickson*, R. Koelsch, C. Shapiro, C. Wortmann; University of Nebraska, Lincoln |
| 10:05 AM | 8 | Waste management alternatives: composting, methane production and other options. Lewis E. Carr; University of Maryland |
| 10:25 AM | 9 | Air quality, PM2.5, and related concerns. Frank M. Mitloehner*; Univesity of California, Davis |
| 10:55 AM | 10 | Water quality concerns—are they real? What needs to be done? Teena G. Gunter; Oklahoma Department of Agriculture, Food, and Forestry |
| 11:15 AM | 11 | Urban Encroachment and How Extenion Can Assist Farmers. Kathy S. Kremer; Wartburg College, Waverly, IA |
| 11:35 AM | 12 | Assimilation vs. accumulation of macro- and micro-nutrients in soils: relations to livestock feeding operations. N. Andy Cole*, Robert C. Schwartz, Rick W. Todd; USDA-ARS-Conservation and Production Research Lab, Bushland, TX |
| 11:55 AM | | Lunch |

### *SYMPOSIUM*

### *Growth and Development*

ASAS-Emerging Roles of Gut Peptides in the Regulation of Appetite and Metabolism

Chair: Douglas Burrin, USDA-ARS Children's Nutrition Research Center,

Baylor College of Medicine

Sponsors: EAAP, Elanco Animal Health, Monsanto Company, and USDA-NRI

Room: 131

| Time | Abstract # | |
|---|---|---|
| 9:30 AM | | Introduction, Doug Burrin |
| 9:35 AM | | Ghrelin - the "Hunger Hormone" or Just Another Gut Peptide? Matthias Tschoep, M.D. - University of Cincinnati |
| 10:05 AM | 13 | Role of PYY in Appetite Regulation during Obesity. CW le Roux*[1], S Shurey[2], RP Vincent[1], MA Ghatei[1], SR Bloom[1]; [1]Department of Metabolic Medicine, Imperial College London Hammersmith Hospital, London, UK, [2]Experimental Surgery, Imperial College London Northwick Park Hospital, London, UK |

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|---|---|---|
| 10:35 AM | 14 | Proglucagon: A gene with diverse metabolic functions. Douglas Burrin*; USDA/ARS Children's Nutrition Research Center, Baylor College of Medicine, Houston, TX |
| 11:05 AM | 15 | Gut peptides and feed intake regulation in lactating dairy cows. C. K. Reynolds*[1], J. A. Benson[2]; [1]The Ohio State University, Wooster, [2]The University of Reading, Reading, UK |
| 11:35 AM | | Discussion |

## *SYMPOSIUM*

## *PSA Antibiotics In Animal Feeds*

## *Are There Viable Alternatives?*

Chair: Frank Jones, University of Arkansas and Steven Ricke, Texas A&M University

Sponsors: Encore Technologies, LLC, Phibro and Southern Poultry Science Society

Room: 276

| Time | Abstract # | |
|---|---|---|
| 9:30 AM | | Introduction, Frank Jones and Steven Ricke |
| 9:35 AM | | The biological basis for antibiotic effects in animals. Julia Dibner, Novus International, St. Charles, MO |
| 10:00 AM | | Identification and monitoring of microbial antibiotic resistance dissemination in animal production. Dr. Robin Bywater- Bywater Consultancy, Shropshire, UK. |
| 10:25 AM | 16 | Novel preharvest strategies involving the use of inorganic and nitro-based compounds to prevent colonization of food producing animals by foodborne pathoge. R.C. Anderson*, Y.S. Jung, J.A. Byrd, K.J. Genovese, T.R. Callaway, T.S. Edrington, R.B. Harvey, D.J. Nisbet; USDA-ARS, Food & Feed Safety Research Unit, College Station, TX |
| 10:50 AM | 17 | Alternative to Antibiotics – Utilization of bacteriophage to prevent foodborne pathogens. William E. Huff*, Gerry R. Huff, Narayan C. Rath, Janice M. Balog, Annie M. Donoghue; USDA/ARS/ PPPSRU Poultry Science Center, University of Arkansas, Fayetteville |
| 11:15 AM | 18 | Antibodies: an alternative for antibiotics?. Luc R. Berghman*[1], Suryakant D. Waghela[2]; [1]Departments of Poultry Science and Veterinary Pathobiology, Texas A&M University, College Station, [2]Department of Veterinary Pathobiology, Texas A&M University, College Station |
| 11:40 AM | 19 | Alternatives to Antibiotic Use - Natural food and feed amendments. S.C. Ricke*, M.M. Kundinger; Texas A&M University, College Station |
| 12:05 PM | | Discussion |

## *Animal Behavior & Well Being I*

Chair: Drew Vermeire, Nouriche Nutrition Ltd.

Room: 225

| Time | Abstract # | |
|---|---|---|
| 9:30 AM | 20 | Effects of photoperiod on the immune function of multiparous gestating sows. S. R. Niekamp*, M. A. Sutherland, G. E. Dahl, T. L. Auchtung, J. L. Salak-Johnson; Department of Animal Sciences, University of Illinois, Urbana |
| 9:45 AM | 21 | Effects of photoperiod on immune function in 7 and 21 day old piglets. S. R. Niekamp*, M. A. Sutherland, G. E. Dahl, J. L. Salak-Johnson; Department of Animal Sciences, University of Illinois, Urbana |
| 10:00 AM | 22 | Farrowing performance and injury in a group housing system for gestating sows. Monica J. Séguin*, Tina M. Widowski, Dave Barney; Department of Animal and Poultry Science, University of Guelph, Guelph, ON, Canada |
| 10:15 AM | 23 | Application of guar hull by-product as a full-fed molting supplement. C. Zhang*, A. L. Cartwright, J. B. Carey, C. A. Bailey; Department of Poultry Science, Texas A&M University, College Station |

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|---|---|---|
| 10:30 AM | 24 | A comparison of the behavior of broiler chickens raised on two different bedding types. Sara J. Shields*, Joseph P. Garner, Joy A. Mench; University of California, Davis |
| 10:45 AM | 25 | Incidence of bone breakage in three strains of end-of-lay hens. K. L. Budgell[1], F. G. Silversides*[2,3]; [1]Nova Scotia Agricultural College, Truro, NS, Canada , [2]Crops and Livestock Research Centre, Charlottetown, Prince Edward Island, Canada, [3]Pacific Agri-Food Research Centre, Agassiz, British Columbia, Canada |

## *Breeding and Genetics*

## *Genetics Methodology 1*

Chair: Rob Tempelman, Michigan State University

Room: 221

| Time | Abstract # | |
|---|---|---|
| 9:30 AM | 26 | Unexpected estimates of variance components with a true model containing genetic competition effects. L. Dale Van Vleck*[1], Joseph P. Cassady[2]; [1]USDA-ARS, Roman L. Hruska U.S. Meat Animal Research Center, University of Nebraska, Lincoln, [2]North Carolina State University, Garner |
| 9:45 AM | 27 | An animal model with autoregressive covariance structures among residual and genetic effects for genetic evaluation of Holstein cows with test day records. Rami M. Sawalha*[1], Jeffrey F. Keown[1], Stephen D. Kachman[2], L. Dale Van Vleck[3]; [1]University of Nebraska, Lincoln, [2]Department of Statistics, University of Nebraska, Lincoln, [3]USDA, ARS, Roman L. Hruska U.S. Meat Animal Research Center, Lincoln, NE |
| 10:00 AM | 28 | Detection of different shapes of lactation curve in cattle by standard mathematical models. N.P.P. Macciotta*[1], D. Vicario[2], C. Di Mauro[1], A. Cappio Borlino[1]; [1]Diaprtimento di Scienze Zootecniche Via De Nicola 9, 07100 Sassari, Italia, [2]ANAPRI Via Nievo 19, 33100 Udine, Italia. |
| 10:15 AM | 29 | Impact on calving ease evaluations of excluding herds with abnormal distribution of scores. C. P. Van Tassell, G. R. Wiggans, L. L. M. Thornton*; Animal Improvement Programs Laboratory, Agricultural Research Service, USDA Beltsville, MD |
| 10:30 AM | 30 | Effects of heteroscedasticity on sires' predicted transmitting ability in grazing and confinement herds. A. G. Fahey*, M. M. Schutz, D. L. Lofgren, A. P. Schinckel, T. S. Stewart; Purdue University, West Lafayette, IN |
| 10:45 AM | 31 | Effects of heteroscedasticity on the heritability and genetic correlations of production traits in grazing and confinement herds. A. G. Fahey*, M. M. Schutz, D. L. Lofgren, T. S. Stewart, A. P. Schinckel; Purdue University, West Lafayette, IN |
| 11:00 AM | 32 | Segregation analysis of milk flow in Swiss dairy cattle by Bayesian approach. H. Ilahi, H.N. Kadarmideen*; Statistical Animal Genetics Group, Institute of Animal Science, Swiss Federal Institute of Technology (ETH) Zurich ETH Zentrum (UNS), CH-8092 Zurich, Switzerland |
| 11:15 AM | 33 | Prediction of longevity breeding values for U.S. Holstein sires using survival analysis methodology. Daniel Z. Caraviello*, Kent A. Weigel, Daniel Gianola; University of Wisconsin, Madison |

## *Breeding and Genetics*

### *Genetics of Dairy Health Traits*

Chair: Dr. H. Duane Norman, USDA, ARS, AIPL

Room: 223

| Time | Abstract # | |
|---|---|---|
| 9:30 AM | 34 | Potential for inclusion of health data in international genetic programs. Paul D. Miller*; University of Wisconsin, Madison |
| 9:45 AM | 35 | Genetic basis and risk factors of infectious and noninfectious diseases in US Holsteins. I. Estimation of genetic parameters for single diseases and general health. Gamal Abdel-Azim*[1], Albert E. Freeman[2], M. E. Kehrli[3], S. C. Kelm[4], J. L. Burton[5], A. L. Kuck[1], S. Schnell[1]; [1]Cooperative Resources International, Shawano, WI, [2]Dept of Animal Science, Iowa State University, Ames, [3]National Animal Disease Center-USDA-ARS, Ames, IA, [4]Animal & Food Science Department, University of Wisconsin, River Falls, [5]Department of Animal Science, Michigan State University, East Lansing |
| 10:00 AM | 36 | Multivariate genetic parameters for health, reproduction, body condition score, and conformation traits in Swiss Holsteins. H.N. Kadarmideen*; Statistical Animal Genetics Group, Institute of Animal Science, Swiss Federal Institute of Technology (ETH) Zurich ETH Zentrum (UNS), CH-8092 Zurich, Switzerland |
| 10:15 AM | 37 | Estimation of genetic parameters for health traits in large commercial herds using data recorded in on-farm herd management software programs. Nate R Zwald*, Kent A Weigel; University of Wisconsin, Madison |
| 10:30 AM | 38 | Health parameters in F1 Jersey x Holstein, backcross (Jersey x Holstein) x Holstein, and pure Holstein calves. Christian Maltecca*, Kent Weigel; Department of Dairy Science, University of Wisconsin, Madison |
| 10:45 AM | 39 | Application of a finite mixture model to somatic cell scores of Italian goats. P Boettcher*[1], D Gianola[2], G Pisoni[3], C Vimercati[3], M Rinaldi[3], P Moroni[3]; [1]IBBA-CNR, Segrate, Italy, [2]University of Wisconsin, Madison, [3]University of Milan, Milan, Italy |
| 11:00 AM | 40 | Test day model evaluation for production traits and somatic cells score for the Italian Holstein. Fabiola Canavesi*, Stefano Biffani, Filippo Biscarini; ANAFI Via Bergamo 292, 26100, Cremona, Italy |
| 11:15 AM | 41 | Crossbreds of Normande-Holstein, Montbeliarde-Holstein, and Scandinavian-Holstein compared to pure Holsteins for production and SCS during the first 150 days of first lactation. B.J. Heins, L.B. Hansen*, A.J. Seykora; University of Minnesota, St. Paul |
| 11:30 AM | 42 | Accuracy and stability of national and international somatic cell score evaluations. R. L. Powell*, A. H. Sanders, H. D. Norman; Animal Improvement Programs Laboratory, Agricultural Research Service, USDA, Beltsville, MD |
| 11:45 AM | 43 | Genetic component of heat stress. S. Oseni, I. Misztal*, S. Tsuruta, R. Rekaya; The University of Georgia, Athens |
| 12:00 PM | 44 | Use of peeling and reverse peeling to estimate the power to map a recessive disease gene. Liviu R. Totir*, Rohan L. Fernando, James M. Reecy; Iowa State University, Ames |

## *Dairy Foods*

### *Chemistry*

Chair: Lloyd Metzger, University of Minnesota

Room: 260

| Time | Abstract # | |
|---|---|---|
| 9:30 AM | 45 | Utilization of front face flourescence spectroscopy for rapid analysis of process cheese functionality. Shivananda K. Garimella Purna*, Lisa A. Prow, Lloyd E. Metzger; University of Minnesota, St. Paul |
| 9:45 AM | 46 | Modified milk vs. producer milk samples for calibrating infrared (IR) milk analyzers: Which gives the best validation performance? K. E. Kaylegian*[1], D. M. Barbano[1,2]; [1]Dept. of Food Science, Cornell University, Ithaca, NY, [2]Northeast Dairy Foods Research Center, Ithaca NY |

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|---|---|---|
| 10:00 AM | 47 | Rapid impedance method to detect adulterated milk. Douglas L. Marshall*, Gianna M. Duran; Food Science and Technology Dept, Mississippi State University, Mississippi State |
| 10:15 AM | 48 | Characterization of Flavor and Flavor Compounds in Dried Whey Protein Concentrates and Isolates. Mary Carunchia Whetstine*, MaryAnne Drake, Adam Croissant; North Carolina State University, Raleigh |
| 10:30 AM | 49 | Effect of fat type and fat globule surface coating on the volatile fatty acid profile of yogurt. David W Everett*[1], Julia Crownshaw[1], Agnès Ginestet[2], Rana Wierda[1], Michelle Leus[1], Jean-Pierre Dufour[1]; [1]University of Otago , Dunedin, New Zealand, [2]Ecole nationale superieur de biologie appliquée à la nutrition et l'alimentation, Dijon, France |
| 10:45 AM | 50 | The influence of non-fat dry milk characteristics on yogurt functionality. Adrian Pollard*, Lloyd E Metzger; Department of Food Science and Nutrition , University of Minnesota, St Paul |
| 11:00 AM | 51 | Characteristics of κ-casein stabilized emulsions treated with rennet. Ron Richter, Gerung Anita*, Gabriela Perez-Hernandez, Ben Davis; Texas A&M University, College Station |

## *Forages and Pastures*

## *Management of Tall Fescue Forage*

Chair: Ken Coffey, University of Arkansas

Room: 124

| Time | Abstract # | |
|---|---|---|
| 9:30 AM | 52 | Performance of beef heifers grazing stockpiled endophyte-infected, endophyte-free or non-toxic endophyte-infected fescue. E.J. Oliphant*, M.H. Poore, J.T. Green, M.E. Hockett; North Carolina State University, Raleigh |
| 9:45 AM | 53 | Calving rate and production responses of long-term exposure to endophyte-infected tall fescue. J. M. Burke*, D. K. Brauer, M. L. Looper; USDA, ARS, Booneville, AR |
| 10:00 AM | 54 | In situ digestibility of tall fescue fertilized with different swine manure treatments and harvested on four dates. J. L. Reynolds[1], R. K. Ogden[1], K. P. Coffey*[1], W. K. Coblentz[1], C. V. Maxwell[1], K. VanDevender[2]; [1]University of Arkansas, Fayetteville, [2]Cooperative Extension Service, Little Rock, AR |
| 10:15 AM | 55 | Selenium concentration of fescue and bahiagrasses after applying a selenium fertilizer. G. Valle, L.R. McDowell*, D.L. Wright, N.S. Wilkinson; University of Florida, Gainesville |
| 10:30 AM | 56 | Rumen parameters of cattle grazing tall fescue pastures differing in endophyte status. A.M. Corrigan*, J.C. Waller, A.M. Saxton, L.C. Miller, C.J. Richards; The University of Tennessee, Knoxville |
| 10:45 AM | 57 | Use of novel endophyte-infected tall fescue for cow-calf production in Arkansas. J. M. Burke*, D. K. Brauer, M. L. Looper; USDA, ARS, Booneville, AR |
| 11:00 AM | 58 | Using orchardgrass and endophyte-free fescue versus endophyte-infected fescue overseeded on bermudagrass for cow herds: four-year summary of cattle performance. W. K. Coblentz*, K. P. Coffey, D. A. Scarbrough, T. F. Smith, D. S. Hubbell, III, K. F. Harrison, B. C. McGinley, J. E. Turner, J. B. Humphry; University of Arkansas, Fayetteville |
| 11:15 AM | 59 | Using orchardgrass and endophyte-free fescue versus endophyte-infected fescue overseeded on bermudagrass for cow herds: four-year summary of forage characteristics. W. K. Coblentz*, K. P. Coffey, D. A. Scarbrough, T. F. Smith, K. F. Harrison, D. S. Hubbell, III, B. C. McGinley, J. E. Turner, J. B. Humphry; University of Arkansas, Fayetteville |

## *Graduate Student Competition*

### *ADSA Dairy Foods*

Chair: Phillip S. Tong, California Polytechnic State University

Room: 125/126

| Time | Abstract # | |
|---|---|---|
| 9:30 AM | 60 | Influence of Pre-exposure of Mycobacterium avium sub sp paratuberculosis to Different Environments on Invasion of Bovine Epithelial Cells in in vitro Cell Culture System. D.A. Patel*[1], L. Meunier-Goddik[1], L. Bermudez[2]; [1]Food Science and Technology, Oregon State University, [2]Department of Biomedical Sciences, Oregon State University, Corvallis |
| 9:45 AM | 61 | Elucidation of the role of chymosin-mediated proteolysis in texture development during Cheddar cheese ripening. J. A. O'Mahony*[1,2], J. A. Lucey[2], P. L. H. McSweeney[1]; [1]Department of Food and Nutritional Sciences, University College, Cork, Ireland, [2]Department of Food Science, University of Wisconsin, Madison |
| 10:00 AM | 62 | Compositional factors associated with calcium lactate crystal formation in naturally smoked Cheddar cheese. P. Rajbhandari*, P.S. Kindstedt; University of Vermont, Burlington |
| 10:15 AM | 63 | Influence of calcium, phosphorus, residual lactose, and salt-to-moisture ratio on cheese quality: pH changes during ripening. P. Upreti*, P. S. Lehtola, L. E. Metzger; Department of Food Science and Nutrition, MN-SD Dairy Food Research Center, University of Minnesota, St. Paul |
| 10:30 AM | 64 | Effect of starter inoculation rates and incubation temperatures on physical properties of yogurt. Won-Jae Lee*, John A. Lucey; Department of Food Science, University of Wisconsin, Madison |

## *Graduate Student Competition*

### *National ADSA Production*

Chair: Mark McGuire, University of Idaho

Room:127

| Time | Abstract # | |
|---|---|---|
| 9:30 AM | 65 | Cloning the genomic sequence and proximal promoter of bovine pyruvate carboxylase. Sarah M. Rodriguez*, Christopher A. Bidwell, Shawn S. Donkin; Purdue University, West Lafayette, IN |
| 9:45 AM | 66 | Relationship between antibiotic susceptibility of mastitis pathogens and treatment outcomes. Fernanda Hoe F. Hoe*, Pamela P. Ruegg; University of Wisconsin, Madison |
| 10:00 AM | 67 | Effect of selection for milk yield on hepatic prolactin receptor (PRLR) mRNA in Holstein cows. M. Carriquiry*, S. H. Wu, W. J. Weber, H. Chester-Jones, L. B. Hansen, B. A. Crooker; University of Minnesota, St. Paul |
| 10:15 AM | 68 | Exposure to short day photoperiod enhances mammary growth during the dry period of dairy cows. E. H. Wall*[1], T. L. Auchtung[2], G. E. Dahl[2], T. B. McFadden[1]; [1]University of Vermont, Burlington, [2]University of Illinois, Urbana |
| 10:30 AM | 69 | Nutrient status influences the effect of conjugated linoleic acid on milk synthesis. M. J. de Veth*[1], E. Castaneda-Gutierrez[1], D. A. Dwyer[1], A. M. Pfeiffer[2], D. E. Putnam[3], D. E. Bauman[1]; [1]Cornell University, Ithaca, NY, [2]BASF-AG, Offenbach, Germany, [3]Balchem Encapsulates, New Hampton, NY |
| 10:45 AM | 70 | Effect of transition diet on metabolism of Holstein cows in the periparturient period. J Guo*, R Peters, E Russek-Cohen, R Kohn; Univesity of Maryland, College Park |
| 11:00 AM | 71 | The Effect of Copper Supplementation and Breed on Milk Fatty Acid Profile. Jennifer Sumner*[1], Patrick French[2]; [1]Washington State University, Pullman, [2]Oregon State University, Corvallis |
| 11:15 AM | 72 | Evaluation of the ability of dietary fish oil to maintain elevated conjugated linoleic acid (CLA) in milk from dairy cows through five months of lactation. Megan T. Sands*, Sharon T. Franklin, James A. Jackson, Lisa J. Driedger, Kimberly I. Meek; University of Kentucky, Lexington |

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|---|---|---|
| 11:30 AM | 73 | Effects of dietary CLA on production parameters in pasture-fed transition dairy cows. J.K. Kay*[1,2], J.R. Roche[2,3], L.H. Baumgard[1,3]; [1]University of Arizona, Tucson, [2]Dexcel, New Zealand |
| 11:45 AM | 74 | Effect of Feeding Ca Salts of Palm Oil (PO) or of a Blend of Linoleic and Monoenoic Trans Fatty Acids (LTFA) on Lactation and Health of Holstein Cows. S.O. Juchem*[1], R.L.A. Cerri[1], M. Villasenor[1], K.N. Galvao[1], R.G.S. Bruno[1], H.M. Rutgliano[1], A.C. Coscioni[1], E.J. DePeters[1], W.W. Thatcher[2], D. Luchini[3], J.E.P. Santos[1]; [1]University of California, Davis, [2]University of Florida, Gainesville, [3]Bioproducts, Inc., Fairlawn, OH |

## *Horse Species*

Chair: Paul D. Siciliano, Colorado State University

Room: 261/262

| Time | Abstract # | |
|---|---|---|
| 9:30 AM | 75 | Insulin resistance in growing Thoroughbreds is affected by diet. K. Treiber*[1], R. Boston[2], D. Kronfeld[1], R. Hoffman[1], W. Staniar[1], P. Harris[3]; [1]Department of Animal and Poultry Sciences, Virginia Polytechnic Institute and State University, Blacksburg, [2]Department of Clinical Studies, New Bolton Center, Kennett Square, PA, [3]Equine Studies Group, WALTHAM Centre for Pet Nutrition, Melton-Mowbray, UK |
| 9:45 AM | 76 | Somatotropic axis in growing Thoroughbreds is affected by diet. K. Treiber*[1], W. Staniar[1], D. Kronfeld[1], R. Boston[2], P. Harris[3]; [1]Department of Animal and Poultry Sciences, Virginia Polytechnic Institute and State University, Blacksburg, [2]Department of Clinical Studies, New Bolton Center, Kennett Square, PA, [3]Equine Studies Group, WALTHAM Centre for Pet Nutrition, Melton-Mowbray, UK |
| 10:00 AM | 77 | Environmental factors and nutrient composition of pasture in northern Virginia. Tania A. Cubitt*, W. Burton Staniar, David S. Kronfeld; Department of Animal and Poultry Science, Virginia Polytechnic Institute and State University, Blacksburg |
| 10:15 AM | 78 | The Effects of Age, Breed, Gender and Use on Gastric Ulceration in the Horse. Kelly Chameroy*, Jenifer Nadeau, Sandra Bushmich, James Dinger, Thomas Hoagland; University of Connecticut, Storrs |
| 10:30 AM | 79 | Evaluation of feeding bee pollen to horses in training. K. K. Turner*, B. D. Nielsen, C. I. O'Connor, J. L. Burton; Michigan State University, East Lansing |
| 10:45 AM | 80 | Potassium supplementation affects plasma [K+] during an 80 km endurance exercise test on the treadmill. T.M. Hess*[1], K. Treiber[1], D.S. Kronfeld[1], J.N. Waldron[2], C.A. Williams[1], M. S. Freire[2], A.M.G.B. Silva[1], L.S. Gay[1], D.A. Ward[1], P.A. Harris[3]; [1]Virginia Polytechnic Institute and State University, Blacksburg, [2]Rectortown Equine Center, Rectortown, VA, [3]Equine Studies Group, Waltham Centre for Pet Nutrition, Melton-Mowbray, UK |

## *Milk Protein and Enzymes*

Chair: Lloyd Metzger, University of Minnesota

Room: 260

| Time | Abstract # | |
|---|---|---|
| 11:15 AM | 81 | Composition of the air interface in ice cream as affected by protein and emulsifier content. Z. Zhang*, D. Goff; Department of Food Science, University of Guelph, Guelph, ON, Canada |
| 11:30 AM | 82 | Evidence that the major novel disulfide bond in heated cow's milk is between ß-lactoglobulin Cys160 and κ-casein Cys88. Edwin K Lowe[1], Skelte G Anema[1,2], Michael J Boland[1], Rafael Jiménez-Flores[3], Lawrence K Creamer*[1]; [1]Fonterra Research Centre, Palmerston North, New Zealand, [2]Riddet Centre, Massey University, Palmerston North, New Zealand, [3]Dairy Products Technology Center, California Polytechnic State University, San Luis Obispo |
| 11:45 AM | 83 | Application of novel gel electrophoresis to analyze native, heat-, and pressure-treated milk protein systems. Hasmukh A Patel[1,2], Harjinder Singh[3], Lawrence K Creamer*[1]; [1]Fonterra Research Centre, Palmerston North, New Zealand, [2]Institute of Nutrition, Food and Human Health, Massey University, Palmerston North, New Zealand, [3]Riddet Centre, Massey University, Palmerston North, New Zealand |

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|---|---|---|
| 12:00 PM | 84 | Effects of genetic modification, pressure, and heat on the binding of various probes to ß-lactoglobulin. K A N S Ariyaratne[1], Geoffrey B Jameson[1], Trevor S Loo[2], Gillian E Norris[2], Hasmukh A Patel[4,3], Therese Considine[4,5], Harjinder Singh[5], Lawrence K Creamer*[4], Rafael Jiménez-Flores[6]; [1]Institute of Fundamental Sciences, Massey University, Palmerston North, New Zealand, [2]Institute of Molecular Biosciences, Massey University, Palmerston North, New Zealand, [3]Institute of Nutrition, Food and Human Health, Massey University, Palmerston North, New Zealand, [4]Fonterra Research Centre, Palmerston North, New Zealand, [5]Riddet Centre, Massey University, Palmerston North, New Zealand, [6]Dairy Products Technology Center, California Polytechnic State University, San Luis Obispo |

## *Nonruminant Nutrition*

### *Finishing Pigs - Additives & Energy*

Co-Chairs: Ruurd Zijlstra, Prairie Swine Centre, Inc and Brendan Lynch, Moorepark Research Centre

Room: 275

| Time | Abstract # | |
|---|---|---|
| 9:30 AM | 85 | Effect of L-lysine•HCl addition in late finishing gilts fed ractopamine HCl (Paylean®). B.W. Ratliff*[1], A.M. Gaines[1], P. Srichana[1], G.L. Allee[1], J.L. Usry[2]; [1]University of Missouri, Columbia, [2]Ajinomoto Heartland LLC, Chicago, IL |
| 9:45 AM | 86 | Threonine to lysine ratio in ractopamine treated pigs. Demian M. Fernandez*[1], Noe Rosas[2], Arlette I. Soria[1], Jose A. Cuaron[3]; [1]Universidad Nacional Autonoma de Mexico Mexico City, MX, [2]Patronato de Apoyo a la Investigación y Experimentacion Pecuaria en Mexico A.C. Queretaro, MX, [3]Instituto Nacional de Investigaciones Forestales Agricolas y Pecuarias Queretaro, MX |
| 10:00 AM | 87 | Effects of increasing total sulfur amino acid:Lys on performance and carcass characteristics of gilts fed a ractopamine step-up program. A Yager*, L Wilson, K Saddoris, L Peddireddi, R Hinson, M Walsh, D Sholly, B Richert, A Schinckel, J Radcliffe; Purdue University, West Lafayette, IN |
| 10:15 AM | 88 | Efficacy of SUPROL® as a growth promotant for grow-finish pigs. R.C. Thaler*[1], B.D. Rops[1], B.T. Christopherson[2], E. Cerchiari[3]; [1]South Dakota State University Brookings, [2]SODA Feed Ingredients LLC, Brookings, SD, [3]SODA Feed ingredients Ltd., IRL |
| 10:30 AM | 89 | Effect of wheat sample, particle size and xylanase on energy digestibility of wheat fed to grower pigs. R.T. Zijlstra*[1], T.N. Nortey[1,2], D. Overend[3], R. Hawkes[1,2], M.D. Drew[2], J. Fledderus[4], J.F. Patience[1], P.H. Simmins[5]; [1]Prairie Swine Centre Inc., Saskatoon, SK, Canada, [2]University of Saskatchewan, Saskatoon, SK, Canada, [3]Ridley Inc. Mankato, MN, [4]De Schothorst, Lelystad, The Netherlands, [5]Danisco Animal Nutrition, Marlborough, UK |
| 10:45 AM | 90 | Hydration properties of different cereal grains before and after enzymatic digestion as affected by thermal treatment and grinding. Montserrat Anguita, Eva Creus*, J.Francisco Perez; Universitat Autonoma de Barcelona, Bellaterra, Spain |
| 11:00 AM | 91 | Response of growing and finishing pigs to dietary energy concentration. John F. Patience*[1], A. Denise Beaulieu[1], Ruurd T. Zijlstra[1], Noel H. Williams[2]; [1]Prairie Swine Centre Inc. Saskatoon, SK, Canada, [2]PIC USA, Inc., Franklin, KY |
| | 92 | Withdrawn by author |
| | 93 | Withdrawn by author |
| 11:15 AM | 94 | Palm oil and hydrogenated fat as alternative oil sources for fattening pig diets. P. Medel*[1], J.I. Fernández[2], J. Peinado[1], J.C. González[1], C. López-Bote[4]; [1]Imasde Agropecuaria, S.L. Spain, [2]Norel, S.A. Spain, [3]Universidad Complutense de Madrid, Spain |

## *Physiology and Endocrinology*

## *Factors Affecting Embryonic and Fetal Mortality*

Chair: Pete Hansen, University of Florida

Room: 220

| Time | Abstract # | |
|---|---|---|
| 9:30 AM | 95 | Effect of elevated systemic concentrations of ammonia and urea on amino acid concentrations in oviduct fluid in cattle. D.A. Kenny*[1], P.G. Humpherson[3], D.G. Morris[2], H.J. Leese[3], M.G. Diskin[2], J.M. Sreenan[2]; [1]Department of Animal Science and Production, Faculty of Agriculture and Food Science, University College, Dublin, Ireland, [2]Teagasc Research Centre, Athenry, Co. Galway, Ireland, [3]Department of Biology, University of York, York, UK. |
| 9:45 AM | 96 | Initial characterization of abortigenic activity associated with mare reproductive loss syndrome. K. J. McDowell*[1], N. M. Williams[1], J. M. Donahue[1], M. D. Lindemann[1], K. E. Newman[2], B. A. Webb[1]; [1]University of Kentucky, Lexington, [2]Venture Laboratories, Lexington, KY |
| 10:00 AM | 97 | Developmental Competence of Oocytes Fertilized ***In Vitro*** with Semen from Bulls Grazing Tall Fescue Pastures . G. M. Schuenemann*[1], J. L. Edwards[1], J. L. Lawrence[1], R. R. Payton[1], F. N. Scenna[1], J. C. Waller[1], J. W. Oliver[2], F. N. Schrick[1]; [1]Department of Animal Science, University of Tennessee, Knoxville [2]Department of Comparative Medicine, University of Tennessee, Knoxville |
| 10:15 AM | 98 | The association between early luteal phase concentrations of progesterone and embryo survival in heifers and dairy cows. Michael G Diskin*[1], Andrew J.H. Stronge[1,2], Dermot G. Morris[1], David A. Kenny[2], Joseph M. Sreenan[1]; [1]Teagasc Athenry, Co. Galway, Ireland, [2]University College, Dublin, Ireland |
| 10:30 AM | 99 | Effect of ovulatory follicle size on pregnancy rates and fetal mortality in beef heifers. G.A. Perry*[1,2], M.F. Smith[3], A.J. Roberts[1], M.D. MacNeil[1], T.W. Geary[1]; [1]USDA-ARS Miles City, MT, [2]Department of Animal & Range Science, South Dakota State University, Brookings, [3]Department of Animal Science, University of Missouri, Columbia |
| 10:45 AM | 100 | Follicular phase events and the postovulatory progesterone rise in dairy cows. George Mann*, Gareth Starbuck; University of Nottingham School of Biosciences, Sutton Bonington Campus, Loughborough, UK |
| 11:00 AM | 101 | Effect of hCG on d 5 of the Estrous Cycle on Luteal Function and Pregnancy Rates (PR) in Lactating Cows Receiving Embryos from Gossypol Fed Donor Heifers. K.N. Galvao*, A.C. Coscioni, S.O. Juchem, M. Villasenor, J.E.P. Santos; University of California, Davis |
| 11:15 AM | 102 | Influence of duration of proestrus on circulating estradiol, the LH surge and luteal function in cattle. G.A. Bridges*, M.L. Mussard, C.L. Gasser, D.E. Grum, M.L. Day; The Ohio State University, Columbus |
| 11:30 AM | 103 | Factors influencing fetal loss in dairy cattle. F.D. Jousan*, M. Drost, P.J. Hansen; University of Florida, Gainesville |
| 11:45 AM | 104 | Effect of a CIDR insert and flunixin meglumine administered at the time of embryo transfer on pregnancy rate and resynchronization of estrus in beef cattle. S. H. Purcell*[1], W. E. Beal[1], K. R. Gray[2]; [1]Virginia Polytechnic Institute and State University, Blacksburg, [2]Cross Country Genetics North, Westmoreland, KS |

## *PSA-Environment and Management*

### *Enteric Bacteria*

Chair: Michael T. Musgrove, USDA-ARS, Russell Research Center

Room: 265/266

| Time | Abstract # | |
|---|---|---|
| 9:30 AM | 105 | Utilization of an experimental chlorate product in reduction of necrotic enteritis in broiler chickens. J.L McReynolds*[1], J.A. Byrd[1], R.C. Anderson[1], T.S. Edrington[1], T.L. Poole[1], R.W. Moore[2], L.F. Kubena[1], D.J. Nisbet[1]; [1]USDA-ARS, Southern Plains Agriculture Research Center, College Station, TX, [2]USDA-ARS, Russell Research Center, Athens, GA |
| 9:45 AM | 106 | The Use of Biodegradable Pellets for the Control of ***Salmonella*** in Broilers During Feed Withdrawal. J.A. Byrd*[1], L.H. Stanker[2], J.L. McReynolds[1], D.J. Nisbet[1]; [1]USDA-ARS, Food & Feed Safety Research Unit, College Station, TX, [2]USDA-ARS, Foodborne Contaminants Research Unit, Albany, CA |
| 10:00 AM | 107 | Apparent absence of horizontal transmission of ***Campylobacter*** among caged broiler breeder roosters . R. J. Buhr*[1], N. A. Cox[1], J. S. Bailey[1], J. L. Wilson[2], L. J. Richardson[1,2], D. E. Cosby[1], D. V. Bourassa[1,2]; [1]USDA-ARS Russell Research Center, Athens, GA, [2]University of Georgia, Athens |
| 10:15 AM | 108 | Effects of Aspergillus meal prebiotic on gut development and ascites mortality. F. Solis*[1], J. M. Balog[2], G. Tellez[1], S. Higgins[1], A. Torrez[1], A. M. Donoghue[2], N. B. Anthony[1]; [1]University of Arkansas, Fayetteville, [2]USDA/ARS/PP&PSR, Fayetteville, AR |
| 10:30 AM | 109 | ***Salmonella*** and Lactobacilli Growth in a Simulated Crop Model Using Chicken or Turkey Feeds. A.D. Wolfenden*[1], S.N. Henderson[1], R.L. Jarquin[1], G.M. Nava[1], L.R. Bielke[1], J.L. Vicente[1], G.I. Tellez[1], D.J. Donoghue[1], A.M. Donoghue[2], B.M. Hargis[1]; [1]University of Arkansas, Fayetteville, [2]PPPSRU, ARS, USDA, Fayetteville, AR |
| 10:45 AM | 110 | Effect of Dietary Administration of ***Aspergillus*** Meal on Broiler Chick Performance with Low Protein Diets. A. Torres-Rodriguez*[1], C.D. Sartor[1], S.E. Higgins[1], A.D. Wolfenden[1], L.R. Bielke[1], C.M. Pixley[1], A.M. Donoghue[2], G. Tellez[1], B.M. Hargis[1]; [1]University of Arkansas, Fayetteville, [2]PPPSRU, USDA-ARS, Fayetteville, AR |
| 11:00 AM | 111 | Evaluation of an Organic Acid Mixture to Reduce ***Salmonella enteritidis*** in the Chicken Crop. R.L Jarquin*[1], A.D Wolfenden[1], G.M Nava[1], J.L Vicente[1], C. D. Sartor[1], A.M. Donoghue[2], B.M Hargis[1]; [1]University of Arkansas Center of Excellence for Poultry Science, University of Arkansas, Fayetteville, [2]PPPSRU, ARS, USDA, Fayetteville, AR |
| 11:15 AM | 112 | Cell Yield and Genetic Reponse in ***SalmonellaTyphimurium*** in a Continuous Culture During Shifts in pH. K.D. Dunkley*[1], M.M. Kundinger[1], C.S. Dunkley[1], T.R. Callaway[2], R.C. Anderson[2], D.J. Nisbet[2], S.C. Ricke[1]; [1]Texas A&M University, College Station, [2]USDA-ARS, College Station, TX |
| 11:30 AM | 113 | Isolation and prevalence of ***Campylobacter*** in the reproductive tracts and semen of commercial turkeys. K. Cole*[1], J. S. Holliman[1], P. J. Blore[1], A. M. Donoghue[2], D. J. Donoghue[1]; [1]Department of Poultry Science, University of Arkansas, Fayetteville, [2]Poultry Production and Product Safety Research Unit, ARS, USDA, Fayetteville, AR |
| 11:45 AM | 114 | Evaluation of the effect of fish meal supplementation on ***Salmonella enteritidis*** growth in chick starter ***in vitro***. S.N. Henderson*[1], A.D. Wolfenden[1], R.L. Jarquin[1], G.M. Nava[1], J.A. Byrd[2], B.M. Hargis[1]; [1]University of Arkansas, Fayetteville, [2]USDA-ARS-SPARC, College Station, TX |

## *PSA-Nutrition*

### *Amino Acids and Vitamin/Mineral Nutrition I*

Chair: Sally Noll, University of Minnesota

Room: 274

| Time | Abstract # | |
|---|---|---|
| 9:30 AM | 115 | Evaluation of guar by-products in high production laying hen diets. C. Zhang*, A. L. Cartwright, J. B. Carey, C. A. Bailey; Department of Poultry Science, Texas A&M University, College Station |
| 9:45 AM | 116 | Effect of dietary nutrient density, feed form, and lighting on the growth performance of broiler chickens. K.E. Brickett*, H.L. Classen; University of Saskatchewan, Saskatoon, SK, Canada |

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|---|---|---|
| 10:00 AM | 117 | Satellite cell mitotic activity of broilers receiving lysine deficient diets. Simone Pophal*[1,2], Paul Mozdziak[2], Sérgio Vieira[1]; [1]Universidade Federal do Rio Grande do Sul, [2]North Carolina State University, Raleigh |
| 10:15 AM | 118 | Synthetic methionine and feed restriction effects on performance and meat quality of organically-reared broiler chickens during fall months. Nancy P. Buchanan*, Amy S. Parsons, Nicole J. Baker, Joseph S. Moritz; West Virginia University, Morgantown |
| 10:30 AM | 119 | Synthetic methionine and feed restriction effects on performance and meat quality of organically reared broiler chickens in the summer months. Amy S. Parsons*, Nicole J. Baker, Joseph S. Moritz; West Virginia University, Morgantown |
| 10:45 AM | 120 | Effect of dietary copper source on broiler chicken performance and immune responses. Vanessa J. Arias*, Elizabeth A. Koutsos; Animal Science Department, California Polytechnic State University, San Luis Obispo |
| 11:00 AM | 121 | Effects of copper source and concentration on phytate phosphorus hydrolysis by Phytase in vitro. Y Pang*, T Applegate; Dept of Animal Science, Purdue University, West Lafayette, IN |
| 11:15 AM | 122 | Evaluation of 25-hydroxycholecalciferol as a cholecalciferol substitute for broiler breeders. Anel Atencio*, Hardy M. Edwards, Gene M. Pesti; Department of Poultry Science, University of Georgia, Athens |
| 11:30 AM | 123 | Decreasing the time required for the auxotroph ***Lactobacillus rhamnosus*** assay by adaptation to microtiter plates. J. L. Golbach*, C. L. Woodward, V. I. Chalova, S. C. Ricke; Texas A&M Universtiy, College Station |

## *PSA-Pathology*

Chair: J. Allen Byrd, USDA-ARS

Room: 264

| Time | Abstract # | |
|---|---|---|
| 9:30 AM | 124 | Effect of anticoccidial medication upon broilers infected with eimeria species during the starter or grower phase of production. P. M. Matsler*[1], H. D. Chapman[1], M. W. Lavorgna[2]; [1]Department of Poultry Science, University of Arkansas, Fayetteville, [2]Alpharma |
| 9:45 AM | 125 | Evaluation of an exogenous enzyme (Avizyme®) as feed additive to enhance immunity against Eimeria spp and replace antibiotics and ionophores in broiler diets. Jacqueline Parker*[1], Sergio Clemente-Hernandez[1], Janett Remus[2], Ernest Pierson[2], Beatrice Clack[1], Edgar O. Oviedo-Rondón[1]; [1]Stephen F. Austin State University, Nacogdoches, TX, [2]DANISCO Animal Nutrition, St. Louis, MO |
| 10:00 AM | 126 | Enhancement of homolgous vaccination to ***Eimeria acervulina*** via CpG-ODNs. Keith Ameiss*[1], John El Attrache[1], Adriana Barri[1], Audrey McElroy[2], David Caldwell[1]; [1]Department of Poultry Science, Texas A&M University, College Station [2]Department of Animal and Poultry Sciences, Virginia Tech, Blacksburg |
| 10:15 AM | 127 | Egg characteristics of commercial egg laying hens between 20 and 58 weeks of age when inoculated with the S6-strain of ***Mycoplasma gallisepticum*** at 10, 22, or 45 weeks of age. E.Y. Basenko[1], S.W. Park*[1], E.D. Peebles[1], S.L. Branton[2], D.V. Maurice[3], S.K. Whitmarsh[1], P.D. Gerard[4]; [1]Department of Poultry Science, Mississippi State University, Mississippi State, [2]USDA-ARS, SCPRL, Mississippi State, MS, [3]Animal and Veterinary Sciences Department, Clemson University, Clemson, SC, [4]Experimental Statistics Unit, Mississippi State University, Mississippi State |
| 10:30 AM | 128 | Reduction of ***Salmonella enteritidis*** Infection by Therapeutic Administration of ***Lactobacillus*** Probiotic Culture. G.M. Nava*[1], C.M. Pixley[1], R.L. Jarquin[1], C.D. Sartor[1], J.L. Vicente[1], G. Tellez[1], A.M. Donoghue[2], B.M Hargis[1]; [1]Center of Excellence for Poultry Science, University of Arkansas, Fayetteville, [2]PPPSRU, ARS, USDA, Fayetteville, AR |
| 10:45 AM | 129 | Experimental induction of tibial dyschondroplasia in chickens using a short regimen of feeding with thiram. Narayan Rath*, William Huff, Janice Balog, Geraldine Huff; USDA, ARS Poultry Science Center, University of Arkansas, Fayetteville |
| 11:00 AM | 130 | ***Salmonella typhimurium*** Felix-O1 and P22 bacteriophage host range and viability under gastrointestinal conditions. P. Herrera*, E. M. Kozhina, S. C. Ricke; Texas A&M University, College Station |

| | | |
|---|---|---|
| 11:15 AM | 131 | Rapid detection of infectious bursal disease virus using one-step RT-PCR in clinical samples in Pakistan. M. Atif Zahoor*[1], Iftikhar Hussain[1], M. Khalid Mansoor[1], Saima Masood[1], Qaiser Mehmood Khan[2]; [1]aculty of Veterinary Science, University of Agriculture, Faisalabad, Pakistan, [2]NIBGE, Faisalabad, Pakistan |
| 11:30 AM | 132 | Very virulent strains of infectious bursal disease virus in Pakistan. M. Atif Zahoor*[1], Iftikhar Hussain[1], M. Khalid Mansoor[1], Saima Masood[1], Qaiser Mehmood Khan[2]; [1]Faculty of Veterinary Science, University of Agriculture, Faisalabad, Pakistan, [2]NIBGE, Faisalabad, Pakistan |
| 11:45 AM | 133 | RT-PCR based diagnosis of infectious bursal disease virus in Pakistan. M. Atif Zahoor*[1], Iftikhar Hussain[1], M. Khalid Mansoor[1], Saima Masood[1], Qaiser Mehmood Khan[2]; [1]Faculty of Veterinary Science, University of Agriculture, Faisalabad , Pakistan, [2]NIBGE, Faisalabad, Pakistan |

## *PSA-Physiology*

## *Poultry Digestion and Metabolism*

Chair: E. David Peebles, Mississippi State University

Room: 267

| Time | Abstract # | |
|---|---|---|
| 9:30 AM | 134 | Compromised liver mitochondrial function and complex activity in low feed efficient broilers associated with higher oxidative stress and differential expression of proteins within a single male line. M. Iqbal*[1], N. R. Pumford[1], Z. X. Tang[1], K. Lassiter[1], W. Bottje[1], T. Wing[2], M. Cooper[2]; [1]University of Arkansas, Fayetteville, [2]Cobb-Vantress, Inc., Siloam Springs, AR |
| 9:45 AM | 135 | Membrane potential and hydrogen peroxide production in duodenal mitochondria in broilers with low and high feed efficiency. C. Ojano-Dirain*[1], N. Tinsley[1], M. Iqbal[1], T. Wing[2], M. Cooper[2], W. Bottje[1]; [1]Center of Excellence for Poultry Science, University of Arkansas, Fayetteville, [2]Cobb Vantress Inc., Siloam Springs, AR |
| 10:00 AM | 136 | Evidence of protein oxidation in mitochondrial respiratory complexes in broilers with low and high feed efficiency. J. P. Higgins*[1], N. R. Pumford[1], M. Iqbal[1], T. Wing[1], M. Cooper[1], W. G. Bottje[1]; [1]Department of Poultry Science, University of Arkansas, Fayetteville, [2]Cobb-Vantress, Inc., Siloam Springs, AR |
| 10:15 AM | 137 | Dietary phytates may noncompetitively inhibit intestinal mucosa phytase in broiler chicks. E. M. Onyango*[1], E. K. Asem[2], J. S. Sands[3], O. Adeola[1]; [1]Department of Animal Sciences, Purdue University, West Lafayette, IN, [2]Basic Medical Sciences, Purdue University, West Lafayette, IN, [3]Danisco Animal Nutrition, Marlborough, Wiltshire, U.K. |
| 10:30 AM | 138 | Absorption of 2-hydroxy-4(methylthio) butanoic acid (HMTBA) (5-50mM) is equal to or greater than d,l-methionine (DLM) uptake in chicken intestinal slices. J. D. Richards*, C. Atwell, J. J. Dibner; Novus International, Inc., St. Louis, MO |
| 10:45 AM | 139 | Isolation and partial characterization of pancreatic alpha-amylase in turkey. Eric Blair*, Jeffre Firman, Shuqun Zhang; University of Missouri, Columbia |
| 11:00 AM | 140 | Unique responses of pancreatic phospholipid metabolism of broiler hens in response to increased plasma glucose and lipid concentrations. Shuen-Ei Chen*[1], Rosemary L. Walzem[1], John P. McMurtry[2]; [1]Department of Poultry Science, Texas A&M University, College Station, [2]ARS Growth Biology Laboratory, Beltsville, MD |
| 11:15 AM | 141 | Efficacy of injected gluconeogenic supplementation on the performance of broilers from young breeders. E. D. Peebles*[1], W.D. Berry[2], R.W. Keirs[3], L.W. Bennett[3], P.D. Gerard[4]; [1]Department of Poultry Science, Mississippi State University, Mississippi State, [2]Department of Poultry Science, Auburn University, Auburn, AL, [3]College of Veterinary Medicine, Mississippi State University, Mississippi State, [4]Experimental Statistics Unit, Mississippi State University, Mississippi State |

## *PSA-Processing and Products*

### *Meat Quality*

Chair: Shelly R. McKee, Auburn University

Room: 263

| Time | Abstract # | |
|---|---|---|
| 9:30 AM | 142 | Carcass Scratches and Growth Rate of Microwave Toe-treated Broiler Chickens. Baoyan Wang*[1], Janice L. MacIsaac[2], Bruce M. Rathgeber[1]; [1]Nova Scotia Agricultural College, NS, Canada, [2]Atlantic Poultry Research Institute, Truro, NS, Canada |
| 9:45 AM | 143 | Effect of Lighting and Handling Technique on Breast Fillet Dimensions and Meat Quality. Nida A. McKee*[1], Roger J. Lien[2], Joseph B. Hess[2], Sacit F. Bilgili[2], Shelly R. McKee[2]; [1]Department of Nutrition and Food Science, Auburn University, Auburn, AL, [2]Department of Poultry Science, Auburn University Auburn, AL |
| 10:00 AM | 144 | Meat quality evaluation of minimally aged broiler breast fillets from five commercial genetic strains. John M Mehaffey*[1], Jason L Emmert[1], Jean-Francois C Meullenet[1], Shelly R McKee[2], Casey M Owens[1]; [1]Department of Poultry Science, University of Arkansas, Fayetteville, [2]Department of Poultry Science, Auburn University, Auburn, AL |
| 10:15 AM | 145 | Comparison of Sensory Qualities of Poultry Meat from Alternative Slow-Growing Breeds and a Commercial Breed Grown with or without Outdoor Access. A. C. Fanatico*, P. B. Pillai, L. C. Cavitt, J. F. Meullenet, J. L. Emmert, C.M. Owens; University of Arkansas, Fayetteville |
| 10:30 AM | 146 | The Effect of Blood Removal, Oxidation and Shelf-life in Broiler Meat. Christine Z. Alvarado*[1], Sean F. O'Keefe[2], Mark P. Richards[3]; [1]Texas Tech University, Lubbock, [2]Virginia Polytechnic and State University, Blacksburg, [3]University of Wisconsin, Madison |
| 10:45 AM | 147 | Dietary Supplementation of Functional Ingredients Improves Quality of Irradiated Raw Turkey Breast . Haijie Yan*, Kichang Nam, Eun Joo Lee, Byungrok Min, Kwang Soon Park, Hesham Ismail, Dong Uk Ahn; Iowa State University, Ames |
| 11:00 AM | 148 | Na+ Migration and Quality Parameters in Turkey Fillets using Different Marination Techniques. Christine Z. Alvarado*[1], Henjing Wang[2]; [1]Texas Tech University, Lubbock, [2]Virginia Polytechnic and State University, Blacksburg |
| 11:15 AM | 149 | Utilizing Marination and Vacuum Tumbling Techniques to Optimize Tenderness of Breast Fillets Deboned Early Post-Mortem. Laura J. Bauermeister*, Shelly R. McKee; Department of Poultry Science, Auburn University, Auburn, AL |
| 11:30 AM | 150 | The correlation of razor blade shear, Allo-Kramer shear, Warner-Bratzler shear, and sensory tests to changes in tenderness of broiler breast fillets. L. Cain Cavitt*[1], Rui Xiong[2], Jean-Francois C. Meullenet[2], Casey M Owens[1]; [1]Department of Poultry Science, University of Arkansas, Fayetteville, [2]Department of Food Science, University of Arkansas, Fayetteville |
| 11:45 AM | 151 | Functional Analysis of Turkey Breast Muscle. M. S. Updike*[1], M. Lilburn[2], G. Kaletunc[1], H. Zerby[1], M. Wick[1]; [1]The Ohio State University, Columbus, [2]The Ohio State University, Wooster |

## *Ruminant Nutrition*

### *Beef - Energy and Nitrogen*

Chair: Jeffrey Carter, North Florida Research and Education Center

Room: 130

| Time | Abstract # | |
|---|---|---|
| 9:30 AM | 152 | Blood ketone levels of young postpartum range cows increased after supplementation ceased. R. L. Endecott*, C. M. Black, K. A. Notah, M. K. Petersen; New Mexico State University, Las Cruces |
| 9:45 AM | 153 | Effect of step-up program during grain adaptation on ruminal pH and fermentation in feedlot cattle. D.W. Bevans*[1,2], K.S. Schwartzkopf-Genswein[1], T.A. McAllister[1], K.A. Beauchemin[1], J.J. McKinnon[2]; [1]Agriculture and Agri-Food Canada Research Centre, Lethbridge, AB, Canada, [2]University of Saskatchewan, Saskatoon, SK, Canada |

| | | |
|---|---|---|
| 10:00 AM | 154 | A comparison of whole animal energy expenditure by Angus, Holstein, and Wagyu heifers. K.A. Ross[1], C.T. Gaskins[1], J.J. Michal[1], D.H. Keisler[2], K.A. Johnson*[1]; [1]Washington State University Pullman, [2]University of Missouri, Columbia |
| 10:15 AM | 155 | Effects of intravenous infusions of acetate, propionate, lactate, or glucose on lipogenic enzyme activity in bovine adipose tissue. J.D. Arseneau*, M.E. Spurlock, J.R. Townsend, L.A. Horstman, R.P. Lemenager; Purdue University, West Lafayette, IN |
| 10:30 AM | 156 | Effects of energy supply on methionine utilization by growing steers. G. F. Schroeder*, E. C. Titgemeyer, M. S. Awawdeh, D. P. Gnad; Kansas State University, Manhattan |
| 10:45 AM | 157 | Evaluation of soybean hulls and protein sources of varying degradability on steer performance in feedlot receiving diets. Chad J. Mueller*, Robbi H. Pritchard, Donald L. Boggs; South Dakota State University, Brookings |
| 11:00 AM | 158 | Effect of dietary crude and degradable protein concentration on feedlot performance, estimated nutrient excretion, and carcass characteristics. T. J. Biggs*[1], M. S. Brown[1,2], L. W. Greene[2],[1], E. M. Cochran[1], E. A. Lauterbach[1], J. R. Cortese[1]; [1]West Texas A&M University, Canyon, [2]Texas Agricultural Experiment Station, Amarillo |
| 11:15 AM | 159 | Oscillating protein concentrations of finishing beef cattle diets improves nitrogen retention by improving nitrogen digestibility. S. L. Archibeque*[1], H. C. Freetly[1], N. A. Cole[2], C. L. Ferrell[1]; [1]USDA-ARS; U.S. Meat Animal Research Center, Clay Center, NE, [2]USDA-ARS; Conservation and Production Research Laboratory, Bushland, TX |
| 11:30 AM | 160 | Prediction of ammonia release coupled to ammonia consumption. Erin Venable*, Kenneth Ladyman, Monty Kerley; University of Missouri, Columbia |
| 11:45 AM | 161 | Evaluation of RUP amino acid levels on lean tissue growth and carcass composition of beef steers fed a roughage-free diet. A.L. Mueller*, W.H Kolath, J.W. Golden, M.S. Kerley; University of Missouri, Columbia |

## *Ruminant Nutrition*

## *Dairy – Minerals*

Chair: Beth Kegley, University of Arkansas

Room: 132

| Time | Abstract # | |
|---|---|---|
| 9:30 AM | 162 | Impact of minerals in water on ruminant production. J. G. Linn*, M. L. Raeth-Knight; University of Minnesota, St. Paul |
| 10:00 AM | 163 | Quality Water for Dairy Operations. Karen Mancl*; Ohio State University, Columbus |
| 10:30 AM | 164 | Effects of inorganic and organic (4-Plex$^{R}$) trace mineral supplementation on milk production and reproduction. JD Ferguson*[1], D Tomlinson[2], M Socha[2]; [1]University of Pennsylvania, Kennett Square, [2]Zinpro Corporation, Eden Prairie, MN |
| 10:45 AM | 165 | Effects of inorganic and organic (4-Plex$^{R}$) trace mineral supplementation on claw lesions. JD Ferguson*[1], D Tomlinson[2], M Socha[2]; [1]University of Pennsylvania, Kennett Square, [2]Zinpro Corporation, Eden Prairie, MN |
| 11:00 AM | 166 | Effect of exogenous phytase on phosphorus digestibility in dairy cows and calves. D. Garikipati, R. Kincaid*; Washington State University, Pullman |
| 11:15 AM | 167 | Tissue selenium content and whole-blood glutathione peroxidase activity of lactating cows are increased by two organic forms of dietary selenium. M. R. Waldron*[1], T. L. Ward[2], M. T. Socha[2], T. R. Overton[1]; [1]Cornell University, Ithaca, NY, [2]Zinpro Corporation, Eden Prairie, MN |
| 11:30 AM | 168 | Effects of molasses- versus corn-based supplements on the accumulation of selenium. John D. Arthington*, Findlay M. Pate; Range Cattle Research and Education Center, University of Florida, Ona |
| 11:45 AM | 169 | Manganese for lactating and dry dairy cows. William P Weiss*[1], Mike T. Socha[2]; [1]Ohio State University, Wooster, [2]Zinpro Corporation, Eden Prairie MN |
| 12:00 PM | 170 | Effect of glutamine supplementation on immune responsiveness and milk production in dairy cattle. L. Doepel*[1], N. Gagnon[1], M. Lessard[1], G.E. Lobley[2], J.F. Bernier[3], H. Lapierre[1]; [1]AAC Dairy and Swine R & D Center, Lennoxville, QC, Canada, [2]Rowett Research Institute, Aberdeen, UK, [3]Université Laval, QC, Canada |

## *SYMPOSIUM*

### *Breeding and Genetics*

### *Genetics of Efficient Feed Utilization*

Chair: Mike MacNeil, USDA, ARS, LARRL

Sponsors: Pfizer Animal Health and PIC International Group

Room: 223

| Time | Abstract # | |
|---|---|---|
| 1:00 PM | 171 | Mechanisms regulating feed intake: role of appetite-regulating peptides. M.G. Thomas*, K.L. Shirley; New Mexico State University, Las Cruces |
| 1:30 PM | 172 | Genetic variation in feed utilization: selection responses in mice. Merlyn K. Nielsen*; University of Nebraska, Lincoln |
| 2:00 PM | 173 | Genetic evaluation of efficient feed utilization in beef cattle. D. H. Crews, Jr.*; Agriculture and Agri-Food Canada Research Centre, Lethbridge, AB, Canada |
| 2:30 PM | | Break |
| 3:00 PM | | Genetics and genomics of residual feed intake. S. S. Moore, J. D. Nkrumah, B. Murdoch, and C. Li, University of Alberta, Edmonton, AB, Canada |
| 3:30 PM | 174 | Realities of measuring feed intake on individual pigs to genetically improve feed efficiency. David S. Casey*[1], Pieter W. Knap[2]; [1]Pig Improvement Company, Franklin, KY, [2]Pig Improvement Company, Germany |
| 3:45 PM | 175 | Methods of editing errors in data from electronic swine feeders impact heritability estimates of average daily feed intake. David S. Casey*, Lizhen Wang; Pig Improvement Company, Franklin, KY |

## *SYMPOSIUM*

### *Combined Animal, Dairy and Poultry Extension Workshop*

Room: 222

| Time | Abstract # | |
|---|---|---|
| | | ***Biosecurity Session*** |
| | | Chair: Marcia Endres, University of Minnesota |
| 1:15 PM | 176 | Development of Model Biosecurity Programs. John Shutske*; Biosystems and Agricultural Engineering Department, University of Minnesota, St. Paul |
| 1:35 PM | 177 | Catastrophic Composting: Is it safe and effective? J. M. DeRouchey*, J. P. Harner, J. P. Murphy; Kansas State University, Manhattan |
| 1:55 PM | 178 | What are extension's roles in the early detection of agro-terrorism events? Robert M. Smith*; USDA, CSREES, Washington, DC |
| | | ***International Session*** |
| | | Chair: Rhonda Van, Mississippi State University |
| 2:15 PM | | OIE International Standards on Animal Welfare, EU Country Regulations, and their Impact on USA Trade and Regulations. Chester Gipson*, Alex B. Thiermann; USDA/APHIS, Washington, DC. |
| 2:35 PM | 179 | Use of antibiotics and alternatives in the animal industries: What is Extension's Role? Ronald B. Phillips*; Animal Health Institute, Washington, DC |

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|---|---|---|
| 2:55 PM | 180 | Country of origin labeling: update and path forward. John D. Lawrence*; Iowa State University, Ames |
| 3:15 PM | 181 | Opportunities for extension professionals in international education. J. P. Blake*; Auburn University, Auburn, AL |
| 3:35 PM | | Break |

***Extension Realities***

Chair: Angelica Chapa, Mississippi State University

| | | |
|---|---|---|
| 4:00 PM | 182 | Cultural Issues in Processing Plants and on Farms. Wesley V. Jamison*; Dordt College, Sioux Center, IA |
| 4:20 PM | | How Should Extension Support Natural/Organic/Niche Markets? Jacquie Jacob, Department of Animal Science, University of Minnesota, St. Paul. |
| 4:40 PM | 183 | Extension's Role in Conflict Resolution and Consumer Education. Michael M. Schutz*, Janet S. Ayres; Purdue University West Lafayette, IN |

***SYMPOSIUM***

***Dairy Foods***

***Perspectives on Raw Milk Cheeses***

Chair: Lisbeth Goddik, Oregon State University

Room: 260

| Time | Abstract # | |
|---|---|---|
| 1:00 PM | 184 | Survival of ***Escherichia coli*** in Cheddar and Colby cheese. David R. Henning*; South Dakota State University, Brookings |
| 1:30 PM | 185 | Use of Heat-Treated Cheesemilk to Make High Quality Cheddar Cheese. Bill Luth*; Tillamook County Creamery Assn., Tillamook, OR |
| 2:00 PM | 186 | Approaches to ensuring the safety of raw milk cheeses. Catherine Donnelly*; Department of Nutrition and Food Science, The University of Vermont, Burlington |
| 2:30 PM | | Break |
| 3:00 PM | 187 | Survival of a Five Strain Cocktail of Escherichia coli O157:H7 during Thermalization and the 60 Day Aging Period of Hard Cheese Made from Unpasteurized Milk. Joseph Schlesser*; Food and Drug Administration, Summit-Argo, IL |
| 3:30 PM | 188 | An integrated approach to the safety of raw milk cheeses. P.S. Kindstedt*; University of Vermont, Burlington |

***SYMPOSIUM***

***Extension Education***

***Applied Reproductive Management***

Chair: Michael Schutz, Purdue University

Sponsor: Pfizer Animal Health

Room: 225

| Time | Abstract # | |
|---|---|---|

***Swine Topics***

| | | |
|---|---|---|
| 1:00 PM | | Introduction. Michael Schutz, Purdue University, West Lafayette, IN |
| 1:10 PM | | Using Regumate to control estrus in swine. Duane Davis, Kansas State University |

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|---|---|---|
| 1:30 PM | | The use of GnRH to control and induce ovulation. Rob Knox, University of Illinois, Urbana |
| 1:50 PM | | Vaginal insert to control estrus in swine. Billy Day, University of Missouri, Columbia |
| 2:10 PM | | Break |
| 2:25 PM | | What do we still need to know about swine AI? Wayne Singleton, Purdue University, West Lafayette, IN |
| 2:45 PM | | How new technologies can be used to enhance swine production. Mark Wilson, Minitube, Inc. |
| 3:05 PM | | Discussion |

### *Beef and Dairy Cattle Topics*

| | | |
|---|---|---|
| 3:25 PM | | Synchronization of beef and dairy cows with CIDR protocols. Cliff Lamb, University of Minnesota, St. Paul |
| 3:45 PM | 189 | Using melengestrol acetate (MGA)-based protocols to synchronize estrus prior to fixed-time artificial insemination in postpartum beef cows. D.J. Patterson*, F.N. Kojima, M.F. Smith; University of Missouri, Columbia |
| 4:05 PM | | Break |
| 4:20 PM | | Synchronization of beef and dairy cows with GnRH/PGF protocols. Darrel Kesler, University of Illinois, Urbana |
| 4:40 PM | | How do we communicate rapidly occurring advancement to producers? Speaker Panel |

## *SYMPOSIUM*

## *Horse Species*

## *Equine Carbohydrate Associated Disorders*

Chair: Paul Siciliano, Colorado State University

Room: 261/262

| Time | |
|---|---|
| 1:00 PM | Gastric Ulcers. Frank M. Andrews; The University of Tennessee, Knoxville |
| 1:45 PM | Insulin Resistant Syndromes. David S. Kronfeld; Virginia Polytechnic Institute and State University, Blacksburg |
| 2:30 PM | Break |
| 2:45 PM | Equine Laminitis. Christopher Pollitt; The University of Queensland |
| 3:30 PM | Polysaccharide Storage Myopathy. Raymond J. Geor; University of Guelph |
| 4:15 PM | Relationship between caloric intake and longevity. Brian Larson; Nestle Purina Pet Care Co. |
| 5:00 PM | Update on Revision of the NRC Nutrient Requirements of Horses. Laurie Lawrence; University of Kentucky, Chair of the NRC Nutrient Requirements of Horses Committee |

## *SYMPOSIUM*

### *Physiology and Endocrinology*

### *Functional Genomics and its Relevance in Animal Biology: Reproduction*

Chair: Sherrill Echternkamp, USDA, Agricultural Research Service
and Pete Hansen, University of Florida

Sponsors: Elanco Animal Health, Monsanto Company, and Pfizer Animal Health

Room: 221

| Time | |
|---|---|
| 1:00 PM | Welcome and Acknowledgements. Gary Williams |
| 1:05 PM | Beyond expression: adding meaning to microarray data. John Quackenbush, Institute for Genomic Research, Rockville, MD |
| 1:45 PM | Question and Answer Session |
| 2:00 PM | Swine and bovine genomics research with a focus on female reproduction. Randall Prather, University of Missouri, Columbia |
| 2:30 PM | Question and Answer Session |
| 2:45 PM | Break |
| 3:15 PM | Genomic regulation of ovarian follicular development. Dr. Jock Findlay, Prince Henry's Institute of Medical Research, Clayton, Victoria, Australia |
| 3:45 PM | Question and Answer Session |
| 4:00 PM | The balance between viability and apoptosis in granulose cells as a determinant of ovarian follicle survival. Dr. Alan Johnson, Notre Dame University, South Bend, IN |
| 4:30 PM | Question and Answer Session |

## *SYMPOSIUM*

### *PSA Air Emissions and Poultry Production*

Chair: Rosalina Angel, University of Maryland

Sponsors: Adisseo USA, Inc., Ajinomoto Heartland LLC, Alpharma and Jones-Hamilton, Co.

Room: 131

| Time | Abstract # | |
|---|---|---|
| 1:00 AM | 190 | Air Emissions in Poultry Production: Current Challenges and Future Directions. R. Angel*[1], W. Powers[2], T.J. Applegate[3]; [1]University of Maryland, College Park, [2]Iowa State University, Ames, [3]Purdue University, West Lafayette, IN |
| 1:15 PM | | Methods for Measuring Ammonia. R. Gates, University of Kentucky, Lexington |
| 1:45 PM | 191 | Air Emissions from Layer Houses. Albert J. Heber*, Teng Lim, Jiqin Ni; Purdue University, West Lafayette, IN |
| 2:15 PM | 192 | Ammonia emissions from broiler houses. A.J. Pescatore*, K.D. Casey, R.S. Gates; University of Kentucky, Lexington |
| 2:45 PM | | Break |
| 3:00 PM | 193 | Dietary Strategies to Lower Nitrogen Load in Poultry. David J Burnham*; Ajinomoto Heartland LLC, Chicago, IL |
| 3:30 PM | 194 | Management Strategies to Reduce Air Emissions: Emphasis Ammonia. Paul H. Patterson*; Department of Poultry Science, The Pennsylvania State University, University Park |
| 4:00 PM | 195 | Emissions, Regulations and Impact in the EU and The Netherlands. Hilko Ellen*; Applied Research of Animal Sciences Group of Wageningen, Lelystad, The Netherlands |
| 4:30 PM | | Conclusions and Discussion. R. Angel, University of Maryland, College Park |

## *Food Safety*

## *Food Safety in Animal Production*

Chair: Todd Callaway, USDA

Room: 276

| Time | Abstract # | |
|---|---|---|
| 1:00 PM | 196 | A USDA Multi-Agency Project: Collaboration in Animal Health, Food Safety & Epidemiology (CAHFSE). R.R. Kraeling*[1], E.J. Bush[2], D.A Dargatz[2], N.E. Wineland[2], S. Ladely[1], P.J. Fedorka-Cray[1]; [1]ARS, USDA, Athens, GA, [2]APHIS-VS, USDA, Fort Collins, CO |
| 1:15 PM | 197 | Monitoring the Safety of Edible Poultry Tissues: Antibiotic Residue Concentrations Can Vary Between Different Muscle Tissues. I. Reyes-Herrera*[1], M.J. Schneider[2], K. Cole[1], P.J. Blore[1], D.J. Donoghue[1]; [1]Department of Poultry Science, University of Arkansas, Fayetteville, [2]USDA/ARS/ERRC, Wyndmoor, PA |
| 1:30 PM | 198 | Survival of ***Salmonella*** species following sodium hypochlorite treatment during commercial broiler processing. Rita M. Lipscomb*, Lloyd T. Walker, William L. Hurlock, Leonard L. Williams, Martha Verghese; Department of Food and Animal Sciences, Alabama A&M University, Normal |
| 1:45 PM | 199 | Herd-level factors associated with cow and calf ***Salmonella*** shedding in a multi-state study of 129 dairy farms. CP Fossler*[1], SJ Wells[1], JB Kaneene[2], PL Ruegg[3], LD Warnick[4], JB Bender[1], LE Eberly[1], SM Godden[1], LW Halbert[2]; [1]University of Minnesota, St. Paul, [2]Michigan State University, East Lansing, [3]University of Wisconsin, Madison, [4]Cornell University, Ithaca, NY |
| 2:00 PM | 200 | Investigation of cattle feedlot management practices to reduce ***Escherichia coli*** O157. J. R. Ransom*, K. E. Belk, J. A. Scanga, J. N. Sofos, G. C. Smith; Colorado State University, Fort Collins |
| 2:15 PM | 201 | Colicin E1, N and A treatment inhibits growth of ***Escherichia coli*** O157:H7 strains in vitro. Todd R. Callaway*[1], Chad H. Stahl[2], Tom S. Edrington[1], Ken J. Genovese[1], Leslie M. Lincoln[2], Robin C. Anderson[1], Roger B. Harvey[1], David J. Nisbet[1]; [1]USDA/ARS, Food and Feed Safety Research Unit, College Station, TX, [2]Dept. Animal Science, Iowa State University, Ames |
| 2:30 PM | 202 | Effects of lactic acid treatments on microbiological, chemical, and sensory properties of stored fresh beef trimmings. Sara E. Rose*, Keith E. Belk, John N. Sofos, John A. Scanga, Kim L. Hossner, Gary C. Smith; Department of Animal Sciences, Colorado State University, Fort Collins |
| 2:45 PM | 203 | Influence of aflatoxin B1 on milk production and health in dairy sheep. G Battacone[1], M Palomba[2], M Pascale[3], A Mazzette[1], G Pulina*[1]; [1]Dipartimento di Scienze Zootecniche, University of Sassari, Italy via Enrico de Nicola 9, 07100 Sassari, Italy, [2]Dipartimento Farmaco Chimico Tossicologico, University of Sassari, Italy via Muroni, 07100 Sassari, Italy, [3]CNR Istituto di Scienze delle Produzioni Alimentari, Bari, Italy via le Einaudi 51, 70125 Bari, Italy |

## *Graduate Student Competition*

## *ADSA-ASAS Northeast Section*

Chair: Thomas G. Hartsock, University of Maryland

Room: 125/126

| Time | Abstract # | |
|---|---|---|
| 1:00 PM | 204 | Fractional removal of amino acids by the small intestines and whole gastrointestinal tract of sheep remains constant across levels of protein supply. Samer W. El-Kadi*, Nishanth E. Sunny, Masahito Oba, Sandra L. Owens, Brian J. Bequette; University of Maryland, College Park |
| 1:15 PM | 205 | Regulation of urea recycling to the gastrointestinal tract and ammonia metabolism in ruminants. Nishanth E Sunny*, Lucille H Hanus, Samer W El-Kadi, Sandra L Owens, Brian J Bequette; University of Maryland, College Park |
| 1:30 PM | 206 | Urea supplementation increased rumen function in lactating dairy cows fed a corn silage based diet deficient in rumen-degradable feed protein (RDP). Sarah E. Ferguson*, Ryan S. Ordway, Nancy L. Whitehouse, Paul J. Kononoff, Charles G. Schwab; University of New Hampshire, Durham |

| | | |
|---|---|---|
| 1:45 PM | 207 | Mechanisms of transport of vitamins into colostrum: A potential role of megalin and low density lipoprotein receptor. D.G. Martinez*[1], G.E. Dahl[2], T.B. McFadden[1]; [1]University of Vermont Burlington, [2]University of Illinois, Urbana |
| 2:00 PM | 208 | Quantifying the effect of dietary sodium bicarbonate on ruminal pH. N Singh*, R. A Kohn; University of Maryland, College Park |
| 2:15 PM | 209 | ***Trans***-10, ***trans***-12 conjugated linoleic acid (CLA) reduces the Ä[9]-desaturase index without affecting milk fat yield in lactating dairy cows. J. W. Perfield II*[1], P. Delmonte[2], A. L. Lock[1], M. P. Yurawecz[2], D. E. Bauman[1]; [1]Cornell University, Ithaca, NY, [2]Center for Food Safety and Applied Nutrition, College Park, MD |
| 2:30 PM | 210 | Altering dry matter intake affects the nutritional efficiency of dairy heifers. G.I. Zanton*, A.J. Heinrichs; The Pennsylvania State University, University Park |
| 2:45 PM | 211 | The effect of essential plant oils on milk production and composition from lactating dairy cows and on silage fermentation and aerobic stability of corn silage. Renato J. Schmidt*[1], Daryl H. Kleinschmit[1], Jill M. Ladd[1], Jill E. Lynch[1], Limin Kung, Jr.[1], Peter G. Williams[2], Riccardo Losa[3]; [1]University of Delaware, Newark, [2]Akzo Nobel LLC, Davis, CA, [3]CRINA S.A., Switzerland |
| 3:00 PM | 212 | The effects of ***Lactobacillus buchneri*** 40788 and damage to the corn ear on the fermentation, aerobic stability, and production of mycotoxins in corn silage. Rachel S. Teller*, Renato J. Schmidt, Limin Kung, Jr.; University of Delaware, Newark |

## *Graduate Student Competition*

## *National ADSA Production*

Chair: Mark McGuire, University of Idaho

Room: 127

| Time | Abstract # | |
|---|---|---|
| 1:00 PM | 213 | Effects of providing supplemental methionine (Met) in the form of Smartamine™ M or 2-hydroxy-4-methylthio butanoic acid isopropyl ester (HMBi) to prepartum and early lactation dairy cows on feed intake and lactational performance. Ryan S. Ordway*[1], Nancy L. Whitehouse[1], Amy M. McLaughlin[1], Charles G. Schwab[1], Brian K. Sloan[2]; [1]University of New Hampshire, Durham, [2]Adisseo USA, Inc., Alpharetta, GA |
| 1:15 PM | 214 | Comparison of Holstein, Brown Swiss and Jersey cows for age at first calving and first calving interval. T.B. Garcia-Peniche*[1], B.G. Cassell[1], I. Misztal[2], R.E. Pearson[1]; [1]Virginia Polytechnic Institute and State University, Blacksburg, [2]University of Georgia, Athens |
| 1:30 PM | 215 | One-time oral nucleotides enhance immune function of newborn beef calves. C.E. Oliver*[1], F. Philippe[2], G. Gaillard[2], R.B. Danielson[1], W.L. Keller[1], C. Rupprecht[3], M.L. Bauer[1], C.S. Park[1]; [1]North Dakota State University, Fargo, [2]Ecole Superieure D'Agriculture, D'Angers, France, [3]Rabies Laboratory, Centers for Disease Control and Prevention Atlanta, GA |
| 1:45 PM | 216 | Insulin sensitivity in lactating dairy cows and neonatal calves: Comparison of the minimal model and the hyperinsulinemic euglycemic clamp. C.C. Stanley*[1], C.C. Williams[1], H.G. Bateman, II[1], D.T. Gantt[1], J.C. Roberts[1], P.T. Richardel[1], J.C. Lovejoy[2], E. Ravussin[3]; [1]LSU AgCenter, Baton Rouge, LA, [2]Bastyr University, Kenmore, WA, [3]Pennington Biomedical Research Center, Baton Rouge, LA |
| 2:00 PM | 217 | Effects of colostrum feeding time and sex on serum leptin and fatty acid metabolism in newborn Holstein calves. L.J. Driedger*, J.A. Jackson, K. Meek, S.T. Franklin; University of Kentucky, Lexington |

## *Graduate Student Competition*

## *Southern Branch ADSA*

Chair: Brinton A. Hopkins, North Carolina State University

Room: 127

| Time | Abstract # | |
|---|---|---|
| 2:15 PM | 218 | Effect of length of cut and degree of kernel processing of corn silage on production characteristics of lactating Holstein cows. K. M. Cooke*, J. K. Bernard; The University of Georgia, Tifton |
| 2:30 PM | 219 | Evaluating the effectiveness of decreasing the dosage of GnRH for ovulation synchronization and timed AI in dairy cows. L. E. McKee*, W. M. Graves, J. D. Clark; The University of Georgia, Athens |

## *Lactation Biology*

## *Physiology*

Chair: Joanne Knapp, University of Vermont

Room: 220

| Time | Abstract # | |
|---|---|---|
| 1:00 PM | 220 | Use of serial analysis of gene expression (SAGE) for gene transcript profiling in lactating bovine mammary gland. E.E. Connor*, A.V. Capuco, T.S. Sonstegard; USDA-ARS, Bovine Functional Genomics Laboratory, Beltsville, MD |
| 1:15 PM | 221 | Differential effects of ovarian hormones on epithelial proliferation in the porcine mammary gland. A.S. Barndollar*, J.M. Scudder, J.F. Trott, R.C. Hovey; University of Vermont, Burlington |
| 1:30 PM | 222 | Effects of continuous milking and bST on mammary cell proliferation, milk yield and composition in primiparous cows. E.L. Annen*, A.C. Fitzgerald, P.C. Gentry, R.J. Collier; University of Arizona, Tucson |
| 1:45 PM | 223 | Effects of continuous milking and prostaglandin $E_2$ on milk yield and composition. E.L. Annen*[1], C.M. Stiening[1], M.E. Dwyer[1], B.A. Crooker[2], A.C. Fitzgerald[1], R.J. Collier[1]; [1]University of Arizona, Tucson, [2]University of Minnesota, St. Paul |
| 2:00 PM | 224 | Influence of Leptin Single Nucleotide Polymorphism on Lactation Curve Traits for lactating dairy cows. H.W. Soita*, D.A. Christensen, F.C. Buchanan, T.L. Heck, J.J. McKinnon; University of Saskatchewan, Saskatoon, SK, Canada |
| 2:15 PM | 225 | Identifying positive effectors of milk protein synthesis: amino acids and glucose. C.A. Toerien*, D.R. Trout, J.P. Cant; University of Guelph, Guelph, ON, Canada |
| 2:30 PM | 226 | Cloning and expression of bovine glucose transporter GLUT8. Feng-Qi Zhao*, Peter Miller, Emma H. Wall, Yu-Cai Zheng, Bing Dong, Tom McFadden; Lactation and Mammary Gland Biology Group, Department of Animal Science, University of Vermont, Burlington |
| 2:45 PM | | Break |
| 3:15 PM | 227 | Effects of a shorter duration of photoperiod treatment during the dry period on cellular immune function in dairy cattle. T. L. Auchtung*, E. D. Reid, D. E. Morin, G. E. Dahl; University of Illinois, Urbana |
| 3:30 PM | 228 | Comparison of gene expression changes in the two subunits of bovine IgG1 receptor during colostrogenesis. D.G. Martinez*, R. Thomason, T.B. McFadden; University of Vermont, Burlington |
| 3:45 PM | 229 | Changes in expression of vitamin receptors in bovine mammary gland during hormone induced colostrogenesis. D.G. Martinez*, R. Thomason, T.B. McFadden; University of Vermont, Burlington |

## *Meat Science and Muscle Biology*

Chair: Elisabeth Huff-Lonergan, Iowa State University

Room: 124

| Time | Abstract # | |
|---|---|---|
| 1:00 PM | 230 | Conjugated linoleic acid (CLA) concentrations in beef tissues from cattle finished on pasture initially with limited grain. R.N. Sonon Jr.*[1], D.C. Beitz[1], A.H. Trenkle[1], J.R. Russell[1], R. Rosmann[2]; [1]Iowa State University, Ames, [2]Rosmann's Family Farms |
| 1:15 PM | 231 | Effects of two supplementation levels of linseed combined with CLA or tallow on meat quality traits and fatty acid profile of adipose tissue and longissimus muscle in pigs. Giuseppe Bee*, Steve Jacot, George Guex, Willy Herzog; Swiss Federal Research Station for Animal Production and Dairy Products 1725 Posieux, Switzerland |
| 1:30 PM | 232 | Consumer acceptance of beef from steers finished on ryegrass forage or a high-concentrate diet. Chris R. Kerth*, Kirk W. Braden, Ryan B. Cox, Jeremiah Alexander; Department of Animal Sciences, Auburn University, Auburn, AL |
| 1:45 PM | 233 | Mechanisms of Beef Carcass Tenderness. R. Johnson*, J. Sawdy, J. M. Reddish, M. S. Updike, M. Wick; The Ohio State University, Columbus |
| 2:00 PM | 234 | Effects of ractopamine and dietary fat source on performance and carcass characteristics of growing-finishing swine. Jason K. Apple*[1], Bryan R. Kutz[1], Charles V. Maxwell[1], M. Ellen Davis[1], Lilly K. Rakes[1], Zelpha B. Johnson[1], Todd A. Armstrong[2]; [1]University of Arkansas, Fayetteville, [2]Elanco Animal Health, A Division of Eli Lilly and Company, Greenfield, IN |
| 2:15 PM | 235 | Effects of ractopamine and dietary fat source on quality characteristics of fresh pork bellies. Jason K. Apple*[1], Bryan R. Kutz[1], Charles V. Maxwell[1], M. Ellen Davis[1], Lilly K. Rakes[1], Zelpha B. Johnson[1], Todd A. Armstrong[2]; [1]University of Arkansas, Fayetteville, [2]Elanco Animal Health, A Division of Eli Lilly and Company, Greenfield, IN |
| 2:30 PM | 236 | Effect of slaughter weight on pork quality of castrated females. J. Peinado*[1], D. García[2], F. Baucells[1], G.G. Mateos[3], P. Medel[1]; [1]Imasde Agropecuaria Madrid, Spain, [2]Estación Tecnológica De La Carne De Guijuelo Salamanca, Spain, [3]Universidad Politécnica De Madrid Madrid, Spain |
| 2:45 PM | | Break |
| 3:15 PM | 237 | Strategies based on gender and slaughter weight to modify carcass quality for cured product industry. J. Peinado*[1], A. Fuentetaja[2], J. Sánchez[1], G.G. Mateos[3], P. Medel[1]; [1]Imasde Agropecuaria Madrid, Spain, [2]COPESE Segovia, Spain, [3]Universidad Politécnica De Madrid Madrid, Spain |
| 3:30 PM | 238 | Evaluating the Fatty Acid Distribution of Bratwurst in Retail Products and of Fat in Fertilium Treated Sows. Lindsey Gordon*, Abby Cox, Allan Schinckel, Mickey Latour; Purdue University West Lafayette, IN |
| 3:45 PM | 239 | Fascicular structure as a quantitative trait for bovine and ovine skeletal muscles. Gregory S. Harper*[1], Mark E. McKay[1], Michael Taylor[2], Toni Reverter-Gomez[3], Peter G. Allingham[2], Robert Seymour[3]; [1]Cattle and Beef Quality Cooperative Research Centre, Armidale, Australia, [2]Australian Sheep Industry Cooperative Research Centre, Armidale, Australia, [3]CSIRO Livestock Industries, St Lucia, Australia |
| 4:00 PM | 240 | Growth characterization of ***callipyge*** myoblasts. J. N. Fleming*, S. P. Jackson, J. R. Blanton, Jr.; Texas Tech University, Lubbock |
| 4:15 PM | 241 | Integration of myostatin-null alleles in leptin db/db mice does not alter body composition. A. C. Dilger*, A. L. Grant, M. E. Spurlock, D. E. Gerrard; Purdue University, West Lafayette, IN |

## *Nonruminant Nutrition*

## *Weanling Pig Nutrition and Health*

Co-Chairs: Sung Woo Kim, Texas Tech University and Paul Matzat, Elanco Animal Health

Room: 275

| Time | Abstract # | |
|---|---|---|
| 1:00 PM | 242 | Potassium source and level influence performance day 21 – 42 post-weaning. B. V. Lawrence*, J. D. Hahn, S. A. Hansen; Hubbard Feeds Inc., Mankato, MN |
| 1:15 PM | 243 | Inorganic anions (Animate® concentrate) stimulate growth in nursery pigs fed diets without antibiotics regardless of diet buffering capacity. T. D. Crenshaw*[1], D. E. Axe[2]; [1]University of Wisconsin, Madison, [2]IMC, Lake Forest, IL |
| 1:30 PM | 244 | Effects of diet acidification and buffering capacity on weanling pig growth. M Walsh*, D Sholly, K Saddoris, R Hinson, A Yager, A Sutton, S Radcliffe, B Harmon, B Richert; Purdue University, West Lafayette, IN |
| 1:45 PM | 245 | Effects of diet and water acidification on weanling pig growth and microbial shedding. M Walsh*[1], D Sholly[1], K Saddoris[1], R Hinson[1], A Sutton[1], S Radcliffe[1], B Harmon[1], R Odgaard[2], J Murphy[2], B Richert[1]; [1]Purdue University, West Lafayette, IN, [2]Kemin Americas, Inc., Des Moines, IA |
| 2:00 PM | 246 | Effects of diet acidification and antibiotics on weanling pig growth and microbial shedding. M. Walsh*, D. Sholly, K. Saddoris, R. Hinson, A. Yager, A. Sutton, S. Radcliffe, B. Harmon, B. Richert; Purdue University, West Lafayette, IN |
| 2:15 PM | 247 | Use of d-aminolevulinic acid in swine diet: effects on growth performance, behavioral characteristics and hematological/immune statuses in nursery pigs. R. D. Mateo*, F. Ji, S. W. Kim; Texas Tech University, Lubbock |
| 2:30 PM | 248 | The effect of dietary protein on growth performance and fecal consistency of 9 to 24 kg pigs following an enteric challenge with K88 E. coli. D. C. Kendall*[1], R. W. Fent[1], S. X. Fu[1], J. L. Usry[2], J. A. Carroll[3], G. L. Allee[1]; [1]University of Missouri-Columbia, [2]Ajinimoto Heartland LLC, Chicago, IL, [3]ARS-USDA Animal Physiology Research Unit, Columbia, MO |
| 2:45 PM | | Break |
| 3:15 PM | 249 | The effect of lactose and inulin on intestinal morphology, microbiology and volatile fatty acids of the weanling pig. K.M. Pierce*[1], J.J Callan[1], P.O. Brophy[1], P. McCarthy[2], T. Sweeney[1], E. Fitzpatrick[1], C. Byrne[1], S. Ni Cheallaigh[1], J.V. O'Doherty[1]; [1]University College, Dublin University, Dublin, Ireland, [2]Volac International Ltd. |
| 3:30 PM | 250 | Effects of lactic acid and lactose on the digestive tract of nursery pigs. M.F. Palacios*, E.A. Flickinger, C.M. Grieshop, C.T. Collier, J.E. Pettigrew; University of Illinois, Urbana |
| 3:45 PM | 251 | Effects of lactic acid on growth performance of nursery pigs. M.F. Palacios*, K.T. Soltwedel, G.R. Hollis, J.E. Pettigrew; University of Illinois, Urbana |
| 4:00 PM | 252 | Comparison of the effect of direct-fed microbials and antibiotic supplementation on the growth response of weanling pigs. M. S. Dirain*[1], M. E. Davis[1], D.C. Brown[1], C.V. Maxwell[1], Z.B. Johnson[1], T. Rehberger[2]; [1]Department of Animal Science, University of Arkansas, Fayetteville, [2]Agtech Products Inc., Waukesha, WI |
| 4:15 PM | 253 | Efficacy of mannan oligosaccharides supplementation of both sows and piglet diets on the performance of weaned piglets. M. I. Gracia*[1], J. Morales[2], J. Pickard[3], J. Sánchez[1], F. Baucells[1]; [1]Imasde Agropecuaria, S.L. Spain, [2]PigChamp Pro Europa Spain, [3]Alltech Inc., Ireland |
| 4:30 PM | 254 | Impact of spray-dried plasma with or without antimicrobials on nursery pig performance. P. Srichana*[1], A.M. Gaines[1], B.W. Ratliff[1], G.L. Allee[1], J.D. Crenshaw[2], J.M. Campbell[2], J.D. Quigley[2], L.E. Russell[2]; [1]University of Missouri, Columbia, [2]APC Inc., Ankeny, IA |
| 4:45 PM | 255 | Effect of flaxseed fractions and sub-therapeutic antibiotic inclusion on microbial ecology in small intestine of growing pigs. L.F. Smith*[1], R.T. Zijlstra[2], M.D. Drew[1], A.G. Van Kessel[1]; [1]Department of Animal and Poultry Science, University of Saskatchewan, Saskatoon, SK, Canada, [2]Prairie Swine Centre Inc., Saskatoon, SK, Canada |
| 5:00 PM | 794 | Supplementation of sow diets with a mixture of carvacrol, cinnnamaldehyde and capsicum; effects on sow performance and piglet gut morphology. Sian Ilsley*[1], Helen Miller[1], Christopher Kamel[2]; [1]University of Leeds, Leeds, UK, [2]AXISS France SAS, Bellegarde-sur-Valserine, France. |

## *Production, Management and the Environment*

## *Health and Miscellaneous*

Chair: Dan N. Waldner, Oklahoma State University

Room: 224

| Time | Abstract # | |
|---|---|---|
| 1:00 PM | 256 | The Use of Statistical Process Control Capability Indices to Estimate Subclinical Mastitis Prevalence and New Infection Rates. Joanna Lukas*[1], M. L. Kinsel[2], J. K. Reneau[1]; [1]University of Minnesota, St Paul, [2]Agricultural Information Management, Ellensburg, WA |
| 1:15 PM | 257 | Evaluation of the DHI Hot List as a Tool to Reduce Bulk Tank Somatic Cell Counts. Jessica E Belsito*, Albert de Vries, Roger P Natzke; Department of Animal Sciences, University of Florida, Gainesville |
| 1:30 PM | 258 | Evaluation of the Association between Bulk Tank Somatic Cell Count and Management Practices on U.S. Dairy Operations; Results from the NAHMS Dairy 2002 study. J. E. Lombard[1,2], R. P. Dinsmore[2], J. R. Wenz*[2], C. Tapp[2]; [1]USDA:APHIS:VS; Centers for Epidemiology and Animal Health, Fort Collins, CO, [2]Integrated Livestock Management, Colorado State University, Fort Collins |
| 1:45 PM | 259 | Comparison of paired milk and serum ELISA for diagnosis of Johne's disease in dairy cattle. J. E. Lombard*[1,2], T. Byrem[3], B. J. McCluskey[1]; [1]USDA:APHIS:VS, Centers for Epidemiology and Animal Health, Fort Collins, CO, [2]Integrated Livestock Management, Colorado State University, Fort Collins, [3]Antel Biosystems, Inc., Lansing, MI |
| 2:00 PM | 260 | Financial costs of Johne's disease on U. S. dairy operations. Jason E. Lombard*[1,2], Brian J. McCluskey[1], Stephen L. Ott[1], Franklyn B. Garry[2]; [1]USDA:APHIS:VS; Centers for Epidemiology and Animal Health, Fort Collins, CO, [2]Integrated Livestock Management, Colorado State University, Fort Collins |
| 2:15 PM | 261 | Financial Drivers of Profitability in Dairy Businesses. Bradley J. Hilty*, Lisa A. Holden, Jeffrey Hyde; Pennsylvania State University, University Park |
| 2:30 PM | 262 | Economic and environmental feasibility of a continuous four-year lactation model. David L. Zartman*[1], C. Al Rotz[2], Ken L. Crandall[3]; [1]Ohio State University, Columbus, [2]USDA-ARS, University Park, PA, [3]DHI Computing Services, Inc., Provo, UT |
| 2:45 PM | 263 | Tracing pigs by using conventional and electronic identification devices. D. Babot[1,2], M. Hernández-Jover*[3], G. Caja[3], C. Santamarina[2], J.J. Ghirardi[3]; [1]Àrea de Producció Animal, Centre UdL-IRTA Lleida, Spain, [2]Departament de Producció Animal, UdL, Lleida, Spain, [3]Universitat Autònoma de Barcelona, Bellaterra, Spain |
| 3:00 PM | 264 | Initial and terminal implant strategy for heavy weaned Canadian calves. K. S. Eng*[1], R. Bectel[2], D. P. Hutcheson[3]; [1]Eng, Inc. San Antoino, TX, [2]Advance Agricultural Testing Baden, ON, Canada, [3]Animal-Agricultural Consulting, Inc., Amarillo, TX |

## *PSA-Environment and Management*

## *Breeder and Incubation*

Chair: Brian D. Fairchild, University of Georgia

Room: 265/266

| Time | Abstract # | |
|---|---|---|
| 1:00 PM | 265 | Heavy tom strains fed low calcium and phosphorus diets supplemented with phytase 1. Growth performance and carcass yield. R. Michael Hulet*, Paul H. Patterson, Terri L. Cravener; Department of Poultry Science, The Pennsylvania State University, University Park |
| 1:15 PM | 266 | Heavy tom strains fed low calcium and phosphorus diets supplemented with phytase 2. Impact on litter total P, soluble P and bone integrity. P. H. Patterson*[1], R. M. Hulet[1], T. L. Cravener[1], P. Y. Hester[2], P. J. Kleinman[3], A. N. Sharpley[3]; [1]Department of Poultry Science, The Pennsylvania State University, University Park, [2]Department of Animal Sciences, Purdue University, West Lafayette, IN, [3]USDA-ARS, University Park, PA |

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|---|---|---|
| 1:30 PM | 267 | Examining if the hole created by egg injection improves late embryonic survival. Bryanna L. Kumpula*, Gaylene M. Fasenko; Department of AFNS, University of Alberta, Edmonton, AB, Canada |
| 1:45 PM | 268 | Effect of hatch pull time, protein and methionine on bobwhite quail performance. J. P. Blake*, J. B. Hess, W. D. Berry; Auburn University, Auburn, AL |
| 2:00 PM | 269 | Influence of light intensity and handling on live and processing performance of male broilers. R.J. Lien*, J.B. Hess, S.R. McKee, B.A. McCrea, S.F. Bilgili; Auburn University, Auburn, AL |
| 2:15 PM | 270 | Impact of genotype, growth profile and photostimulation age on the reproductive efficiency of female broiler breeders. R. A. Renema*[1], M. J. Zuidhof[2], F. E. Robinson[1]; [1]University of Alberta Edmonton, AB, Canada, [2]Alberta Agriculture, Food and Rural Development, Edmonton, AB, Canada |
| 2:30 PM | 271 | Relationship of physical traits at hatch with growth traits to 14-d of age in male chicks of selected parent stock and pure line products. F. E. Robinson*[1], N. J. Wolanski[1], R. A. Renema[1], G. M. Fasenko[1], V. L. Carney[2], B. Fancher[2]; [1]University of Alberta, Edmonton, AB, Canada, [2]Aviagen, Huntsville, AL |
| 2:45 PM | | Break |
| 3:15 PM | 272 | Growth Potential and Carcass Characteristics of Eight Strains of Broiler Breeder Stocks. Melanie E. Rustad*[1], Frank E. Robinson[1], Robert A. Renema[1], Martin J. Zuidhof[2], Valerie L. Carney[3]; [1]University of Alberta Edmonton, AB, Canada, [2]Alberta Agriculture Food and Rural Development, Edmonton, AB, Canada, [3]Aviagen, Huntsville, AL |
| 3:30 PM | 273 | The effects of supplemental enzyme (AVIZYME 1502) and phytase (PHYZYME) on phosphorus nutrition in broiler breeders. M.S. Lilburn*[1], A. Mitchell[2], E.E.M. Pierson[3]; [1]Ohio State University, Wooster, [2]Growth Biology Lab, USDA, Beltsville, MD, [3]Danisco Animal Nutrition, St. Louis, MO |
| 3:45 PM | 274 | Detection of ***Campylobacter*** and ***Salmonella*** in the mature and immature ovarian follicles of late-life broiler breeder hens. N A Cox[1], J S Bailey[1], L J Richardson*[1], R J Buhr[1], K L Hiett[1], D E Cosby[1], J L Wilson[2], G R Siragusa[1], D V Bourassa[2], M T Musgrove[1]; [1]USDA-ARS, Russell Research Center, Athens, GA, [2]Department of Poultry Science, University of Georgia, Athens |
| 4:00 PM | 275 | The Effect of Daily Photoperiod on Growth of Commercial Broilers. 1. Body Weight and Breast Yield. M.S. Lilburn*; Ohio State University, Wooster |
| 4:15 PM | 276 | The Effect of Daily Photoperiod on Growth of Commercial Broilers. 2. Feeding Behaviour. K. Huffman*, M.S. Lilburn; Ohio State University, Wooster |
| 4:30 PM | 277 | The Effect of Daily Photoperiod on Growth of Commercial Broilers. 3. Skeletal development. M.S. Lilburn*[1], A. Mitchell[2]; [1]Ohio State University, Wooster, [2]Growth Biology Lab, USDA, Beltsville, MD |
| 4:45 PM | 278 | Spatial Disparity of Ammonia Flux within a Broiler House at One and 21 Days of Age. Dana M. Miles*[1], Phillip R. Owens[1], Dennis E. Rowe[1], Scott L. Branton[2]; [1]USDA-ARS, Waste Management and Forage Research Unit, Mississippi State, MS, [2]USDA-ARS, Poultry Research Unit, Mississippi State, MS |

## *PSA-Immunology*

Chair: Luc Berghman, Texas A&M University

Room: 267

| Time | Abstract # | |
|---|---|---|
| 1:00 PM | 279 | ***Salmonella*** vaccination programs in broiler breeders. I. Humoral and Mucosal Immune Response. Ariel Rolon*[1], J. Stan Bailey[2], Peter S. Holt[2], Charles L. Hofacre[3], Jeanna L. Wilson[1], Douglas E. Cosby[2], L. Jason Richardson[2], Nelson A. Cox[2]; [1]Department of Poultry Science, University of Georgia, Athens, [2]U. S. Department of Agriculture Russell Research Center, Athens, GA, [3]Department of Avian Medicine, University of Georgia, Athens |
| 1:15 PM | 280 | ***Salmonella*** Vaccination Programs in Broiler Breeders. II. Resistance to Challenge under a Multiple Marker Strain Model. A. Rolon*[1], J. S. Bailey[2], P. S. Holt[2], C. L. Hofacre[3], J. L. Wilson[2], D. E. Cosby[2], L. J. Richardson[2], N. A. Cox[2]; [1]Department of Poultry Science, University of Georgia, Athens, [2]U. S. Department of Agriculture, Russell Research Center, Athens, GA, [3]Department of Avian Medicine, University of Georgia, Athens |

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| 1:30 PM | 281 | Construction and evaluation of recombinant ***Salmonella*** vaccine expressing ***Eimeria*** sporozoite and merozoite antigen. Vjollca Konjufca*, Soo-Young Wanda, Roy Curtiss III; Washington University, Saint Louis, MO |
| 1:45 PM | 282 | Rous sarcoma growth in lines congenic for major histocompatibility (***B***) complex recombinants . Elizabeth S. Schulten [1], W. Elwood Briles [2], Robert L. Taylor, Jr.*[1]; [1]University of New Hampshire, Durham, [2]Northern Illinois University, DeKalb |
| 2:00 PM | 283 | Demonstration of Carboxypeptidase E protein and mRNA in the diffuse neuroendocrine system of the chicken thymus. Xiaodong Zhang*[2], James J. Zhu[1], Luc R. Berghman[1]; [1]Departments of Poultry Science and Veterinary Pathobiology, Texas A&M University, College Station, [2]Department of Poultry Science, Texas A&M University, College Station |
| 2:15 PM | 284 | Cationic amino acid transport (CAT) expression in immune tissue and the effect of lysine on lymphocyte function. Brooke Humphrey*, Kirk Klasing; Department of Animal Science, University of California, Davis |
| 2:30 PM | 285 | Effect of Testosterone and Lead on T cell Maturtion in the Developing Thymus. I. Hussain*, M. Piepenbrink, R. Dietert; Department of Microbiology and Immunology, College of Veterinary Medicine, Cornell University, Ithaca, NY |
| 2:45 PM | 286 | Immunocompetence measurements of frizzle and normally feathered genotypes issued from different maternal lines of chicken. M.M. Fathi, S.A. El-Safty*, A. Galal; Poultry Prod. Dept, Faculty of Agric., Ain Shams University |

## *PSA-Nutrition*

## *Feed Additives and Phytase*

Chair: David Ledoux, University of Missouri

Room: 274

| Time | Abstract # | |
|---|---|---|
| 1:00 PM | 287 | ***In vitro*** and ***in vivo*** evaluation of simultaneous supplementation of a-galactosidase and citric acid on nutrient release, digestibility and growth performance of broiler chicks. T. Ao*[1], A. H. Cantor[1], A. J. Pescatore[1], M. J. Ford[1], J. L. Pierce[2]; [1]Department of Animal Sciences, University of Kentucky, Lexington, [2]Alltech Biotechnology Center, Nicholasville, KY |
| 1:15 PM | 288 | Effect of virginiamycin in diets with adequate or reduced dietary calcium or available phosphorus for 0 to 18 d-old broilers. T. O'Connor-Dennie*, L. L. Southern; LSU Ag Center, Department of Animal Sciences, Louisiana State University, Baton Rouge |
| 1:30 PM | 289 | Intestinal bacterial populations in broiler chickens fed on high protein diets with and without added guar gum. J.P. Dahiya*, D.C. Wilkie, A.G. Van Kessel, B. Laarveld, M.D. Drew; University of Saskatchewan, Saskatoon, SK, Canada |
| 1:45 PM | 290 | Organic acids improve phytate phosphorus utilization in chicks fed a corn-soybean meal diet. K. A. Rafacz*[1], C. M. Parsons[1], R. A. Jungk[2]; [1]University of Illinois, Urbana, [2]PMP Fermintations Products Inc., Peoria, IL |
| 2:00 PM | 291 | Phytase and 1á-OH cholecalciferol (1á-OH $D_3$) supplementation to broilers during the starting and growing/finishing phases. J.P. Driver*, G.M. Pesti, R.I. Bakalli, H.M. Edwards, Jr.; Poultry Science Department, The University of Georgia, Athens |
| 2:15 PM | 292 | Efficacy of an ***Escherichia coli*** Phytase on Growth Performance, Nutrient Utilization and Bone Characteristics in Broiler Chicks. E. M. Onyango*[1], M. R. Bedford[2], O. Adeola[1]; [1]Department of Animal Sciences, Purdue University, West Lafayette, IN, [2]Zymetrics Inc., Marlborough, Wiltshire, UK |
| 2:30 PM | 293 | Dietary Phytates Increase Endogenous Losses in Ducks and Chickens. E. M. Onyango*[1], E. K. Asem[2], J. S. Sands[3], O. Adeola[1]; [1]Department of Animal Sciences, Purdue University, West Lafayette, IN, [2]Basic Medical Sciences, Purdue University, West Lafayette, IN, [3]Danisco Animal Nutrition, Marlborough, Wiltshire, UK |

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|---|---|---|
| 2:45 PM | | Break |
| 3:15 PM | 294 | The effect of phytase on performance of broilers fed high and low phytate phosphorus diets. Megharaja Manangi*, Craig Coon; Department of Poultry Science, University of Arkansas, Fayetteville |
| 3:30 PM | 295 | Effects of various phytase concentrations in diets with low-phytate corn on broiler chick performance and metabolizable energy. Nicole J. Baker*, Amy S. Parsons, Nancy P. Buchanan, Joseph S. Moritz; West Virginia University, Morgantown |
| 3:45 PM | 296 | Performance and phosphorus excretion of chicks fed conventional or low-phytate corn-soybean meal diets without or with phytase. E. G. Xavier, G. L. Cromwell*, M. D. Lindemann; University of Kentucky, Lexington |
| 4:00 PM | 297 | Effects of dietary organic acid and phytase supplementation on performance and calcium and phosphorus utilization in laying hens. Mustafa Sari, Ahmet G. Onol, Mehmet Daskiran*, Ozcan Cengiz; Faculty of Veterinary Medicine, Adnan Menderes University, Aydin, Turkey |
| 4:15 PM | 298 | Effect of of a thermo-tolerant phytase on performance and bone ash in broilers fed variable levels of dietary nutrients. Craig W Wyatt*[1], Michael R Bedford[1], Terri Parr[2], Steve Davis[2]; [1]Zymetrics Inc., Golden Valley, MN, [2]Colorado Quality Research, Wellington, CO |
| 4:30 PM | 299 | The influence of an ***E.coli*** derived phytase on performance of turkeys fed phosphorus deficient diets. Michael R Bedford*, Craig L Wyatt; Zymetrics Inc., Golden Valley, MN |
| 4:45 PM | 300 | Efficacy of Phyzyme® XP phytase in broiler diets containing different levels of calcium and non-phytate phosphorus: performance, bone ash and mineral retention. D.R. Ledoux*[1], J.N. Broomhead[1], J.S. Sands[2]; [1]University of Missouri, Columbia, [2]Danisco Animal Nutrition, Marlborough, Wiltshire, UK |

## *PSA-Physiology*

## *Poultry Reproductive Physiology*

Chair: J. Paul Thaxton, Mississippi State University

Room: 264

| Time | Abstract # | |
|---|---|---|
| 1:00 PM | 301 | Effect of heat stress on production, reproduction hormone levels, acid-base status, and liver expression of heat shock protein-70 observed in three varieties of laying hens. Danilo J Franco*, Lyle Robeson, Mary M Beck; Animal Sciences, University of Nebraska, Lincoln |
| 1:15 PM | 302 | Melengestrol acetate (MGA) as an alternative method to induce molting in hens. J.M. Koch*[1], J.S. Moritz[1], D.C. Lay Jr.[2], M.E. Wilson[1]; [1]WVU, WV, [2]USDA-LBRU, IN |
| 1:30 PM | 303 | Incidence of bone breakage of processed White Leghorn hens monitored for skeletal integrity during the second cycle of egg laying. Helenice Mazzuco*[1,2], Patricia Y. Hester[1]; [1]Purdue University, West Lafayette, IN, [2]CNPQ, Brasilia-DF, Brazil, [3]EMBRAPA, Concordia-SC, Brazil |
| 1:45 PM | 304 | Impact of supplemental L-carnitine in broiler breeder diets on subsequent egg hatchability and progeny embryogenesis. J.P. Tanksley*[1], E.D. Peebles[1], M.T. Kidd[1], C.D. McDaniel[1], S.K. Whitmarsh[1], H.M. Parker[1], P.D. Gerard[2]; [1]Department of Poultry Science, Mississippi State University, Mississippi State, [2]Experimental Statistics Unit, Mississippi State University, Mississippi State |
| 2:00 PM | 305 | Chicken sperm motility and metabolism are altered immediately by semen dilution. H. M. Parker*, C. D. McDaniel; Mississippi State University, Mississippi State |
| 2:15 PM | 306 | Expression of the mRNA for zona pellucida proteins 1 and 3 in two genetic lines of turkey hens that differ in fertility. A. P. Benson*[1], A. J. Davis[1], B. D. Fairchild[1], V. L. Christensen[2]; [1]University of Georgia, Athens, [2]North Carolina State University, Raleigh |
| 2:30 PM | 307 | Follicular development and expression of the mRNA for the inhibin/activin subunits in two genetic lines of turkey hens that differ in total egg production. J. B. Hoffman*[1], A. P. Benson[1], A. J. Davis[1], B. D. Fairchild[1], V. L. Christensen[2]; [1]University of Georgia, Athens, [2]North Carolina State University, Raleigh |
| 2:45 PM | | Break |

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|---|---|---|
| 3:15 PM | 308 | Progesterone injections induce a polycystic ovarian follicle syndrome (PCOF) in young turkey hens . Wayne L. Bacon*, Han-Ken Liu; Department of Animal Sciences, The Ohio State University, Wooster |
| 3:30 PM | 309 | Programming of photorefractoriness: The turkey breeder hen is not like a tree sparrow. John A. Proudman*[1], Tom D. Siopes[2]; [1]USDA, ARS, Biotechnology & Germplasm Laboratory, Beltsville, MD, [2]Department of Poultry Science, North Carolina State University, Raleigh |
| 3:45 PM | 310 | Photoperiod effects on spontaneous ovarian adenocarcinoma in the domestic turkey breeder hen. Christopher B. Moore, Thomas D. Siopes*; College of Agriculture & Life Sciences, Department of Poultry Science,North Carolina State University, Raleigh |
| 4:00 PM | 311 | The distribution and change in the number of gonadotropin-releasing hormone neurons in chicks following an increase in photoperiod plus administration of sulfamethazine. Wayne J. Kuenzel*, Christopher D. Golden; University of Arkansas, Fayetteville |
| 4:15 PM | 312 | Changes in eggshell of Japanese quail during embryogenesis. Sandra Westmoreland*[1], Patricia Hester[2], Tina Halupnik[1]; [1]Department of Biology, The University of Texas at Arlington, [2]Department of Animal Science, Purdue University, West Lafayette, IN |

## *PSA-Processing and Products*

## *Microbiology & Egg Quality*

Chair: Mark Berrang, USDA-ARS

Room: 263

| Time | Abstract # | |
|---|---|---|
| 1:00 PM | 313 | Bacterial Load of the Crop of Turkeys Offered a Feed Supplement During Preslaughter Feed Withdrawal. Bruce M. Rathgeber*[1], Margaret E. MacKenzie[1], Janice L. MacIsaac[2]; [1]Nova Scotia Agricultural College, NS, Canada, [2]Atlantic Poultry Research Institute |
| 1:15 PM | 314 | Effect of a commercial inside-outside bird washer (IOBW) on ***Campylobacter***, ***Salmonella***, ***E. coli***, and aerobic plate counts (APC) of uncontaminated, contaminated, and cross-contaminated broiler carcasses. Douglas P. Smith*, Julie K. Northcutt, Michael T. Musgrove; USDA, ARS, Russell Research Center, Athens, GA |
| 1:30 PM | 315 | Effects of spray washing with various chlorine levels and water temperatures on skin color and microbiology of broiler carcasses. J. K. Northcutt*, D. P. Smith, M. T. Musgrove, K. D. Ingram, A. Hinton, Jr.; USDA, Agricultural Research Service, Russell Research Center, Athens, GA |
| 1:45 PM | 316 | Enrichment pH impact on salmonellae recovery from TSP-treated broiler carcasses. D. V. Bourassa*[1,2], R. J. Buhr[2], D. L. Fletcher[1], M. E. Berrang[2], J. A. Cason[2]; [1]University of Georgia, Athens, [2]USDA-ARS Russell Research Center, Athens, GA |
| 2:00 PM | 317 | Recovery of bacteria from broiler carcasses rinsed 0 or 24 hours after chilling. John A. Cason*, Mark E. Berrang, Doug P. Smith; USDA-ARS, Russell Research Center, Athens, GA |
| 2:15 PM | 318 | Comparison of Plate Media for Direct Enumeration of ***Campylobacter*** spp. from Carcasses Rinses. Kenneth S. Macklin*, Robert S. Miller, Omar A. Oyarzabal; Department of Poultry Science, Auburn University, Auburn, AL |
| 2:30 PM | 319 | Transfer of ***Salmonella*** and ***Campylobacter*** from stainless steel to a ready-to-eat food. Christina M Moore[1], Brian W Sheldon*[2], Lee-Ann Jaykus[1]; [1]Department of Poultry Science, North Carolina State University, Raleigh [2]Department of Food Science, North Carolina State University, Raleigh |
| 2:45 PM | | Break |
| 3:15 PM | 320 | Effect of Packaging and Electron Beam Irradiation on Poultry Safety and Quality During Extended Storage. Trina M. Preder*, Sarah J. Lewis, Adriana Velasquez, Shelly R. McKee; Auburn University, Auburn, AL |
| 3:30 PM | 321 | The relationships among measures of albumen height, pH, and whipping volume. F. G. Silversides*[1,2], K. L. Budgell[3]; [1]Pacific Agri-Food Research Centre, Agassiz, British Columbia, Canada, [2]Crops and Livestock Research Centre, [3]Nova Scotia Agricultural College |

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|---|---|---|
| 3:45 PM | 322 | National Egg Temperature Survey: 3. Transport. K. E. Anderson*[1], P. H. Patterson[2], K. W. Koelkebeck[3], M. J. Darre[4], J. B. Carey[5], D. U. Ahn[6], R. A. Ernst[7], D. R. Kuney[8], D. R. Jones[9]; [1]North Carolina State University, Raleigh, [2]Pennsylvania State University, University Park, [3]University of Illinois, Urbana, [4]University of Connecticut, Storrs, [5]Texas A&M University, College Station, [6]Iowa State University, Ames, [7]University of California, Davis, [8]University of California, Riverside, [9]USDA-ARS Athens, GA |
| 4:00 PM | 323 | Impact of Commercial Processing on the Microbiological Safety and Quality of Shell Eggs. M.T. Musgrove*[1,2], D.R. Jones[1], J.K. Northcutt[1], M. A. Harrison[2], N. A. Cox[1]; [1]USDA-ARS, [2]University of Georgia, Athens |
| 4:15 PM | 324 | Identification of ***Enterobacteriaceae*** and Related Organisms from Rinses of Eggs Collected during Processing in Commercial Shell Egg Processing Plants in the Southeastern United States. M.T. Musgrove*[1,2], D.R. Jones[1], J.K. Northcutt[1], N.A. Cox[1], M.A. Harrison[2]; [1]USDA-ARS, [2]University of Georgia, Athens |
| 4:30 PM | 325 | Specific activity and stability of ß-n-acetylglucosaminidase and lysozyme in extracted egg shell membranes as influenced by layer breed and storage variables. Gene J. Ahlborn*, Brian W. Sheldon; North Carolina State University, Raleigh |
| 4:45 PM | 326 | The effect of layer age, storage and strain of hen on egg quality during summer season under Sohag conditions. Talat El-Sheikh*; Faculty of Agriculture, South Valley University, Sohag, Egypt |

## *Ruminant Nutrition*

## *Beef – Feedstuffs*

Chair: Bret Hess, University of Wyoming

Room: 130

| Time | Abstract # | |
|---|---|---|
| 1:00 PM | 327 | Effect of pasteurization of potato slurry in corn or barley finishing diets for beef cattle. J.I. Szasz*[1], C.W. Hunt[1], O.A. Turgeon[2], P.A. Szasz[1]; [1]University of Idaho, Moscow, ID, [2]Koers-Turgeon Consulting Service, Inc., Amarillo, TX |
| 1:15 PM | 328 | Replacing corn or barley with potato processing by-product in beef finishing diets improves feed conversion efficiency and alters carcass fat distribution. J. Duynisveld*[1], E. Charmley[1], I. Mandell[2], J. Aalhus[3]; [1]Agriculture and Agri-Food Canada Nappan, NS, Canada, [2]University of Guelph, Guelph, ON, Canada, [3]Agriculture and Agri-Food Canada, Lacombe, AB, Canada |
| 1:30 PM | 329 | Corn milling byproducts and alfalfa levels in cattle finishing diets. Pablo L Loza*, Kyle J Vander Pol, Galen E Erickson, Rick A Stock, Terry J Klopfenstein; University of Nebraska, Lincoln |
| 1:45 PM | 330 | Effect of corn bran and steep inclusion in finishing diets on performance and nitrogen balance of open dirt feedlots. K. M. Sayer*, G.E. Erickson, T.J. Klopfenstein, C.N. Macken, K.J. Vander Pol; University of Nebraska, Lincoln |
| 2:00 PM | 331 | Timing of flax supplementation for finishing cattle. Elissa J. Good*, James S. Drouillard, Tim J. Kessen, Erik R. Loe, Michael J. Sulpizio, Matthew A. Greenquist, Sean P. Montgomery, Justin J. Sindt, Brandon E. Depenbusch, Kathy A. Hachmeister; Kansas State University, Manhattan |
| 2:15 PM | 332 | Effects of forage level and corn processing method in beef finishing diets containing wet corn gluten feed on finishing steer performance. Pablo L Loza*, Kyle J Vander Pol, Galen E Erickson, Rick A Stock, Terry J Klopfenstein; University of Nebraska, Lincoln |
| 2:30 PM | 333 | Using a dynamic ruminant model to understand the differences in performance of cattle fed rations based on barley and/or a potato processing-by-product. B.N. Nagorcka*[1], E. Charmley[2], J. Duynisveld[2]; [1]CSIRO Livestock Industries, Canberra, Australia, [2]Crops and Livestock Research Centre Agriculture and Agri-Food Canada |
| 2:45 PM | | Break |
| 3:15 PM | 334 | Digestion of pasture in response to fumarate in continuous culture. E.S. Kolver[1], P.W. Aspin[1], G.N. Jarvis[2], K.M. Elborough[2], J.R. Roche*[1]; [1]Dexcel Ltd., Hamilton, New Zealand, [2]ViaLactia Biosciences (NZ) Ltd., Auckland, New Zealand |

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| 3:30 PM | 335 | Effect of gossypol from cottonseed meal consumption on performance of fallow does (***Dama dama***). Steven Mapel*, Don Neuendorff, Andy Lewis, Ronald Randel; Texas A&M University Texas Agricultural Experiment Station, Overton, TX |
| 3:45 PM | 336 | Soybean hulls for finishing meat goats. M.H. Poore*, J.A. Moore, A.T. Maye; North Carolina State University, Raleigh |

## *Ruminant Nutrition*

## *Dairy - Protein & Amino Acids*

Chair: Tim Klusmeyer, Monsanto Co.

Room: 132

| Time | Abstract # | |
|---|---|---|
| 1:00 PM | 337 | Effects of parity and levels of protein on production response and n-balance in holsteins. S.A. Flis*, M.A. Wattiaux; University of Wisconsin, Madison |
| 1:15 PM | 338 | Site of digestion in dairy cows fed different sources and amounts of crude protein. I. R. Ipharraguerre*[1], J. H. Clark[1], D. E. Freeman[2]; [1]Department of Animal Sciences, University of Illinois Urbana, [2]Department of Veterinary Clinical Medicine, University of Illinois, Urbana |
| 1:30 PM | 339 | Performance of lactating dairy cows fed different sources and amounts of crude protein. I. R. Ipharraguerre*, J. H. Clark; Department of Animal Sciences, University of Illinois, Urbana |
| 1:45 PM | 340 | Effects of different protein supplements on nitrogen utilization in dairy cows. I. Lactation performance and ruminal metabolism. Andre F. Brito*[1], Glen A. Broderick[2]; [1]University of Wisconsin, Madison, [2]US Dairy Forage Research Center, Madison, WI |
| 2:00 PM | 341 | Effects of different protein supplements on nitrogen utilization in dairy cows. II. Digesta flow and bacterial protein synthesis. Andre F. Brito*[1], Glen A. Broderick[2]; [1]University of Wisconsin, Madison, [2]US Dairy Forage Research Center, Madison, WI |
| 2:15 PM | 342 | Evaluation of prediction equations for estimating urinary output of nitrogen in lactating dairy cows. T. D. Nennich*[1], J. H. Harrison[1], D. Meyer[2], W. Weiss[3], N. R. St-Pierre[4], R. L. Kincaid[5], M. Wattiaux[6], D. L. Davidson[1]; [1]Washington State University, Puyallup, [2]University of California, Davis, [3]The Ohio State University, Wooster, [4]The Ohio State University, Columbus, [5]Washington State University, Pullman, [6]University of Wisconsin, Madison |
| 2:30 PM | 343 | Meta analysis of the influence of different sources of methionine on the milk protein content of dairy cows . T Guyot[1], J.C. Robert*[2], D. Sauvant[1]; [1]INA Paris, Grignon, Paris, [2]Adisseo 42 Avenue Aristide Briand - 92160 Antony |
| 2:45 PM | | Break |
| 3:15 PM | 344 | Use of changes in plasma sulfur amino acid concentrations to compare the ability of methionine (Met) products to provide absorbable Met to lactating dairy cows fed a Met-adequate diet. Bryony J. Olley[1], Ryan S. Ordway*[1], Nancy L. Whitehouse[1], Charles G. Schwab[1]; [1]University of New Hampshire, Durham, [2]Adisseo USA, Inc., Alpharetta, GA |
| 3:30 PM | 345 | A simplified ***in vitro*** incubation medium with the potential to evaluate amino acid degradation in ruminants. Fergus L Mould*, Rebecca Morgan, Kirsty Kliem; Department of Agriculture, The University of Reading |
| 3:45 PM | 346 | Ruminal degradation of amino acids assessed using a complement ***in vitro*** technique. Fergus L Mould*, Kirsty Kliem, Rebecca Morgan; Department of Agriculture, The University of Reading |

# TUESDAY, JULY 27, 2004
## *POSTER PRESENTATIONS*

Room: Exhibit Hall 5

Presentation Time: 7:30 AM – 9:30 AM

### *Contemporary and Emerging Issues*

Abstract #

T1 Effect of inulin on the microflora of an ABT-type fermented milk during refrigerated storage. László Varga*, Beáta Gyenis, Noémi Molnár, Jeno Szigeti; Institute of Food Science, Faculty of Agricultural and Food Sciences, University of West Hungary, Mosonmagyaróvár, Hungary

T2 Evaluation of methods for detection of ***Escherichia coli*** O157:H7 in milk and occurrence of ***Escherichia coli*** O157:H7 in ex-farm raw milks in Hungary. Attila Hucker[1], Ilona Mike-Schummel[1], László Varga*[2], András Unger[1]; [1]Hungarian Dairy Research Institute, Mosonmagyaróvár, Hungary, [2]Department of Dairy Science, Institute of Food Science, Faculty of Agricultural and Food Sciences, University of West Hungary, Mosonmagyaróvár, Hungary

T3 Use of powdered microalgae to stimulate acid production and growth of ***Lactobacillus plantarum*** and ***Enterococcus faecium*** in milk. Beáta Gyenis, László Varga*, Jeno Szigeti, Noémi Molnár; Institute of Food Science, Faculty of Agricultural and Food Sciences, University of West Hungary, Mosonmagyaróvár, Hungary

T4 Do dairy producers market and manage dairy cows to improve beef quality? P.R. Tozer, G. A. Varga, D. Kniffen*, W. R. Henning; Pennsylvania State University, University Park

T5 Effect of using aqueous extracts of Neem (***Azadirachta indica*** A. Juss) seeds and leaves on oocyst count in calves. S Pietrosemoli*, R Olavez; La Universidad del Zulia, Maracaibo, Venezuela

T6 Neem's (***Azadirachta indica*** A. Juss) leaves as feeding substrate for vermicomposting earthworm (***Eisenia andrei***). J Hernández[1,2], S Pietrosemoli[1,2], R Palma[2], C Tang*[2], C Perozo[2], R Romero[2]; [1]La Universidad del Zulia, Maracaibo, Venezuela, [2]Proyecto, Venezuela

T7 Development and reproduction of ***Eisenia andrei*** using mixtures of cattle manure and Neem's (***Azadiracta indica*** A. Juss.) leaves. J Hernández[1,2], S Pietrosemoli*[1,2], C Contreras[2], R Palma[2], A Faria[1,2]; [1]La Universidad del Zulia, Maracaibo, Venezuela., [2]Proyecto, Venezuela

T8 Acquisition and persistence of a high level macrolide resistant ***Veillonella*** sp. without selection pressure. Toni Poole*, Jack McReynolds, Todd Callaway, David Nisbet; USDA, ARS, College Station, TX

T9 Predation survival in rumen protozoa enhances ***Salmonella*** virulence. Mark A Rasmussen, Sharon L Franklin*, Steve A Carlson; National Animal Disease Center, ARS, USDA, Ames, IA

T10 More than grass: Organizing the emerging grass-fed beef market. Lauren Gwin*; University of California, Berkeley

T11 Meat carcass inspection using fluorescence of dietary porphyrins. Mark A Rasmussen*[1], Thomas A Casey[1], Jacob W Petrich[2]; [1]National Animal Disease Center, ARS, USDA, Ames, IA, [2]Iowa State University, Ames

### *PSA-Nutrition*

Abstract #

T12 Consequence of meeting non-phytin phosphorus (nPP) requirements with or without feed additives on broiler performance, litter P concentration and processing losses. A. S. Dhandu*[1], R. Angel[1], W. W. Saylor[2]; [1]Department of Animal and Avian Sciences, University of Maryland, College Park, [2]Deptartment of Animal and Food Sciences, University of Delaware, Newark

T13 The use of low-phytate soybean meal to reduce phosphorus excretion from poults raised to 18 days of age. J. L. Godwin*, J. L. Grimes, A. G. Gernat, M. J. Wineland; North Carolina State University, Raleigh

T14 Phytase Activity and Phytate Hydrolysis Along the Digestive Tract of Broiler Chicks: A Comparative Study of Two Phytase Sources. E. M. Onyango*[1], M. R. Bedford[2], O. Adeola[1]; [1]Department of Animal Sciences, Purdue University, West Lafayette, IN, [2]Zymetrics Inc., Marlborough, Wiltshire, UK

T15 Requirement of Methionine of Broilers during Finishing Period. F. Liu*, Z. Niu, S. Zhai; College of Science & Technology, Northwest Sci-Tech University of Agriculture & Forestry, Yangling, China

T16 Impact of Methionine Source and Excess Choline or Betaine on Growth Performance of Broilers During the Starter Period. P.B. Pillai*[1], A.C. Fanatico[1], J.C. Townsend[1], K.W. Beers[2], J.L. Emmert[1]; [1]University of Arkansas Fayetteville, [2]Safe Foods Corporation, Rogers, AR

T17 The effect of dietary factors on induction of fatty liver-hemorrhagic syndrome and its diagnosis methods with use of serum and liver parameters in laying hens. Morteza Yousefi*[1], Mahmoud Shivazad[2], Iraj Sohrabi Haghdoost[3]; [1]Science & Research Campus, Islamic Azad University, Tehran, Iran, [2]Department of Animal and Poultry Science, University of Tehran, Karaj, Iran, [3]Department of Pathobiology, Islamic Azad University, Science & Research Campus, Tehran, Iran

T18 The effect of dietary treatments flaxseed, yeast, soy fatty acid on fatty liver-hemorrhagic syndrome in laying hens. Morteza Yousefi*[1,3], Mahmoud Shivazad[2], Iraj Sohrabi Haghdoost[3]; [1]Department of Animal and Poultry Science, Islamic Azad University of Saveh, Saveh, Iran, [2]Department of Animal and Poultry Science, University of Tehran, Karaj, Iran, [3]Department of Pathobiology, Islamic Azad University, Science & Research Campus, Tehran, Iran

T19 Efficiency of Folate Deposition in Eggs Throughout the Production Cycle of Hyline W98 and W36 Laying Hens. K. Hebert, J.D. House, and W. Guenter; Department of Animal Science, University of Manitoba, Winnipeg, MB, Canada

T20 Effects of supplemental dietary Vitamin E and selenium from two sources of egg production and vitelline membrane strength in laying hens. David Monsalve*, Glenn Froning, Mary Beck, Sheila E. Scheideler; University of Nebraska, Lincoln

T21 Performance of broilers fed diets containing 2-hydroxy-4-methythiobutanic acid at different inclusion rates. A. B. Batal[1], J. L. Emmert[2], P. B. Pillai[2], B. L. Lumpkins*[1], M. E. Blair[3]; [1]University of Georgia, Athens, [2]University of Arkansas, Fayetteville, [3]Adisseo, Alpharetta, GA

T22 The Effects of Dietary Herbal Extracts for Broiler Chickens. Michelle R Lewis*[1], S Paul Rose[1], Alexander M Mackenzie[1], Jenny Smith[2]; [1]National Institute of Poultry Husbandry, Harper Adams University College, UK, [2]Braes Feed Ingredients Limited, UK

T23 Effects of Organogermanium on Performance and Immume Response in Broilers. Zhuye Niu*, Xuan Liang, Fuzhu Liu, Ming Xie, Yongsheng Wang; College of Animal Science & Tecnology, Northwest Sci-Tech University of Agriculture & Forestry, Yangling, China

T24 Justifying Effects of Grain Particle Size on Broiler Performance and Carcass Quality. Amy S. Parsons*, Joseph S. Moritz; West Virginia University, Morgantown

T25 Effects of Pelleting Protein Concentrate Pellets on Feed Mill Throughput and Electrical Efficiency. P.M. Clark*, K.C. Behnke; Kansas State University, Manhattan

T26 Effects Of Feeding Blends Of Grains Naturally-Contaminated With Fusarium Mycotoxins On Performance And Metabolism Of Turkeys. Shankar R Chowdhury*, Trevor K Smith; University of Guelph, Guelph, ON, Canada

T27 Effect of Avizyme® 1502 on increasing protein and energy retention when feeding to Bovan White Pullets. Catalina Troche*[1], Xiaolun Sun[1], Curtis Novak[1], Janet Remus[2]; [1]Virginia Tech, Blacksburg, [2]Danisco Animal Nutrition

T28 Fermenting sludge from a broiler processing plant: Effect of different levels of cane molasses. Rebeka Sanabria León*, Suzika Pagán Riestra, Abner A. Rodríguez, Héctor Santiago, Melvin Pagán; University of Puerto Rico, Mayagüez, PR

T29 The amino acid ideal pattern for Pekin ducks during early growing period. Y. Wang*, Z. Niu, F. Liu; Northwest Sci-Tech University of Agriculture & Forestry, Yangling, China

T30 Transgenic Chickens Expressing Beta-Galactosidase Hydrolyze Lactose In The Intestine. Simone Pophal*[1,2], Paul Mozdziak[1], Suparerk Borwornpinyo[1], James Petitte[1]; [1]North Carolina State Univeristy, Raleigh, [2]Universidade Federal do Rio Grande do Sul, Porto Alegre, Brazil

## *Nonruminant Nutrition*

### *Grow/Finish - Energy & Protein*

Abstract #

T31 Advantages of formulating diets based on net energy on pig performance, carcass characteristics and production economics. Meike Rademacher*[1], Luise Hagemann[2]; [1]Degussa AG, Hanau, Germany, [2]State Office for Consumer Protection and Agriculture of Brandenburg, Teltow, Germany

T32 The effects of dietary oil inclusion and oil source on apparent digestibility, fecal volatile fatty acid concentration and manure ammonia emission. A.G.B. Leek[1], V.E. Beattie[2], O' Doherty J.V.*[1]; [1]Department of Animal Science and Production, University College Dublin, Dublin, Ireland, [2]Devenish Nutrition Ltd., Belfast, North Ireland

T33 Influence of lipid source in diets on the performance, meat quality and lipid profile for finishing pigs. Raimundo Vicente de Sousa[1], Elias Tadeu Fialho*[1], Jose Augusto Freitas Lima[1], Priscila Vieira Rosa Logato[1], Jaqueline I. Alvarez Leite[2]; [1]University Federal of Lavras - UFLA, Brazil, [2]University Federal of Minas Gerais-UFMG,BrazilL

T34 Utilization of pearl millet in substitution for corn in diets for growing pigs - metabolism assay and performance. Elias Tadeu Fialho*, Marcelo da Silveira M. Pinheiro, Jose A. Freitas Lima, Paulo Borges Rodrigues, Rilke Tadeu Fonseca de Freitas; University Federal of Lavras - UFLA, Brazil

T35 Energy, protein, and amino acid digestibility in different sources of rice bran for growing pigs. C. Kaufmann[1], W. Sauer[1], M. Cervantes*[2], M. Rademacher[3], J. He[1]; [1]University of Alberta, Edmonton, AB, Canada, [2]Universidad Autónoma de Baja California, Mexicali, México, [3]Degussa-Huls AG Hanau-Wolfgang, Germany

T36 Comparison of growing swine performance when fed diets containing cull chickpeas in substitution of soybean meal and corn. J.F. Obregon, J.M. Uriarte*, R. Barajas, H.R. Guemez; FMVZ-Universidad Autonoma de Sinaloa, Culiacan-Mazatlan, Mexico

T37 Effect of the substitution of soybean meal and corn for cull chickpeas in the diet on growth performance and carcass traits of finishing pigs. J. F. Obregon, H.R. Guemez*, F.G. Ríos, R. Barajas, J.M. Uriarte; FMVZ-Universidad Autonoma de Sinaloa, Culiacan-Mazatlan, Mexico

T38 Effect of diets formulated based on ileal lysine digestibility and alternative feeds for finishing pigs - metabolism and performance assay. Marcus Leonardo F. Silva, Elias Tadeu Fialho*, Jose A. Freitas Lima, Raimundo Vicente de Sousa, Luis David S. Murgas; University Federal of Lavras - UFLA,Brazil

T39 Energy and protein values of some Brazilian feedstuffs for pigs as determined by metabolism assay. Elias Tadeu Fialho*, Zuleide Alves S. Santos, Jose A. Freitas Lima, Rilke Tadeu De Freitas, Antonio G. Bertechini; University of Lavras-UFLA, Brazil

T40 Comparison of a diet containing food waste with a corn/soybean diet fed to swine. Julie Jones, Michael L. Westendorf*, James E. Wohlt; Rutgers, The State University of New Jersey, New Brunswick

T41 Evaluation of protein dispersibility index as an indicator for soybean meal protein quality in growing pigs: II. Feeding trial. H. S. Lee*[1], J. G. Kim[2], Y. W. Shin[2], Y. H. Park[2], K. Y. Whang[2]; [1]American Soybean Association, Seoul, Korea, [2]Korea University, Seoul, Korea

T42 Evaluation of protein dispersibility index as an indicator for soybean meal protein quality in growing pigs: I. Metabolic study. H. S. Lee*[1], Y. W. Shin[2], J. G. Kim[2], Y. H. Park[2], K. Y. Whang[2]; [1]American Soybean Association, Seoul, Korea, [2]Korea University, Seoul, Korea

T43 Effects of altering bed depth in the desolventizer/toaster used in soybean meal preparation on nutrient digestibility by ileally cannulated pigs and cecectomized roosters. Lynda Pope*, Kari Bruce, Lisa Karr-Lilienthal, Christine Grieshop, Neal Merchen, Carl Parsons, George Fahey; University of Illinois, Urbana

T44 Utilization of sunflower meal in diets of finishing pigs - performance and digestibility. Douglas de Carvalho Carellos, Jose A. freitas Lima, Elias Tadeu Fialho*, Rilke T. Fonseca Freitas, Eduardo Pinto Filgueiras; University Federal of Lavras- UFLA, Brazil

T45 Effect of dry skim milk on fecal bacterial populations and ***Salmonella*** shedding in growing-finishing swine. J. E. Wells*, J. T. Yen, D. N. Miller; USDA-ARS; U.S. Meat Animal Research Center, Clay Center, NE

T46 Metabolizable energy value of meat and bone meal for pigs. Sunday A. Adedokun*, Olayiwola Adeola; Department of Animal Sciences, Purdue University, West Lafayette, IN

## *Nonruminant Nutrition*

## *Grow/Finish - Minerals & Additives*

Abstract #

T47 Response of pigs to dietary phytase and calcium-to-phosphorus ratio. J. A. Jendza*[1], R. N. Dilger[1], M. R. Bedford[2], O. Adeola[1]; [1]Animal Sciences, Purdue University, West Lafayette, IN, [2]Zymetrics, Beckhampton, Wiltshire, UK

T48 Growth performance and meat quality changes from trace mineral manipulation of finishing pig diets. B. V. Lawrence*, D. Overend, S. A. Hansen, J. D. Hahn, J. Hedges; Hubbard Feeds Inc., Mankato, MN

T49 Performance of pigs fed grain sorghum-based diets supplemented with phytase. J. Yáñez[1], M. Cervantes*[1], M. A. Barrera[1], W. Sauer[2], N. Torrentera[1]; [1]Universidad Autónoma de Baja California, Mexicali, México, [2]University of Alberta, Edmonton, AB, Canada

T50 Paylean® did not compromise bone traits of finishing pigs fed diets formulated with phytase. C. E. Pardo*, J. N. Trower, D. K. Schneider, T. D. Crenshaw; University of Wisconsin, Madison

T51 Utilization of phytase in diets of growing pigs - ileal AA digestibility, performance and mineral excretion. Hunaldo Oliveira Silva, Elias Tadeu Fialho*, Jose A. Freitas Lima, Luis D. Solis Murgas, Rilke T. Fonseca de Freitas; University Federal of Lavras - UFLA, Brazil

T52 Use of betaine and conjugated linoleic acid as growth promotants in growing ***Iberian*** pigs. Ignacio Fernandez-Figares*[1], Manuel Lachica[1], Rosa Nieto[1], Elena Gonzalez Sanchez[2], Jose Fernando Aguilera[1]; [1]Consejo Superior De Investigaciones Cientificas, [2]Universidad de Extremadura, Spain

T53 Effects of dietary levels of tylosin on digestive and post-absorptive utilization of dietary nutrients in growing pigs. Kristjan K. Bregendahl*[1], Xiaojian X. Yang[1], Yingran Shen[1], Gordon Vessie[2], Raddy Bagg[2], Todd C. Rideout[1], Tania Archbold[1], Paul Dick[2], Ming Z. Fan[1]; [1]University of Guelph, Guelph, ON, Canada, [2]Elanco Animal Health Guelph, ON, Canada

T54 Effects of dietary antibiotics on growth performance in pigs. J. W. Hong*[1], O. S. Kwon[1], B. J. Min[1], W. B. Lee[1], K. S. Son[1], J. H. Kim[2], B. C. Park[3], I. H. Kim[1]; [1]Dankook University, Cheonan, Korea, [2]Agribrands Purina Korea, Seoul, Korea, [3]CTC Bio Inc., Seoul, Korea

T55 Effect of dietary natural herb extract (Biomate®) supplementation on growth performance, IGF-1 and carcass characteristics in growing-finishing pigs. O. S. Kwon*[1], B. J. Min[1], W. B. Lee[1], K. S. Son[1], J. H. Cho[1], J. H. Kim[2], I. H. Kim[1], J. C. Ra[3]; [1]Dankook University, Cheonan, Korea, [2]Agribrands Purina Korea, Inc., Seoul, Korea, [3]RNL Life Science Ltd., Korea

T56 Different isoflavone contents in soy-based diets are without influence on growth performance and carcass quality in pigs. Gerda Kuhn[1], Klaus Ender*[1], Ulf Hennig[1], Claudia Kalbe[1], Stephan Moors[2], Gisela H. Degen[2], Charlotte Rehfeldt[1]; [1]Research Institute for the Biology of Farm Animals, Dummerstorf, Germany, [2]University of Dortmund, Germany

T57 Effect of supplementation with natural tranquillizers in the diet of the pigs on the behavior of the animals and the technological quality of loin meat. M. Font i Furnols*, N. Panella, E. Fàbrega, A. Velarde, M.A. Oliver, J. Soler, M. Gil; Institute for Food and Agricultural Research and Technology, Monells, Spain

## *Swine Species*

Abstract #

T58 Additional heat behind farrowing sows to reduce the number of stillborn piglets. Y. Gao, H. Y. Zhang, B. Szkotnicki, R. R. Hacker*; University of Guelph, Guelph, ON, Canada

T59 Addition of heat at birth and supplementation of energy and IgG products on improving survivability in neonatal pigs. Y. Gao, H. Y. Zhang, B. Szkotnicki, R. R. Hacker*; University of Guelph, Guelph, ON, Canada

T60 Effects of stocking rate and feeder space on pig performance in a wean-to-finish system. J. M. DeDecker*[1], M. Ellis[1], B. F. Wolter[2], B. A. Peterson[1]; [1]University of Illinois, Urbana, [2]The Maschhoffs, Inc., Carlyle, IL

## *Animal Health*

Abstract #

T61 Dose-Dependent Cytokine Expression in Lipopolysaccharide Activated Bovine Alveolar Macrophages. J. A. Mills*, J. E. Campanicki, R. M. Dyer; Dept. of Animal and Food Sciences, University of Delware, Newark

T62 Cytokine and Growth Factor Expression is Regionally Distributed in Holstein Claws. J. A. Mills*, R. J. Grant, R. M. Dyer; Dept. of Animal and Food Sciences, University of Delaware, Newark

T63 Extracellular pH alters the innate immune response by enhancing phagocytosis and decreasing reactive oxygen species production. Douglas C Donovan*[1], Adrian J Reber[1], Robert Parks[1], Lane O Ely[2], David J Hurley[1]; [1]College of Veterinary Medicine, University of Georgia, Athens, [2]Department of Animal and Dairy Science, Unviersity of Georgia, Athens

T64 Elevation of tumor necrosis factor-á and á$_1$-acid glycoprotein in lambs with consolidation of lung tissue. J. A. Daniel*[1], T. H. Elsasser[2], W. Epperson[1]; [1]South Dakota State University, Brookings, [2]USDA-ARS Beltsville, MD

T65 Failure to down regulate tumor necrosis factor-a (TNF-a) responses to repeated endotoxin (LPS) challenge in subpopulations of cattle constitutes a pathophysiologically relevant marker of risk for increased morbidity to disease. T.H. Elsasser*, S. Kahl; USDA, Agricultural Research Service, Beltsville, MD

T66 Exogenous testosterone (T) modulates tumor necrosis factor-a (TNF-a) and acute phase proteins (APP) responses to repeated endotoxin (LPS) challenge in steers. S. Kahl*, T. H. Elsasser; USDA, Agricultural Research Service, Beltsville, MD

T67 Concomitant dual wavelength fluorescence evaluation of inducible nitric oxide synthase (iNOS) and cytokine responses to endotoxin (LPS) stimulation of bovine peripheral blood mononuclear cells (PBMC). Congjun Li*, Don Carbough, Stas Kahl, Ted Elsasser; Animal and Natural Resources Institute, Beltsville, MD

T68 The effects of anti-inflammatory agents on expression of cyclooxygenase-2 by bovine neutrophils. N Cunningham*, P Matterson, M Worku; North Carolina Agricultural and Technical State University, Greensboro

T69 Extracts of shitake mushrooms modulate receptors for immunoglobulins on bovine neutrophils. K. Gyenai*, M. Worku, O. Ishekhumen, P. Matterson; North Carolina Agricultural and Technical State University, Greensboro

T70 Expression of 5'-lipoxygenase on bovine blood neutrophils. T Harris*[1], M Worku[1], P Matterson[1], D Fargo[2]; [1]North Carolina Agricultural and Technical State University, Greensboro, [2]Center for BioInformatics, University of North Carolina, Chapel Hill

T71 Ergovaline transport across human gastrointestinal cells (Caco-2). Nancy W. Shappell*, David J. Smith; USDA-ARS Biosciences Research Laboratory, Fargo, ND

T72 Assessment of Tasco™ and YCWP on ergovaline toxicity in Caco-2 cells. Nancy W. Shappell*, Lloyd O. Billey; USDA-ARS Biosciences Research Laboratory, Fargo, ND

T73 Effects of an oral rehydration solution with added bovine serum proteins on small intestinal absorptive capacity. S. I. Kehoe*[1], J. D. Quigley, III[2], H. D. Tyler[1]; [1]Iowa State University, Ames, [2]American Protein Corporation, Ames, IA

T74 Effects of small intestinal absorption in calves treated with an oral rehydration solution supplemented with fat-soluble vitamins. S. I. Kehoe*[1], H. D. Tyler[1], M. L. O'Brien[2], K. J. Touchette[2], J. A. Coalson[2]; [1]Iowa State University, Ames, [2]Merrick's, Inc., Middleton, WI

T75 Effectiveness of ground endophye-infected tall fescue seed in production of fescue toxicosis in cattle. L. E. Wax*, D. E. Spiers, G. E. Rottinghaus, T. J. Evans; University of Missouri, Columbia

T76 Effect of Eprinex® on subsequent 90-day production in Virginia Holstein herds. K. L. Rossini*[1], M. L. McGilliard[1], R. H. Nutt[2]; [1]Virginia Tech, Blacksburg, [2]Valley Feed Co., Staunton, VA

T77 Frequencies of calving-related diseases of Holstein dairy cows injected with low doses of bovine somatotropin during the transition period. Marcio Liboni*, Mary J. Hayen, Mehmet S. Gulay, Tomas I. Belloso, Henry H. Head; Department of Animal Sciences, University of Florida, Gainesville

T78 The effect of Johne's disease on culling and milk production in nine Ontario dairy herds. Steven H Hendrick*[1], Todd F Duffield[1], David F Kelton[1], Ken E Leslie[1], Kerry D Lissemore[1], Marie Archambault[2]; [1]Ontario Veterinary College, University of Guelph, Guelph, ON, Canada, [2]Animal Health Laboratory, University of Guelph, Guelph, ON, Canada

T79 ***Escherichia coli*** and ***Staphylococcus aureus*** Elicit Differential Innate Immune Responses Following Intramammary Infection. Douglas Bannerman*[1], Max Paape[1], Jai-Wei Lee[2], Xin Zhao[2], Jayne Hope[3], Pascal Rainard[4]; [1]Bovine Functional Genomics Laboratory, USDA-Agricultural Research Service, Beltsville, MD , [2]Department of Animal Science, McGill University Ste-Anne-de-Bellevue, QC, Canada, [3]Institute for Animal Health, Berkshire, UK, [4]Institut National de la Recherche Agronomique, Nouzilly, France

T80 Ultrasonographic characteristics of the uterus of Holstein cows with late endometritis. Jocelyn K Haskell*[1], Douglas S Hammon[2], Gilbert R Holyoak[3]; [1]Department of Forest, Range and Wildlife, Utah State University, Logan, [2]Department of Animal, Dairy and Veterinary Sciences, Utah State University, Logan, [3]Department of Clinical Sciences, College of Veterinary Medicine, Oklahoma State University, Stillwater

T81 Antimicrobial Susceptibility Of Coagulase-Negative Staphylococci Isolated From Hands Of Urban Children, Farm Workers, and Dairy Cow Teat Skin. M. Pol*,C.M. Hulland, P.L. Ruegg; University of Wisconsin, Madison

T82 Heel erosion in dairy cattle. L. G. Baird*[1], L. C. Pinheiro Machado Filo [2], M. A. G. von Keyserlingk [1], D. M. Weary[1], K. A. Beauchemin[3]; [1]Animal Welfare Program, University of British Columbia, Vancouver, BC, Canada, [2]Universidade Federal de Santa Catarina, Brazil, [3]Agriculture and Agri-Food Canada, Lethbridge, AB, Canada

## *PSA-Pathology*

Abstract #

T83 Identification of a c-reactive protein gene in cardiomyopathic turkeys; a possible genetic marker for turkey cardiomyopathy. Alexandria E. Hauser*, Michelle M. Corley; Department of Agricultural Sciences, Tuskegee University, Tuskegee, AL

T84 Identification and analysis of an apolipoprotein- A gene in cardiomyopathic turkeys. Tarina A. Dugger*, Michelle M. Corley; Department of Agricultural Sciences, Tuskegee University, Tuskegee, AL

T85 Isolation and characterization of an anti-Salmonella phage collection for use as antibacterial agents. Elena Kozhina*, Paul Herrera, Steven Ricke; Texas A&M University, College Station

T86 Pathology of listeriosis resulting from respiratory infection of turkey poults with Listeria monocytogenes Scott A. G.R. Huff*[1], W.E. Huff[1], J.N. Beasley[2], M.G. Johnson[2], R. Nannapaneni[2], J.M. Balog[1], N.C. Rath[1]; [1]USDA/ARS/PPPSRU, Fayetteville, AR, [2]University of Arkansas, Fayetteville

T87 Aspirin and Selenium Influence on Bordetellosis in Turkey Poults. Ashley M. Tyner*, F. W. Edens, Geraldine H. Luginbuhl; College of Agriculture & Life Sciences, Dept. of Poultry Science, North Carolin State University, Raleigh

T88 Silymarin PHYTOSOME against $AFB_1$ in broilers: effects on serum biochemistry. Doriana Tedesco*[1], Sara Galletti[1], Licia Ravarotto[2], Marco Tameni[1], Stephanie Steidler[1], Paolo Morazzoni[3]; [1]Department of Veterinary Sciences and Technologies for Food Safety, Milan, Italy, [2]Istituto Zooprofilattico Sperimentale delle Venezie Via dell'Università, Legnaro, Italy, [3]Indena S.p.A., Milan, Italy

T89 Supplemental dietary 1,4-diaminobutane (putrescine) on growth and development of small intestine in broiler chicks challenge with ***E. acervulina***. Francisco A Santoyo[1], Trevor K Smith*[2], John R Barta[2]; [1]Universidad Autonoma de Nuevo Leon, Monterrey, Mexico, [2]University of Guelph, Guelph, ON, Canada

## *PSA-Immunology*

Abstract #

T90 Development of an antigen specific indirect ELISA for ***Eimeria*** using recombinant antigen EASZ240 from ***Eimeria acervulina***. Keith Ameiss*[1], Mark Jenkins[2], Harry Danforth[2], Adriana Barri[1], David Caldwell[1]; [1]Department of Poultry Science, Texas A&M University, College Station, [2]USDA/ARS, Beltsville, MD

T91 Dietary Lutein and fat interact to modify macrophage nitric oxide production in chicks hatched from carotenoid depleted eggs. R. K. Selvaraj*, K. C. Klasing; Department of Animal Sciences, University of California, Davis

T92 Construction of a naïve chicken antibody library using phage display. Daad Abi-Ghanem*[1], Suryakant D. Waghela[1,2], Luc R. Berghman[2]; [1]Department of Poultry Science,Texas A&M University, College Station, [2]Department of Veterinary Pathobiology, Texas A&M University, College Station

T93 Cellular Uptake of the Triamilide Tulathromycin By Bovine and Porcine Phagocytic Cells In Vitro. Todd W. Siegel[1], Daniel L. Earley[2], Clark D. Smothers[3], Fangshi Sun[1], Anthony P. Ricketts*[1]; [1]Pfizer Inc., Groton, CT, [2]Pfizer Inc., Terre Haute, IN, [3]Pfizer Inc., Kalamazoo, MI

T94 Valine needs for immune responses in male broilers from day 21 to 42. S. A. Thornton*[1], G. T. Pharr[1], A. Corzo[1], S. L. Branton[2], M. T. Kidd[1]; [1]Mississippi State University, Mississippi State, [2]United States Department of Agriculture

T95 Anti-rbosCD14 monoclonal antibodies (mAb) inhibits in vitro production of tumor necrosis factor-a (TNF-a) by bovine monocytes following stimulation with LPS. E. J. Sohn*[1], M. J. Paape[2], R. R. Peters[1], D. D. Bannerman[2]; [1]Department of Animal and Avian Sciences, University of Maryland, College Park, [2]Bovine Functional Genomic Laboratory, USDA-ARS, Beltsville, MD

## *Companion Animals*

Abstract #

T96 Serum and urine indice comparisons between llamas and alpacas fed three forages. M. Sharp*, C. Horey, T.F. Robinson, B.L. Roeder; Brigham Young University, Provo, UT

T97 Affect of water deprivation on plasma and urine analytes of alpacas. A. Peterson*, J.A. Anderson, T.F. Robinson, B.L. Roeder; Brigham Young University, Provo, UT

T98 Affect of water deprivation on plasma and urine analytes of llamas. J.A. Anderson*, A. Petersen, T.F. Robinson, B.L. Roeder; Brigham Young University, Provo, UT

Abstract #

T99 Differential expression of mitochondrial and extra-mitochondrial proteins in heart of low and high feed efficient broilers within a single male line. N. Tinsely*[1], M. Iqbal[1], N. R. Pumford[1], K. Lassiter[1], C. Ojano-Dirain[1], J. P. Higgins[1], W. Bottje [1], T. Wing[2], M. Cooper[2]; [1]Department of Poultry Science, University of Arkansas, Fayetteville, [2]Cobb-Vantress, Inc., Siloam Springs, AR

T100 Differential expression of mitochondrial and extra-mitochondrial proteins in lymphocytes of low and high feed efficient broilers within a single male line. K. Lassiter*[1], M. Iqbal[1], N. R. Pumford[1], C. Ojano-Dirain[1], N. Tinsley[1], W. Bottje[1], T. Wing[2], M. Cooper[2]; [1]Department of Poultry Science, University of Arkansas, Fayetteville, [2]Cobb-Vantress, Inc., Siloam Springs, AR

T101 Steady-state levels of mitochondrial phosphoproteins in broilers with and without pulmonary hypertension syndrome. Cindy R. Cisar*[1], Janice M. Balog[1], Jackson O. Lay Jr.[2], Nicholas B. Anthony[3], Ann M. Donoghue[1]; [1]Poultry Production & Product Safety, ARS, USDA, Fayetteville, AR, [2]Department of Chemistry and Biochemistry, University of Arkansas, Fayetteville, [3]Department of Poultry Science, University of Arkansas, Fayetteville

T102 Aorta pulse wave velocity is reduced by intravenous injections of L-arginine in female, but not male, white leghorn chickens. Ciro A. Ruiz-Feria*[1], Hiroko Nishimura[2]; [1]McGill University, Ste. Anne de Bellevue, QC, Canada, [2]University of Tennessee, Memphis

T103 Pulmonary and systemic hemodynamic responses to prostacyclin in broilers. R. F. Wideman*, M. E. Chapman; University of Arkansas, Fayetteville

T104 Pulmonary hypertensive responses of broilers to lipopolysaccharide: evaluation of source and dose, and impact of pre-existing pulmonary hypertension and cellulose micro-particle selection. M. E. Chapman*, W. Wang, R. F. Wideman; University of Arkansas, Fayetteville

T105 Effect of selection of sires and dams for growth or egg production on embryonic cardiac physiology. V. L. Christensen*, D. T. Ort, J. L. Grimes, M. J. Wineland; Dept. of Poultry Science, North Carolina State University, Raleigh

T106 Effect of excess dietary vitamin D supplementation as a management adjustment to reduce the effect of heat stress on three varieties of laying hens. Danilo J Franco*, Lyle Robeson, Mary M Beck; University of Nebraska, Lincoln

T107 Heat stress supresses 3ß-hydroxysteroid dehydrogenase activity differentially by strain in granulosa cells of laying hens. Hiroko Taira*, Mary M. Beck; Department of Animal Science , University of Nebraska, Lincoln

T108 Duration of follicular development increases with advancing duration of the reproductive period in broiler breeder hens. Han-Ken Liu*, Wayne L. Bacon; The Ohio State University, Wooster

T109 Bone characteristics of laying hens as a function of age, diet and strain. Jill Wardell*, Nicole Heywood, Mary M. Beck; Department of Animal Science, University of Nebraska, Lincoln

T110 Yolk-related gene transcription by estrogen in the liver of Japanese quail. Ahmed M. Hanafy[1,2], Tomohiro Sasanami[1], Makoto Mori*[1]; [1]Shizuoka University, Shizuoka, Japan, [2]United Graduate School of Agricultural Science, Gifu University, Gifu, Japan

T111 Identification of endocrine phenotypes of chicken pituitary cells expressing the vasotocin VT2 receptor subtype. Alexander Jurkevich*[1], Luc R. Berghman[2], Lawrence E. Cornett[3], Wayne J. Kuenzel[1]; [1]Department of Poultry Science, University of Arkansas, Fayetteville, [2]Poultry Science Department, Texas A&M University, College Station, [3]University of Arkansas for Medical Sciences, Little Rock

T112 Characterization and expression of the avian ghrelin gene. M. Richards*, S. Poch, J. McMurtry; USDA, ARS, Growth Biology Laboratory, Beltsville, MD

T113 The effect of dosimetric levels of dietary L-carnitine on semen traits of White Leghorns. Wei Zhai*[1], S. L. Neuman[2], C. D. McDaniel[3], M. A. Latour[1], P. Y. Hester[1]; [1]Purdue University, West Lafayette, IN, [2]Astra Zeneca, Raleigh, NC, [3]Mississippi State University, Mississippi State

T114 Time course of thyroid hormone replacement and lipogenic enzyme gene expression in broilers. R. W. Rosebrough*, B. A. Russell, S. M. Poch, M. P. Richards; Growth Biology Laboratory, ARS, USDA, Beltsville, MD

T115 Evaluation of oils and polyethylene glycol as vehicles in a nine-day chick embryo xenobiotic assay. M. E. Persia*, T. Carro, W. W. Saylor; University of Delaware, Newark

T116 Bone density measurements in broiler chickens. Alva Mitchell*[1], Roselina Angel[2]; [1]USDA-ARS, [2]University of Maryland, College Park

T117 Differentiation of chicken adipocytes in vitro. Rosana M. Morales*[1], Mary S. Mayes[2], Ted W. Huiatt[2], Colin G. Scanes[1,2]; [1]Program in Toxicology, Iowa State University, Ames, [2]Department of Animal Science, Iowa State University, Ames

T118 Enhancing enterocyte enzymatic function by prebiotic feed supplementation. V. Davila[1], A. Diaz[2], A. Lopez-Mungia[3], M.P. Castaneda[1], G.M. Nava*[1,4]; [1]CEIEPA, FMVZ-UNAM, Mexico City, Mexico [2]Departamento de Nutricion Animal, FMVZ-UNAM, Mexico City, Mexico, [3]Instituto De Biotecnologia-UNAM, Mexico,, [4]Department of Poultry Science, University of Arkansas, Fayetteville

T119 Developmental changes of plasma insulin, glucagon, IGF-I, IGF-II, thyroid hormones, and glucose concentration in chick embryo. J. Lu*[1], J.P. McMurtry[2], C.N. Coon[1]; [1]Department of Poultry Science, University of Arkansas, Fayetteville, [2]USDA-ARS Growth Biology Laboratory, USDA-ARS, Beltsville, MD

T120 Developmental changes of hepatic enzyme activities involved in methionine metabolism for chick embryo. J. Lu*, C.N. Coon; Department of Poultry Science, University of Arkansas, Fayetteville

## *Physiology and Endocrinology*

## *Nutrition, Growth and Stress*

Abstract #

T121 Effects of injecting transition cows with low doses of bovine somatotropin (bST) on milk yield, IGF-[1], glucose and hepatic gene expression of gluconeogenic enzymes. Marcio Liboni*, Mehmet S. Gulay, Lokenga Badinga, Mary J. Hayen, Tomas I. Belloso, Charles J. Wilcox, Henry H. Head; Department of Animal Sciences, University of Florida, Gainesville

T122 Effect of insulin and growth hormone administration to mature miniature Brahman cattle on circulating concentrations of metabolic hormones and metabolites. C. C. Chase, Jr.*[1], D. G. Riley[1], T. H. Elsasser[2], L. J. Spicer[3], M. C. Lucy[4], S. W. Coleman[1], T. A. Olson[5]; [1]USDA, ARS, Brooksville, FL, [2]USDA, ARS, Beltsville, MD, [3]Oklahoma State University, Stillwater, [4]University of Missouri, Columbia, [5]University of Florida, Gainesville

T123 Influence of low doses of bovine somatotropin (bST) on plasma NEFA, and ß-Hydroxybutyrate, hepatic lipid metabolism and gene expression of Holstein transition cows. Marcio Liboni*, Mary J. Hayen, Mehmet S. Gulay, Lokenga Badinga, Tomas I. Belloso, Henry H. Head; Department of Animal Sciences, University of Florida, Gainesville

T124 Muscle and liver IGF-I mRNA expression and plasma IGF-I levels in channel catfish administered rbGH over time. Brian Peterson*, Geoffrey Waldbieser, Lelania Bilodeau; USDA/ARS Catfish Genetics Research Unit, Thad Cochran National Warmwater Aquaculture Center, Stoneville, MS

T125 Cloning, expression and functional analysis of the porcine prolactin receptor. J.F. Trott, N.R. Farley, R.C. Hovey*; University of Vermont, Burlington

T126 Fluctuation of plasma ghrelin and growth hormone in fed and fasted cattle. A. E. Wertz*[1], T. J. Knight[2], A. Kreuder[2], M. Bohan[2], D.C. Beitz[2], A. Trenkle[2]; [1]South Dakota State University, Brookings, [2]Iowa State University, Ames

T127 Plasma hormones and expression of growth hormone receptor (GHR) 1A and IGF-I mRNA in hepatic tissue of feed-restricted peri-parturient dairy cows. R. P. Radcliff*[1], B. L. McCormack[1], B. A. Crooker[2], M. C. Lucy[1]; [1]University of Missouri, Columbia, [2]University of Minnesota, St. Paul

T128 Effect of naloxone, an opioid antagonist, on serum calcium concentrations immediately after parturition in multiparous Holstein cows. F. Frago[1], Amin Ahmadzadeh*[1], R. Manzo[1], M. A. McGurie[1], J. C. Dalton[2]; [1]University of Idaho, Moscow, [2]Research and Extension Center, University of Idaho, Caldwell

T129 Effects of short-term fasting on channel catfish growth and nychthemeral concentrations of plasma GH, IGF-I, and cortisol. Brian C. Small*; USDA/ARS Catfish Genetics Research Unit, Thad Cochran National Warmwater Aquaculture Center, Stoneville, MS

T130 Microarray analysis of gene expression in ovarian dominant follicles (DF) following heat stress (HS). S.J. Kolath*[1], P.M. Coussens[2], S.S. Sipkovsky[2], S.J. Wilson[1], D.E. Spiers[1], J.N. Spain[1], M.C. Lucy[1]; [1]University of Missouri, Columbia , [2]Michigan State University, East Lansing

T131 Effects of conjugated linoleic acid on culture of adipose tissue explants of growing pigs. A.A.F.B.V. José, M.A.S. Gama, D.P.D. Lanna*; LNCA-ESALQ-USP SP, Brazil

T132 Somatotropic axis components following administration of exogenous bovine somatotropin to neonatal beef calves having an IGF-I promoter polymorphism. Elizabeth F. Jones*, Kristen E. Govoni, Thomas A. Hoagland, Gary W. Kazmer, Steven A. Zinn; Department of Animal Science, University of Connecticut, Storrs

T133 Microarray analysis of hepatic gene expression from dry-off through early lactation in dairy cows fed at two intakes during the dry period. J. J. Loor*, N. A. Janovick, H. M. Dann, R. E. Everts, S. L. Rodriguez-Zas, H. A. Lewin, J. K. Drackley; University of Illinois, Urbana

T134 Mammary and hepatic gene expression analysis in peripartal dairy cows using a bovine cDNA microarray. J. J. Loor*, H. M. Dann, R. E. Everts, S. L. Rodriguez-Zas, H. A. Lewin, J. K. Drackley; University of Illinois, Urbana

T135 Adipose, mammary, and hepatic gene expression profiling in lactating dairy cows using a bovine cDNA microarray. J. J. Loor*, N. A. Janovick, R. E. Everts, S. L. Rodriguez-Zas, H. A. Lewin, J. K. Drackley; University of Illinois, Urbana

T136 Gene expression profiles in liver of dairy cows in response to feed restriction using a bovine cDNA microarray. J. J. Loor*, D. B. Carlson, R. E. Everts, S. L. Rodriguez-Zas, H. A. Lewin, J. K. Drackley; University of Illinois, Urbana

T137 Accuracy and precision of commercially available glucometers for use in dairy cattle. C.C. Williams*, A.M. Ponson, C.C. Stanley, H.G. Bateman, II, P.T. Richardel, D.T. Gantt; LSU AgCenter, Baton Rouge, LA

T138 Effects of bovine somatotropin (bST), pregnancy and a diet enriched in omega-3 fatty acids on the uterine GH/IGF system in lactating dairy cows. T.R. Bilby*[1], F. Michel[1], T. Jenkins[2], C.R. Staples[1], W.W. Thatcher[1]; [1]University of Florida, Gainesville, [2]Clemson University, Clemson, SC

T139 Unique effects of ovarian steroid hormones on parenchymal morphology in the mammary glands of swine. J.M. Scudder*, A.S. Barndollar, J.F. Trott, R.C. Hovey; University of Vermont, Burlington

T140 Effects of bovine somatotropin (bST), pregnancy and a diet enriched in omega-3 fatty acids on reproduction in lactating dairy cows. T.R. Bilby*[1], A. Sozzi[1], M. Lopez[1], F. Silvestre[1], A. Ealy[2], C.R. Staples[1], W.W. Thatcher[1]; [1]University of Florida, Gainesville, [2]The Pennsylvania State University, University Park

T141 Effects of ambient temperature and solar radiation on skin evaporative water loss in dairy cattle. B.C. Pollard*, M.E Dwyer, A.C. Fitzgerald, P.C. Gentry, D.A. Henderson, R.J. Collier; University of Arizona, Tucson

T142 Effect of Growth Hormone on the Expression of Liver-Enriched Transcription Factors in the Bovine Liver. Satyanarayana Eleswarapu*, Honglin Jiang; Department of Animal and Poultry Sciences, Virginia Tech, Blacksburg

T143 Liver expression of growth hormone receptor 1A mRNA is decreased in dairy cows but not in beef cows at parturition. Honglin Jiang*[1], Matthew C. Lucy[2], Brian A. Crooker[3], William E. Beal[1]; [1]Department of Animal and Poultry Sciences, Virginia Tech, Blacksburg, [2]Department of Animal Sciences, University of Missouri, Columbia, [3]Department of Animal Science, University of Minnesota, St. Paul

T144 A miniature condition in Brahman cattle is associated with a single nucleotide mutation within the growth hormone gene. B.L. McCormack[1], C. Agca[1], C.C. Chase, Jr.[2], T.A. Olson[3], T.H. Elsasser[4], A.C. Hammond[5], T.H. Welsh, Jr.*[6], M.C. Lucy[1]; [1]University of Missouri, Columbia, [2]USDA, ARS, Brooksville, FL, [3]University of Florida, Gainesville, [4]USDA, ARS, Beltsville, MD, [5]USDA, ARS, Athens, GA, [6]Texas A&M University, College Station

## *ASAS Growth and Development*

Abstract #

T145 Effect of gender and feeding program on productive performance and carcass quality of heavy pigs. J. Peinado*[1], M. Nieto[2], J.C. González[1], G.G. Mateos[3], P. Medel[1]; [1]Imasde Agropecuaria, Madrid, Spain, [2]Copese, Segovia, Spain, [3]Universidad Politecnica de Madrid, Madrid, Spain

T146 Effect of protein from placental bovine tissue on puberty and growth mice. F.A. Nunez[1], J.A. Garcia-Macias[1], J.A. Lopez[2], F.G. Rios*[2]; [1]Facultad de Zootecnia - Universidad Autonoma de Chihuahua, Periferico F. R. Almada Mexico, [2]FMVZ - Universidad Autonoma de Sinaloa, Culiacan - Mazatlan, Mexico

T147 Maternal undernutrition changes angiotensin type 1 and 2 receptors in ovine fetal heart. Hyung-Chul Han*[1], Kathleen J Austin[1], Stephen P Ford[1], Peter W Nathanielsz[2], Thomas R Hansen[1]; [1]University of Wyoming, Laramie, [2]New York University, New York

T148 Microarray analysis of gene expression during ovarian development in swine. Cansu Agca*[1], Kristin M. Whitworth[1], Jin-Geol Kim[1], Clifton N. Murphy[1], August Rieke[1], Gordon K. Springer[1], Lawrence J. Forrester[1], Jonathan A. Green[1], Nagappan Mathialagan[2], Randall S. Prather[1], Matthew C. Lucy[1]; [1]University of Missouri, Columbia, [2]Monsanto Company, St. Louis, MO

T149 Hormonal regulation of leptin receptor expression in primary cultures of porcine hepatocytes. Thomas J. Caperna*, Amy E. Shannon, Stephen M. Poch, Wesley M. Garrett, Mark P. Richards; USDA, Agricultural Research Service

T150 Regulation of Leptin and Leptin Receptor Expression in Porcine Subcutaneous Adipose Tissue. T.G. Ramsay*, M.P. Richards; USDA-ARS, Beltsville, MD

T151 Secreted and signaling genes and proteins in fetal and neonatal pig adipose tissue and stromal-vascular cells. G. J. Hausman*[1], S. P. Poulos [1], L. R. Richardson[1], R. Barb[1], T. Andacht[2], R. Mynatt[3], H. Pecot[3], D. Crandall[4], A. Hreha[4]; [1]USDA-ARS, Athens, GA, [2]University of Georgia, Athens, [3]Pennington Biomedical Research Center, Baton Rouge, LA, [4]Wyeth Research Labs, Philadelphia, PA

T152 IGF-I mRNA Levels in Bovine Satellite Cell Cultures: Effects of Fusion and Anabolic Steroid Treatment. E Kamanga-Sollo*, M.S. Pampusch, G. Xi, M.E. White, M.R. Hathaway, W.R. Dayton; Department of Animal Science, University of Minnesota, St. Paul

T153 Production of recombinant porcine IGF-binding protein-5 (IGFBP-5) and its effect on proliferation of porcine embryonic myoblast cultures (PEMC) and L6 cells and on differentiation of L6 cells in the presence and absence of IGF-I. M Pampusch, G Xi, E Kamanga-Sollo, M White*, M Hathaway, W Dayton; Animal Growth and Development Laboratory, Department of Animal Science, University of Minnesota, St. Paul

T154 Effect of recombinant porcine IGFBP-3 on IGF-I and Long-R3-IGF-I-stimulated proliferation and differentiation of L6 myogenic cells. G. Xi*, E. I. Kamanga-Sollo, M. S. Pampusch, M. E. White, M. R. Hathaway, W. R. Dayton; Department of Animal Science, University of Minnesota, St. Paul

T155 Molecular cloning of untranslated regions of the porcine acid-labile subunit (pALS) gene and detection of pALS gene expression in hepatic and non-hepatic tissues. C Y Lee*, E J Jin, I A Kim; RAIRC, Jinju National University, Jinju, Korea

T156 Circulating levels of growth factors are influenced by physiological status in the horse. Frances C. Buonomo*[1], Diana L. Grohs[1], Debra S. Ruffin[2], James L. Sartin[2]; [1]Monsanto Company, St. Louis, MO, [2]School of Veterinary Medicine, Auburn University, Auburn, AL

T157 Effects of Insulin, Leucine, and Glucose on Translation Rates in Primary Porcine Satellite Cells. B.A. Creamer*, J.M. Scheffler, S.J. Jones; University of Nebraska, Lincoln

T158 Development of a microarray-based ELISA for the assessment of SR-associated calcium regulatory proteins in skeletal muscle. J. S. Schulz*, S.J. Jones, M. Zeece; University of Nebraska, Lincoln

T159 Hormonal and metabolic responses to human handling in crossbred steers. Katsuji K. Uetake*[1], Toshie T. Ishiwata[1], Naoshige N. Abe[2], Yusuke Y. Eguchi[1], Toshio T. Tanaka[1]; [1]School of Veterinary Medicine, Azabu University, Sagamihara, Japan, [2]Faculty of Agriculture, Tamagawa University, Machida, Japan

T160 Skeletal development and productive performance of Italian Merino lambs as related to age. G. Maiorano*, F. Filetti, A. Ciarlariello, G. Gambacorta, A. Manchisi; University of Molise, Campobasso, Italy

T161 Regulation of myostatin (MSTN) and MyoD expression with acute inflammatory challenge in the channel catfish (Ictalurus punctatus). T. E. Weber*, D. J. Gregory, B. G. Bosworth; USDA/ARS, Stoneville, MS

T162 Expression of the anti-apoptotic gene Bcl-2 during skeletal muscle development in normal and Low Score Normal chickens. Cynthia S. Coy*, Sandra G. Velleman; The Ohio State University, Wooster

T163 Proteins were Differentially Expressed in the Plasma from High and Low Feed Efficient Broilers. N. Pumford*[1], M. Iqbal[1], W. Bottje[1], J. Lay[3], T. Wing[2], M. Cooper[2]; [1]Center of Excellence for Poultry Science, University of Arkansas, Fayetteville, [2]Cobb-Vantress, Inc., Siloam Springs, AR, [3]Statewide Mass Spectrometry Facility, University of Arkansas, Fayetteville

## *Lactation Biology*

## *Physiology*

Abstract #

T164 Effects of Low Doses of bST during Transition Period on Milk Component Percentages and Yields and Milk Production of Holstein Cows. Mehmet S. Gulay*[1], Marcio Liboni[2], Alfredo Garcia[3], M. Joyce Hayen[2], Tomas Belloso[2], Herbert H. Head[2]; [1]Department of Physiology, Akdeniz University, Burdur Veterinery Faculty, Burdur, Turkey, [2]Department of Animal Sciences, University of Florida, Gainesville, [3]Facultad de Veterinaria, Universidad del Zulia, Maracaibo, Venezuela

T165 Response of milk yield and reproduction to bovine somatotropin (bST) in low and high producing Holstein cows. S. A. Mosley*[1], M. A. McGuire[1], W. Stouder[2], M. F. McGrath[3], J. L. Vicini[3], S. C. Denham[3]; [1]University of Idaho, Moscow, [2]Stouder Holsteins, Wendell, ID, [3]Monsanto Co., Chesterfield, MO

T166 Lactation persistence is enhanced in transgenic mice overexpressing des(1-3)hIGF-I in the mammary gland. Darryl L. Hadsell*[1,2], Daniel T. Torrres[1,2], Jessy George[1,2], Gregory S. Shelton[1,2], Marta L. Fiorotto[1,2]; [1]USDA/ARS Childrens Nutrition Research Center, Houston TX, [2]Baylor College of Medicine, Houston TX

T167 IGF-I and TGF-a activate different upstream signaling molecules in bovine mammary epithelial cells. Kelly A. Hogan[2], Usha Sivaprasad[1], Gwenaelle Desury*[1], Wendie S. Cohick[1]; [1]Department of Animal Sciences, Rutgers,The State University of New Jersey, New Brunswick, [2]Rutgers, The State University of New Jersey and The University of Medicine and Dentistry of New Jersey, Joint Graduate Program in Toxicology, Piscataway

T168 Expression of prolactin receptor, STAT5a, STAT5b and whey acidic protein in mammary tissue of lactating Large White and 50% Meishan sows. M.F. Palin, C. Farmer*; Agriculture and Agri-Food Canada, Dairy and Swine R & D Centre, Lennoxville, QC, Canada

T169 Expression of prolactin receptor (PRL-R) mRNA in somatic cells of bovine milk. K. J. Hohmann*, T. L. Auchtung, G. E. Dahl; University of Illinois, Urbana

T170 Mammary cytokine gene expression during lactation. Colin G Prosser*, Craig S Smith, Alison J Hodgkinson, Vicki C Farr, Elizabeth A Carpenter; AgResearch, Hamilton, New Zealand

T171 Effect of stage of lactation and parity on mammary gland gene expression. Nancy Miller*[1], Louis Delbecchi[2], Denis Petitclerc[2], Brian G. Talbot[1], Pierre Lacasse[2]; [1]Université de Sherbrooke, QC, Canada, [2]Dairy and Swine R&D Centre, Lennoxville, QC, Canada

T172 Long days do not alter mammary growth in prepubertal heifers. E.E. Connor*[1], A.G. Rius[2], T.L. Auchtung[2], D.L. Wood[1], P.E. Kendall[2], G.E. Dahl[2], A.V. Capuco[1]; [1]USDA-ARS, Bovine Functional Genomics Laboratory Beltsville, MD USA, [2]Department of Animal Sciences, University of Illinois, Urbana

T173 Short term effects of different milking intervals on cisternal and alveolar milk in dairy sheep. V. Castillo*, X. Such, G. Caja, E. Albanell, R. Casals; Universitat Autonoma de Barcelona, Bellaterra, Spain

T174 The use of $^{13}C$ labeled fatty acids to study milk fat synthesis in dairy cows. Erin E Mosley*, Mark A McGuire; University of Idaho, Moscow

T175 Duration of starvation required to decrease milk production in the high-producing dairy cow. C.A. Toerien*, J.P. Cant; University of Guelph, Guelph, ON, Canada

T176 Lactational response to annual or biannual kidding in dairy goats. A.A.K. Salama*, G. Caja, X. Such, R. Casals, E. Albanell; Universitat Autònoma de Barcelona, Bellaterra, Spain

## *Ruminant Nutrition*

Abstract #

T177 Feed intake, nutrient digestibility and nitrogen retention in beef steers fed a total mixed ration supplemented with monensin or different doses of essential oils. Benchaar Chaouki*[1,2], Charmley Ed[3], Duynisveld John[3]; [1]Dairy and Swine R&D Centre, Agriculture and Agri-Food Canada, Lennoxville, QC, Canada, [2]Nova Scotia Agricultural College, Truro, NS, Canada, [3]Crop and Livestock Research Centre, Agriculture and Agri-Food Canada Nappan, NS, Canada

T178 Effects of phase feeding of protein on performance, blood urea N, manure N:P ratio, and carcass characteristics of feedlot cattle. J. T. Vasconcelos*[1], L. W. Greene[1], N. A. Cole[2], F. T. McCollum, III[1]; [1]Agricultural Research and Extension Center, Texas A&M University, Amarillo, [2]USDA-ARS, Bushland, TX

T179 Influence of Sodium Caseinte Infusion on Voluntary Feed Intake and Digestive Function in Steer Calves Fed a Sudangrass-Based Growing Diet. E. G. Alvarez*[1], R. A. Zinn[2]; [1]Universidad Autonoma de Baja California, Mexicali, Mexico, [2]University of California, Davis

T180 Ruminal ammonia load improves nitrogen retention of growing steers when leucine is limiting. M. S. Awawdeh*, E. C. Titgemeyer, K. C. McCuistion, D. P. Gnad; Kansas State University, Manhattan

T181 Effect of fall protein supplementation with a self-fed liquid supplement on performance of beef cows grazing tallgrass-prairie range. D. A. Llewellyn*[1], B. T. Gray[1], T. T. Marston[1], C. A. Bandyk[2]; [1]Kansas State University, Manhattan, [2]Quality Liquid Feeds, Inc., Dodgeville, WI

T182 Amino acids degradation of rumen incubated feeds. Marcelo Q. Manella[1,2], Celso Boin[2], Guilherme F. Alleoni[1], João J. A. A. Demarchi[1], Luis O. Tedeschi*[3]; [1]Instituto de Zootecnia Heitor, Nova Odessa, Brazil, [2]Esalq-Usp Av. Pádua Dias, Piracicaba, Brazil., [3]Cornell University, Ithaca, NY

T183 Feedlot cattle responses to reduced levels of degradable protein. Jeffrey W. Lehmkuhler*, Steve C. Arp, Daniel M. Schaefer; Department of Animal Sciences, University of Wisconsin, Madison

T184 Responses of serum glucose, insulin, glucagon, and fatty acids to ruminal propionate and abomasal carbohydrates in Korean cattle. S. C. Lee[1], J. S. Eun[2], Y. K. Kim[3], J. P. Cant[4], Y. H. Moon*[5]; [1]National Livestock Research Institute, Suwon, Kyonggi, Korea, [2]Samyang Feed Company, Suwon, Kyonggi, Korea, [3]Chungnam National University, Taejon, Chung Nam, Korea, [4]University of Guelph, Guelph, ON, Canada, [5]RAIRC, Jinju National University, Jinju, Gyeong Nam, Korea

T185 Hepatic mitochondrial efficiency of Angus and Wagyu heifers. J.J. Michal[1], J.J. Ramsey[2], K.A. Ross[1], D.E. Johnson[3], K.A. Johnson*[1]; [1]Washington State University, Pullman, [2]University of California, Davis, [3]Colorado State University, Fort Collins

T186 Barley- versus protein supplemented corn-based diets for feedlot cattle evaluated using the NRC and CNCPS beef models. K. A. Beauchemin, K. M. Koenig*; Agriculture and Agri-Food Canada, Research Centre, Lethbridge, AB Canada

T187 Ruminal mucosa and epidermis morphology of calves infused with lactate, propionate or butyrate. Suely F. Costa, Marcos N. Pereira*, Leandra Q. Melo, Leonardo A.L. Muzzi, Márcio L. Chaves; Universidade Federal de Lavras, Lavras, Brazil

T188 Evaluation of quality, quantity and timing of colostrum feeding on immunoglobulin G1 absorption in jersey calves. E. C. Johnson, D. K. Kendall, E. H. Jaster*; California Polytechnic State University, San Luis Obispo

T189 Effect of time of milk replacer delivery on feed intake of calves during weaning. S. I. Kehoe*, M. L. Moody, A. J. Heinrichs; Pennsylvania State University, University Park

T190 Effects of dietary protein level and fish meal on growth and hormonal status of weaned dairy calves. P.T. Richardel*, C.C. Williams, H.G. Bateman, II, C.F. Hutchison, C.C. Stanley, Y.H. Chung, T.W. White, L.R. Gentry, D.L. Thompson, Jr., D.T. Gantt; LSU AgCenter, Baton Rouge, LA

T191 Components of growth in Holstein heifers reared from early life on two levels of energy intake. M.J. Meyer*, D.A. Ross, D.E. Shaw, M.E. Van Amburgh; Cornell University, Ithaca, NY

T192 Urinary phosphorus and allantoin as parameters for rumen development in veal calves. A. M. van Vuuren*, N. Stockhofe, W.J.J. Gerrits, B.J. Suarez, C.G. van Reenen; Animal Sciences Group, Wageningen, Lelystad, The Netherlands

T193 Relationship of serum metabolites and insulin to beef marbling score in Korean cattle. J. S. Eun[1], S. C. Lee[2], Y. K. Kim[3], Y. H. Moon*[4]; [1]Samyang Feed Company Suwon, Kyonggi, Korea, [2]National Livestock Research Institute, Suwon, Kyonggi, Korea, [3]Chungnam National University, Taejon, Chung Nam, Korea, [4]RAIRC, Jinju National University, Jinju, Korea

T194 Using A DNA marbling marker, expected progeny differences, ultrasound, and live evaluation to predict carcasss composition of early-weaned Simmental steers. C.B. Rincker*, N.A. Pyatt, L.L. Berger, D.B. Faulkner; University of Illinois, Urbana

T195 Fermentation characteristics and fatty acid biohydrogenation in continuous cultures of mixed ruminal microorganisms fed diets containing poultry products and nutrients reclaimed from the process water of processing plants. Thomas C. Jenkins*[1], Charles J. Sniffen[2]; [1]Clemson University, Clemson, SC, [2]Holderness, NH

T196 Effects of amino nitrogen on fermentation parameters by mixed ruminal microbes in batch and semi-continuous cultures when energy or nitrogen was limiting. H. Kajikawa*[1], A. Kawamura[2], K. Tajima[1], M. Mitsumori[1], A. Takenaka[1]; [1]National Institute of Livestock and Grassland Science, Tsukuba, Ibaraki, Japan, [2]Tsukuba University, Tsukuba, Ibaraki, Japan

T197 Rumen microbial degradation of amino acids from fish meal and blood meal in continuous culture. Silvia Gargallo, Sergio Calsamiglia*, Alfred Ferret; Universitat Autonoma de Barcelona, Bellaterra, Spain

T198 Effects of time at suboptimal pH on rumen bacterial fermentation in a dual flow continuous culture system. Montserrat Cerrato, Sergio Calsamiglia*, Alfred Ferret; Universitat Autonoma de Barcelona, Bellaterra, Spain

T199 Effect of particle size on adhesion of Ruminococcus albus and Ruminococcus flavefaciens to plant cell walls in vitro. Qingxiang Meng*, Wei Gao; China Agricultural University, Beijing, China

T200 Effects of a blend of essential oils and the type of diet on rumen microbial fermentation and nutrient flow from a continuous culture system. Lorena Castillejos[1], Sergio Calsamiglia*[1], Alfred Ferret[1], Riccardo Losa[2]; [1]Universitat Autonoma de Barcelona, Bellaterra, Spain, [2]AKZONOBEL/CRINA SA, Gland, Switzerland

T201 Effects of different doses of plant extracts on rumen microbial fermentation. Marta Busquet[1], Sergio Calsamiglia*[1], Alfred Ferret[1], Christopher Kamel[2]; [1]Universitat Autonoma de Barcelona, Bellaterra, Spain, [2]University of Leeds, UK

T202 Ionized calcium requirements of cellulolytic ruminal bacteria for growth and cellulose degradation. Maria Sol Morales*, Burk A. Dehority; OARDC, The Ohio State University, Wooster

T203 Empirical relationships between ruminal pH and volatile fatty acid concentrations. Maria Devant[1], Alex Bach*[1,2], José Antonio García[3]; [1]IRTA-Unitat de Remugants, Barcelona, Spain, [2]ICREA, Barcelona, Spain, [3]IRTA-Unitat de Química Alimentària, Girona, Spain

T204 An empirical analysis of ruminal microbial efficiency. Emilio Ungerfeld*, Steven Rust; Michigan State University, East Lansing

T205 ***In Vitro*** Synthesis of Isopropanol from Acetone by Mixed Rumen Microbes. Lauraine H. Rivier*, Michael L. Bruss; University of California, Davis

T206 Site of digestion in dairy cows fed different soy-protein supplements. I. R. Ipharraguerre*[1], J. H. Clark[1], D. E. Freeman[2]; [1]Department of Animal Sciences, University of Illinois, Urbana, [2]Department of Veterinary Clinical Medicine, University of Illinois, Urbana

T207 Utilization of the mobile bag technique to determine intestinal digestibility of feedstuffs. S. K. Ivan*, H. L. Haugen, T. J. Klopfenstein; University of Nebraska, Lincoln

T208 Effects of dietary sodium bicarbonate on ruminal and total tract digestibility of diet and diet components in dairy cows. C. S. Mooney*, M. S. Allen; Michigan State University, East Lansing

T209 Ruminal Characteristics and Rate, Site, and Extent of Digestion of Dairy Diets Supplemented with Canola Fed to Holstein Steers. S. E. Bedgar*[1], J. W. Schroeder[1], M. W. Chichlowski[2], M. L. Bauer[1], S. A. Soto-Navarro[1]; [1]North Dakota State University, Fargo , [2]North Carolina State University, Raleigh

T210 Effect of a saponin-based surfactant on the processing characteristics and in vitro ruminal fermentation of barley grain. Yuxi Wang*, Tim A. McAllister; Agriculture and Agri-Food Canada Research Centre, Lethbridge, AB, Canada

T211 Development of an in vitro technique to determine intestinal digestion of protein supplements by a Daisy II incubator. Silvia Gargallo, Sergio Calsamiglia*, Alfred Ferret; Universitat Autonoma de Barcelona, Bellaterra, Spain

T212 The in vitro digestibility, gas production and fermentation characteristics of ***Mucuna pruiriens***, and soybean meal treated with or without L-Dopa. A.T. Adesogan*, S.K. Chikagwa-Malunga, M.B. Salawu, S.C. Kim; Department of Animal Sciences, University of Florida, Gainesville

T213 Estimated Dry Matter, Crude Protein and Neutral Detergent Fiber Degradation of Some Feeds by In Situ Technique. Luciano Cabral*[1], Sebastião Valadares Filho[2], Joanis Zervoudakis[1], Alexandre Souza[1], Edenio Detmann[3]; [1]Universidade Federal de Mato Grosso Av. Fernando Corrêa da Costa, DZER-FAMEV/UFMT, Cuiabá-MT, Brazil, [2]Universidade Federal de Viçosa Av. P.H. Rolphs, Viçosa - MG, Brazil, [3]Universidade Estadual do Norte Fluminense CCTA, Campos Dos Goytacazes, Brazil

T214 Effect of freeze drying versus oven drying on dry matter and starch digestibility of corn mutants with Oh43 inbred line background harvested at four growth stages. D. Ngonyamo-Majee[1], R. D. Shaver[1], D. Sapienza*[2], J. G. Coors [3], J. G. Lauer[3], C. Venhaus [2]; [1]Dairy Science Dept., University of Wisconsin, Madison, [2]Pioneer Hi-Bred Int'l Inc. Johnston, IA, [3]Agronomy Dept., University of Wisconsin, Madison

T215 Effect of kernel vitreousness on ruminal and total tract dry matter digestibility of diverse corn germplasm sources. D. Ngonyamo-Majee [1], R. D. Shaver*[1], J. G. Coors[2], D. Sapienza[3], J. G. Lauer[2], C. Venhaus [3]; [1]Dairy Science Dept., University of Wisconsin, Madison, [2]Agronomy Dept., University of Wisconsin, Madison, [3]Pioneer Hi-Bred Int'l Inc., Johnston, IA

T216 Fines in steam-flaked corn samples disrupt the relationship between flake density and gelatinized starch content. D.R. Brown*[1], M.K. Meilahn[2]; [1]Agland, Inc., Eaton, CO, [2]Weld Laboratories, Inc., Greeley, CO

T217 Effect of dietary forage source and crude protein level on in vitro microbial protein synthesis and ruminal fermentation. J. J. Olmos Colmenero*[1], Glen A. Broderick[2]; [1]University of Wisconsin, Madison, [2]U.S. Dairy Forage Research Center, Madison, WI

T218 Forage mixtures to increase N-use efficiency by lactating dairy cows. RJ Dewhurst*, LJ Harris, RT Evans; Institute of Grassland and Environmental Research, Aberystwyth, UK

T219 Impact of rumen protected lysine and methionine sources on yield of milk and milk components: a statistical survey of published literature. Lyle M. Rode*[1], Mercedes Vazquez-Anon[2]; [1]Sage Biosciences Inc., Lethbridge, AB, Canada, [2]Novus International, Inc., Saint Charles, MO

T220 Effects of DL-Methionine and Lysine HCl on fermentation In Vitro. T. W. Braud*, H. G. Bateman, II, C. C. Williams, D. T. Gantt; LSU AgCenter, Baton Rouge, LA

T221 Determination of undegradability and ruminal effects of HMB, HMBI, and DL-MET in lactating cows. S. Noftsger*, N. R. St-Pierre, J. L. Firkins; The Ohio State University, Columbus

T222 Intravenous histidine infusion affects milk composition in lactating dairy cows. Y. H. Moon*[2], P. H. Luimes[1], L. E. Wright[3], C. A. Toerien[1], J. P. Cant[1]; [1]University of Guelph, Guelph, ON, Canada, [2]RAIRC, Jinju National University, Jinju, Korea, [3]Elora Dairy Research Centre, Ariss, ON, Canada

T223 Use of Milk Ammonia Nitrogen as an Indicator of Rumen Protein Degradation in Dairy Cows. A. B. Peterson*, R. A. Kohn; Department of Animal and Avian Sciences, University of Maryland, College Park

T224 Ruminal degradability and intestinal digestibility of treated soybean meal products. Sylvia I. Borucki Castro*[1], Helene Lapierre[2], Leroy E. Phillip[1], Phillip W. Jardon[3], Robert Berthiaume[2]; [1]Animal Science, McGill University, Ste-Anne-de-Bellevue, QC, Canada, [2]Dairy and Swine Research and Development Centre - Agriculture and Agri-Food Canada, Lennoxville, QC, Canada, [3]West Central Soy, Ralston, IA

T225 Effects of ruminally-protected L-carnitine intake on plasma L-carnitine, glucose, urea, and ammonia in sheep undergoing an ammonia challenge. Dillon K. Walker*[1], Barry D. Lambert[1,2], Harold B. Rathburn[3], Jason C. Woodworth[4]; [1]Department of Animal Science, Tarleton State University, Stephenville, TX, [2]Texas Agriculture Experiment Station, Stephenville, TX, [3]Department of Biology, Tarleton State University, Stephenville, TX, [4]Lonza Inc., Fairlawn, NJ

T226 Influence of slow-release urea on nitrogen flux in steers. C. C. Taylor*[1], S. E. Kitts[1], N. B. Kristensen[1], K. R. McLeod[1], D. E. Axe[2], D. L. Harmon[1]; [1]University of Kentucky, Lexington, [2]IMC Feed Ingredients, Lake Forrest, IL

T227 Utilization of ammonia-N by ruminal epithelial and duodenal mucosal cells isolated from growing sheep. M. Oba*[1], R. L. Baldwin, VI[2], S. L. Owens[1], B. J. Bequette[1]; [1]Department of Animal and Avian Sciences, University of Maryland, College Park, [2]Bovine Functional Genomics Laboratory, Animal and Natural Resources Institute, USDA-ARS, Beltsville, MD

T228 An improved analytical method for the determination of urea recycling parameters. Juan C Marini*; University of Illinois, Urbana

T229 Use of Synchrotron-Based FTIR Microspectroscopy to Reveal Chemical Features of Feather Protein Secondary Structure and Its. Relation to Protein Value. P. Yu*[1], J. J. McKinnon[1], C. R. Christensen[2,3], D. A. Christensen[1]; [1]College of Agriculture, University of Saskatchewan , Saskatoon, SK, Canada, [2]Canadian Light Source, Saskatoon, SK, Canada, [3]Western College of Veterinary Medicine, University of Saskatchewan, Saskatoon, SK, Canada

T230 Basolateral transport of neutral amino acids in enterocytes is mediated via Systems A, ASC, L, asc, and $y^{+L}$. Joanne Knapp*; University of Vermont, Burlington

T231 Investigation of the site of absorption and metabolism of HMBi and HMB in sheep. P. Noziere[1], C. Richard[2], B. Graulet[2], D. Durand[1], D. Remond[1], J.C. Robert*[2]; [1]INRA URH, Clermont-Ferrand Theix, France, [2]ADISSEO France, Briand, Antony, France

T232 Relationship between body weight, loin ***Longissimus dorsi*** and backfat measurements, and body condition score in dry and lactating Holstein-Friesian dairy cows. G. Jaurena, J. M. Moorby*, W. J. Fisher, D. W. R. Davies; Institute of Grassland and Environmental Research, Aberystwyth, UK

T233 Predicting Feed Protein Flow to the Duodenum of Lactating Dairy Cows. H. G. Bateman, II*[1], J. H. Clark[2], M. R. Murphy[2]; [1]LSU AgCenter, Baton Rouge, LA, [2]University of Illinois, Urbana

T234 Prepro-ghrelin mRNA in the digestive tract of undernourished pregnant ewes. Hyung-Chul Han*, Kathleen J Austin, Bret W Hess, Stephen P Ford, Thomas R Hansen; Department of Animal Science, University of Wyoming, Laramie

T235 Effects of forage proportion in the diet on digestibility and portal nutrient flux in sheep fed to maintenance level. G. F. Mouro, A. F. Branco*, S. M. Coneglian, T. F. Minella, L. P. Rigolon, L. M. Zeoula, F. J. Maia; Universidade Estadual de Maringa, Parana, Brasil

T236 Effects of carbohydrate source and monensin in high oil diets on nitrogen balance, digestibility and portal nutrient flux in sheep. G. F. Mouro, A. F. Branco*, F. J. Maia, T. F. Minella, L. M. Zeoula, S. M. Coneglian; Universidade Estadual de Maringa, Parana, Brasil

T237 Two techniques to determine the ruminal clearance rate of volatile fatty acids. João C. Resende Júnior[1], Marcos N. Pereira*[1], Huug Boer[2], Seerp Tamminga[2]; [1]Universidade Federal de Lavras, Lavras, Brazil, [2]Wageningen Universiteit Wageningen, The Netherlands

T238 Prediction of milking cows performance and use of the equations for estimating nutritional requirements in Brazil. R.P. Lana*[1,2], J.A. Freitas[1], A.C. Queiroz[1,2]; [1]Universidade Federal de Viçosa, Viçosa, MG, Brazil, [2]CNPq Brasília, DF, Brazil

T239 Efficiency of use of concentrate ration on weight gain and milk production by cattle under tropical pasture and intensive conditions in Brazil. R.P. Lana*[1,2]; [1]Universidade Federal de Viçosa, Viçosa, MG, Brazil, [2]CNPq Brasília, DF, Brazil

T240 Ruminal parameters and plasma metabolites of Holstein dairy cows fed processed cottonseed. A.R Foroughi*, A. A. Naserian, R. Valizadeh, M. Danesh Mesgaran; Ferdowsi University of Mashhad, Iran

T241 NutriDense® corn grain and corn silage for dairy cows. Brandon C. Benefield*, Ignacio R. Ipharraguerre, Maximo Liñeiro, Jimmy H. Clark; University of Illinois, Urbana

T242 Effect of level of dietary crude protein on ruminal digestion and bacterial NAN flow in lactating dairy cows. J. J. Olmos Colmenero*[1], Glen A. Broderick[2]; [1]University of Wisconsin, Madison, [2]U.S. Dairy Forage Research Center, Madison, WI

T243 Effect of species and breed within species on forage intake and growth in hair sheep lambs and meat goat kids offered alfalfa and grass hay diets with a corn-based supplement. Stephan Wildeus[1], Kenneth E. Turner*[2], Joni R. Collins[1]; [1]Virginia State University, Petersburg, [2]USDA, ARS, AFSRC, Beaver, WV

T244 Productive performance of Holstein cows in early and very early lactations when injected with bovine somatotropin. M.A Tarazon*[1], J.T. Huber[2], A. C. Calderon[3], H.G. Garcia[3]; [1]Universidad de Sonora, Sonora, México, [2]University of Arizona, Tucson, [3]Universidad Autónoma de Baja California, Mexicali, Mexico

T245 Effect of type of concentrate on milk production and composition of dairy cows. R.G. Pulido*[1], P. Aguilera[1], R. Daetz[1], F. Wittwer[1], P. Orellana[2]; [1]Fac. Cs. Veterinarias, Unversidad Austral de Chile, Valdivia, Chile, [2]Dept. Nutrición, F. Med. Veterinaria, Universidad de Concepción

## *Sheep Species*

Abstract #

T246 Effect of substitution of alfalfa hay with sun dried pig excreta on performance of sheep feed growing diets. A. Estrada-Angulo*, C.H. Ramos, R. Barajas, J.F. Obregon; FMVZ-Universidad Autonoma de Sinaloa, Culiacán-Mazatlan, Mexico

T247 Effect of substitution of sorghum grain for escobero sorghum grain (sorghum bicolor, var. Technicum, Jav.) on apparent digestibility of diets for sheep. A. Estrada-Angulo*, R. Barajas, J.F. Obregon, R.E. Lopez, J.C. Robles; FMVZ-Universidad Autonoma de Sinaloa, Culiacan-Mazatlan, Mexico

T248 Effect of substitution of sorghum grain with escobero sorghum grain (Sorghum bicolor, var. Technicum, Jav.) on growth performance of finishing sheep. A. Estrada-Angulo*, R. Barajas, J.F. Obregon, F.J. Gallardo; FMVZ-Universiddad Autonoma de Sinaloa, Culiacan-Mazatlan, Mexico

T249 Effect of substitution of alfalfa hay with Clitoria hay (Clitoria ternatea L.) on performance of sheep feed finishing diets. A. Estrada-Angulo*, A.B. Perez-Fernandez, J.F. Obregon, R. Barajas, E.A. Velazquez; FMVZ-Universidad Autonoma de Sinaloa, Culiacan-Mazatlan, Mexico

T250 Effect of supplementation of meat meals from different non ruminant species on growth performance response in finishing sheep. A.B. Perez-Fernandez, A. Estrada-Angulo*, R. Barajas, J. F. Obregón; FMVZ-Universidad Autónoma de Sinaloa, Culiacan-Mazatlan, Mexico

T251 Comparative effect of tallow and dark poultry fat on apparent digestibility of diets for sheep. A. Estrada-Angulo*, J.C. Robles, J.F. Obregon, R. Barajas; FMVZ-Universidad Autonoma de Sinaloa , Culiacan-Mazatlan, Mexico

T252 Digestibility of fermented bagasse fed to Suffolk ewes. Rajeev R. Pradhan*[1], Etsuko E. Shirakabe[1], Takamasa T. Nishioka[1], Keshab K. Batajoo[2]; [1]School of Agriculture, Kyushu Tokai University, Kumamoto, Japan, [2]Chubu Feed Co. Ltd., Nagoya, Japan

T253 Chemical diet composition and metabolizable protein intake by grazing sheep. A.S. Juarez-Reyes*, J. Arzola-Nevarez, G. Nevarez-Carrasco, R. Montoya-Escalante, M.A. Cerrillo-Soto; Universidad Juarez del Estado de Durango, Mexico

T254 Effect of chromium methionine supplementation on growth performance and carcass traits of hair sheep. F. Juarez*, R. Barajas, M.A. Espino, J.F. Obregon, F.G. Ríos; FMVZ-Universidad Autonoma de Sinaloa, Culiacan-Mazatlan, Mexico

T255 Effect of chromium methionine supplementation on serum concentration of triglycerides and cholesterol of fattening sheep. F. Juarez*, M.A. Espino, R. Barajas; FMVZ-Universidad Autonoma de Sinaloa, Culiacán-Mazatlan, Mexico

T256 Effect of substitution of canola meal with overcooked sesame meal on growth performance of hair sheep. J.F. Obregon*, A. Estrada-Angulo, R. Barajas; FMVZ-Universidad Autónoma de Sinaloa, Culiacan-Mazatlan, Mexico

T257 Ruminal degradation of dry matter of raw cull chop suey beans (Vigna radiata L., Wilzeck) in sheep. J.F. Obregon*, J.C. Robles, R. Barajas, A. Estrada-Angulo, M. Valdez; FMVZ-Universidad Autonoma de Sinaloa, Culiacan-Mazatlan, Mexico

T258 Ruminant degradation of dry matter of overcooked sesame meal using nylon bag technique in sheep. J.F. Obregon*, H. Castro, R. Barajas, A. Estrada-Angulo, G. Telles, Y. Peraza; FMVZ-Universidad Autonoma de Sinaloa, Culiacan-Mazatlan, Mexico

T259 Genetic resistance to ***Eimeria*** infections in Merinoland sheep and relationships among oocyst count, ***E. ovinoidalis*** antibody level and live weight. Matthias Gauly*[1], Jörg Reeg[2], Christian Bauer[3], Horst Brandt[2], Christina Mertens[4], Horst Zahner[3], Georg Erhardt[2]; [1]Institute of Animal Breeding and Genetics, University of Göttingen, Göttingen, Germany, [2]Department of Animal Breeding and Genetics, University of Giessen, Giessen, Germany, [3]Institute of Parasitology, University of Giessen, Giessen, Germany, [4]Intervet Innovation GmbH Zur Propstei, Schwabenheim, Germany

T260 Phenotypic correlations between body measurements and production performance of six sheep breeds at north-central México: exploratory trial. MA Gallegos-Acevedo, N Nieves-Herrera, CF Arechiga, JI Aguilera, MA Castillo-Pecina, MA Lopez-Carlos*; Universidad Autonoma de Zacatecas, Zacatecas, Mexico.

T261 Effect of breed type, finishing treatment, and dietary supplements on carcass characteristics and tenderness in hair sheep. Michael Fisher[1], Susan Duckett*[1], Stephan Wildeus[2]; [1]The University of Georgia Athens, GA, [2]Virginia State University, Petersburg

T262 Characterizing exfoliative vaginal cytology (ECV) in ewes from 60 d of age through parturition. G Solis, JI Aguilera, RM Rincon, R Bañuelos, CF Arechiga*; Universidad Autonoma de Zacatecas, Zacatecas, Mexico.

T263 Sexual behavior and interaction of hair rams as an auxiliary aid for estrus detection in bovine females. CF Arechiga *[1], MG Magallanes[1], N Nazarala[1], RM Rincon[1], JA Piña[1], MA Lopez[1], J Valencia[2]; [1]Universidad Autonoma de Zacatecas, Zacatecas, Mexico, [2]Universidad Nacional Autonoma de Mexico, Mexico

## *Extension Education*

Abstract #

T264 Financial performance of dairies in Florida and Georgia in 2002. A. deVries[1], R. Giesy[1], L. O. Ely*[2], A. deAraujo[1], A. Andreasen[1], B. Broaddus[1], S. Eubanks[1], D. Mayo[1], P. Miller[1], T. Seawright[1], C. Vann[1]; [1]University of Florida Gainesville, [2]University of Georgia, Athens

T265 Factors affecting death losses in DHI holstein herds. L. O. Ely*, J. W. Smith; University of Georgia, Athens

T266 SoutheastDairyExtension.org - An Internet-Based Dairy Website for Southeast US and Beyond. G. W. Rogers*, E. L. Tipton, K. M. Hill, J. B. Cooper; The University of Tennessee, Knoxville

T267 Association between bulk tank milk urea nitrogen and DHI production variables in California dairy herds. Gerald E. Higginbotham*[1], William R. VerBoort[2], Jose E. P. Santos[3]; [1]University of California Cooperative Extension Fresno/Madera Counties, CA, [2]California DHIA Fresno, CA, [3]School of Veterinary Medicine, University of California, Davis, Tulare

## *Teaching/Undergraduate and Graduate Education*

Abstract #

T268 Comparison of evaluation methods for placement in a freshman equitation course. Dr. Karen Bennett-Wimbush*, Dr. Shea Porr; Ohio State University, Agricultural Technical Institute, Wooster

T269 Integrating Leadership, Communications, and Service Learning Education to Prepare Future Leaders in the Animal Sciences. D.R. Brink*, L.D. Moody, B.S. VanDeWalle; University of Nebraska, Lincoln

## *Dairy Foods*

## *Chemistry*

Abstract #

T270 Storage stability of lutein in cheddar cheese. Sonja T Jones*, Kai J Aryana, Jack N Losso; Louisiana State University, Baton Rouge

T271 Physical properties of ê-casein stabilized emulsions. Ron Richter, Paphapit Ungkuraphinunt*, Anita Gerung, Gabriela Perez-Hernandez; Texas A&M University, College Station

T272 Probiotic, fiber fortified, fat free plain yogurt. Kayanush J. Aryana*; Louisiana State University Agricultural Center, Baton Rouge

T273 Fat free plain set yogurts fortified with minerals. Kamalesh Achanta*[1], Kayanush J. Aryana[2], Charles Boeneke[2]; [1]Louisiana State University, Baton Rouge, [2]Louisiana State University Agricultural Center, Baton Rouge

T274 Effect of emulsifying salts on texture of pasteurized process Cheddar cheese. N. Shirashoji*[1,2], J. J. Jaeggi[2], J. A. Lucey[2]; [1]Food Research & Development Laboratory, Morinaga Milk Industry Co., Japan, [2]University of Wisconsi, Madison

T275 Probiotic, fat free, no sugar added ice cream. Matthew Summers*[1], Kayanush J. Aryana[1]; [1]Louisiana State University Agricultural Center, Baton Rouge, [2]Louisiana State University Agricultural Center, Baton Rouge

T276 Effect of insoluble calcium phosphate on cheese functionality. J. Choi*[1], D.S. Horne[2], M.E. Johnson[1], J.A. Lucey[1]; [1]University of Wisconsin, Madison, [2]Charis Food Research, Scotland

T277 Texture and microstructure of full fat and low fat Cheddar cheeses fortified with chitosan. Kayanush J. Aryana*[1], Mary C. Beck[2]; [1]Louisiana State University Agricultural Center, Baton Rouge, [2]Louisiana State University, Baton Rouge

T278 Quantification of volatile flavor compounds in fresh and different off-flavor lowfat milks. Logan L Francis[1], Delores H Chambers[2], Ike J Jeon[1] Karen A Schmidt*[1]; [1]Dept. of Animal Sciences, Kansas State University, Manhattan, [2]Dept. of Human Nutrition, Kansas State University, Manhattan

T279 Serving temperature effects on milk flavor, milk aftertaste, and volatile compound quantification in nonfat and whole milk. Logan L Francis[1], Seon Hee Kong[2], Delores H Chambers[2], Ike J Jeon[1], Karen A Schmidt*[1]; [1]Dept. of Animal Sciences, Kansas State University, Manhattan, [2]Dept. of Human Nutrition, Kansas State University, Manhattan

T280 Evaluation of pH stability in different types of heat-treated fluid and manufactured milk products during refrigerated storage. Catherine O. Maduko*[1], Rob Shewfelt[1], Joseph Frank[1], Young W. Park[2]; [1]Department of Food Science and Technology, University of Georgia, Athens, [2]Fort Valley State University Agricultural Research Station, Fort Valley, GA

T281 Use of long-chain polyphosphates for shelf-life extension of processed cheese spreads. László Varga*, Szilveszter Orbán; Department of Dairy Science, Institute of Food Science, Faculty of Agricultural and Food Sciences, University of West Hungary, Mosonmagyaróvár, Hungary

T282 Seasonal Variations in Chemical Composition of Water Buffalo Milk. Frank Lee*[1], Jackie Page[2], Sumagala Gokavi[1], Mingruo Guo[1]; [1]University of Vermont, Burlington, [2]Page & Pedersen International, Ltd., Hopkinton, MA

T283 Relationship between cholesterol and fat contents of commercial dairy products. Árpád Kovács[1], László Varga*[2], Rita Dulicsek[1], Jeno Szigeti[2], Zoltán Herpai[2]; [1]PharmaFood Inc., Hungary, [2]Institute of Food Science, Faculty of Agricultural and Food Sciences, University of West Hungary, Mosonmagyaróvár, Hungary

T284 Development of technology for manufacturing lactose-free fermented milks. Jeno Szigeti, Ádám Krász, László Varga*; Institute of Food Science, Faculty of Agricultural and Food Sciences, University of West Hungary, Mosonmagyaróvár, Hungary

T285 Rheological and light scattering properties of cottage cheese-type gels made under different gelation rates. Manuel Castillo*[1,2], John A. Lucey[1], Fred A. Payne[2]; [1]Department of Food Science, University of Wisconsin, Madison, [2]Department of Biosystems and Agricultural Engineering, University of Kentucky, Lexington

T286 Influence of natural cheese characteristics on process cheese functionality: Unmelted and melted properties. A. C. Biswas*[1], R. Kapoor[2], P. Upreti[2], L. Metzger[2], K. Muthukumarappan[1]; [1]Department of Ag. & Bio. Engr., South Dakota State University, Brookings, [2]Department of Food Science and Nutrition, University of Minnesota, St. Paul

T287 Effect of aging on the proteolytic and rheological properties of Mennonite-style cheeses from Chihuahua, Mexico. D. L. Van Hekken*[1], M. H. Tunick[1], P. M. Tomasula[1], F. J. Molina-Corral[2], A. A. Gardea[2]; [1]USDA, ARS, ERRC, Wyndmoor, PA, [2]CIAD, Cuauhtemoc, Chihuahua, Mexico

T288 Influence of natural cheese characteristics on process cheese functionality: Dynamic viscoelastic properties. A. C. Biswas*[1], R. Kapoor[2], P. Upreti[2], L. Metzger[2], K. Muthukumarappan[1]; [1]ept. of Agricultural & Biosystems Engr., South Dakota State University, Brookings, [2]Department of Food Science & Nutrition, University of Minnesota, St. Paul

T289 Quantitative evaluation of light-oxidized off-flavors in reduced fat milk using sensory evaluation and the electronic nose. H.-Y. Chung*[1], J. A. Partridge[2], B. R. Harte[1]; [1]School of Packaging, Michigan State University, East Lansing, [2]Food Science and Human Nutrition, Michigan State University, East Lansing

T290 Effect of pre-storage and sterilization on physico-chemical properties of goat milk during storage. A. C. Biswas*[1], A. K. Bandyopadhyay[2], P. K. Ghatak[2], K. Muthukumarappan[1]; [1]Dept. of Agricultural & Biosystems Engr., South Dakota State University, Brookings, [2]Dept. of Dairy Chemistry, Faculty of Dairy Technology, West Bengal University of Animal & Fishery Sciences, Kolkata, India

T291 Development of Cheddar cheese for lowering blood cholesterol by phytosterol ester. H. S. Kwak*, H. J. Ahn, S. J. Lee, J. Ahn; Sejong University, Seoul, Korea

T292 Crosslinking of beta-cyclodextrin and the optimizing of cholesterol removal in milk by using the crosslinkage. S. H. Kim*, E. M. Han, J. Ahn, H. S. Kwak; Sejong University, Seoul, Korea

T293 Simple Immobilization of beta-cyclodextrin to remove cholesterol in milk and recycling. H. S. Kwak*, S. H. Kim, J. H. Kim, H. J. Choi, J. Kang; Sejong University, Seoul, Korea

T294 Effects of microencapsulated chitooligosaccharide addition on cholesterol-reduced milk. H. J. Choi*, J. Ahn, J. H. Hwang, H. S. Kwak; Sejong University, Seoul, Korea

T295 Functional properties of cholesterol-removed whipping cream treated by beta-cyclodextrin. S. Y. Shim, J. Ahn, H. S. Kwak*; Sejong University, Seoul, Korea

T296 Development of functional properties of water buffalo milk yogurt beverage. Jason R. Huck, Frank L. Lee, Mingruo Guo*; University of Vermont, Burlington

T297 Effect of cheddaring temperature on moisture retention, rheological properties and proteolysis in model cheese systems. Philip J Watkinson, Christina J Coker, Craig C Dodds, Sally Hewson, Barbara Kuhn-Sherlock, Nicky J White, Lawrence K Creamer*; Fonterra Research Centre, Fonterra Co-operative Group Limited, Palmerston North, New Zealand

T298 Effects of Fat Content on Physico-chemical and Sensory Properties of Buffalo Milk Dahi (Yogurt). Nirav Pandya*[1], Suresh Kanawjia[1], Rajiv Dave[2]; [1]Dairy Technology Department, National Dairy Research Institute, Karnal, India, [2]Dairy Science Department, South Dakota State University, Brookings

T299 Understanding the role of proteolysis in reduced calcium Mozzarella cheese. P. R. Thakur*, R. I. Dave; Dairy Science Department, South Dakota State University, Brookings

T300 Milk from cows fed potato by-products indistinguishable from whole milk. M. L. Nelson*, M. J. Costello, M. F. Morrison, S. Clark; Washington State University, Pullman

T301 Microstructure of pasteurized Process cheese manufactured from vacuum condensed and ultrafiltered milk. Vikram V. Mistry*, Ashraf N. Hassan; South Dakota State University, MN-SD Dairy Foods Research Center, Dairy Science Department, Brookings

T302 Flavor and Stability of Pasteurized Milk with Elevated Levels of Conjugated Linoleic Acid and Vaccenic Acid. Joanna M. Lynch[1], Adam L. Lock[2], Debra A. Dwyer[2], Reihaneh Norbaksh[3], David M. Barbano*[1], Dale E. Bauman[2]; [1]Northeast Dairy Foods Research Center, Department of Food Science, Cornell University, Ithaca NY, [2]Department of Animal Science, Cornell University, Ithaca, NY, [3]Institute of Standards and Industrial Research, Mashhad, Iran

T303 Evaluation of long term frozen-storage effect on chemical changes in soft and semi-hard goat milk cheeses. J. H. Lee*, Y. W. Park, B. L. Gadiyaram; Fort Valley State University, Fort Valley, GA

T304 Feasibility Study of Forming a California Cheese Aging Cooperative. B. A. Reed*; University of California Cooperative Extension, Orland

T305 Release of Antioxidants from Biodegradable Films into Dry Milk Products and Food Simulating Liquids. Marleen van Aardt[1], Susan E Duncan*[1], Joseph E Marcy[1], Timothy E Long[2], Sean F O'Keefe[1], Susan R Sims[3]; [1]Food Science and Technology, Virginia Tech, Blacksburg, [2]Chemistry, Virginia Tech, Blacksburg, [3]Eastman Chemical Company, Kingsport, TN

# TUESDAY, JULY 27, 2004

# SYMPOSIA AND ORAL SESSIONS

## *SYMPOSIUM*

### *ADSA Foundation Scholar Award Lecture – Dairy Foods*

Chair: Lisa A. Holden, Pennsylvania State University

Sponsor: ADSA Foundation

Room: 260

| Time | |
|---|---|
| 9:30 AM | The Role of Chemical Partitioning In Cheese Flavor Research. Scott Rankin, University of Wisconsin, Madison |

## *SYMPOSIUM*

### *Bioethics*

### *Ethics and the Cost of Food: What is the impact of lessening food prices on citizens, producers, animals and the environment?*

Chair: W. Ray Stricklin, University of Maryland

Sponsors: EAAP, Humane Society of the United States and WCC-204

Room: 132

| Time | Abstract # | |
|---|---|---|
| 9:30 AM | | Introduction to the Bioethics Symposium. W. Ray Stricklin, Department of Animal and Avian Sciences, University of Maryland, College Park |
| 9:35 AM | 347 | Cheap food and feeding the world sustainably. John Hodges*; European Association of Animal Production, Mittersill, Austria |
| 10:00 AM | 348 | Considerations of the relationship between food prices and animal welfare. Michael C. Appleby*; The Humane Society of the United States , Washington, DC |
| 10:20 AM | 349 | Interrelationships of animal agriculture, the environment and rural communities. Maynard G. Hogberg*[1], Frederick L. Kirschenmann[2], Steven L. Fales[3], Mark S. Honeymann[1], John A. Miranowski[4]; [1]Department of Animal Science, Iowa State University, Ames, [2]Leopold Center for Sustainable Agriculture, Iowa State University, Ames, [3]Department of Agronomy, Iowa State University, Ames, [4]Department of Economics, Iowa State University, Ames |
| 10:40 AM | 350 | Ethics and low-priced meat, milk and eggs: too much of a good thing? R. Jeffrey Burkhardt*; Food and Resource Economics Department, University of Florida, Gainesville |
| 11:00 AM | | Speaker panel question and answer session with discussion on Ethics and the Costs of Animal-based Food Production |

## *SYMPOSIUM*

### *Lactation Biology/Growth & Development*

### *Molecular Mechanisms Governing Mammary Development*

Chair: Lance Baumgard, University of Arizona

Sponsors: Monsanto Company, Pfizer Animal Health and USDA-NRI

Room: 130

| Time | Abstract # | |
|---|---|---|
| 9:30 AM | | Introduction, Lance Baumgard, University of Arizona |
| 9:35 AM | 351 | Emerging Genomic Technologies for Studying Mammary Development and Mammary Cancer. Dale Porter*[1,2], Kornelia Polyak[1,2]; [1]Dana-Farber Cancer Institute, Boston, MA, [2]Harvard Medical School, Boston, MA |
| 10:20 AM | 352 | Hormonal regulation of mammary growth, morphogenesis, and breast cancer. R.C. Hovey*, J.F. Trott; University of Vermont, Burlington |
| 11:05 AM | 353 | Developmental and nutritional regulation of steroid receptor mRNA expression and epithelial cell proliferation in the prepubertal bovine mammary gland. M.J. Meyer*[1], A.V. Capuco[2], A. Hummel[2], E.E. Connor[2], Y.R. Boisclair[1], M.E. Van Amburgh[1]; [1]Cornell University, Ithaca, NY, [2]USDA-ARS, Beltsville, MD |
| 11:20 AM | 354 | Estrogen and progesterone response networks in the mouse mammary gland. D. Joseph Jerry*, Shaolei Lu, Amy L. Roberts, Karen A. Dunphy; Department of Veterinary & Animal Sciences, University of Massachusetts-Amherst |

## *SYMPOSIUM*

### *Ruminant Nutrition*

### *Science of Ruminant Nitrogen Metabolism and Its Application to Feeding Cows*

Chair: John Vicini, Monsanto Co.

Sponsors: Arm & Hammer Animal Nutrition Group, Land O'Lakes/Purina and West Central Soy

Room: 131

| Time | Abstract # | |
|---|---|---|
| 9:30 AM | | Nitrogen Metabolism in the Rumen. Marshall D. Stern[1], Alex Bach[2], Sergio Calsamiglia[2], [1]University of Minnesota, St. Paul; [2]ICREA-IRTA, Bellaterra, Spain; [3]Universitat Autonoma de Barcelona, Bellaterra, Spain |
| 10:00 AM | 355 | What is the true supply of amino acids? H. Lapierre*[1], D. Pacheco[1], R. Berthiaume[1], D.R. Ouellet[1], C.G. Schwab[2], G. Holtrop[3], G.E. Lobley[3]; [1]Lennoxville Research Centre, AAFC Lennoxville, QC, Canada, [2]University of New Hampshire Durham, [3]BIOSS, Rowett Research Institute Aberdeen, UK |
| 10:30 AM | 356 | Impacts of the source and amount of crude protein on the intestinal supply of nitrogen fractions and performance of lactating dairy cows. J. H. Clark*, I. R. Ipharraguerre; Department of Animal Sciences, University of Illinois, Urbana |
| 11:00 AM | 357 | Nitrogen Supply to the Lower Gut and Its Relationship to Animal Performance in Beef Cattle. T.J. Klopfenstein*, G.E. Erickson; University of Nebraska, Lincoln |
| 11:30 AM | 358 | Mathematical models used to determine ruminant protein requirements and availabilities. R. A. Kohn*[1], M. D. Hanigan[2]; [1]University of Maryland, College Park, [2]Land O'Lakes/Farmland Feeds, LLC, St. Louis, MO |

## *SYMPOSIUM*

### *Swine Species*

### *Improving Sow Productivity: Recent Developments in Gilt and Lactation Management*

Chair: Tom Rathje, Danbred North America

Sponsors: Danbred North America, EAAP, Land O'Lakes/Purina, Newsham Genetics and PIC International Group

Room: 264

| Time | Abstract # | |
|---|---|---|
| 9:30 AM | | Effects of age at first mating in gilts. Flemming Thorup, DVM, The National Committee for Pig Production, Copenhagen, Denmark |
| 10:10 AM | 359 | Increasing weaning age improves pig performance and profitability in a multi-site production system. R.G. Main*, S.S. Dritz, M.D. Tokach, R.D. Goodband, J.L. Nelssen; Kansas State University, Manhattan |
| 10:50 AM | 360 | Behavior of sows during lactation. John McGlone*; Texas Tech University, Pork Industry Institute, Lubbock |
| 11:30 AM | 361 | Field experience with gilt age and lactation length. Larry V Himmelberg*; Danbred North America, Seward, NE |

## *Breeding and Genetics*

### *Genetics Methodology II*

Chair: Dr. Dorian Garrick, Colorado State University

Room: 220

| Time | Abstract # | |
|---|---|---|
| 9:30 AM | 362 | Pedigraph 2.0: A software tool for the graphing and analysis of large complex pedigrees. John R. Garbe*, Yang Da; Department of Animal Science, University of Minnesota, St. Paul |
| 9:45 AM | 363 | Multiple-breed genetic inference using a heavy-tailed structural model for heterogeneous residual variances. F.F. Cardoso, G.J.M. Rosa, R.J. Tempelman*; Michigan State University, East Lansing |
| 10:00 AM | 364 | Genetic evaluation of male fertility using a threshold model with emphasis on accurate estimation of conception rate. Gamal Abel-Azim*[1], Steve Schnell[1], Glen Gelbert[1], Herb Rycroft[2]; [1]Genex Cooperative, Inc., Shawano, WI, [2]Cooperative Resources International, Shawano, WI |
| 10:15 AM | 365 | Application of a random regression model to gene expression profiling. S. L. Rodriguez-Zas*, J. J. Loor, J. K. Drackley, H. A. Lewin; University of Illinois, Urbana |
| 10:30 AM | 366 | Evaluation of three statistical methods for QTL analysis. Jie Xu*, John R. Garbe, Nicole R. London, Yongcai Mao, Yang Da; Department of Animal Science, University of Minnesota, St. Paul |
| 10:45 AM | 367 | Relationship between the choice of a random regression model and the possible shapes of the resulting variance function. Stephen D. Kachman*; Department of Statistics, University of Nebraska, Lincoln |
| 11:00 AM | 368 | Weighting of information when predicting breeding values using the standard or marker-based inverse of the numerator relationship matrix. A. Maiwashe*, D. J. Garrick, R. M. Enns; Department of Animal Sciences, Colorado State University, Fort Collins |
| 11:15 AM | 369 | A practical longitudinal model for evaluating growth in Gelbvieh cattle. K.R. Robbins*, I. Misztal, J.K. Bertrand, A. Legarra, S. Tsuruta; University of Georgia, Athens |

## *Companion Animals*

Chair: George C. Fahey, Jr., University of Illinois

Room: 127

| Time | Abstract # | |
|---|---|---|
| 9:30 AM | 370 | Effect of breed and size of dog on body composition. Carolyn J Cupp, DVM, MS*, Gail Czarnecki-Maulden, PhD; Nestle Purina Research, St. Louis, MO |
| 9:45 AM | 371 | Influence of age on flatulence in dogs. C Apanavicius*[1], G Czarnecki-Maulden[2]; [1]University of Illinois, Urbana, [2]Nestle Purina Research, St. Joseph, MO |
| 10:00 AM | 372 | Management of canine food intake to reduce obesity. D Mattsson*, L Deffenbaugh; Kemin Nutrisurance, Inc., Des Moines, IA |
| 10:15 AM | 373 | Meeting the challenge of stabilizing weight management petfood diets. Lynn B. Deffenbaugh*; Kemin Nutrisurance, Inc., Des Moines, IA |
| 10:30 AM | 374 | Diet and Age Affect Canine Small Intestinal and Colonic Gut Morphology. Kristy N. Kuzmuk*, Kelly S. Swanson, Lawrence B. Schook, George C. Fahey, Jr.; University of Illinois, Urbana |
| 10:45 AM | 375 | Evaluation of Glycylsarcosine and Cefadroxil as Substrates for Non-invasive Determination of Canine Small Intestine PepT1 Capacity and Demonstration That Maximal Cefadroxil Absorption Occurs When Consumed 4 h After Meal Ingestion. Brian M. Zanghi*[1], Geri L. Sipe[1], Gary M. Davenport[2], James C. Matthews[1]; [1]Department of Animal Science, University of Kentucky, Lexington , [2]The IAMS Company, Lewisburg |
| 11:00 AM | 376 | Digestibility of dry dog kibble containing spray dried animal plasma. C. J. Hammer, J. D. Quigley, J. C. Campbell, J. D. Crenshaw*, L. E. Russell; APC, Inc. Ankeny, IA |
| 11:15 AM | 377 | Chemical composition, bioavailability, palatability, and digestibility of alternative protein sources for dogs. Jolene M Dust*[1], Christine M Grieshop[1], Carl M Parsons[1], Neal R Merchen[1], Jim D Quigley, III[2], George C Fahey, Jr[1]; [1]University of Illinois, Urbana, [2]American Protein Corp. Inc., Ankeny, IA |
| 11:30 AM | 378 | Evaluation of preference and acceptability of 2-hydroxy-4 methylthio butanoic acid (HMTBA) and dl-methionine (DLM) by canine and feline animals. M Vazquez-Anon*[1], L R Prewitt[2]; [1]Novus International, Inc, St. Louis, MO, [2]Prewitt Global Consulting Services, Balwin, MO |
| 11:45 AM | 379 | Beneficial effects of mannan oligosaccharide on diet component digestibility and fermentation characteristics in the dog. L.C. Kappel[1], Y. Zhang[1], Y. Marcum[1], W.H. Taylor[1], W.G. Henk[1], P. Jowett[1], C. Hedlund[1], K.E. Newman[2], H-P. Healy[3], A. Kocher*[3]; [1]Louisiana State University, School of Veterinary Medicine, Baton Rouge, LA, [2]Venture Laboratories, Lexington, KY, [3]Alltech Inc., Nicholasville, KY |
| 12:00 PM | 380 | Effect of Bioplex organic trace minerals on copper, manganese, and zinc status. of the canine. L.C. Kappel[1], J.F. Williams[1], G.R. Pettifer[1], H-P. Healy*[2], A. Kocher[2]; [1]Louisiana State University, School of Veterinary Medicine, Baton Rouge, LA, [2]Alltech, Inc., Nickolasville, KY |

## *Extension Education*

### *Dairy Science*

Co-Chairs: Richard Norell, University of Idaho and Jodie Pennington, Unversity of Arkansas

Room: 263

| Time | Abstract # | |
|---|---|---|
| 9:30 AM | 381 | Impact of conducting a dairy herdsman shortcourse in California. Gerald E. Higginbotham*[1], John H. Kirk[2], Carol C. Collar[5], Alejandro R. Castillo[6], Steven L. Berry[3], Barbara A. Reed[7], Jon D. Robison[4]; [1]University of California Cooperative Extension, Fresno/Madera Counties, [2]Veterinary Medicine Extension, UC Davis, [3]Department of Animal Science, UC Davis, [4]California State University-Fresno, [5]University of California Cooperative Extension, Kings County, [6]University of California Cooperative Extension, Merced County, [7]University of California Cooperative Extension, Glenn County |

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|---|---|---|
| 9:45 AM | 382 | Assessing the occupational profiles of senior- and middle-level dairy managers. R. Stup*, L. Holden, J. Hyde; Pennsylvania State University, University Park |
| 10:00 AM | 383 | The evolution of an extension education website—Dairy beef: Maximizing quality and profits. J.C. Dalton*[1], D.A. Moore[2], J. Kirk[2], M. Poe[2], H. Sullivan[3]; [1]University of Idaho, Caldwell, [2]University of California, Davis, [3]New Mexico State University, Las Cruces |
| 10:15 AM | 384 | Busines$ense: teaching dairy producers best management practices in business and information management. Bradley J. Hilty*, Lisa A. Holden; Pennsylvania State University, University Park |
| 10:30 AM | 385 | Minnesota 4-H Gopher Dairy Camp: A Youth Learning Experience. B.J. Heins*, L.B. Hansen, A.J. Seykora; University of Minnesota, St. Paul |
| 10:45 AM | 386 | Western integrated nutrition and nutrient management education (WIN[2]ME) for the nutrition and nutrient management professional. J H Harrison*[1], L M VanWieringen[1], R L Kincaid[1], A Hristov[2], R Sheffield[2], M Gamroth[3], P French[3], T Downing[3]; [1]Washington State University, Puyallup, [2]University of Idaho, Moscow, [3]Oregon State University, Corvallis |
| 11:00 AM | 387 | Use of a Dairy Whole Farm Phosphorus Balance Education Tool (Dairy WFPBET) to teach dairy producers and their advisers nutrient management concepts at the whole-farm level. Joe H Harrison*[1], Tamilee Nennich[1], Al Rotz[2]; [1]Washington State University, Puyallup, [2]USDA/ARS, University Park, PA |
| 11:15 AM | 388 | The feeding of dietary phosphorus on dairy farms in the Lake Champlain Basin. K.W. Cotanch*[1], C.S. Ballard[1], W.C. Emerich[1], C.J. Sniffen[2], E.D. Thomas[1]; [1]W.H. Miner Agricultural Research Institute, Chazy, NY, [2]Fencrest LLC, Holderness, NH |

## *Forages and Pastures*

## *Forages in Dairy Production*

Chair: John Fike, Virginia Tech

Room: 221

| Time | Abstract # | |
|---|---|---|
| 9:30 AM | 389 | Grazing behavior of late lactating dairy cows under continuous stocking. Hassan Z. H. Taweel*, Bart M. Tas, Jan Dijkstra, Seerp Tamminga; Wageningen University, Department of Animal Sciences, Animal Nutrition Group, Wageningen, The Netherlands |
| 9:45 AM | 390 | Modeling pasture-based split-calving dairy systems using a whole farm model. P.C. Beukes*[1], B.S. Thorrold[1], M.E. Wastney[1], C.C. Palliser[1], J.A.S. Lancaster[1], C.F. Folkers[1], G.L. Levy[1], M. Neal[2,1], M.J. Auldist[3]; [1]Dexcel Ltd. Hamilton, New Zealand, [2]University of Sydney, Australia, [3]Department of Primary Industries, Ellinbank, Australia |
| 10:00 AM | 391 | Effects of feeding legume silage with differing tannin levels on lactating dairy cattle. U.C. Hymes-Fecht*, G.A. Broderick, R.E. Muck, J.D. Graber; U.S Dairy Forage Research Center, West Madison, WI |
| 10:15 AM | 392 | Protective coatings for the edible covering. of bunker silos. Larry L. Berger*, Jason R. Sewell; University of Illinois, Urbana |
| 10:30 AM | 393 | Effect of corn cutting height on digestibility and nutrient composition of silage-only and dual-purpose corn hybrids. K.W. Cotanch*[1], E.D. Thomas[1], H.M. Wolford[1], C.S. Ballard[1], R.J. Grant[1], P. Mandebvu[1], M. Suekawa[2], T. Sato[2], Y. Yabuuchi[2]; [1]W.H. Miner Agricultural Research Institute, Chazy, NY, [2]Zen-Noh National Federation of Agricultural Co-operative Associations, Tokyo, Japan |
| 10:45 AM | 394 | Effect of Harvest Date and Brown Midrib gene on In Situ Disappearance of Sorghum x Sudangrass Hybrids. Paul A. Beck*[1], J. Mike Phillips[1], Shanna Hutchison[2], Tiago Losi[3], C. Brandon Stewart[1], Patrick K. Capps[1], Stacey A. Gunter[1]; [1]University of Arkansas, Southwest Research & Extension Center, Hope, AR, [2]Dept. of Animal Science, University of Arkansas, Fayetteville, [3]Universidade Estadual Paulista – Faculdada de Medicina Veterinaria e Zootecnia, Botucatu, SP, Brasil |
| 11:00 AM | 395 | Effect of genotype and maturity on ensiling characteristics and chemical composition of millet forage. F. Hassanat*, A. Mustafa, P. Seguin; McGill University, Ste-Anne-De-Bellevue, QC, Canada |

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|---|---|---|
| 11:15 AM | 396 | Effect of Inoculation on Ensiling Characteristics and Chemical composition of Regular and Brown Midrib Millet. F. Hassanat*, A. Mustafa, P. Seguin; McGill University, Ste- Anne-De-Bellevue, QC, Canada |
| 11:30 AM | 397 | Lignin concentration of whole plants and stems of Bt corn hybrids. H. G. Jung*[1,2], C. C. Sheaffer[2]; [1]USDA - Agricultural Research Service, [2]University of Minnesota |

## *Growth and Development*

## *ASAS Growth and Development I*

Chair: James Sartin, Auburn University, College of Veterinary Medicine

Room: 222

| Time | Abstract # | |
|---|---|---|
| 9:30 AM | 398 | Muscle fiber characterisitics are important in the relationship between birth weight and carcass quality in pigs. C. Rehfeldt*, G. Kuhn, I. Fiedler, K. Ender; Dept Muscle Biology and Growth, Research Institute for the Biology of Farm Animals, Dummerstorf, Germany |
| 9:45 AM | 399 | Nutrition of Wagyu- and Piedmontese-sired fetuses alters newborn ***longissimus*** muscle cellular characteristics. Paul L Greenwood*[1,2], Helen Hearnshaw[1,4], Gareth Kelly[1,3], David W Hennessy[1,4]; [1]CRC for Cattle and Beef Quality Armidale NSW Australia, [2]NSW Agriculture Armidale NSW Australia, [3]University of New England Armidale NSW Australia, [4]NSW Agriculture Grafton NSW Australia |
| 10:00 AM | 400 | High energetic costs of stereotyped behaviour in preruminant calves. J.J.G.C. van den Borne*, S.J.F.M. van der Heijden, H. Oorsprong, E.A.M. Bokkers, J.E. Bolhuis, W.J.J. Gerrits; Animal Sciences Group, Wageningen University and Research Centre, Wageningen, The Netherlands |
| 10:15 AM | 401 | Relationships between serum constituents at weaning and subsequent carcass characteristics of beef calves. J. May[1], M. Looper[2], C. Golden[1], M. Nihsen[1], K. May[3], C. Rosenkrans Jr.*[1]; [1]University of Arkansas, Department of Animal Science, Fayetteville, [2]USDA-ARS Dale Bumpers Small Farms Research Center, Booneville, AR, [3]Caldwell Farms Rosebud, AR |
| 10:30 AM | 402 | Physiological indicators of growth are influenced by supplementation and steroid implantation in steers. M. L. Looper*[1], C. F. Rosenkrans, Jr.[2], R. Flores[2], G. E. Aiken[3], S. E. Duke[4]; [1]USDA-ARS, Dale Bumpers Small Farms Research Centre, Booneville, AR, [2]University of Arkansas, Fayetteville, [3]USDA-ARS, Forage-Animal Production Research Unit, Lexington, KY, [4]USDA-SPA, College Station, TX |
| 10:45 AM | 403 | A Mechanistic Nutrition Model to Evaluate Beef Cow Efficiency. Luis Orlindo Tedeschi*[1], Danny G. Fox[1], Michael J. Baker[1], Keith L. Long[2]; [1]Cornell University, Ithaca, NY[3], [2]Bell Ranch Solano, NM |

## *Nonruminant Nutrition*

## *Minerals*

Co-Chairs: Gary Fitzner, Land O'Lakes and Mike Azain, University of Georgia

Room: 276

| Time | Abstract # | |
|---|---|---|
| 9:30 AM | 404 | Mineral and chromium supplementation to diets of finishing pigs. B. V. Lawrence*, D. Overend, S. A. Hansen, J. D. Hahn, J. Hedges; Hubbard Feeds Inc, Mankato, MN |
| 9:45 AM | 405 | Performance effects of potassium and chloride levels in swine finisher diets. B. V. Lawrence*, J. D. Hahn, S. A. Hansen; Hubbard Feeds Inc, Mankato, MN |
| 10:00 AM | 406 | Comparisons of inorganic and organic trace mineral supplementation for grow-finish swine. J. L. Burkett*[1], K. J. Stalder[1], C. R. Schwab[1], T. J. Baas[1], D. W. Newcom[1], J. L. Pierce[2], W. J. Powers[1], J. W. Mabry[1]; [1]Dept. of Animal Science, Iowa State University, Ames, [2]Alltech Inc., Nicholasville, KY |

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|---|---|---|
| 10:15 AM | 407 | The effects of high phytase levels on nutrient digestibility, growth performance and bone characteristics in growing pigs. M. J. Azain*[1], M. R. Bedford[2]; [1]Univ. of Georgia, Athens, [2]Zymetrics, Golden Valley, MN |
| 10:30 AM | 408 | Shifting the pH profile of ***Aspergillus niger*** PhyA phytase improves its efficacy in pig diets. S.U. Rice, T.G. Ko, T.W. Kim, K.R. Roneker, X.G. Lei*; Cornell University, Department of Animal Science, Ithaca, NY |
| 10:45 AM | 409 | Phosphorus excretion of pigs fed conventional or low-phytate corn-soybean meal diets without or with phytase. E. G. Xavier, L. A. Pettey, G. L. Cromwell*, M. D. Lindemann; University of Kentucky, Lexington |
| 11:00 AM | 410 | Estimation of Ca and P retention in bone, fat-free soft tissue, and other whole body and carcass components in growing-finishing pigs from 18 to 109 kg. L. A. Pettey*, G. L. Cromwell, M. D. Lindemann; University of Kentucky, Lexington |
| 11:15 AM | 411 | Endogenous excretion of phosphorus and calcium in growing pigs fed two varieties of soybean meal. R. N. Dilger*, O. Adeola; Purdue University, West Lafayette, IN |
| 11:30 AM | 412 | A novel procedure for measuring endogenous phosphorus losses and true phosphorus digestibility by growing pigs. G. I. Petersen*, H. H. Stein; South Dakota State University, Brookings |
| 11:45 AM | 413 | Evaluation of the bioavailability of phosphorus in distiller's dried grains with solubles (DDGS) when fed to pigs. R.W. Fent*[1], T.S. Torrance[2], B.W. Ratliff[1], S.X. Fu[1], G.L. Allee[1], D.M. Webel[2], J.D. Spencer[2]; [1]University of Missouri, Columbia, [2]United Feeds, Inc., Sheridan, IN |

## *Physiology and Endocrinology*

## *Strategies for Appointment Breeding of Beef and Dairy Cattle*

Chair: Ray Nebel, Virginia Tech

Room: 223

| Time | Abstract # | |
|---|---|---|
| 9:30 AM | 414 | Comparison of EAZI-BREED CIDR inserts with melengestrol acetate in progestin-based protocols to synchronize estrus in beef cows. D.J. Schafer*, J.F. Bader, D.C. Busch, F.N. Kojima, M.R. Ellersieck, M.C. Lucy, M.F. Smith, D.J. Patterson; University of Missouri, Animal Science Research Center, Columbia |
| 9:45 AM | 415 | Substituting EAZI-BREED CIDR inserts (CIDR) for melengestrol acetate (MGA) in the MGA Select protocol in beef heifers. F. N. Kojima*[1], J. F. Bader[1], J. E. Stegner[1], D. J. Schafer[1], J. C. Clement[2], R. L. Eakins[1], M. F. Smith[1], D. J. Patterson[1]; [1]University of Missouri, Columbia, [2]Cow Calf Research and Consulting, Mandan, ND |
| 10:00 AM | 416 | MGA and CIDR based timed AI protocols in postpartum beef cows. D Kreider*, N Post, R Rorie, T Lester, E French; University of Arkansas, Fayetteville |
| 10:15 AM | 417 | Effect of timing of insemination and estrous synchronization method on AI pregnancy rates in beef heifers. B. R. Dorsey*, J. B. Hall, W. D. Whittier, W. S. Swecker; Virginia Polytechnic Institute and State University, Blacksburg |
| 10:30 AM | 418 | Factorial analysis of timed AI (TAI) protocols for synchronization of first and second insemination in dairy cattle. J.P. Meyer*, R.P. Radcliff, M.L. Rhoads, J.F. Bader, C.N. Murphy, M.C. Lucy; University of Missouri, Columbia |
| 10:45 AM | 419 | Effects of CIDR Inserts on First Service Pregnancy Rates of Lactating Dairy Cows Submitted to a Presynch Program and on Re-Synchronization of Second Service in Mexico. Frederico Moreira*, Rogelio Flores, Joseph Boucher, John Chenault; Pfizer Animal Health |
| 11:00 AM | 420 | Resynchronization of ovulation in Holsteins after not pregnant diagnosis. J. S. Stevenson*, S. M. Tiffany; Kansas State University, Dept. of Animal Sciences |
| 11:15 AM | 421 | Variations in the Ovsynch protocol after presynchronization of estrous cycles alter pregnancy rates in lactating dairy cows. M.A. Portaluppi*, J.S. Stevenson; Kansas State University, Department of Animal Sciences |

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|---|---|---|
| 11:30 AM | 422 | The effect of deep intrauterine placement of semen on conception rate in dairy cows. M.G. Diskin*[1], J.R. Pursley[2], D. A. Kenny[3], J.F. Mee[4], J.M. Sreenan[1]; [1]Teagasc Athenry, Co. Galway, Ireland, [2]Michigan State University, East Lansing, [3]University College Dublin, Ireland, [4]Teagasc, Fermoy, Co. Cork, Ireland |
| 11:45 AM | 423 | The association between ultrasound reproductive tract scoring and commonly used veterinary therapeutics with pregnancy rates in spring-calved Holstein-Friesian cows. F. Buckley*, J.F. Mee, P. Dillon; Teagasc, Dairy Production Research Centre, Moorepark Fermoy, Co. Cork, Ireland |

## *Production, Management and the Environment*

## *Reproduction and Behavior*

Chair: Vincent H. Varel, USDA/ARS, U.S. MARC

Room: 261/262

| Time | Abstract # | |
|---|---|---|
| 9:30 AM | 424 | Minimum Temperature and Maximum Humidity : Predictors for Conception of Crossbred Holstein Cows in Thailand. V Punyapornwithaya[1], K Kreausukon*[1], S Theepatimakorn[2], W Suriyasathaporn[1]; [1]Clinic of Ruminant, Faculty of Veterinary Medicine, Chiangmai University Chiang Mai Province, Thailand, [2]Chiangmai AI center, Department of Livestock Chiang Mai Province, Thailand |
| 9:45 AM | 425 | Diameter of Head of Tail as a Negative Energy Balance Indicator in Relation to Reproductive Performance in Dairy Cows. K Kreausukon*, V Punyapornwithaya, W Posuya, W Suriyasathaporn; Clinic of Ruminant, Faculty of Veterinary Medicine, Chiang Mai University Chiang Mai Province, Thailand |
| 10:00 AM | 426 | Can acceptable pregnancy rates be achieved using exclusive timed artificial insemination for first service? Michael B Capel*[1], Daryl V Nydam[2], Roger Saltman[3]; [1]Perry Veterinary Clinic, [2]NYS College of Veterinary Medicine, [3]Pfizer Animal Health |
| 10:15 AM | 427 | System for in vitro production with sexed sperm in commercial dairy herds. R.D. Wilson*[1], K.A. Weigel[1], P.M. Fricke[1], M.L. Leibfried-Rutledge[2], D.L. Matthews[1], V.R. Schutzkus[1], J.J. Rutledge[1,2]; [1]University of Wisconsin, Madison, [2]BOMED Inc, Madison, WI |
| 10:30 AM | 428 | Effect of clinical mastitis and other diseases on reproductive performance of Holstein cows. F. Frago[1], Amin Ahmadzadeh*[1], B. Shafii[1], J. C. Dalton[2], M. A. McGuire[1], W. J. Price[1]; [1]University of Idaho Moscow, [2]University of Idaho, Caldwell Research & Extension Center, Caldwell |
| 10:45 AM | 429 | Use of audible Doppler and B Mode ultrasonography to monitor fetal heart rate of hair sheep in the tropics. Robert W Godfrey*[1], Lindsay Larsen[1], Adam J Weis[1], Scott T Willard[2]; [1]University of the Virgin Islands, Agricultural Experiment Station, Kingshill, [2]Department of Animal and Dairy Sciences, Mississippi State University, Mississippi State |
| 11:00 AM | 430 | Effect of time of feed delivery on the feeding and lying behavior of lactating dairy cows. T. J. DeVries*, M. A. G. von Keyserlingk; The University of British Columbia, Vancouver, BC, Canada |
| 11:15 AM | 431 | Impacts of grouping and space during gestation on body-condition and lesion scores and performance of sows. J.L. Salak-Johnson*, S.R. Neikamp, S.E. Curtis, S.L. Rodriguez-Zas. Department of Animal Sciences, University of Illinois,Urbana. |
| 11:30 AM | 432 | Relationships between measures of temperament and carcass traits in feedlot steers. Rhonda C. Vann*[1], Joe C. Paschal[2], Ronald D. Randel[3]; [1]MAFES-Brown Loam Experiment Station, Raymond, MS, [2]TAMU-Cooperative Extension Service, Corpus Christi, TX, [3]TAMU-Texas Agricultural Research and Extension Center, Overton |
| 11:45 AM | 433 | Temperament alters adrenal response to exogenous ACTH in Brahman heifers. K. O. Curley, Jr.*[1,2], D. A. Neuendorff[2], A. W. Lewis[2], J. J. Cleere[2], T. H. Welsh, Jr.[1], R. D. Randel[2]; [1]Texas Agricultural Experiment Station, College Station, [2]Texas Agricultural Experiment Station, Overton |

## *PSA-Environment and Management*

### *Broiler and Layer Management*

Chair: Casey W. Ritz, University of Georgia

Room: 265/266

| Time | Abstract # | |
|---|---|---|
| 9:30 AM | 434 | The Impact of Layer Dietary Threonine Levels on Egg Component Yield, Composition, and Functionality. Paige R. Niemeyer*, Craig D. Coufal, John B. Carey; Texas A&M University, College Station |
| 9:45 AM | 435 | Single and Combined Effects of Yeast Cell Wall Residue and Sel-Plex™ on Production and Egg Quality of Laying Hens. Victor G. Stanley*[1], Willie F. Krueger[2], Arnold E. Sefton[3]; [1]Prairie View A&M University, Prairie View, TX, [2]Texas A&M University, College Station, [3]Alltech, Guelph, Canada |
| 10:00 AM | 437 | Ammonia Emissions of Commercial Broilers from 0-42 Days of Age. Lucian Mitran*[1], Jeannine Harter-Dennis[1], Jack Meisinger[2], Jennifer Timmons[1]; [1]University of Maryland Eastern Shore, Department of Agriculture and Natural Sciences, Princess Anne, [2]USDA-ARS |
| 10:15 AM | 977 | Beak Trimming of Leghorn Pullets 1: Production effects. K. Schwean-Lardner*, H. L. Classen, C. B. Annett; Department of Animal and Poultry Science, University of Saskatchewan, Saskatoon, SK Canada |
| 10:30 AM | 436 | Beak Trimming of Leghorn Pullets 2: Healing and Beak Re-growth. C.B. Annett*, K. Schwean-Lardner, H.L. Classen; Department of Animal and Poultry Science, University of Saskatchewan, Saskatoon, SK, Canada |
| 10:45 AM | 438 | Beak Trimming of Leghorn Pullets 3: Behaviour and welfare effects. K. Schwean-Lardner*, H. L. Classen, C. B. Annett; Department of Animal and Poultry Science, University of Saskatchewan Saskatoon, SK Canada |
| 11:00 AM | 439 | Effects of bill-trimming on the welfare of muscovy ducks. Leslie Gustafson*[1], Heng-Wei Cheng[2], Ed Pajor[2], Joy Mench[1]; [1]University of California, Davis, [2]Purdue University, West Lafayette, IN |
| 11:15 AM | 440 | Effects of top-dressing recycled broiler litter on nitrogen mass balance. Craig D Coufal*, Cesar Chavez, Paige L Niemeyer, John B Carey; Texas A&M University, College Station |
| 11:30 AM | 441 | In House Composting of Layer Manure for Pest Control. G.P. Martin*, P.H. Patterson, C.A.B. Meyers; The Pennsylvania State University, University Park |

## *PSA-Genetics*

Chair: G. F. Barbato, Penn State University

Room: 267

| Time | Abstract # | |
|---|---|---|
| 9:30 AM | 442 | Direct and correlated response from selection for phytate phosphorus bioavailability in a randombred chicken population. Wensheng Zhang, Samuel E. Aggrey*, Remzi I. Bakalli, Gene M. Pesti, Hardy M. Edwards, Jr.; University of Georgia, Department of Poultry Science, Athens |
| 9:45 AM | 443 | Allele Frequencies Of Genes Associated With Feed Efficiency Traits In Selected And Unselected Population In A Commercial Broiler Line. Preety Sharma*, Walter Bottje, Ronald Okimoto; University of Arkansas, Fayetteville |
| 10:00 AM | 444 | Quantitative trait loci affecting bone mineral density in the chicken. M. A. Schreiweis*, P. Y. Hester, D. E. Moody; Purdue University, W. Lafayette, IN |
| 10:15 AM | 445 | Molecular Characterization of Chicken SOCS2 Gene. G.Y. Zhou*, Frederick C. Leung; The University of Hong Kong, Department of Zoology |
| 10:30 AM | 446 | Molecular Cloning and Characterization of a Broiler Small Intestine Type IIb Sodium Phosphate Cotransporter Gene. F Yan[1,4], C Ashwell*[2,3], R Angel[1]; [1]Department of Animal and Avian Sciences, University of Maryland College Park, [2]Growth Biology Lab., Animal and Natural Resources Institute, USDA-ARS, Beltsville, MD, [3]Department of Poultry Science, North Carolina State University Raleigh, [4]Department of Poulty Science, University of Arkansas, Fayetteville |

## *PSA-Nutrition*

### *Alternate Ingredients and Gastrointestinal System*

Chair: Jeff Firman, University of Missouri

Room: 274

| Time | Abstract # | |
|---|---|---|
| 9:30 AM | 447 | Relative Toxicity of Gossypol Isomers in Laying Hens. M. M. Lordelo*[1], A. J. Davis[1], M. C. Calhoun[2], N. M. Dale[1]; [1]University of Georgia, Poultry Science Department, Athens, [2]Texas A&M University, Texas A&M Research Center, San Angelo |
| 9:45 AM | 448 | Effect of Increased Heat Processing on Phosphorus (P) Bioavailability in Corn Distiller Dried Grains With Solubles (DDGS). C. Martinez Amezcua*, L.E. Markovic, C.M. Parsons; Department of Animal Sciences, University of Illinois, Urbana |
| 10:00 AM | 449 | High protein corn distiller dried grains as a feed ingredient. C. Abe*[1], N. J. Nagle[2], C. Parsons[3], J. Brannon[1], S. L. Noll[1]; [1]University of Minnesota, St. Paul, [2]National Bioenergy Center Golden, CO, [3]University of Illinois, Urbana |
| 10:15 AM | 450 | Mucin dynamics in the chicken gastrointestinal tract. Asya Smirnov*, Zehava Uni, David Sklan; Hebrew University, Rehovot, Israel |
| 10:30 AM | 451 | Diurnal variations and quantitative determination of the generation of carboxylic acids by microbial fermentation in the crop of the domestic turkey. Sara A. Johannsen*[1], Molly J. Hensley[3], Mark A. Rasmussen[4], Ronald Griffith[3], Colin G. Scanes[1,2]; [1]Iowa State University Dept. Animal Science, [2]Iowa State University Biomedical Sciences, [3]Iowa State University Veterinary Microbiology and Preventive Medicine, [4]National Animal Disease Center ISU, Animal Science |
| 10:45 AM | 452 | Effects of Delayed Placement on Villus Characteristics and Barrier Functions of the Small Intestine of the Newly Hatched Turkey. L.P Potturi*, J Patterson, T.J Applegate; Department of Animal Sciences, Purdue University, West Lafayette, IN |
| 11:00 AM | 453 | Effect of dietary amino acid content on intestinal populations of ***Clostridium perfringens*** in broiler chickens fed high-crude protein diets. D.C. Wilkie*, A.G. Van Kessel, L.J. White, M.D. Drew; Dept. of Animal and Poultry Science, University of Saskatchewan, Saskatoon SK, Canada |
| 11:15 AM | 454 | Molecular tracking of ***Bifidobacterium animalis*** colonization in the gastrointestinal tract of broiler chickens using quantitative real time PCR (qPCR). S. A. Briggs*[1], T. J. Dumonceaux[1], B.G. Goldade[1], J. K. Marshall[1], J.E. Hill[2], S. M. Hemmingsen [2], A. G. Van Kessel[1]; [1]University of Saskatchewan Saskatoon, SK, Canada, [2]National Research Council, Saskatoon, SK, Canada |
| 11:30 AM | 455 | The effect of glutamine on growth performance and the development of the gastrointestinal tract and immune system of broilers. S. M. Bartell*, A. B. Batal; University of Georgia, Athens |
| 11:45 AM | 456 | Feeding a semi-purified diet induced early gut development in young turkey poults. Yewande O. Fasina*[1], Jim D. Garlich[2], Henry L. Classen[3], Zehava Uni[4], Peter R. Ferket[2], Shelly R. Mckee[1]; [1]Auburn University, Auburn, AL, [2]North Carolina State University, Raleigh, [3]University of Saskatchewan, Saskatoon, Canada, [4]Faculty of Agriculture Hebrew University, Rehovot, Israel |

## *PSA-Nutrition*

### *Amino Acids and Vitamin/Mineral Nutrition II*

Chair: Carl Parsons, University of Illinois

Room: 275

| Time | Abstract # | |
|---|---|---|
| 9:30 AM | 457 | Dietary lysine response by broilers in two photoperiods. O.C. Aimiuwu*, M.S. Lilburn; The Ohio State University/OARDC, Wooster |
| 9:45 AM | 458 | A comparison of amino acid digestibility coefficients between chickens and turkeys. O. C. Aimiuwu*[1], C. M. Parsons[2], M. S. Lilburn[1]; [1]The Ohio State University/OARDC, Wooster, [2]University of Illinois, Urbana |
| 10:00 AM | 459 | Valine needs of broilers from 21 to 42 days of age. S. A. Thornton*, S. J. Barber, A. Corzo, M. T. Kidd; Mississippi State University |

| | | |
|---|---|---|
| 10:15 AM | 460 | Changes in the digestible lysine and sulfur amino acid needs of broiler chicks during the first 21 days posthatching. A. R. Garcia*, T. D. Troutman, A. B. Batal; University of Georgia, Athens |
| 10:30 AM | 461 | Broiler growth in response to increased lysine in the first week post hatching. Simone Pophal*, Sergio L Vieira, Alexandre M Kessler, Andre R Ebert, Bernardo B Gallo; UFRGS |
| | 462 | Withdrawn by author |
| 10:45 AM | 463 | Development of a whole cell sensor – green fluorescent protein based method for estimating lysine bioavailability in poultry feed proteins. V.I. Chalova*, W.K. Kim, I.B. Zabala-Díaz, C.L. Woodward, S.C. Ricke; Texas A&M University, College Station |
| 11:00 AM | 464 | The effect of several oligosaccharides on true amino acid digestibility in cecectomized and intact roosters. P.E. Biggs*, C.M. Parsons; Department of Animal Sciences, University of Illinois, Urbana |
| 11:15 AM | 465 | Zinc-Methionine enhances the intestine development and functionality in the late term embryos and chicks. E Tako*[1], P.R Ferket[2], Z Uni[1]; [1]Department of Animal Sciences, Faculty of Agriculture, Hebrew University, Israel, [2]Department of Poultry Science, NCSU, Raleigh |
| 11:30 AM | 466 | Effect of vitamin D source on broiler production and carcass composition. Jennifer L. Saunders-Blades*, Doug R. Korver; University of Alberta, Edmonton, Canada |

## *Ruminant Nutrition*

## *Beef - Minerals & Vitamins*

Chair: Beth Kegley, University of Arkansas

Room:124

| Time | Abstract # | |
|---|---|---|
| 9:30 AM | 467 | Effects of trace mineral source and feeding method on the productivity of grazing Braford cows. John D. Arthington*[1], Connie K. Larson[2]; [1]University of Florida, Range Cattle Research and Education Center, Ona, FL, [2]Zinpro Corporation, Eden Prairie, MN |
| 9:45 AM | 468 | Effects of Tri-Basic Copper Chloride Vs Copper Sulfate on Measures of Copper Status and Forage Intake in Growing Beef Heifers. John D. Arthington*, Findlay M. Pate; University of Florida, Range Cattle Research and Education Center, Ona, FL |
| 10:00 AM | 469 | Effect of chromium supplementation and copper status on glucose metabolism in beef cows. H.S. Stahlhut*, C.S. Whisnant, K.E. Lloyd, E.J. Baird, L.R. Legleiter, S.L. Hansen, J.W. Spears; North Carolina State University, Dept. of Ani. Sci., Raleigh |
| 10:15 AM | 470 | Growth, reproductive performance, and manganese status of heifers fed varying concentrations of manganese. S. L. Hansen*, C.S. Whisnant, K.E. Lloyd, E.J. Baird, L.R. Legleiter, H.S. Stahlhut, J.W. Spears; North Carolina State University, Dept. of Ani. Sci., Raleigh |
| 10:30 AM | 471 | Influence of dietary manganese on performance and serum glucose concentrations in growing steers. L.R. Legleiter*, K.E. Lloyd, J.W. Spears; North Carolina State University, Dept. of Ani. Sci., Raleigh |
| 10:45 AM | 472 | Selenium in tissues of calves supplemented with selenium yeast. C.J. Richards*, H.M. Blalock, L.C. Miller, H.D. Loveday; The University of Tennessee, Knoxville |
| 11:00 AM | 473 | Determining the route and amount of P excreted from cattle consuming finishing diets. B.G Geisert*, G.E Erickson, T.J. Klopfenstein, M.K. Luebbe, J.C MacDonald; University of Nebraska, Lincoln |
| 11:15 AM | 474 | Effects of dietary supplemental vitamin A concentration on growth, intake, and marbling in yearling feedlot steers. T. C. Bryant*[1,3], J. J. Wagner[2], T. E. Engle[3], K. L. Dorton[3], P. D. Burns[3], M. L. Galyean[4]; [1]ContiBeef LLC, Boulder, CO, [2]Continental Beef Research ,Lamar, CO, [3]Colorado State University, Fort Collins, [4]Texas Tech University, Lubbock |
| 11:30 AM | 475 | Effects of feeding a polyclonal antibody preparation against ***Streptococcus bovis*** or ***Fusobacterium necrophorum*** on performance and carcass characteristics of feedlot steers. C. R. Dahlen[2], N. DiLorenzo*[1], A. DiCostanzo[1], G. C. Lamb[2], L. J. Smith[1]; [1]Department of Animal Science, St. Paul, MN, [2]North West Research and Outreach Center, Crookston, MN, [3]North Central Research and Outreach Center, Grand Rapids, MN |

## *Ruminant Nutrition*

### *Dairy - Lactation, Health & Gut Physiology*

Chair: Katharine Knowlton, Virginia Polytechnic Institute and State University

Room: 125/126

| Time | Abstract # | |
|---|---|---|
| 9:30 AM | 476 | Effect of dietary cation-anion difference and crude protein on milk yield and blood metabolites of lactating dairy cows. C.D. Wildman*, J.W. West, J.K. Bernard; The University of Georgia, Tifton |
| 9:45 AM | 477 | Effect of dietary cation-anion difference and dietary crude protein degradability on milk yield and blood metabolites of lactating dairy cows. C.D. Wildman*, J.W. West, J.K. Bernard; The University of Georgia, Tifton |
| 10:00 AM | 478 | Maternal undernutrition from early- to mid-gestation versus throughout gestation: Effects on visceral organs of ewes and their fetuses. B.W. Hess*[1], K.A. Vonnahme[2], E.J. Scholljegerdes[1], S.L. Lake[1], J.D.C. Molle[1], V. Nayigihugu[1], R.L. Atkinson[1], P.A. Ludden[1], L.R. Miller[1], S.P. Ford[1]; [1]University of Wyoming, Department of Animal Science, [2]North Dakota State University, Department of Animal and Range Sciences |
| 10:15 AM | 479 | Energy requirement of close-up dairy cows grazing pasture. JR Roche*[1], ES Kolver[1], JK Kay[1,2]; [1]Dexcel, Hamilton, New Zealand, [2]University of Arizona, Tucson |
| 10:30 AM | 480 | Potential for dairy feeds to harbor an invasive mold (***Aspergillus fumigatus***): implications to herd health. Steven B. Puntenney*, Yongqiang Wang, Neil E. Forsberg; Oregon State University, Department of Animal Sciences, Corvallis |
| 10:45 AM | 481 | Is ruminal acidosis related to high diet fermentability or low buffer recycling? D. Sauvant*[1], D. Mertens[2]; [1]Institut National Agronomique Paris Grignon Département Des Sciences Animales, Paris Cedex 05 - France, [2]US Dairy Forage Research Center, Madison, WI |
| 11:00 AM | 482 | Design of a bovine metabolism gene array. B.E. Etchebarne*, W. Nobis, M.S. Allen, M.J. VandeHaar; Michigan State University, East Lansing |
| 11:15 AM | 483 | Effect of increasing ruminal valerate, caproate, and heptanoate on splanchnic metabolism of VFA absorbed from the washed reticulorumen of steers. N.B. Kristensen*[1], D.L. Harmon[2]; [1]Danish Institute of Agricultural Sciences, Tjele, Denmark, [2]University of Kentucky, Lexington |

## *SYMPOSIUM*

### *ADSA Foundation Scholar Award Lecture – Dairy Production*

Chair: Lisa A. Holden, Pennsylvania State University

Sponsor: ADSA Foundation

Room: 223

| Time | |
|---|---|
| 1:00 PM | Starting from Birth - Developing a More Systematic and Proactive Approach to Calf Nutrition and Management. Mike Van Amburgh, Cornell University |

## *SYMPOSIUM*

### *ADSA Southern Section*

### *Meeting the Future Needs of the Dairy Industry*

Chair: J. K. Bernard, University of Georgia

Room: 124

| Time | Abstract # | |
|---|---|---|
| 1:00 PM | | Introduction |
| 1:10 PM | | What we are looking for in future employees. David Sumrall, Aurora Dairy Group. |
| 1:30 PM | | Equipping graduates to be successful in agribusiness. Steve Larson, Hoard's Dairymen. |
| 1:50 PM | | How we have changed our approach to extension. Rex Ricketts, Missouri State, Commercial Ag Program |
| 2:10 PM | | Industry perspective on providing information to the dairy industry. Jennifer Garrett, Monsanto. |
| 2:30 PM | | Break |
| 2:45 PM | | University perspective on funding for teaching, research and extension programs. Louis Armentano, Dept. Head, University of Wisconsin |
| 3:05 PM | | Industry perspective on research funding. Kenneth Cummings, Church & Dwight Company |
| 3:25 PM | | Overview of a successful dairy producer funding program: The Florida Milk Checkoff. Roger Natzke, University of Florida |
| 3:55 PM | | Round Table Discussion |
| 4:30 PM | | Southern Branch of the American Dairy Science Association Business Meeting |

## *SYMPOSIUM*

### *Alpharma Beef Cattle Nutrition*

### *Factors Affecting Feedlot Profitability*

Chair: S. C. Loerch, The Ohio State University

Sponsors: Alpharma and ASAS Foundation

Room: 131

| Time | Abstract # | |
|---|---|---|
| 1:00 PM | | Introduction |
| 1:05 PM | 484 | Assessing the cost of beef quality. John D. Lawrence*, Cody Forristall, Gary May; Iowa State University Ames |
| 1:50 PM | 485 | The Effect of cattle health on performance, production costs, and carcass value. Robert L. Larson*; Commerical Agriculture Program, College of Veterinary Medicine, University of Missouri |
| 2:35 PM | | Break |
| 2:50 PM | 486 | Effects of Nutrition and Management on Carcass Value and Profitability. Larry L. Berger*, Nathan A. Pyatt; University of Illinois, Urbana |
| 3:35 PM | | Discussion |

## *SYMPOSIUM*

### *Companion Animals*

Chair: George C. Fahey, Jr., University of Illinois

Sponsors: Alltech, Inc., Elanco Animal Health and Nestle Purina PTC

Room: 127

| Time | Abstract # | |
|---|---|---|
| 1:00 PM | | Welcome to St. Louis, home of Nestle Purina Petcare Research. Daniel Chausow, Nestle-Purina Petcare Research, St. Louis, MO |
| 1:15 PM | | Introduction to problems of obesity associated with companion animals. George C. Fahey, Jr., University of Illinois, Urbana |
| 1:20 PM | 487 | Nutritional Management of Obese Animals. Gregory D. Sunvold*; The Iams Company Research and Development, Lewisburg, OH |
| 2:00 PM | 488 | Humans and companion animals: hand-in-paw towards aging and obesity. B. T. Larson*, D. F. Lawler, Y. Pan, J. R. Jackson; Nestle Purina PetCare Co. |
| 2:40 PM | | Break |
| 3:00 PM | | Health issues associated with obesity: Prevalence and general health considerations. Dr. Sharon Center, Cornell University, Ithaca, NY |
| 3:40 PM | | Health issues associated with obesity: Skeletal health. Dr. Steve Martinez, Washington State University, Pullman |
| 4:20 PM | | General discussion |
| 4:45 PM | | Reception |

## *SYMPOSIUM*

### *Dairy Foods*

### *Dairy Foods and Human Nutrition*

Chair: Kayanush Aryana, Louisiana State University

Sponsor: Dairy Management Inc. (DMI)

Room: 260

| Time | Abstract # | |
|---|---|---|
| 1:00 PM | 489 | Fortification in dairy products. Chuck Boeneke*; Louisiana State University Agricultural Center, Baton Rouge |
| 1:30 PM | 490 | Consumer attitudes toward dairy foods. C.M. Bruhn, University of California, Davis |
| 2:00 PM | 491 | Probiotics in health: Their immunomodulatory potential against allergic disorders. Z. Ustunol*, J.J. Pestka; Michigan State University, E. Lansing |
| 2:30 PM | | Break |
| 3:00 PM | 492 | Nutritional properties of whey proteins. Kimberlee J. Burrington*; Wisconsin Center for Dairy Research, Madison |
| 3:30 PM | 493 | The beneficial role of dairy foods on weight and body fat loss: where we are and where we are going. Douglas B. DiRienzo*; National Dairy Council, Rosemont, IL |

## *SYMPOSIUM*

### *Growth and Development and Lactation Biology*

### *ADSA - Mammary Development - The Role of Progenitor Cells and Nutritional Modulation on Lactation*

Chair: Mike Van Amburgh, Cornell University

Sponsors: Monsanto Company, Pfizer Animal Health and USDA-NRI

Room: 130

| Time | Abstract # | |
|---|---|---|
| 1:00 PM | | Introduction. Mike Van Amburgh, Cornell University, Ithaca, NY |
| 1:10 PM | 494 | Bovine Mammary Progenitor Cells. Steven Ellis*; Clemson University, Clemson, SC |
| 1:55 PM | 495 | Characterization of gene expression patterns in bovine mammary epithelial cells isolated using laser capture microdissection. B.E. Etchebarne*, M. Kiupel, M.J. VandeHaar; Michigan State University, East Lansing |
| 2:10 PM | 496 | Phenotypic and ultrastructural characterization of the developmental pathway of bovine mammary gland progenitor cells. Margo S. Holland*[1], Lorri D. Griffin[1], Judith A. Stasko[2], Robert E. Holland[3]; [1]Veterinary Microbiology and Preventive Medicine, Iowa State University, [2]National Animal Disease Center, USDA-ARS, [3]Veterinary Diagnostic and Production Animal Medicine, Iowa State University |
| 2:55 PM | | Break |
| 3:10 PM | 497 | Effects of energy intake and time to puberty on mammary growth of prepubertal Holstein heifers. M.J. Meyer*[1], A.V. Capuco[2], M.E. Van Amburgh[1]; [1]Cornell University, Ithaca, NY, [2]USDA-ARS, Beltsville, MD |
| 3:25 PM | 498 | Nutritionally directed compensatory growth affects mammary cell proliferation and apoptosis. C.S. Park*; North Dakota State University, Fargo |
| 4:10 PM | 499 | Effects of a high rate of gain for increasing lengths of time on body and mammary growth in prepubertal dairy heifers. L. E. Davis*, M. S. Weber Nielsen, L. T. Chapin, J. S. Liesman, M. J. VandeHaar; Michigan State University, East Lansing |
| 4:55 PM | 500 | Long days that hasten puberty do not reduce lean body growth in heifers. Agustin G Rius*[1], Paul E Kendall[1], Tera L Auchtung[1], Anthony V Capuco[2], Erin E Connor[2], Geoffrey E Dahl[1]; [1]University of Illinois, Urbana, [2]USDA-ARS, BGFL, Beltsville, MD |

### *World's Poultry Science Association Invited Lecture*

Chair: Fred Silversides, Agriculture and Agri Food Canada

Sponsors: USA and Canadian Branches of the World's Poultry Science Association

Room: 274

| Time | Abstract # | |
|---|---|---|
| 1:00 PM | 501 | Reducing the Carriage of Foodborne Pathogens by Livestock and Poultry. Michael P Doyle*; Center for Food Safety, University of Georgia |

## *Animal Behavior & Well Being II*

Chair: Donald C. Lay Jr., Purdue University

Room: 125/126

| Time | Abstract # | |
|---|---|---|
| 1:00 PM | 502 | Correlating spatial learning, social recognition and aggression in young pigs. J.M. Siegford*, A.S. Souza, J. Jansen, A.J. Zanella; Michigan State University, Dept. Animal Science, East Lansing |
| 1:15 PM | 503 | Acute stress impairs spatial learning and social recognition in early-weaned pigs. A.S. Souza*, K. Laughlin, J.M. Siegford, A.J. Zanella; Michigan State University, Dept. Animal Science, East Lansing |
| 1:30 PM | 504 | Relationships among pre- and post-weaning oral-nasal behaviors and growth rates in newly weaned pigs. Stephanie Torrey*, Tina M. Widowski; Department of Animal and Poultry Sciences, University of Guelph Guelph, ON, Canada |
| 1:45 PM | 505 | Effects of induced mixing and pen size on performance and serum concentration of acute phase proteins in growing pigs. C. Piñeiro*[1], J. Morales[1], M. Piñeiro[1], F. Lampreave[2], G.G. Mateos[3]; [1]PigCHAMP Pro Europa, S.A. Spain, [2]U. de Zaragoza Spain, [3]UP. de Madrid Spain |
| 2:00 PM | 506 | Gestation induced changes in behavior and autonomic regulation of cardiac activity in gilts. Ruth M Marchant-Forde*, Jeremy N Marchant-Forde; USDA-ARS, West Lafayette, IN |
| 2:15 PM | 507 | Circadian rhythmicity in behaviour and cardiac activity of gilts and heifers. Ruth M. Marchant-Forde*[1], Jeremy N. Marchant-Forde[1], Roswitha Hofman[2]; [1]USDA-ARS, West Lafayette, IN, [2]Institute of Animal Husbandry and Welfare, University of Veterinary Medicine, Veterinärplatz, Vienna, Austria |
| 2:30 PM | 508 | Behavior and heart rate of crated gestating sows given an ICV CRH or a CRH receptor antagonist. Lindsey E. Hulbert*[1], J. Marq Hellman[1], Jeff W. Dailey[2], Julie L. Morrow[2], John J. McGlone[1]; [1]Pork Industry Institute, Texas Tech University, Lubbock, [2]USDA-ARS, Livestock Issues Research Unit, Lubbock, TX |
| 2:45 PM | | Break |
| 3:15 PM | 509 | Behavioural description of cannibalism in fattening pig production. Dominique Saffray*[1], Iltud Madec[1], Céline Lafont[1], Jean-François Gabarrou[2], Patrick Pageat[1]; [1]Pherosynthese Le Rieu Neuf - 84490 - Saint Saturnin d'Apt - France, [2]ESA-Purpan 75, voie du T.O.E.C. - 31076 - Toulouse Cedex 3 - France |
| 3:30 PM | 510 | Maternal pheromone application before and(or) after weaning: effects on pig behavior and performance. Nadege Krebs*, John, J McGlone; Pork Industry Institute, Texas Tech University, Lubbock |
| 3:45 PM | 511 | Pig behavioral responses to biologically relevant and non-relevant odors. Nadege Krebs*, John J. McGlone; Pork Industry Institute, Texas Tech University, Lubbock |
| 4:00 PM | 512 | Effects of mixing stress on plasma cortisol, corticosteroid-binding globulin and free cortisol index in prenatally-stressed pigs. D. C. Lay Jr*[1], H. G. Kattesh[2], M. P. Roberts[2], M. J. Toscano[1], K. A. McMunn[1]; [1]USDA-ARS, Livestock Behavior Research Unit, West Lafayette, IN, [2]University of Tennessee, Knoxville |

## *Animal Health*

### *Dairy Cattle Health — Transition Cows and Mastitis*

Chair: John Wenz, Colorado State University

Room: 130

| Time | Abstract # | |
|---|---|---|
| 1:00 PM | 513 | Negative energy balance during the periparturient period is associated with uterine health disorders and fever in Holstein cows. Douglas S. Hammon*[1], Ingrid M. Evjen[1], Tilak R. Dhiman[1], Jeese P. Goff[2]; [1]Utah State University, Logan, [2]USDA, National Animal Disease Center, Ames, IA |
| 1:15 PM | 514 | The Relationship Between the Incidence of Production-Limiting Disease and Return Over Feed in Ontario Dairy Herds. Chris McLaren*[1], Kerry Lissemore[1], Todd Duffield[1], Ken Leslie[1], David Kelton[1], Bill Grexton[2]; [1]University of Guelph, Department of Population Medicine, [2]Ontario Dairy Herd Improvement Corporation |
| 1:30 PM | 515 | An evaluation of rumen-protected choline and monensin controlled release capsule on milk production, health and metabolic function of periparturient dairy cows. Lara Zahra*[1], Stephen LeBlanc[1], Ken Leslie[1], Todd Duffield[1], Thomas Overton[2], Dana Putnam[3]; [1]Department of Population Medicine University of Guelph, [2]Department of Animal Science Cornell University, [3]Balchem Corporation New Hampton, NY |
| 1:45 PM | 516 | Effect of the method of delivery of monensin on serum insulin and cortisol concentrations in transition dairy cows. Christina S. Petersson*[1], Ken E. Leslie[2], Todd F. Duffield[2], Tera M. Osborne[2], Brian W. McBride[3], Randy Bagg[4], Paul Dick[4]; [1]Ohio State University - Department of Animal Sciences, Columbus, [2]University of Guelph - Department of Population Medicine, Guelph, ON, Canada, [3]University of Guelph - Department of Animal and Poultry Science, Guelph, ON, Canada, [4]Elanco Animal Health, a Division of Eli Lilly, Inc., Research Park Centre, Guelph, ON, Canada |
| 2:00 PM | 517 | Determination of the test characteristics of a rapid, on-site serum NEFA test. Leonie Gooijer, Ken Leslie*, Todd Duffield, Stephen LeBlanc, Nicole Perkins, Erin Vernooy; University of Guelph, Guelph, ON, Canada |
| 2:15 PM | 518 | DCAD affects responsiveness of cows to parathyroid hormone -how anion supplementation prevents milk fever. Jesse P Goff*, Ronald L Horst; USDA-ARS, National Animal Disease Center, Ames, IA |
| 2:30 PM | 519 | Impact of participation in somatic cell count testing on herd average somatic cell score. H. D. Norman, A. H. Sanders*, R. H. Miller, R. L. Powell; Animal Improvement Programs Laboratory, Agricultural Research Service, USDA, Beltsville, MD |
| 2:45 PM | | Break |
| 3:15 PM | 520 | Dairy Herd Characteristics, Management Practices and Mastitis Prevalence Data from Farm Visits to Improve Milk Quality in New York and Surrounding States. D. Wilson*, R. Gonzalez, G. Bennett, H. Schulte, J. Spatz, L. Tikofsky, F. Welcome, Y. Schukken; Quality Milk Production Services, Cornell University, Department of Population Medicine and Diagnostic Sciences, College of Veterinary Medicine |
| 3:30 PM | 521 | Efficacy of intramuscular ceftiofur combined with intramammary pirlimycin or cephapirin for treatment of systemically mild clinical mastitis in dairy cattle. John R Wenz*, Rosella Elia, Dusti Pruna, Franlyn B. Garry, R. Page Dinsmore; Integrated Livestock Management, Colorado State University, Fort Collins |
| 3:45 PM | 522 | The effects of two ***Escherichia coli*** J5 immunization protocols on milk production, dry matter feed intake, antibody response and intramammary infection in dairy cattle. Christina S. Petersson*[1], Ken E. Leslie[2], David F. Kelton[2], Bonnie A. Mallard[3], S. Wayne Martin[2]; [1]Ohio State University - Department of Animal Sciences, Columbus, [2]University of Guelph - Department of Population Medicine, Guelph, ON, Canada, [3]University of Guelph - Department of Pathobiology, Guelph, ON, Canada |
| 4:00 PM | 523 | Tunnel ventilation cooling for lactating dairy cows during hot weather: Comparison to cooling with shade and fans. T.R. Smith*[1], A.M. Chapa[1], D.O. Pouge[2], T.O. Riley[2], R.J. Williams[1], J. Crouch[1], H. Wilson[1]; [1]The Department of Animal & Dairy Science, Mississippi State University, Mississippi State, [2]The Dairy Research Unit, Mississippi Branch Experiment Station, Holly Springs |

## *Breeding and Genetics*

## *Dairy Crossbreeding and Breeding Objectives*

Chair: Dr. Bennet Cassell, Virginia Polytechnic Institute and State University

Room: 267

| Time | Abstract # | |
|---|---|---|
| 1:00 PM | 524 | Comparison of first-parity Holstein, Normande-Holstein crossbred, Montbeliarde-Holstein crossbred and Scandinavian-Holstein crossbred cows for dystocia and stillbirths. B.J. Heins*, L.B. Hansen, A.J. Seykora; Univeristy of Minnesota, St. Paul |
| 1:15 PM | 525 | Comparison of the fertility of pure Holstein sires and F1 Jersey x Holstein sires mated to pure Holstein cows in an experimental herd. Kent Weigel*, Christian Maltecca; Department of Dairy Science, University of Wisconsin, Madison |
| 1:30 PM | 526 | A comparison of reproductive efficiency in four breeds of dairy cow and two cross breeds under seasonal grass-based production systems in Ireland. F. Buckley*, J.F. Mee, N. Byrne, M. Herlihy, P. Dillon; Teagasc, Dairy Production Research Centre, Moorepark, Fermoy, Co. Cork, Ireland |
| 1:45 PM | 527 | Effect of Holstein females carrying Holstein versus Jersey sired calves on subsequent MEMilk, days open and involuntary culling. A.J. Seykora*, B.J. Heins, L.B. Hansen, J.G. Linn, D.G. Johnson, W.P. Hansen; University of Minnesota, St. Paul |
| 2:00 PM | 528 | Overview of different breeding objectives in various countries for Holsteins. Filippo Miglior*; Agriculture and Agri-Food Canada - Canadian Dairy Network, Guelph, ON, Canada |
| 2:15 PM | 529 | Effect of inbreeding on female reproduction in Jerseys. J. P. Cassady*, J. C. Wilk, B. T. McDaniel, S. P. Washburn; North Carolina State University, Raleigh |
| 2:30 PM | 530 | Effect of synchronization protocols on days open and pregnancy rate at 120 days in dairy cattle. Robert C. Goodling*[1], George E. Shook[1], Kent A. Weigel[1], Nate R. Zwald[1], Robert D. Welper[2]; [1]University of Wisconsin, Madison, [2]Alta Genetics, Inc. |
| 2:45 PM | | Break |
| 3:15 PM | 531 | Level of metabolic trait of glucose by young bulls and cows. Lothar Panicke*[1], Eckhart Fischer[2], Bernd Fischer[3], Holger Behn[4], Rudolf Staufenbiel[4]; [1]Research Institute for the Biology of Farm Animals Dummerstorf, Germany, [2]Agric. and Environmental Faculty of the University Rostock Rostock, Germany, [3]Institute of Agriculture and Horticulture of Sachsen-Anhalt Iden, Germany, [4]Free University Berlin, Clinic of Cattle and Pigs, Berlin, Germany |
| 3:30 PM | 532 | Heterosis and breed differences for daughter pregnancy rate of crossbred dairy cows. P. M. VanRaden, M. E. Tooker*, J. B. Cole; Animal Improvement Programs Laboratory, Agricultural Research Service, USDA, Beltsville, MD |
| 3:45 PM | 533 | Calving difficulty in Holsteins and Jerseys and their crossbreeds. Sara McClintock*[1,2], Beard Kevin[3,2], Michelle Wells[2], Goddard Michael[1,2]; [1]University of Melbourne, [2]Primary Industries Research Victoria, [3]Australian Dairy Herd Improvement Scheme |
| 4:00 PM | 534 | Early results of Holstein-Jersey crossbreeding at Virginia Tech and Kentucky. B.G. Cassell*[1], K.E. Getzewich[1], R.L. Nebel[1], R.E. Pearson[1], A.J. McAllister[2]; [1]Virginia Polytechnic Institute and State University, Blacksburg, [2]University of Kentuck,y Lexington |
| 4:15 PM | 535 | Normande-Holstein crossbreds versus pure Holsteins for conception, days open, calving interval and survival. B.J. Heins*, L.B. Hansen, A.J. Seykora; University of Minnesota, St. Paul |
| 4:30 PM | 536 | Breed composition codes for crossbred dairy cattle in the United States. J. Cole*, M. Tooker, P. VanRaden, J. Megonigal, Jr.; Animal Improvement Programs Laboratory, Agricultural Research Service, USDA, Beltsville, MD |
| 4:45 PM | 537 | Effect of strain of Holstein-Friesian cow and grass based feeding systems on milk production, body weight, body condition score and reproductive performance. P. Dillon*[1], B Horan[1,2], F Buckley[1], J Mee[1], M Rath[2]; [1]Teagasc, Moorepark Research Centre Fermoy, Co. Cork, Ireland, [2]Faculty of Agriculture, University College, Dublin, Ireland |

## *Dairy Foods*

## *Cheese*

Chair: Nana Farkye, California State Polytechnic University

Room: 264

| Time | Abstract # | |
|---|---|---|
| 1:00 PM | 538 | Use of reverse osmosis concentrated milk for the manufacture of Cheddar and Colby cheese; impact on Ca equilibrium and functional properties. Mee-Ryung Lee*, John A. Lucey, Mark E. Johnson; University of Wisconsin, Madison |
| 1:15 PM | 539 | A comparison of three different methods for measuring intact casein in cheese. P Lehtola*, L. E. Metzger; MN-SD Dairy Foods Research Center, University of Minnesota, Saint Paul |
| 1:30 PM | 540 | Vatless manufacture of mozzarella cheese from 8X concentrated microfiltration retentate. Andres V Ardisson*, Syed SH Rizvi; Cornell University, Department of Food Science, Ithaca, NY |
| 1:45 PM | 541 | Influence of calcium, phosphorus, residual lactose, and salt-to-moisture ratio on cheese quality: manufacture and composition. P. Upreti*, R. Kapoor, S. K. G. Purna, L. E. Metzger; Department of Food Science and Nutrition, MN-SD Dairy Food Research Center, University of Minnesota, St. Paul |
| 2:00 PM | 542 | Proteolysis and yield of Cheddar cheeses manufactured from milks with different serum protein contents. Brandon K Nelson*; Northeast Dairy Foods Research Center, Cornell University, Ithaca, NY |
| 2:15 PM | 543 | Gel microstructure, permeability and syneresis kinetics of cottage cheese-type gels made under different gelation rates. Manuel Castillo*[1,2], John A Lucey [1], Wang Tao[1], Fred A Payne[2]; [1]Department of Food Science, University of Wisconsin, Madison, [2]Department of Biosystems and Agricultural Engineering, University of Kentucky, Lexington |
| 2:30 PM | 544 | Sensory Differences Among Pecorino Siciliano Cheeses by Geographic Origin. John Horne[1], Stefania Carpino*[1], Silvia Mallia[1], Antonio Difalco[1], Giovanni Tumino[1], Giuseppe Licitra[1,2]; [1]CoRFiLaC, Regione Siciliana s.p. 25 km 5 - 97100 Ragusa, Italy, [2]D.A.C.P.A. Catania University via Valdisavoia 5 - 95100 Catania, Italy |
| 2:45 PM | | Break |
| 3:15 PM | 545 | Differences between milled curd and stirred curd Cheddar cheese manufactured with different culture/enzyme systems. Shakeel Rehman*[1], Nana Farkye[1], MaryAnne Drake[2]; [1]Dairy Products Technology Center, California Polytechnic State University, San Luis Obispo, [2]Southeast Dairy Foods Research Center, North Carolina State University, Raleigh |
| 3:30 PM | 546 | Influence of brine concentration, brine temperature, and presalting on early gas defects in raw milk pasta filata cheese. C. Melilli*[1], D. M. Barbano[2], M. Caccamo[1], M. A. Calvo[1], G. Schembari[1], G. Licitra[1]; [1]CoRFiLaC, Regione Siciliana SP 25 Ragusa mare km 5, [2]Northeast Dairy Food Research Center, Department of Food Science, Cornell University, Ithaca, NY |
| 3:45 PM | 547 | Direct acidification and cream homogenization for Mozzarella cheese manufacture. K. J. Ottman, L. E. Metzger*; Department of Food Science and Nutrition, MN-SD Dairy Food Research Center, University of Minnesota, St. Paul |
| 4:00 PM | 548 | Effects of 6 Month Extended Frozen-storage on Changes in Organic Acid Profiles of Plain Soft and Monterey Jack Goat Milk Cheeses. Young W. Park*, Jung H. Lee, Isabel C. Blackman; Fort Valley State University, Agricultural Research Station, Fort Valley, GA |
| 4:15 PM | 549 | Interaction of Emulsifying Salts with Milk Proteins. Rei Mizuno*[1,2], John A. Lucey[2]; [1]Food Research & Development Laboratory, Morinaga Milk Industry Co. Japan, [2]Department of Food Science University of Wisconsin, Madison |
| 4:30 PM | 550 | Impact of type of concentrated sweet cream buttermilk on the manufacture and functionality of pizza cheese. Tammy Y. Lin[1], Selvarani Govindasamy-Lucey*[2], John J. Jaeggi[2], Cynthia J. Martinelli[2], Mark E. Johnson[2], John A. Lucey[1]; [1]Department of Food Science, University of Wisconsin, Madison, [2]Wisconsin Center for Dairy Research, University of Wisconsin, Madison |
| 4:45 PM | 551 | Effect of fat content on rheological and melting properties of Mozzarella cheese. Chinthu Udayarajan*, John Lucey; Department of Food Science, University of Wisconsin, Madison |

## *Extension Education*

## *Animal Science*

Co-Chairs: Justen Smith, USDA and Twig Marston, Kansas State University

Room: 263

| Time | Abstract # | |
|---|---|---|
| 1:00 PM | 552 | Beef development costs. Wm. W. Ellis*; Southeast Missouri State University |
| 1:15 PM | 553 | Elements influencing cattle buyers to participate in preconditioned certified calf sales. M. D. Corro*, D. Lalman, J. D. White, R.P. Wettemann, J. P. Key; Oklahoma State University, Stillwater |
| 1:30 PM | 554 | Selected management practices of beef cows on cow-calf operations in Oklahoma. M.D. Corro*, D. L. Lalman, K. Barnes, J. L. Evans; Oklahoma State University, Stillwater |
| 1:45 PM | 555 | Maximizing Extension Efforts By Multi-County Horse Programs. O. Frederick Harper*, J. Hall, J. Goddard, J. Rhea, B. Sliger; University of Tennessee |
| 2:00 PM | 556 | Expanding Extension Horse Programs By the Internet. O. Frederick Harper*, Emily L. Tipton; University of Tennessee |
| 2:15 PM | 557 | Holey Cow – The inside story of why cows eat grass – a model for youth agricultural education. D.J.R. Cherney*, B. Berggren-Thomas, A.W. Bell; Cornell University, Ithaca, NY |
| 2:30 PM | 558 | ***Healthy Farms—Healthy Agriculture***: a new approach to biosecurity education. J. M. Smith*; University of Vermont |
| 2:45 PM | 559 | An Environmental Assessment Tool for Poultry Farms Developed as Part of Environmental Management Systems. Paul H. Patterson*[1], Les E. Lanyon[2], Amanda H. Mende[3]; [1]Department of Poultry Science, The Pennsylvania State University, University Park, [2]Department of Crop and Soil Sciences, The Pennsylvania State University, University Park, [3]PennAg Industies Association, Harrisburg, PA |

## *Forages and Pastures*

## *Harvesting and Grazing Management of Forages*

Chair: Sam Coleman, University of Florida

Room: 221

| Time | Abstract # | |
|---|---|---|
| 1:00 PM | 560 | The effects of total non-structural carbohydrates (TNC) on voluntary intake of goats and digestibility of gamagrass (GG) harvested in the morning (AM) or afternoon (PM). Alaina Sauve*[1], G. Huntington[1], J. Burns[1,2]; [1]North Carolina State University, [2]USDA, ARS |
| 1:15 PM | 561 | Afternoon harvest increases readily fermentable carbohydrate (CHO) concentration and voluntary intake of gamagrass (GG) and switchgrass (SG)baleage fed to beef steers. G. Huntington*[1], J. Burns[1,2]; [1]North Carolina State University, [2]USDA,ARS |
| 1:30 PM | 562 | Digestion characteristics of perennial ryegrass (***Lolium perenne*** L.) at different stages of maturity. A.V. Chaves[1], G.C. Waghorn*[2], I.M. Brookes[1]; [1]Institute of Food, Nutrition and Human Health, Massey University, Palmerston North, New Zealand, [2]Dexcel Limited, Hamilton, New Zealand |
| 1:45 PM | 563 | Effects of beef cow grazing management on sediment and phosphorus losses from smooth bromegrass pastures. M. Haan*[1], J. Russell[1], W. Powers[1], S. Mickelson[2], R. Schultz[3], J. Kovar[4]; [1]Iowa State University, Department of Animal Science, Ames, [2]Iowa State University, Department of Agricultural and Biosystems Engineering, Ames, [3]Iowa State University, Department of Natural Resource and Environmental Management, Ames, [4]USDA-National Soil Tilth Laboratory, Ames, IA |
| 2:00 PM | 564 | Apparent nutrient digestibility and ruminal alterations in beef steers consuming bermudagrass hay and supplemented with soybean hulls and(or) corn. J. C. Henley*, A. I. Orr, B. J. Rude; Mississippi State University, Mississippi State |
| 2:15 PM | 565 | Evaluation of different backgrounding programs for weaned beef calves. K.H. Hunter*, A.M.M. Shank, R.K. Shanklin, W.S. Swecker, J.P. Fontenot, G. Scaglia, C.L. Pickworth; Virginia Polytechnic Institute and State University, Blacksburg |

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|---|---|---|
| 2:30 PM | 566 | Impact of stocking rate and stocking strategy on gain per animal and gain per hectare of steers grazing rotational or continuous stocked rye-ryegrass pasture. J.J. Cleere*[2], F.M. Rouquette, Jr.[1], G.M. Clary[2]; [1]Texas Agricultural Experiment Station, Overton, [2]Texas Cooperative Extension, Overton |
| 2:45 PM | | Break |
| 3:15 PM | 567 | Accuracy of intake measurements for cows grazing grass/legume pastures using the alkane marker technique. G C Waghorn*, S L Woodward, D A Clark; Dexcel Limited, Hamilton, New Zealand |
| 3:30 PM | 568 | Developing consistent relationships among fiber fractions for uniform alfalfa hay quality guidelines. David R. Mertens*[1], Jack E. Getz[2]; [1]US Dairy Forage Research Center, Madison, WI, [2]USDA-Agricultural Marketing Service, Moses Lake, WA |
| 3:45 PM | 569 | Effects of purified fiber energy supplementation on digestion and ruminal parameters of steers fed cool season grass hay. H.M. Blalock*, C.J. Richards; The University of Tennessee, Knoxville |

## *Nonruminant Nutrition*

### *Amino Acids*

Chair: Gary Apgar, Southern Illinois University and Chris Parks, Wenger Feeds

Room: 276

| Time | Abstract # | |
|---|---|---|
| 1:00 PM | 570 | The optimal true ileal digestible lysine and total sulfur amino acid requirement for nursery pigs between 10 and 20 kg. J. D. Schneider*, M. D. Tokach, S. S. Dritz, R. D. Goodband, J. L. Nelssen, J. M. DeRouchey, C. W. Hastad, N. A. Lenehan, N. Z. Frantz, B. W. James, K. R. Lawrence, C. N. Groesbeck, R. O. Gottlob, M. G. Young; Kansas State University, Manhattan |
| 1:15 PM | 571 | The optimal true ileal digestible lysine and threonine requirement for nursery pigs between 10 and 20 kg. N. A. Lenehan[1], M. D. Tokach[1], S. S. Dritz[1], R. D. Goodband[1], J. L. Nelssen[1], J. L. Usry[2], J. M. DeRouchey[1], N. Z. Frantz*[1]; [1]Kansas State University, Manhattan, [2]Ajinomoto Heartland LLC, Chicago, IL |
| 1:30 PM | 572 | Assessment of the methionine requirement of pigs in the weight range 11 to 20 kg. Patrick B. Lynch*[1], Meike Rademacher[2], Peadar G. Lawlor[1]; [1]Teagasc Moorepark, Fermoy, Ireland, [2]Degussa AG. Feed Additives, Hanau, Germany |
| 1:45 PM | 573 | Evaluation of the true ileal digestible (TID) lysine requirement for 11 to 29 kg pigs. S.X. Fu*[1], A.M. Gaines[1], B.W. Ratliff[1], P. Srichana[1], G.L. Allee[1], J.L. Usry[2]; [1]University of Missouri, Columbia, [2]Ajinomoto Heartland LLC, Chicago, IL |
| 2:00 PM | 574 | Estimation of the true ileal digestible sulfur amino acid requirement for nursery pigs weighing 13 to 25 kilograms by using Alimet® feed supplement. A.M. Gaines[1], G.F. Yi*[2], B.W. Ratliff[1], P. Srichana[1], G.L. Allee[1], C.D. Knight[2], K.R. Perryman[2]; [1]University of Missouri, Columbia, [2]Novus International, Inc., St. Louis, MO |
| 2:15 PM | 575 | Effect of L-lysine•HCl level and true digestible lysine:crude protein ratio on late nursery pig performance. B.W. Ratliff*[1], A.M. Gaines[1], P. Srichana[1], R.W. Fent[1], G.L. Allee[1], J.L. Usry[2], R.D. Boyd[3]; [1]University of Missouri, Columbia, [2]Ajinomoto Heartland LLC, Chicago, IL, [3]The Hanor Company, Franklin, KY |
| 2:30 PM | 576 | Estimation of the true ileal digestible sulfur amino acid:lysine ratio for growing pigs weighing 29 to 45 kilograms. A.M. Gaines*[1], G.F. Yi[2], B.W. Ratliff[1], P. Srichana[1], G.L. Allee[1], C.D. Knight[2], K.R. Perryman[2]; [1]University of Missouri, Columbia, [2]Novus International, Inc., St. Louis, MO |
| 2:45 PM | | Break |
| 3:15 PM | 577 | Estimation of the true ileal digestible sulfur amino acid:lysine ratio for early finishing gilts weighing 45 to 68 kilograms. A.M. Gaines*[1], G.F. Yi[2], B.W. Ratliff[1], P. Srichana[1], G.L. Allee[1], C.D. Knight[2], K.R. Perryman[2]; [1]University of Missouri, Columbia, [2]Novus International, Inc., St. Louis, MO |
| 3:30 PM | 578 | Evaluation of the true ileal digestible (TID) lysine requirement for 80-100 kg barrows and gilts. P. Srichana*[1], A.M. Gaines[1], B.W. Ratliff[1], G.L. Allee[1], J.L. Usry[2]; [1]University of Missouri, Columbia, [2]Ajinomoto Heartland LLC, Chicago, IL |

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| 3:45 PM | 579 | Effect of low-protein amino acid supplemented diets on performance and indicators of enteric health in early-weaned pigs. Charles M. Nyachoti*[1], Olufemi F. Omogbenigun[1], Meike Rademacher[2], Greg Blank[1]; [1]University of Manitoba, Winnipeg, MB Canada, [2]Degussa Ag, Germany |
| 4:00 PM | 580 | The tryptophan requirement of growing and finishing barrows. J. L. Shelton*[1], A. C. Guzik[1], L. L. Southern[1], B. J. Kerr[2], T. D. Bidner[1]; [1]LSU Agricultural Center Baton Rouge, LA, [2]USDA-ARS-SOMMRU, National Swine Research and Information Center, Ames, IA |
| 4:15 PM | 581 | The isoleucine requirement of 80- to 120-kilogram barrows. D. W. Dean*[1], L. L. Southern[1], B. J. Kerr[2], T. D. Bidner[1]; [1]LSU Agricultural Center, Baton Rouge, [2]USDA-ARS-MWA-SOMMRU, Ames, IA |
| 4:30 PM | 582 | Determination of the optimum threonine:lysine ratio for prolific lactating sows. A.M. Gaines*[1], N.H. Williams[2], M.E. Johnston[3], C. Zier[2], G.L. Allee[1], J.L. Usry[4], R.D. Boyd[3]; [1]University of Missouri, Columbia, [2]Pig Improvement Company, Franklin, KY, [3]The Hanor Company, Inc,. Franklin, KY, [4]Ajinomoto Heartland LLC, Chicago, IL |
| 4:45 PM | 583 | The valine requirement of lactating sows. M. Etienne*[1], J.Y. Dourmad[1], J. Noblet[1], L .Le Bellego[2], C. Relandeau[2]; [1]INRA-UMRVP, Saint-Gilles, France, [2]Ajinomoto Eurolysine sas, Paris, France |

## *Physiology and Endocrinology*

## *Nutritional Regulation of Reproduction*

Chair: Brian Crooker, University of Minnesota

Room: 222

| Time | Abstract # | |
|---|---|---|
| 1:00 PM | 584 | Energy balance, dry matter intake, and hormone profiles of cows with ovulatory and non-ovulatory follicles during the first postpartum follicle wave. S.T. Butler*, W.R. Butler; Cornell University, Ithaca, NY |
| 1:15 PM | 585 | Effects of feeding menhaden fish meal or Ca salts of fish oil fatty acids on uterine fatty acids composition, COX-2 level and $PGF_{2a}$ production in early lactating cows. A. Heravi Moussavi*[3], R. O. Gilbert[2], T. R. Overton[1], D. E. Bauman[1], W.R. Butler[1]; [1]Cornell University, Department of Animal Science, Ithaca, NY, [2]Cornell University, Department of Clinical Sciences, Ithaca, NY, [3]Dept. of Animal Science, Ferdowsi University, Mashhad, Iran |
| 1:30 PM | 586 | Effect of Fat Sources Differing in Fatty Acid Profile on Fertilization Rate and Embryo Quality in Lactating Dairy Cows. R.L.A. Cerri*[1], R.G.S. Bruno[1], R.C. Chebel[1], K.N. Galvao[1], H. Rutgliano[1], S.O. Juchem[1], W.W. Thatcher[2], D. Luchini[3], J.E.P. Santos[1]; [1]University of California Davis VMTRC, Tulare, [2]University of Florida, Gainesville, [3]Bioproducts, Inc. |
| 1:45 PM | 587 | Expression of growth hormone receptor and IGF-I mRNA in the reproductive tissues of early postpartum dairy cows. M.L. Rhoads*, J.P. Meyer, S.J. Kolath, W.R. Lamberson, M.C. Lucy; University of Missouri, Columbia |
| 2:00 PM | 588 | Influence of postpartum nutrition of primiparous beef cows on insulin-like growth factor binding proteins in follicular fluid and plasma. I. Rubio*, F.J. White, N.H. Ciccioli, R.P. Wettemann, L.J. Spicer; Oklahoma Agricultural Experiment Station, Oklahoma State University, Stillwater |
| 2:15 PM | 589 | Reproductive performance of primiparous and multiparous cows fed whole soybeans before breeding. N. M. Long*[2], G. M. Hill[1], J. F. Baker[1], W. M. Graves[2], M. A. Froetschel[2], B. G. Mullinix, Jr.[1], D. H. Keisler[3]; [1]University of Georgia, Tifton, [2]University of Georgia, Athens, [3]University of Missouri, Columbia |
| 2:30 PM | 590 | Recombinant oleptin does not acutely accelerate the frequency of LH pulses at any developmental stage in normal and growth-restricted heifers. Dorota A Zieba[1,2], Marcel Amstalden[1,2], Stephanie Morton[1,2], Duane H Keisler[3], Gary L Williams*[1,2]; [1]Animal Reproduction Laboratory, Texas A&M University Agricultural Research Station, Beeville, [2]Department of Animal Science and Center for Animal Biotechnology and Genomics, College Station, Texas, [3]Department of Animal Science, University of Missouri, Columbia |
| 2:45 PM | | Break |
| 3:15 PM | 591 | Effect of prenatal nutrition on plasma glucose at birth and weaning. D. W. Kastner*, I. Rubio, F. J. White, N.H. Ciccioli, R.P. Wettemann; Oklahoma Agricultural Experiment Station, Stillwater |

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| 3:30 PM | 592 | The role of food intake on estrous cyclicity and reproductive potential in white-tailed deer (***Odocoileus virginianus***). Erin L. Monaco*[1], Randy L. Stanko[1], David G. Hewitt[2]; [1]Department of Animal and Wildlife Sciences, Texas A & M University, Kingsville, [2]Caesar Kleberg Wildlife Research Institute, Texas A & M University, Kingsville |
| 3:45 PM | 593 | Performance and Semen Quality of Yearling Bulls Grazing Tall Fescue Pastures. G. M. Schuenemann*[1], J. C. Waller[1], F. M. Hopkins[2], H. S. Adair[2], N. R. Rohrbach[1], F. N. Scenna[1], D. I. Bryant[1], A. M. Saxton[1], J. W. Oliver[3], J. C. Riggins[4], F. N. Schrick[1]; [1]University of Tennessee, Department of Animal Science, [2]University of Tennessee, Department of Large Animal Clinical Sciences, [3]University of Tennessee, Department of Comparative Medicine, [4]University of Tennessee, Highland Rim Experiment Station |
| 4:00 PM | 594 | Effects of P.G. 600 treatment at weaning on reproductive performance of sows limit-fed during lactation. B.R. Horsley*, M.J. Estienne, A.F. Harper, J.W. Knight; Virginia Polytechnic Institute and State University |
| 4:15 PM | 595 | Effect of acetate to propionate ratio on clearance of progesterone in the ovid. Darron L. Smith*, Beth A. Costine, Matthew E. Wilson; West Virginia University, Morgantown |

## *Production, Management and the Environment*

## *Heat Stress and Environment*

Chair: Kathy J. Soder, USDA-ARS Pasture System & Watershed Management

Room: 261/262

| Time | Abstract # | |
|---|---|---|
| 1:00 PM | 596 | Response of heat stressed dairy cattle to low-pressure soaking or high-pressure misting heat abatement systems. Micheal J. Brouk*[1], Joseph P. Harner, III[2], John F. Smith[1], William F. Miller[1], Branko Cvetkovic[1]; [1]Department of Animal Sciences and Industry, Kansas State University, [2] Department of Agricultural and Biological Engineering, Kansas State University |
| 1:15 PM | 597 | Impact of air velocity and direction of flow upon respiration rate, body surface temperature and body temperature of heat stressed dairy cattle. Micheal J. Brouk*[1], Joseph P. Harner, III[2], John F. Smith[1], William F. Miller[1], Branko Cvetkovic[1]; [1]Department of Animal Sciences and Industry, Kansas State University, [2]Department of Agricultural and Biological Engineering, Kansas State University |
| 1:30 PM | 598 | Impact of soaking cows housed in a tunnel ventilated barn equipped with evaporative pads located in Thailand. Dennis V. Armstrong[1], John F. Smith*[2], Micheal J. Brouk[2], Veeris Wuthironarith[3], Joseph P. Harner, III[2]; [1]University of Arizona, Tucson, [2]Kansas State University, Manhattan, [3]Charoen Pokphanol Group Co., LTD, Bangkok, Thailand |
| 1:45 PM | 599 | Effects of shade, sprinklers, and stocking density on performance, behavior, physiology, and environmental impact of Holstein heifers in drylot pens . Nichole M. Marcillac*, Peter H. Robinson, James G. Fadel, Frank M. Mitloehner; University of California, Davis |
| 2:00 PM | 600 | The effect of fiber characteristics on production, physiological and behavioral traits in heat stressed dairy cows. A. Arieli*[1], A. Rubinstein[1], Y. Ahroni[2], U. Moallem [2], I. Halachmi[2]; [1]Hebrew University of Jerusalem, Fac. Agric., Rehovot, Israel, [2]Agricultural Research Organization The Volcani Center, Bet Dagan, Israel |
| 2:15 PM | 601 | Changes in the diurnal rhythm of rectal temperature of cattle exposed to prolonged heat stress, and cooled with warm salt water. John Gaughan*[1], Simone Holt[2]; [1]The University of Queensland Gatton, Queensland, Australia, [2]South Dakota State University, Brookings |
| 2:30 PM | 602 | Emissions of Atmospheric Ammonia and a Nitrogen Mass Balance for a Dairy. Brian P. Rumburg*[1], George H. Mount[1], Jenny M. Filipy[1], Brian K. Lamb[1], Ronald L. Kincaid[2], Kristen A. Johnson[2]; [1]Laboratory for Atmospheric Research, Department of Civil & Environmental Engineering, Washington State University, Pullman, [2]Department of Animal Sciences, Washington State University, Pullman |
| 2:45 PM | | Break |
| 3:15 PM | 603 | Effects of dietary crude protein level on nitrogen balance and emissions. Harold A. Rachuonyo*, Stanley E. Curtis, Enrique O. Castaneda, Mike Ellis; University of Illinois, Urbana |

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| 3:30 PM | 604 | Calcium clinoptilolite zeolite added to the diet to reduce nitrogen losses from feedlot lagoons and composted manure. K. S Eng*[1], R. Bectel[2], D. P. Hutcheson[3]; [1]Eng, Inc, San Antonio, TX, [2]Advance Agricultural Testing Baden, Ont. Canada, [3]Animal-Agricultural Consulting, Inc. Amarillo, TX |
| 3:45 PM | 605 | Combination of a urease inhibitor and a plant essential oil for control of fecal coliforms and emissions of odor and ammonia from cattle waste. V. H. Varel*, J. E. Wells, D. N. Miller; USDA-ARS, U.S. Meat Animal Research Center, Clay Center, NE |
| 4:00 PM | 606 | Evaluation of factors affecting phosphorus solubility in feces of lactating cows. T. D. Nennich*[1], J. H. Harrison[1], Z. Dou[2], L. Johnson VanWieringen[1], R. L. Kincaid[3], D. L. Davidson[1]; [1]Washington State University, Puyallup, [2]University of Pennsylvania, Kennett Square, [3]Washington State University, Pullman |
| 4:15 PM | 607 | Separated Drinking Water From Liquid Manure for Swine. J. Morris*, R. Fleming, M. MacAlpine; Ridgetown College, University of Guelph, Ridgetown, ON, Canada |
| 4:30 PM | 608 | Environmental Impact of Integrating Crop and Sylvan Systems with Swine. Charles W. Talbott*[1], Gudigopuram B. Reddy[1], Charles Raczkowski[1], Teo Barrios[1], Mani Matlapudi[1], Albert Coffee[2], John Andrews[2]; [1]North Carolina A&T State University, Greensboro, [2]USDA/CSREES Forestry, N.C. Division of Forest Resources, Raleigh |

## *Ruminant Nutrition*

## *Dairy - Additives, Vitamins & Models*

Chair: Gale Bateman, Louisiana State University

Room: 132

| Time | Abstract # | |
|---|---|---|
| 1:00 PM | 609 | Effects of Aspergillus oryzae (Amaferm®) on production and metabolic parameters in Holstein cattle during the transition period. L.H. Baumgard*[1], M.E. Dwyer[1], C. Davis[1], C.E. Moore[1], H.C. Hafliger III[1], O.B. Mendivil[1], H. Jensen[2], B. Christie[2], M.J. VanBaale[1]; [1]The Univ. of Arizona, [2]BioZyme Inc., St. Joseph, MO |
| 1:15 PM | 610 | The effects of feeding yeast culture during the transition from cool to hot weather to Holstein cows on animal performance. J. D. Ward*[1], T. R. Smith[2], L. Zeringue[1], R. J. Williams[2], J. Crouch[2], R. Walz[1], T. Nueefch[2], H. M. Wilson[2]; [1]LSU AgCenter, Southeast Research Station, Franklinton, [2]Mississippi State University, Department of Animal and Dairy Sciences, Mississippi State |
| 1:30 PM | 611 | Effects of feeding yeast culture on milk yield during heat stress conditions. Fabian Y. Bernal*, Jenks S. Britt, John W. Tako, Nevil C. Speer; Western Kentucky University |
| 1:45 PM | 612 | Improving the fermentation and aerobic stability of bermudagrass with molasses or a combination of bacteria and enzymes. A. T. Adesogan*, N. A. Krueger, D. B. Dean, M. B. Salawu, C. R. Staples; University of Florida, Gainesville |
| 2:00 PM | 613 | Use of exogenous proteolytic enzymes to improve lactational performance of dairy cows. Jong-Su Eun*, Karen Beauchemin; Agriculture and Agri-Food Canada, Lethbridge, AB, Canada |
| 2:15 PM | 614 | Effects of mixture enzymes on hydrolysis and rate of fermentation of alfalfa in vitro. A.A. Naserian*, S. Ghasemi; Animal Science Department of Ferdowsi University, Mashhad,Khorasan, Iran. |
| 2:30 PM | 615 | Effect of fibrolytic enzymes on the fermentation characteristics, aerobic stability and digestibility of bermudagrass silage. D.B Dean*, A.T Adesogan, N Krueger, R.C Littell; University of Florida, Gainesville |
| 2:45 PM | | Break |
| 3:15 PM | 616 | Development and use of an assay to test enzymatic activity of rumen microflora in calves. B.J. Suarez*, S. Fiardo, A.H.M Cornelissen, P. Van Wikselaar, W.J.J. Gerrits; Wageningen University, Wageningen, The Netherlands |
| 3:30 PM | 617 | Effects of feeding increasing levels of vitamin E on milk production variables, plasma fatty acid composition, and milk fatty acid profiles in Holstein cows experiencing diet induced milk fat depression. H.C. Hafliger III*, C.E. Moore, S.R. Sanders, L.H. Baumgard; The University of Arizona |

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|---|---|---|
| 3:45 PM | 618 | Effects of dietary forage and non-fiber carbohydrate concentrations on B-vitamin intake and duodenal flow in dairy cows. E. C. Schwab*[1], C. G. Schwab[2], C. L. Girard[3], R. D. Shaver[1], D. E. Putnam[4], N. L. Whitehouse[2]; [1]University of Wisconsin, Madison, [2]University of New Hampshire, Durham, [3]Dairy and Swine R&D Center, AAC, Lennoxville, QC, Canada, [4]Balchem Encapsulates, New Hampton, NY |
| 4:00 PM | 619 | Effect of feeding malic acid on performance of lactating Holstein cows. R.J. Grant*[1], C.S. Ballard[1], M.P. Carter[1], K.W. Cotanch[1], P. Mandebvu[1], C.J. Sniffen[2], M. Suekawa[5], S.A. Martin[3], T.K. Miller-Webster[4], W.H. Hoover[4]; [1]W.H. Miner Agricultural Research Institute, Chazy, NY, [2]Fencrest LLC, Holderness, NH, [3]University of Georgia, Athens, [4]West Virginia University, Morgantown, [5]Zen-Noh National Federation of Agricultural Co-operative Associations, Tokyo, Japan |
| 4:15 PM | 620 | Further validation of the fat sub-model in CPM-Dairy. Peter J. Moate*, Raymond C. Boston, William Chalupa; University of Pennsylvania, School of Veterinary Medicine, Kennett Square |
| 4:30 PM | 621 | Sensitivity analysis of the 2001 Dairy NRC and CNCPS protein fractionation systems. C. Lanzas*, L.O. Tedeschi, D.G. Fox; Cornell University, Ithaca, NY |

## *Ruminant Nutrition*

### *Dairy – Fats*

Chair: Greg Bethard, G&R Dairy Consulting, Inc.

Room: 275

| Time | Abstract # | |
|---|---|---|
| 1:00 PM | 622 | Effect of rumen protected conjugated linoleic acid on energy metabolism of dairy cows during early to mid-lactation. Kevin J Shingfield*[1], David E Beever[1], Christopher K Reynolds[1], Suresh K Gulati[2,3], David J Humphries[1], Berit Lupoli[1], Gonzalo Hervas[1], Mikko J Griinari[4]; [1]Centre for Dairy Research, University of Reading, UK, [2]University of Sydney, Australia, [3]Rumentek Pty Limited, Australia, [4]University of Helsinki, Finland |
| 1:15 PM | 623 | Effects of dietary CLA on production parameters and milk fatty acid variables in Holstein and Brown Swiss cows during heat stress. C. E. Moore*, H. C. Hafliger III, O. B. Mendivil, R. J. Collier, L. H. Baumgard; University of Arizona, Tucson |
| 1:30 PM | 624 | Effects of source and level of dietary lipid on in vitro production of conjugated linoleic acid and trans vaccenic acid. X. Qiu*[1], K. E. Griswold[2], G. A. Apgar[1], D. W. Murdach[1], E. D. Frantz[1], D. L. Hastings[1], B. N. Jacobson[1]; [1]Southern Illinois University, Carbondale, [2]Penn State University Extension, Lancaster |
| 1:45 PM | 625 | Concentration of cis-12 C18:1 in milk is more closely related to milk fat depression (MFD) than trans-10 C18:1 in cows fed fish oil. M.A.S. Gama[1], J.M. Griinari[2], P.C. Garnsworthy[3], P.H.M. Rodrigues[4], P.R. Leme[4], L.W.O. Souza[4], D.P.D. Lanna*[1]; [1]Esalq-USP Piracicaba, Brazil, [2]University of Helsinki, Finland, [3]University of Nottingham, UK, [4]Campus Pirassununga-USP, Brazil |
| 2:00 PM | 626 | Increasing dietary starch fermentability causes milk fat depression in low-producing, but not high-producing cows. B.J. Bradford*, M.S. Allen; Michigan State University, East Lansing |
| 2:15 PM | 627 | Effect of timing of initiation of fat supplementation on milk production, plasma hormones and metabolites, and conception rates of Holstein cows in summer. F. M. Cullens*, C. R. Staples, T. R. Bilby, F. Silvestre, J. Bartolome, A. Sozzi, L. Badinga, W. W. Thatcher, J.D. Arthington; University of Florida |
| 2:30 PM | 628 | Kinetic model of rumen biohydrogenation: effects of rumen-protected fatty acid saturation on fractional rate of biohydrogenation and duodenal fatty acid flow in lactating dairy cows. K.J. Harvatine*, M.S. Allen; Michigan State University, East Lansing |
| 2:45 PM | | Break |
| 3:15 PM | 629 | Effect of rumen-protected fatty acid saturation on feed intake and feeding and chewing behavior of lactating dairy cows. K.J. Harvatine*, M.S. Allen; Michigan State University, East Lansing |
| 3:30 PM | 630 | Abomasal infusion of L-carnitine alters hepatic fatty acid metabolism and decreases liver lipid in lactating Holstein cows. D. B. Carlson*[1], H. M. Dann[1], N. B. Litherland[1], J. C. Woodworth[2], J. K. Drackley[1]; [1]University of Illinois, Urbana, [2]Lonza, Inc., Fair Lawn, NJ |

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|---|---|---|
| 3:45 PM | 631 | Abomasal infusion of L-carnitine affects metabolic and production responses to feed restriction in lactating Holstein cows. D. B. Carlson*[1], H. M. Dann[1], N. B. Litherland[1], J. C. Woodworth[2], J. K. Drackley[1]; [1]University of Illinois, Urbana, [2]Lonza, Inc., Fair Lawn, NJ |
| 4:00 PM | 632 | Cholesystokinin mediates intake regulation of high fat diets in ruminants by acting on the reticulo-omasal sphincter. Devendra Kumar[1], Mark A. Froetschel*[1], T. Dean Pringle[1], Duane, H. Keisler[2]; [1]The University of Georgia, Athens, [2]University of Missouri, Columbia |
| 4:15 PM | 633 | Effect of Feeding Ca Salts of Palm Oil (PO) or a Blend of Linoleic and Monoenoic Trans Fatty Acids (LTFA) on Uterine Involution and Reproductive Performance in Holstein Cows. S.O. Juchem*[1], R.L.A. Cerri[1], R. Bruno[1], K.N. Galvao[1], E.W. Lemos[1], M. Villasenor[1], A.C. Coscioni[1], H.M. Rutgliano[1], W.W. Thatcher[2], D. Luchini[3], J.E.P. Santos[1]; [1]University of California, Davis, [2]University of Florida, [3]Bioproducts, Inc. |
| 4:30 PM | 634 | Responses of milk fat composition to dietary non-fiber carbohydrates in Sarda dairy sheep. A. Nudda*, S. Fancellu, F. Porcu, F. Boe, A. Cannas; Dipartimento di Scienze Zootecniche, University of Sassari, Italy |
| 4:45 PM | 635 | Nutritional properties and use of rumen protected oilseed /conjugated linoleic acid (CLA) supplements. S.K. Gulati*[1], S.W. McGregor[2], T.W. Scott[2]; [1]Sydney University, Australia, [2]Rumentek Pty Ltd, Australia |

## ***Sheep Species***

Chair: Jay Daniel, South Dakota State University

Room: 220

| Time | Abstract # | |
|---|---|---|
| 1:00 PM | 636 | Effect of GnRH in conjunction with ram introduction on the induction of fertile estrus during the non-breeding season. K.M. Jordan*, A.K. Wurst, E.K. Inskeep, M. Knights; Division of Animal and Veterinary Sciences, West Virginia University, Morgantown |
| 1:15 PM | 637 | The effect of metabolizable protein and machine milking on the periparturient relaxation of immunity against ***Teladorsagia circumcincta*** in dairy ewes. Elizabeth, C. Partington*, John Donaldson, Liam, A. Sinclair, Alexander, M. Mackenzie; Harper Adams University College, Newport, Shropshire |
| 1:30 PM | 638 | The effect of iodine supplementation to ewes in late pregnancy on lamb serum immunoglobulin level. T.M. Boland*, M.J. Guinan, M.A. Foley, P.J. Quinn, J.J. Callan, T.F. Crosby; University College Dublin, Belfield, Dublin 4, Ireland |
| 1:45 PM | 639 | The effects of mineral block intake by ewes in late pregnancy on dietary intake and IgG absorption by the progeny. T.M. Boland*, D Joyce, P.J. Quinn, J.J. Callan, T.F. Crosby; University College Dublin, Belfield, Dublin 4, Ireland |
| 2:00 PM | 640 | Shear force and sensory attributes of lamb from hair sheep composite breeds. S.P. Greiner[1], D.R. Notter[1], S.K. Duckett*[2]; [1]Virginia Polytechnic Institute and State University, Blacksburg, [2]University of Georgia, Athens |
| 2:15 PM | 641 | Evaluation of ultrasound measurements to predict carcass ribeye area and fat thickness in lambs. C.J. Hiemke*[1], D.L. Thomas[1], T.A. Taylor[1], R.G. Gottfredson[1], S. Pinnow[2]; [1]University of Wisconsin, Madison, [2]Pinn-Oak Ridge Farm, Delevan, WI |

# WEDNESDAY, JULY 28, 2004
## *POSTER PRESENTATIONS*

Room: Exhibit Hall 5

Presentation Time: 7:30 AM – 9:30 AM



### *PSA-Nutrition*

Abstract #

W1 Gluconeogenesis and Krebs Cycle metabolism in 2-day-old fed and fasted chicks. Nishanth E Sunny*, Samer W El-Kadi, Masahito Oba, Sandra L Owens, Rosalina Angel, Brian J Bequette; University of Maryland, College Park

W2 Effect of decreasing levels of protein in the diet on growth performance of Japanese quail fed fattening diets. R. Barajas*, J.J. Lomeli, J.F. Obregon, J.J. Portillo; FMVZ - Universidad Autonoma de Sinaloa Carr. Culiacan - Mazatlan km 3.5

W3 2-Hydroxy-4-(Methylthio) Butanoic Acid (HMTBA) and DL-Methionine Yield Equal Growth and Carcass Performance under Thailand Tropical Conditions. S. Attamangkune*[1], S. Chamruspollert[2]; [1]Poultry Research and Development Center, Kasetsart University, Thailand, [2]Novus International (Thailand) Co. Ltd

W4 Dietary glycine needs of broiler chicks. A. Corzo*[1], M. T. Kidd[1], D. J. Burnham[2], S. L. Branton[3], B. J. Kerr[3]; [1]Mississippi State University, [2]Ajinomoto-Heartland, [3]United States Department of Agriculture

W5 Effect of chromium methionine supplementation on internal egg quality preservation in Japanese quail. F.G. Rios*, C. Angulo, G. Contreras, J.J. Portillo; FMVZ - Universidad Autonoma de Sinaloa (Mexico) Carr. Culiacan-Mazatlan km 3.5

W6 Breeder hen and broiler dietary carnitine: Carry-over and dietary effects on progeny growth and carcass traits. M. T. Kidd*[1], C. D. McDaniel[1], E. D. Peebles[1], S. J. Barber[1], A. Corzo[1], S. L. Branton[2], J. C. Woodworth[3]; [1]Mississippi State University, [2]United States Department of Agriculture, [3]Lonza Inc.

W7 Methionine, cystine, phenylalanine, tyrosine, and non-essential AA maintenance requirements for broiler breeders. J. M. Sun[1], M. Debeer*[1], N. K. Sakomura[2], C. N. Coon[1]; [1]University of Arkansas, Fayetteville, [2]Sao Paulo State University, Jabotcabal, Sao Paulo, Brazil

W8 Comparison of Methionine Requirements Between an Alternative Slow-Growing Genotype and a Commercial Genotype During the Starter Period. A.C. Fanatico*, P.B. Pillai, J.L. Emmert; University of Arkansas, Fayetteville

W9 Effect of Tap water Taurine Supplementation upon Mortality Rate by PHS; ascites, Body Weight and Haemotocrit in Broiler Chickens in Northern Mexico. Norma E. Dominguez-Avila*[1], Rafael Rodriguez-Martinez[1], Miguel Arenas-Vargas[2], Raul Villegas-Vizcaino[1], Jesus H. Del Rio-Martinez[1], Fausto Sanchez y Garcia Figueroa[2], Romulo Bañuelos-Valenzuela[3]; [1]Universidad Autonoma Agraria Antonio Narro Unidad Laguna Perifierico y Carretera a Santa Fe, Torreon, Mexico, [2]Universidad Autonoma Metroplitana Unidad Xochimilco México, D.F., [3]Unidad Academica de Medicina Veterinaria y Zootecnia, UAZ El Cordobel, Enrique Estrada, Zacatecas, Mexico

W10 Broiler Performance and Carcass Parameters of Broiler Fed Diets Containing Lysine Maize. Mary L. Taylor*[1], Beverly George[2], Young Hyun[1], Margaret A. Nemeth[1], Karu Karunanandaa[1], Troy T. Lohrmann[3], Gary F. Hartnell[1]; [1]Monsanto, Co., LLC , St. Louis, MO, [2]Colorado Quality Research, Inc., Wellington, CO, [3]Renessen, LLC, Bannockburn, IL

W11 Effect of protein level and dietary germanium Biotite(Biotite V®) on egg production, egg quality and fecal volatile fatty acid in laying hens. W. B. Lee*[1], O. S. Kwon[1], B. J. Min[1], K. S. Son[1], J. W. Hong[1], Y. K. Han[2], I. H. Kim[1], Y. K. Jung[3]; [1]Department of Animal Resource & Science, Dankook University Cheonan, Korea, [2]Livestock Research Institute, National Agricultural Cooperatives Federation Korea, [3]Seobong BioBestech Co., Ltd Seoul, Korea

W12 Interrelationship of threonine and glycine in growing broilers. A. Corzo*[1], M. T. Kidd[1], D. J. Burnham[2], S. L. Branton[3], B. J. Kerr[3]; [1]Mississippi State University, [2]Ajinomoto-Heartland, [3]United States Department of Agriculture

W13 Dietary spray-dried plasma protein improves feed utilization, BW uniformity, and breast-meat yield of broilers raised in a relatively unsanitary environment. K Bregendahl[1], D Ahn[1], D Trampel[1], J Campbell[2], J Crenshaw*[2]; [1]Iowa State University, Ames, [2]APC Ankeny, IA

W14 Comparison of biological efficacy of Alimet® feed supplement and DL-methionine in broilers. Kew M. Chee*[1], Jin H. Choi[1], Mahn K. Chung[2]; [1]College of Life Sciences and Biotechnology, Korea University, Seoul, Korea, [2]Novus International Pte Ltd, Singapore

W15 AA requirements for broiler breeders at peak production. J. M. Sun, M. Debeer*, K. Bramwell, C. N. Coon; University of Arkansas, Fayetteville

W16 Dietary protein regulates short-term adaptations in lipogenic gene expression. R. W. Rosebrough*, B. A. Russell, S. M. Poch, M. P. Richards; Growth Biology Laboratory, ARS, USDA, Beltsville, MD

W17 Efficacy of enzyme supplementation in laying hens fed diets based mainly on barley. M.I. Gracia*[1], A. Flores[2], E. McCartney[3], M. Cortés[1], J. Sánchez[1]; [1]Imasde Agropecuaria, S.L. Spain, [2]Nutreco PRC Spain, [3]Pen&Tec Consulting Spain

W18 Metabolizable energy of meat and bone meal processed differently in broiler diets. M Moschini*[1], C Cerioli[1], L Fiorentini[1], M Morlacchini[2], G Piva[1]; [1]Universita' Cattolica del Sacro Cuore, Piacenza - Italy, [2]CERZOO San Bonico, Piacenza - Italy

W19 True metabolizable energy and amino acid digestibility of distiller's dried grains with solubles. A. B. Batal*, N. M. Dale; Dept. Poultry Science, University of Georgia, Athens

W20 Modelling Energy Utilization in Laying-type pullets. Nilva Sakomura*[1], Rafael Neme[1], Flavio Fialho[2], Elma Carrilho[1], Kleber Resende[1]; [1]Faculdade de Ciencias Agrarias e Veterinarias-Universidade Estadual Paulista Jaboticabal-SP - Brazil, [2]EMBRAPA Bento Gonçalves - RS

W21 Effect of Defferent Feedstuffs on Endogenous Energy Losses of Roosters. Shaowei Zhai*[1], Guanghai Qi[2], Fuzhu Liu[1]; [1]College of Animal Science, Northwest Sci-Tech University of Agriculture and Forestry, Yangling Shaanxi, China, [2] Feed Research Institute, Chinese Academy of Agriculture Science, Zhongguancun, Beijing, China

W22 Meeting metabolizable energy needs of broilers with corn-soy enzymes. Adriana Nogueira Figueiredo[1], Ronnie L. Dari*[1], E. Ernest M. Pierson[2], Milan Hruby[3], Janet C. Remus[2], A. Mario Penz[1], T. H. D'Alfonso[3]; [1]Nutron Animal Nutrition Research Center Campinas, São Paulo, Brazil, [2]Danisco Animal Nutrition, St. Louis, MO, [3]Danisco Animal Nutrition Marlborough, Wiltshire, UK

W23 Validation of dual energy X-ray absorptiometry (DXA) bone mineralization measures in broilers as an alternative to bone ash and breaking measures. R. Angel*[1], A. D. Mitchell[2], M. Christman[1]; [1]Univ. of Maryland, College Park, [2]USDA, Agricultural Research Service, Beltsville, MD

W24 A novel organic selenium source (zinc-L-selenomethionine, Availa®Se) for broilers. Beverly George[1], Steve Davis[1], Terry L. Ward*[2]; [1]Colorado Quality Research, Wellington, [2]Zinpro Corporation, Eden Prairie, MN

W25 Interactive effects of Zn, Cu, and Mn supplementation in diets for chicks. J. L. Shelton*, L. L. Southern; Louisiana State University Agricultural Center, Baton Rouge

W26 Phosphorus availability of distiller's dried grains plus solubles for male turkey poults. J.L. Kalbfleisch*, K.D. Roberson; Michigan State University, East Lansing

W27 Effect of supplementing selenium yeast in diets of laying hens on egg selenium content. P. Utterback*[1], C. Parsons[1], I. Yoon[2], J. Butler[2]; [1]University of Illinois, Urbana, [2]Diamond V Mills, Inc., Cedar Rapids, IA

W28 Effects of Withdrawing Vitamin and or Trace Mineral Premixes from Grower and Finisher Diets of Broiler. A Kamyab, A M. Hosseini*, R mohammadzadeh, K Taherpour; University of Tehran, Karaj, Iran

W29 Use of phytase and an enzyme complex containing a-amylase, xylanase and protease in commercial layers. J González*, S Cornejo, E Contreras, B Díaz, L Vera; Universidad de Chile, Facultad de Ciencias Veterinarias y Pecuarias Santa Rosa 11735 La Pintana, Santiago, Chile

W30 Effect of microbial phytase in low phosphorus and calcium level diet on the performance and nutrient digestibility in laying hens. B. J. Min*[1], O. S. Kwon[1], W. B. Lee[1], K. S. Son[1], J. W. Hong[1], T. H. Moon[2], Y. K. Han[3], I. H. Kim[1]; [1]Department of Animal Resource & Science, Dankook University, Cheonan, Korea, [2]InterMax System, Inc., Korea, [3]Livestock Research Institute, National Agricultural Cooperatives Federation, Korea

W31 Market Tom Turkey Performance and Dietary Phytase Inclusion. S. L. Noll*[1], J. Brannon[1], J. S. Sands[2]; [1]University of Minnesota, St. Paul, [2]Danisco Animal Nutrition, Marlborough, Wiltshire, UK

W32 Market Turkey Performance and Inclusion Level of Corn Distillers Dried Grains with Solubles. S. L. Noll*[1], J. Brannon[1], V. Stangeland[2]; [1]University of Minnesota, St. Paul, [2]Stangeland Feed Consulting, Willmar, MN

W33 Efficacy of Phyzyme® XP phytase in broiler diets containing different levels of calcium and non-phytate phosphorus: nitrogen retention and ileal amino acid digestibility. D.R. Ledoux*[1], J.N. Broomhead[1], J.S. Sands[2]; [1]University of Missouri, Columbia, [2]Danisco Animal Nutrition Marlborough, Wiltshire, UK

W34 Effects of phytase on the bioavailability of phosphorus in diets containing conventional or low-phytate corn and soybean meal for chicks. E. G. Xavier, G. L. Cromwell*, M. D. Lindemann; University of Kentucky, Lexington

W35 Influence of phytase enzyme supplementation on the growth performance of broiler chicks. Ahmed S. Hussein*, Ahmed M. Yousif; United Arab Emirates University College of Food Systems, Al-Ain, UAE

W36 The Use of Near-Infrared Reflectance Spectroscopy to Predict the Moisture, Dry Matter, Nitrogen, Total Phosphorus, and Phytase Phosphorus Contents in Broiler Litter. R.I. Bakalli[1], T.J. Frost[2], G.M. Pesti*[1], J.P. Driver[1], H.M. Edwards, Jr.[1]; [1]Poultry Science Department, University of Georgia, [2]Gold Kist, Inc., Atlanta, GA

W37 Bioefficacy of probiotics in broiler diets. M.I. Gracia*[1], R.M. Engberg[2], A.E. Espinel[3], M. Cortés[1], F. Baucells[1]; [1]Imasde Agropecuaria, S.L. Spain, [2]Danish Institute of Agricultural Sciences, Denmark, [3]Norel, S.A., Spain

W38 Effect of a probiotic containing two ***Lactobacillus*** strains on growth performance and population of bacteria in the ceca and carcass rinse of broiler chickens. Acie C. Murry, Jr.*[1], Arthur Hinton, Jr[2], Richard J. Buhr[2]; [1]The University of Georgia, Athens, [2]USDA/ARS, Athens, GA

W39 Comparison of Broiler Performance When Fed Diets Containing Insect-Protected (MON 88017 or MON 88017 x MON 810), Control, or Commercial Corn. Mary L. Taylor*[1], Beverly George[2], Young Hyun[1], Margaret A. Nemeth[1], Karu Karunanandaa[1], Gary F. Hartnell[1]; [1]Monsanto, Co., LLC, St. Louis, MO, [2]Colorado Quality Research, Inc., Wellington

W40 Comparison of Broiler Performance When Fed Diets Containing Corn With a Combination of Insect-Protected (MON 863, MON 810) and Glyphosate-Tolerant (NK603) Traits, Control, and Commercial Corn. Mary L. Taylor*[1], Beverly George[2], Young Hyun[1], Margaret A. Nemeth[1], Karu Karunanandaa[1], Gary F. Hartnell[1]; [1]Monsanto Company, LLC, St. Louis, MO, [2]Colorado Quality Research, Wellington

W41 Influence of cereal, heat processing of the cereal, and inclusion of fiber in the diet on performance of broilers. E. Jimenez-Moreno[1], J.M. González-Alvarado[2], D.G. Valencia[1], R. Lázaro[1], G.G. Mateos*[1]; [1]Universidad Politécnica de, Madrid, Spain, [2]Universidad Autónoma de Tlaxcala, México

W42 Effect Of Varied Levels Of Expander Cone Pressure And Dietary Energy Level On Apparent Metabolizable Energy, Nitrogen Retention, And Turkey Poult Performance During The Period Day 7 To 21. K. J. Wilson*, K. R. Cramer, J. S. Moritz, R. S. Beyer; Department of Animal Science and Industry, Kansas State University, Manhattan

W43 Bioavailability Of Lysine And Methionine In A Broiler Starter Diet Subjected To Varied Levels Of Expander Cone Pressure. K. J. Wilson*, K. R. Cramer, J. S. Moritz, R. S. Beyer; Department of Animal Science and Industry, Kansas State University, Manhattan

W44 Influence Of Expander Cone Pressure On Apparent Metabolizable Energy, Nitrogen Retention And Broiler Performance During The Starter Phase. K. J. Wilson*, J. S. Moritz, K. R. Cramer, R. S. Beyer; Department of Animal Science and Industry, Kansas State University, Manhattan

W45 Effect of dietary putrescine (1, 4-diaminobutane) on the small intestine protein and deoxyribonucleic acid concentration and morphometric indices in turkey poults challenged with a mixed coccidial infection. S.R Girdhar*, J.R Barta, T.K Smith; University of Guelph

W46 Effect of conjugated linoleic acid on antioxidant enzyme activities and lipid peroxidation in the intestine and liver of growing broiler chickens. I. S. Jang*, Y. H. Ko, H. Y. Yang, C. Y. Lee; RAIRC, Jinju National University, Jinju

W47 Effect of early feed restriction on egg quality characteristics of Japanese quail. G. Contreras*, P.C De la Rosa, C.B. Castro, J.J. Portillo, F.G. Rios; FMVZ-Universidad Autonoma de Sinaloa (Mexico) Carr. Culiacan-Mazatlan km 3.5

W48 Effect of early feed restriction on productive performance and carcass characteristics of Japanese quail. C.B. Castro, G. Contreras*, F.G. Rios, J.J. Portillo; FMVZ - Universidad Autonoma de Sinaloa (Mexico) Carr. Culiacan-Mazatlan km 3.5

W49 Adding thymol to a broiler diet influences in vitro cecal fermentation and in vivo growth performances. Andrea Piva*, Ester Grilli, Gabriele Casadei, Giacomo Biagi; DIMORFIPA - University of Bologna via Tolara di Sopra 50 - 40064 - Ozzano Emilia - Italy

W50 Palm fatty acid distillate calcium soap as vegetable fat source for broiler diets. J. Sánchez[1], A. Gutiérrez[2], J.I. Fernández[3], D. Menoyo[4], P. Medel*[1]; [1]Imasde Agropecuaria, S.L. Spain, [2]Nutreco PRRC Spain, [3]Norel, S.A. Spain, [4]Universidad Complutense de Madrid Spain

W51 Use of palm fatty acid distillate calcium soap as a vegetable fat source for broiler diets. M.I. Gracia*[1], A. Flores[2], J.I. Fernández[3], J. Peinado[1], C. López-Bote[4]; [1]Imasde Agropecuaria, S.L. Spain, [2]Nutreco PRRC Spain, [3]Norel, S.A. Spain, [4]Universidad Complutense de Madrid Spain

W52 Processed Mucuna (Mucuna pruriens) seeds for broiler production. Eustace A. Iyayi*, Markus Rodehutscord; Institut für Ernährungswissenschaften Martin-Luther-Universität, Emil-Abdrhalden, Halle, Germany

W53 Fat Quality Assessment of Feed and Pet Food-Grade Poultry By-Product Meals. W. A. Dozier, III*[1], N. M. Dale[2], A. F. Giesen[3]; [1]USDA-ARS Poultry Research Unit, Mississippi State, MS, [2]The University of Georgia, Athens, [3]Novus International, Inc. St. Louis, MO

W54 Influence of boiling, Biogen® or spices mixture to Mangrove leaves on performance of egg type pullets. Ahmed Eldeek*, Mohamed Al-Harthi; King Abdulaziz University Faculty of Meteorology Environmental and Arid Land Agriculture, Jeddah, Saudi Arabia

W55 Effects of Hippophae Rhomnoides Fruit Extract Supplementation on Egg Quality and Performance of Layers in the Wheat-based Diet. Fuzhu Liu*, Jin Fu, Zhuye Niu; Northwest Sci-Tech University of Agriculture & Forestry

W56 The Effects of Inclusion of a Fermented Fish By Product Meal in Guinea Fowl (***Numida meleagris***) Diets on Performance and Carcass Quality. Mireille Argüelles*, Héctor L. Santiago, Abner A. Rodríguez; Department of Animal Science, University of Puerto Rico - Mayagüez Campus, Mayagüez, PR

W57 Inclusion Of Coconut Meal In Broiler Initial Diets. Silvana Bastos, Maria de Fátima Fuentes*, Ednardo Freitas; Universidade Federal do Ceará, Departamento de Zootecnia, Fortaleza, CE, Brasil

W58 Pea, Faba beans and Lupin as an alternative protein source in broiler diet. M Moschini*[1], F Masoero[1], A Prandini[1], M Morlacchini[2], G Fusconi[2], G Piva[1]; [1]Universita' Cattolica del Sacro Cuore Via Emilia Parmense 84, Piacenza - Italy, [2]CERZOO San Bonico, Piacenza - Italy

W59 Influence of a paprika extract supplementaion on egg yolk color and performance of laying hens. Zhuye Niu*, Jing Fu, Fuzhu Liu; College of Animal Science & Technology, Northwest Sci-Tech University of Agriculture & Forestry

W60 Fermenting sludge from a broiler processing plant: Effect of inoculation with lactic acid-producing bacteria. Suzika Pagán*, Rebeka Sanabria, Abner A. Rodríguez, Melvin Pagán; Deparment of Animal Science, University of Puerto Rico - Mayaguez Campus

W61 Assessment of essential oils as potential substitutes for dietary antibiotics. Weiduo Si*[1], J. Gong [1], R. Cao[1], T. Zhou[1], H. Yu[1], C. Poppe[2], R Johnson[2], W. Du[3]; [1]Food Research Program, Agriculture and Agri-Food Canada, Guelph, ON, [2]Laboratory for Foodborne Zoonoses, Health Canada, Guelph, ON, [3]Ontario Ministry of Agriculture and Food, Guelph, ON

## *Nonruminant Nutrition*

## *Feedstuffs & Methodology*

Abstract #

W62 Comparison of classical and marker method, using three different markers and two analytical techniques, for the measurement of apparent digestibility in swine. Liliana L. Oetting*[1], Adibe L. Abdalla[2], Jacinta D.F. Gomes[3], Ana R.A. Nogueira[4], Carlos E. Utiyama[1]; [1]Escola Superior de Agricultura "Luiz de Queiroz" da Universidade de São Paulo, Piracicaba-SP, Brazil, [2]Centro de Energia Nuclear na Agricultura da Universidade de São Paulo, Piracicaba-SP, Brazil, [3]Faculdade de Zootecnia e Engenharia de Alimentos da Universidade de São Paulo, Pirassununga-SP, Brazil, [4]Empresa Brasileira de Pesquisa Agropecuária-Centro de Pesquisa de Pecuária do Sudeste Rod., São Carlos-SP, Brazil

W63 Comparison of the single dose and withdrawal method for measuring the rate of passage of swine basal diets using multiple markers and alternative analytical techniques. Liliana L. Oetting*[1], Adibe L. Abdalla[2], Jacinta D.F. Gomes[3], Ana R.A. Nogueira[4], Carlos E. Utiyama[1]; [1]Escola Superior de Agricultura "Luiz de Queiroz" da Universidade de São Paulo, Piracicaba-SP, Brazil, [2]Centro de Energia Nuclear na Agricultura da Universidade de São Paulo, Piracicaba-SP, Brazil, [3]Faculdade de Zootecnia e Engenharia de Alimentos da Universidade de São Paulo, Pirassununga-SP, [4]Empresa Brasileira de Pesquisa Agropecuária - Centro de Pesquisa de Pecuária do Sudeste Rod., São Carlos-SP, Brazil

W64 International Life Sciences Institute crop composition database: documenting natural variability in crop composition. William P. Ridley*[1], Raymond D. Shillito[2], Lucyna Kurtyka[3]; [1]Monsanto Company, St. Louis, MO, [2]Bayer CropScience, Research Triangle Park, NC, [3]International Life Sciences, Washington, DC

W65 Comparison of corn grain from biotech and non-biotech counterparts for grow-finish pig performance. H H Stein*[1], T Sauber[2], D Rice[2], M Hinds[2], D Peters[1], G Dana[2], P Hunst[3]; [1]South Dakota State University, Brookings, [2]Pioneer Hi-Bred International Inc., Johnston, IA, [3]Dow AgroSciences LLC, Zionsville, IN

W66 Digestive fate of a ***gdhA*** gene from a genetically modified corn fed to growing pigs. X. Qiu*[1], G. A. Apgar[1], K. E. Griswold[2], J. M. Beagle[1], M. P. Martin[1], K. L. Jones[1], M. J. Iqbal[1], D. A. Lightfoot[1]; [1]Southern Illinois University, Carbondale, [2]Penn State University Extension, Lancaster

W67 Herbicide-tolerant rice versus conventional rice in diets for growing-finishing pigs. G. L. Cromwell*[1], B. J. Henry[2], D. W. Fletcher[3]; [1]University of Kentucky, Lexington, [2]Bayer CropScience LP, Research Triangle Park, NC, [3]Genesis Midwest Laboratories, Neillsville, WI

W68 Ultrastructural-chemical makeup of canola seed tissues explored with synchrotron reflection FTIR microspectroscopy: A preliminary study. P. Yu*[1], J. J. McKinnon[1], R. W. Newkirk[2], C. R. Christensen[3], D. A. Christensen[1]; [1]College of Agriculture, University of Saskatchewan, Saskatoon, Canada, [2]Canadian International Grains Institute, Winnipeg, Canada, [3]Canadian Light Source, Saskatoon, Canada

W69 Proximate and amino acid composition in different sources of rice bran for pigs. C. Kaufmann[1], W. Sauer[1], M. Cervantes*[2], M. Rademacher[3], J. He[1]; [1]1Department of Agricultural, Food and Nutritional Science, University of Alberta, Edmonton, AB, Canada, [2]Instituto de Ciencias Agrícolas, Universidad Autónoma de Baja California Mexicali, BC, México, [3]Degussa-Huls AG D-63457 Hanau-Wolfgang

W70 Maturity zone effects on composition of soybean meals sampled from 55 U.S. processing plants. Lisa K. Karr-Lilienthal*, Chris M. Grieshop, Julie K. Spears, George C. Fahey, Jr.; University of Illinois, Urbana

W71 Sensory tests reveal that the efficacy on masking capacity of a strawberry flavor changes with different protein sources and their level in feed. Inés Pérez-Portabella, Conchita Puyuelo, Carles Ibáñez, Josep Solà, Eugeni Roura*; Lucta SA Barcelona, Spain

W72 An improved method for the rapid determination of phytase activity in animal feeds. T.W. Kim*, X.G. Lei; Cornell University Ithaca, NY

W73 The effect of dietary calcium on indicators of bone turnover in mares. Bryan D Cassill*, Susan Hayes, Jennifer Ringler, Kristen Janicki, Laurie Lawrence; University of Kentucky, Lexington

W74 Partitioning of metabolizable energy by rainbow trout and Atlantic salmon using a multivariate approach: species and diet effects. P.A. Azevedo*, S. Leeson, C.Y. Cho, S. Birkett, D.P. Bureau; University of Guelph, ON, Canada

## *Nonruminant Nutrition*

### *Sow & Gilt Nutrition*

Abstract #

W75 Ideal protein to improve lactation performance of multiparous sows. F. Ji*[1], Y. G. Kim[2], S. W. Kim[1]; [1]Texas Tech University, Lubbock, [2]CJ Corporation, Seoul, Korea

W76 Utilization of seaweed (Macrocystis pyrifera) meal in wheat-based diets for lactating sows. J. Baeza[1], M. Cervantes*[2], J. L. Figueroa[1], E. Chi[1], M. Cuca[1], N. Torrentera[2]; [1]Ganadería, Colegio de Postgraduados Montesillos, México, [2]ICA, Universidad Autónoma de Baja California Mexicali, BC, México

W77 The importance of dietary selenium on antioxidant status and hormonal profile in post-pubertal gilts. Marie-Ève Fortier*[1], Hélène Quesnel[2], Alain Giguère[3], Jean-François Bilodeau[1], Jean-Paul Laforest[1], J. Jacques Matte[3]; [1]Université Laval Québec, QC, Canada, [2]Institut de la Recherche Agronomique St-Gilles, France, [3]Agriculture and Agri-Food Canada Lennoxville, QC, Canada

W78 The effect of mannan oligosaccharides on reproductive performance in sows. P. Medel*[1], C. Piñeiro[2], A. Kocher[3], F. Baucells[1], M. I. Gracia[1]; [1]Imasde Agropecuaria, S.L. Spain, [2]PigChamp Pro Europa Spain, [3]Alltech Inc. Ireland

W79 The influence of feed intake during mid-gestation on performance of pregnant sows and progeny growth: a preliminary study. A. Cerisuelo[1], R. Sala[1], J. Coma[2], D. Carrión*[3], J. Gasa[1], M. Baucells[1]; [1]Universitat Autònoma de Barcelona Spain, [2]Agrocesa, S.A. Spain, [3]PIC España, S.A. Spain

## *Ruminant Nutrition*

Abstract #

W80 The Effect of Distillers Dried Grains with Solubles as the Protein Source in a Creep Feed. Phillip Lancaster, James Williams*, Joel Corners, Lori Thompson, Denise McNamara, Mark Ellersieck; University of Missouri, Columbia

W81 Effects of sire marbling EPD and creep feeding on feedlot performance and carcass characteristics of Hereford calves. J.E. Rossi*[1], T.D. Pringle[2], J.K. Bertrand[2]; [1]University of Georgia, Tifton, [2]University of Georgia, Athens

W82 Effects Of Feeding Byproducts On Animal Performance And Carcass Characteristics Of Finishing Beef Cattle Grazing Tropical Grass During Dry Season. André Alves Souza*[3], Celso Boin[1], Marcelo Queiroz Manella[1], Antônio João Lourenço[2]; [1]ESALQ/USP Brazil, [2]Instituto Zootecnia Brazil, [3]UNESP Brazil

W83 Effect of supplements of self feed on efficiency of microbial protein synthesis and excretion of N contents - urea on steers grazing Brachiaria decumbens, in the rainy season. Joanis Tilemahos Zervoudakis*[1], Mário Fonseca Paulino[2], Luciano Cabral[1], Edenio Detmann[3], Sebastião de Campos Valadares Filho[2], Eduardo Henrique Bevitori Kling de Moraes[2], Alexandre Lima de Souza[1]; [1]Universidade Federal de Mato Grosso Av. Fernando Corrêa da Costa, s/n, Cuiabá-MT-Brazil, [2]Universidade Federal de Viçosa Av. P.H. Rolphs, s/n, Viçosa, MG-Brazil, [3]Universidade Estadual Norte Fluminense Av. Alberto Lamego, Campos dos Goytacazes-RJ, Brazil

W84 Effects of CLA on tissue response to homeostatic signals and plasma lipid metabolism variables in growing beef steers. O.B. Mendivil*, C.E. Moore, H.C. Hafliger III, S.R. Sanders, G.C. Duff, L.H. Baumgard; The University of Arizona, Tucson

W85 Dietary effect on n-3 fatty acids, CLA and C18:1trans isomers in beef and lamb meat. K. Nuernberg*[1], D. Dannenberger[1], G. Nuernberg[1], N. Scollan[2], W. Zupp[3], K. Ender[1]; [1]Research Institute of the Biology of Farm Animals, Dummerstorf, Wilhelm-Stahl-Allee 2, Germany, [2]Institute of Grassland and Environmental Research Aberystwyth, UK, [3]Research Institute of Agriculture and Fishery Mecklenburg-Pomerania, State Institute for Animal Production, Dummerstorf, W.-Stahl-Allee 2, Germany

W86 Effect of CRINA RUMINANTS, a mixture of essential oil components, on continuous culture fermentation and milk production of lactating cows. G. Varga[1], E. Block*[2], P. Williams[3], T. W. Cassidy[1], R. Losa[4]; [1]The Pennsylvania State University, University Park, [2]Church & Dwight Co., Inc, Princeton, NJ, [3]Akzo Nobel, Inc, Davis, CA, [4]CRINA S.A., Gland, Switzerland

W87 Milk production and milk fatty acid profiles of cows fed different carbohydrate sources and soybean oil. E.C. Eifert*[1,2], R.P. Lana[1,2], J.M.S. Campos[1], D.P.D. Lanna[3], P.B. Arcuri[4], M.I. Leão[1], R.D. Valadares[1]; [1]Universidade Federal de Viçosa-DZO 36571-000, Viçosa, MG, Brazil, [2]CNPq Brasília, DF, Brazil, [3]LNCA-ESALQ/USP, [4]CNPGL-EMBRAPA

W88 Effects of increasing doses of a specific blend of essential oils on rumen nitrogen metabolism and fermentation profile in continuous culture system. Lorena Castillejos[1], Sergio Calsamiglia*[1], Alfred Ferret[1], Riccardo Losa[2]; [1]Universidad Autonoma de Barcelona Spain, [2]AKZONOBEL/CRINA SA Gland, Switzerland

W89 Effect of essential oils on ruminal fermentation in vitro. A. N. Hristov, J. K. Ropp, A. Melgar*; Department of Animal and Veterinary Science, University of Idaho, Moscow

W90 The conjugated linoleic acid and ù-3 fatty acids in milk and cheese from cows fed calcium salts of fish oil alone or in combination with soybean products. S. L. Allred*[1], T. R. Dhiman[1], C. P. Brennand[1], R. C. Khanal[1], D. J. McMahon[1], N. D. Luchini[2]; [1]Utah State University, Logan, [2]Bioproducts, Inc., Fairlawn, OH

W91 Evaluation of the degree of rumen inertness and bioavailability of ***trans***-10, ***cis***-12 CLA in a lipid encapsulated supplement. A. L. Lock*[1], J. W. Perfield II[1], D. E. Putnam[2], D. E. Bauman[1]; [1]Cornell University, Ithaca, NY, [2]Balchem Encapsulates, New Hampton, NY

W92 Milk fat conjugated linoleic acid in selected commercial dairies of Utah and Idaho. R. C. Khanal*, T. R. Dhiman; Utah State University, Logan

W93 Synthesis of trans fatty acids and isomers of conjugated linoleic acid in the rumen of cows fed grass silage based diets supplemented with incremental levels of sunflower oil. Kevin J Shingfield*[1], Seppo Ahvenjärvi[1], Vesa Toivonen[1], Pekka Huhtanen[1], Mikko J Griinari[2]; [1]MTT Agrifood Research Finland Jokioinen, Finland, [2]University of Helsinki Helsinki, Finland

W94 Effect of fish oil and sunflower oil supplements offered alone or in varying combinations on milk fatty acid composition in cows fed maize silage based diets. Kevin J Shingfield*[1], Christopher K Reynolds[1], David J Humphries[1], Berit Lupoli[1], Vesa Toivonen[2], Alistair S Grandison[3], Mikko J Griinari[4], David E Beever[1]; [1]Centre for Dairy Research, University of Reading Reading, UK, [2]MTT Agrifood Finland Jokioinen, Finland, [3]School of Food Biosciences, University of Reading Reading, UK, [4]University of Helsinki Helsinki, Finland

W95 Effects of rumen-protected fatty acid saturation on ruminal and total tract nutrient digestion in lactating dairy cows. K.J. Harvatine*, M.S. Allen; Michigan State University, East Lansing

W96 Effect of Ca Salts of Palm and Fish Oils on Lactation and Reproduction of Dairy Cows Under Heat Stress. R.G.S. Bruno*[1], K.N. Galvao[1], S.O. Juchem[1], W.W. Thatcher[2], E.J. DePeters[1], D. Luchini[3], J.E.P. Santos[1]; [1]University of California Davis VMTRC, Tulare, [2]University of Florida, Gainesville, [3]Bioproducts, Inc.

W97 Modulation of bovine hepatic lipid metabolism by fatty acids. J.A.A. Pires*[1], R.R. Grummer[1], D.G. Mashek[1], S.J. Bertics[1], D. Pirazzi[2], U. Bernabucci[2]; [1]University of Wisconsin, Madison, [2]Università della Tuscia Viterbo, Italia

W98 Milk fatty acid composition and lactation performance of cows fed linseed oil or fish oil in combination with sunflower seeds. K. F. Kalscheur*, A. R. Hippen, D. J. Schingoethe; South Dakota State University, Brookings

W99 The effect of dilution rate and pH on the conversion of stable isotopically labeled oleic acid to trans monoenes in continuous cultures. A. A. AbuGhazaleh*, M. B. Riley, T. C. Jenkins; Clemson University, Clemson, SC

W100 Feeding encapsulated ground full-fat soybean or sunflower oil gel containing tocopheryl acetate to increase tocopherol and linoleic acid levels in lamb carcass. Jung H Lee*[2,1], Sharon L Melton[1], John C Waller[1]; [1]University of Tennessee Agricultural Experimental Station, Knoxville, [2]Fort Valley State University, Georgia Small Ruminant Research Center, Fort Valley

W101 Corn silage hybrid quality effects on milk production in dairy cows. D.J.R. Cherney*, J.H. Cherney, L.E. Chase, W.J. Cox; Cornell University, Ithaca, NY

W102 Variation throughout lactation and between herds in maintenance energy expenditures of dairy cows estimated from energy balance data. J.L. Ellis*, F. Qiao, J.P. Cant; The University of Guelph, Guelph, ON

W103 Effect of an amino polysaccharide on production and composition of milk of Holstein and Jersey cows in México. G. González-Luna[1], J. Sánchez-Meraz[1], S. S. González*[1], J. Pinos-Rodríguez[2], R. Bárcena-Gama[1], Ma. E. Ortega-Cerrila[1], S. Infante-Gil[1]; [1]Colegio de Postgraduados Montecillo, Estado de México, México, [2]Universidad Autónoma de San Luis Potosí UASLP, Estado de San Luis Potosí, México

W104 Replacing Chopped Alfalfa Hay with Alfalfa Silage in Barley Grain and Alfalfa Based Total Mixed Rations for Lactating Dairy Cows. J.C. Plaizier*; Department of Animal Science, University of Manitoba

W105 Soybean hulls and corn gluten feed for replacing corn silage neutral detergent fiber in total mixed rations of lactating cows. Milton Lima*[1], Luiz Gustavo Nussio[2], Wilson Mattos[2]; [1]Universidade Federal de Goiás, Escola de Veterinária, DPA Campus II, Goiania, GO, Brazil, [2]Escola Superior de Agricultura Luiz de Queiroz Av. Pádua Dias, Piracicaba, SP, Brazil

W106 Effects of dietary forage and non-fiber carbohydrate concentrations on apparent B-vitamin synthesis in dairy cows. E. C. Schwab*[1], C. G. Schwab[2], C. L. Girard[3], R. D. Shaver[1], D. E. Putnam[4], N. L. Whitehouse[2]; [1]University of Wisconsin Madison, [2]University of New Hampshire, Durham, [3]Dairy and Swine R&D Center, AAC, QC, Canada, [4]Balchem Encapsulates, New Hampton, NY

W107 Effects of physically effective NDF on chewing activity and rumen pH of dairy cows fed diets based on corn silage. Wen Z. Yang*, Karen A. Beauchemin; Research Center, Agriculture and Agri-Food Canada, Lethbridge, AB, Canada

W108 Effect of physical and heat processing of cottonseed on chewing activity of Holstein dairy cows. A.R. Foroughi*, A. A. Naserian, R. Valizadeh, M. Danesh Mesgaran; Ferdowsi University of Mashhad

W109 Relationship between TMR, corn silage particle size and manure evaluation in dairy cows. G Mancin[1], V Dell'Orto[2], G Savoini*[2]; [1]Dept.of Morphology, Biochemistry, Physiology and Animal Productions, University of Messina, Italy, [2]Dept. of Veterinary Sciences and Technologies for Food Safety, University of Milan, Italy

W110 Intake and milk production of cows fed diets that differed in dietary NDF and NDF digestibility. C. Kendall*, D. K. Combs; University of Wisconsin, Madison

W111 Effect of physical forms of concentrate on milk composition and milk production of lactating Holstein cows. Julio Teixeira*, Beatriz Madeira, Lucia Teixeira, Mariana Santos; Universidade Federal de Lavras, Lavras, MG, Brasil

W112 Daily and diurnal variations in fecal ratios of n-alkanes concentrations in lactating cows grazing a tropical plant. Dimas Estrásulas de Oliveira*[2], Sérgio Raposo de Medeiros[3], Luís Januário Magalhães Aroeira[4], Dante Pazzanese Duarte Lanna[5]; [1]FAPESP, [2]Agroceres Nutrição Animal, [3]Embrapa Gado de Corte, [4]Embrapa Gado de Leite, [5]USP/ESALQ

W113 Changes in milk fatty acids during transition of dairy cows from diets based on conserved forage and grain to pasture. G. Aguiar, T. R. Dhiman*, A. L. Ure, S. F. Porter, L. L. Jeffs; Utah State University, Logan

W114 Preparation of fresh forage for ***in vitro*** and ***in sacco*** incubations. A.V. Chaves[1], G.C. Waghorn*[2], I.M. Brookes[1]; [1]Institute of Food, Nutrition and Human Health, Massey University, Palmerston North, New Zealand, [2]Dexcel Limited, Hamilton, New Zealand

W115 Inducing subacute ruminal acidosis (SARA): Effects on ruminal pH, DMI, and milk production. K. M. Krause*, G. R. Oetzel; School of Veterinary Medicine, University of Wisconsin, Madison

W116 The effects of monensin on feed intake pattern during sub-acute ruminal acidosis in dairy cows. D. E. Lunn[1], T. Mutsvangwa[1], N. E. Odongo*[1], T. F. Duffield[2], R. Bagg[3], P. Dick[3], G. Vessie[3], B. W. McBride[1]; [1]Department of Animal and Poultry Science University of Guelph, Guelph, ON, Canada, [2]Department of Population Medicine University of Guelph, Guelph, ON, Canada, [3]Elanco Animal Health Division, Eli Lilly Canada Inc. Guelph, ON, Canada

W117 Diet digestibility and rate of passage in Jersey and Holstein Friesian cows during transition. P. C. Aikman*[1], A. Boydell[2], A. Le Gallais[3], D. J. Humphries[1], C. K. Reynolds[4], D. E. Beever[1]; [1]CEDAR, The University of Reading UK, [2]BOCM PAULS Ltd Bristol, UK, [3]Jersey Milk Marketing Board St. Saviour, Jersey, [4]The Ohio State University, Wooster

W118 The effects of glucogenic supplements prepartum and calcium soap of fatty acids postpartum on production and peripartum metabolites in high producing dairy cows. Uzi Moallem*[1], Hana Lehrer[1], Maya Katz[1,2], David Sklan[2]; [1]1Department of Dairy Cattle, Institute of Animal Science, ARO POB 50250, Israel, [2]Animal Science Department, Faculty of Agriculture, Hebrew University Rehovot, Israel

W119 Physiological responses of Holstein cows fed rations with glucogenic supplements during the transition period. T.I. Belloso*[1], M.J. Hayen[1], M. Liboni[1], M.S. Gulay[1], F. Valdez[2], H.H. Head[1]; [1]University of Florida, Gainesville, [2]Kemin Americas, Lancaster, OH

W120 Ruminal and plasma responses in dairy cows to drenching or feeding glycerol. Pete L. Linke*[1], Jeff M. DeFrain[1], Arnold R. Hippen[1], Phillip W. Jardon[2]; [1]South Dakota State University, Brookings, [2]West Central Soy, Ralston, IA

W121 Adipose tissue metabolism, feed intake and milk production in response to dietary calcium propionate and chromium propionate from 21 days prepartum to 35 days postpartum in Holstein dairy cattle. John P. McNamara*[1], Fernando Valdez[2]; [1]Washington State University, Pullman, [2]Kemin Industries, Inc., Des Moines IA

W122 Effect of rumen protected choline on liver metabolism in periparturient dairy cows. P. Elek*[1], F. Husvéth[2], T. Gaál[3], J. R. Newbold[4]; [1]AGROKOMPLEX C. S. Co. Zichyújfalu, Hungary, [2]Veszprém University Keszthely, Hungary, [3]Szent István University Budapest, Hungary, [4]Provimi Research and Technology Centre Brussels, Belgium

W123 Supplemental Choline for Prevention and Alleviation of Fatty Liver. Reinaldo R. Cooke, Ric R. Grummer*, Sandra J. Bertics, Daniel Z. Caraviello, Marcelo H. Ramos, Noelia Silva del Rio; Univeristy of Wisconsin-Madison

W124 Feeding soybeans and rumen-protected choline to dairy cows during the periparturient period and early lactation. 1. Effects on production and energy balance. W.A. Oelrichs*, M.C. Lucy, M.S. Kerley, J.N. Spain; University of Missouri - Columbia

W125 Feeding soybeans and rumen-protected choline to dairy cows during the periparturient period and early lactation. 2. Effects on reproduction. W.A. Oelrichs*, M.C. Lucy, M.S. Kerley, J.N. Spain; University of Missouri-Columbia

W126 Estimation of VFA and Glucose Kinetics on Transition Dairy Cows provided monensin. X. Markantonatos*[1], Y. Aharoni[3], T. Cassidy[1], R. K. McGuffey[2], L. F. Richardson[2], G. A. Varga[1]; [1]The Pennsylvania State University, [2]ELANCO Animal Health, Greenfield, IN, [3]ARO, Newe Yaar Research Center, Israel

W127 Effect of level of prepartum alimentation in dairy cows on milk production, mRNA expression for gluconeogenic enzymes, and liver triglyceride concentration. J R Townsend*, S S Donkin; Department of Animal Sciences, Purdue University, West Lafayette, IN

W128 Nicotinic acid supplemented at a therapeutic level minimizes prepartum feed intake depression in dairy cows. P. D. French*; Oregon State University, Corvallis

W129 The effects of supplemental anionic salt fed during the periparturient period: Implications of milk production and feed intake for high producing dairy cows. James Spain, R.J. Vogel*, J.D. Sampson; University of Missouri - Columbia

W130 Effects of dry period length on performance and health of dairy cows during the subsequent lactation. J. Fernandez*, C. M. Ryan, D. M. Galton, T. R. Overton; Cornell University, Ithaca, NY

W131 Effects of Tri-Lution™ on Immune Response in the Pre-Fresh Dairy Cow. D. Jones*, D. Spangler, and R. Arendt; Agri-King, Inc., Fulton, IL

W132 Effect of feeding red clover or ryegrass silage to dry dairy cows on nitrogen balance and blood metabolites. J. M. Moorby*[1], P. H. Robinson[2], R. T. Evans[1]; [1]Institute of Grassland and Environmental Research, Aberystwyth, UK, [2]UCCE, Dept. of Animal Science, University of California, Davis

W133 Estimations of milk production by the NRC and the Cornell models when ruminal N balance was negative and MP was limiting. H. Kajikawa*[1], T. Koga[2], S. Ishizaki[3], H. Shinohara[4], K. Akutsu[5], S. Sato[6], K. Shimizu[7], T. Tamura[8], M. Seki[9]; [1]Natl. Inst. Livest. Grassl. Sci. Tsukuba, Ibaraki, Japan, [2]Nagano Anim. Ind. Exp. St. Shiojiri, Nagano, Japan, [3]Chiba Pref. Livest. Res. Center Yachimata, Chiba, Japan, [4]Gunma Anim. Husbandry Exp. St. Fujimi, Gunma, Japan, [5]Tochigi Pref. Dairy Exp. Inst. Nishinasuno, Tochigi, Japan, [6]Aichi-ken Agric. Res. Center Nagakute, Aichi, Japan, [7]Yamanashi Pref. Dairy Exp. St. Nagasaka, Yamanashi, Japan, [8]Tokyo Metropolitan Livest. Exp. St. Ome, Tokyo, Japan, [9]Niigata Livest. Res. Center Shitada, Niigata, Japan

W134 Prediction of Nutrient Supply to Dairy Cows from Concentrates: Comparison of the National Research Council-2001 Model with the Dutch System (DVE/OEB). P. Yu*; Department of Animal and Poultry Science, University of Saskatchewan, Saskatoon, SK, Canada

W135 Nutritive value of processed field tick beans predicted by two dairy models (NRC and DVE/OEB). P. Yu*[1], B. J. Leury [2], A. R. Egan[2]; [1]Department of Animal and Poultry Science, University of Saskatchewan, Saskatoon, SK, Canada, [2]School of Agriculture and Food Systems, University of Melbourne Parkville, Victoria, Australia

## *Production, Management and the Environment*

### *Nutrition and Environment*

Abstract #

W136 Application of manure screening as an on farm a tool to evaluate the animal/diet interface. M.J. Jerred*[1], T.G. Brion[1], S.R. Burghardi[1], K. A. Ruppel[2], M. A. Messman[1]; [1]Cargill Animal Nutrition, Elk River, MN, [2]Cargill Animal Nutrition, Albany, NY

W137 Prediction of urine N excretion from creatinine and milk urea nitrogen in primiparous and mulitparous cows. S.A. Flis*, M.A. Wattiaux; University of Wisconsin-Madison

W138 Indentifying dairy farms facing challenges in P management. Virginia A Ishler*, Les E Lanyon; Pennsylvania State University, University Park

W139 The effect of TASCO meal, on body temperature, respiration rate, horn flies, hair score and calf immunoglobulin levels in beef cows. Richard R. Evans*, John E. Huston, Tim F. Best; Mississippi State University, Prairie

W140 Efficacy of yeast ferment as urease inhibitor on controlling ammonia emission from manure slurry. Soonok Park*[1], Sejong Oh[2], Saehun Kim[1]; [1]Division of Food Science, Korea University, [2]Department of Animal Science, Chonnam University

W141 Benefits of reducing the volume of cleaning wastewater on large dairy farms. Jennifer K Diehl*, W James Harper; The Ohio State University, Columbus

W142 Composting organic wastes from a commercial slaughter house in Puerto Rico. Rebeka Sanabria-León*, Abner A. Rodríguez, Héctor L. Santiago; University of Puerto Rico Mayagüez Campus, Mayagüez, PR

W143 Effects of pit flushing frequency on farrowing house odor and gas concentrations. Janelle M. Schlipf*, Mike Ellis, Jibin Ni, Yuanhui Zhang, Atilla Mutlu, Ted L. Funk; University of Illinois, Urbana-Champaign

W144 Evaluation of round bale feeding sites on soil fecal bacteria and nutrient concentrations. N. A. Lenehan, J. M. DeRouchey*, T. T. Marston, M. L. Christian, G. L. Marchin; Kansas State University, Manhattan

## *Beef Species*

### *Management and Performance*

Abstract #

W145 Evaluation of SafeGuard® (fenbendazole) oral drench in addition to Ivomec® (ivermectin) pour-on on performance and carcass merit of finishing heifers. C.D. Reinhardt*, J.P. Hutcheson, W.T. Nichols; Intervet, Inc., Millsboro, DE

W146 Examination of reproduction and weaning results in Limousin cattle population in Hungary. Ferenc Szabo*[1], Zoltan Lengyel[1], Sandor Balika[2], Ildiko Erdei[1], David Marton[1], Timea Major[1], Szabolcs Bene[1]; [1]University of Veszprem Georgikon Faculty of Agriculture Deak F. u. 16. 8360 Hungary, [2]Hungarian Limousin Association Loportar u. 16. Budapest 1136 Hungary

W147 Predictors of the final carcass grades in crossbred steers. Katsuji K. Uetake*[1], Toshie T. Ishiwata[1], Naoshige N. Abe[2], Yusuke Y. Eguchi[1], Toshio T. Tanaka[1]; [1]School of Veterinary Medicine, Azabu University, Sagamihara, Japan, [2]Faculty of Agriculture, Tamagawa University, Machida, Japan

W148 Evaluation of implant strategy and days on feed on performance and carcass merit of finishing yearling steers. John P. Hutcheson*[1], Wade T. Nichols[1], Chris R. Reinhardt[1], Spencer R. Swingle[2], Kendall J. Karr[2]; [1]Intervet, Inc., Millsboro, DE, [2]Cactus Research, Ltd., Amarillo, TX

W149 Comparison of weaning and yearling ultrasonic measures of body composition in angus breeding cattle. Tommy Perkins*, Arbindra Rimal; Southwest Missouri State University, Springfield

W150 Effects of an artificial sweetener (Sucram C-150) on performance and health of newly received beef cattle. J. D. Rivera*[1], John T. Richeson[1], Michael L. Galyean[1], Whitney Rounds[2], Patrick Schlegel[3]; [1]Texas Tech University, Lubbock, [2]Prince Agri Products, Inc., Quincy, IL, [3]Pancosma Geneva, Switzerland

W151 Effect of shade in feedlot pen on growth performance response of finishing beef cattle the cold season in the northwest of Mexico. R. Barajas*[1], B.J. Cervantes[1], R.J. Virgilio[2], P. Castro[2]; [1]FMVZ-Universidad Autonoma de Sinaloa (Mexico) Carr. Culiacan-Mazatlan km 3.5, [2]Tecnologia de Maxima Produccion S.A. de C.V. Boulevard Enrique cabrera, Sector Humaya

W152 Effect of hormonal implant failure on growth performance response of finishing beef cattle re-implanted during raining hot season in the northwest of Mexico. R. Barajas*[1], B.J. Cervantes[1], R.J. Virgilio[2], P. Castro[2]; [1]FMVZ-Universidad Autonoma de Sinaloa (Mexico) Carr. Culiacan-Mazatlan km 3.5, [2]Tecnolgia de Maxima Produccion S.A. de C. V. Blvd. Enrique Cabrera Sector Humaya

W153 Long term comparative trial of ear tags and ceramic boluses for the electronic identification of beef cattle under European rangeland conditions. J. J. Ghiradi[1,2], G. Caja[1], C. Conill[1], M. Hernández-Jover*[1], D. Garín[1,3]; [1]Universitat Autonoma de Barcelona, Bellaterra, Spain, [2]Universidad Nacional del Litoral, Esperanza, Argentina, [3]Universidad de la República, Montevideo, Uruguay

W154 Comparison of pre-yearling, yearling, and post-yearling ultrasonic measurements of body composition in Brahman bulls. Tracy D. Jennings*[1], Tommy Perkins[1], Joe C. Paschal[2]; [1]Southwest Missouri State University, Springfield, [2]Texas A&M University, Corpus Christi

W155 Cow-calf efficiency of four different dam genotypes. L. Calegare[1], M. M. Alencar[2], G. M. Cruz[2], D. P. D. Lanna*[1]; [1]Animal Growth and Nutrition Lab. ESALQ/USP Piracicaba, SP, Brazil, [2]Brazilian Southeast Cattle Research Center

W156 Efficacy and persistency of pour-on dewormers differing in active ingredient and carrier on weight gain and fecal egg count in stocker beef cattle. Jonathon L Beckett*[1], Brian P Wetzel[1], Tim Richards[2], Bill Clymer[3]; [1]Cal Poly State University, San Luis Obispo, [2]Kahua Ranch, Ltd, Kamuela, HI, [3]Fort Dodge Animal Health, Overland Park, KS

W157 Ultrasound and carcass measures of different biological types of beef cattle developed under a rotational management-intensive grazing system. M. L. Thomas*[1], T. L. Perkins[2], A. H. Brown, Jr.[1], R. T. Baublits[1], D. W. Kellogg[1], Z. B. Johnson[1]; [1]University of Arkansas, [2]Southwest Missouri State Universtiy

W158 Effect of feeding corn silage diets on reduction of drinking water intake and growth performance of cattle in feedlot under hot humid weather in the Northwest of Mexico. R. Barajas*[1], B.J. Cervantes[1], A. Camacho[1], R.J. Virgilio[2], P. Castro[2], E. Sanchez[3]; [1]FMVZ - Universidad Autonoma de Sinaloa Carr. Culiacan - Mazatlan km 3.[5], [2]Tecnologia de Maxima Produccion S.A. de C.V. Blvd. E. Cabrera, Sector Humaya, [3]UAEGES Carr. Culiacan-Sanalona, km 3

W159 The Effect Of Different Types Of Morphologically Abnormal Spermatozoa On Bovine Embryo Development After IVF. Anneke H. Walters*[1], W.E. Eyestone[2], R.G. Saacke[1], R.E. Pearson[1], F.C. Gwazdauskas[1]; [1]Department of Dairy Science, Virginia Polytechnic Institute and State University, [2]Department of Large Animal Clinical Science, Virginia Polytechnic Institute and State University

## *Goat Species*

Abstract #

W160 Replacement of alfalfa neutral detergent fiber with a combination of nonforage fiber sources on ruminal pH and performance in Alpine goats raised under natural conditions in northern Mexico. Pedro Antonio Robles-Trillo*[1], Leodan Garcia-Palestina[1], Edgar De Lazaro-Urbina[1], Rafael Rodriguez-Martinez[1], Romulo Bañuelos-Valenzuela[2]; [1]Universidad Autonoma Agraria Antonio Narro Unidad Laguna Periferico y Carretera a Santa Fe, Torreon, Mexico, [2]Unidad Academica de Medicina Veterinaria y Zootecnia, UAZ Calera de Victor Rosales, Mexico

W161 Influence of diet and gut fill on blood metabolites and fecal shedding of E. coli in sheep and goats. V. R. Gutta*, G. Kannan, B. Kouakou, K. M. Gadiyaram, W. R. Getz, G. W. McCommon, Y. Lan; Fort Valley State University, Fort Valley, GA

W162 Effect of different levels of food and water deprivation on serum levels of catecholamines, glucose, and creatinine in Mexican-native goats. C Meza, RM Rincon, R Bañuelos, F Echavarria, CF Arechiga*; Universidad Autonoma de Zacatecas Zacatecas, Mexico

W163 Effect of buck presence on frequency, amplitude, and concentration of luteinizing hormone (LH) in Mexican-native goats exposed to artificial photoperiod. RM Rincon*[1], CF Arechiga[1], FJ Escobar[1], MA Lopez[1], J Valencia[2]; [1]Universidad Autonoma de Zacatecas Zacatecas, Mexico., [2]Universidad Nacional Autonoma de Mexico, Mexico, D.F.

W164 Mineral content of diets selected by range criollo goats in a poor condition shrubland of north Mexico. M.A. Cerrillo-Soto*, G. Nevarez-Carrasco, R. Montoya-Escalante, A.S. Juarez-Reyes; Universidad Juarez del Estado de Durango Durango, Dgo. Mexico

W165 Mineral content of forage selected by goats grazing an oak shrubland in north Mexico. M.A. Cerrillo-Soto*, G. Nevarez-Carrasco, R. Montoya-Escalante, A.S. Juárez-Reyes; Universidad Juárez del Estado de Durango Durango, Dgo. México

W166 Silymarin administration to transition dairy goats: effects on liver tissue and plasma metabolites. Doriana Tedesco*[1], Sara Galletti[1], Daniela Olivero[2], Marco Tameni[1], Stefania Rossetti[1]; [1]Department of Veterinary Sciences and Technologies for Food Safety Via Celoria, Milan, Italy, [2]BiEsseA Via Amedeo D'Aosta, Milan, Italy

W167 Assay of antibiotic residues in goat milk. Mohammad Bsharat*, Rahmat Attaie; Prairie View A&M University Prairie View, TX

W168 Evaluation of Mimosa (***Albizia julibrissin***) and Leucaena (***Leucaena leucocephala***) as feeds for goats. Jada Q. Bing*, Robert N. Corley III; Tuskegee University, Tuskegee, AL

W169 Evaluation of ***Albizia julibrissin*** (mimosa) for internal parasite control in goats. Carla Hopkins-Shoemaker*[1], Sandra Solaiman[2], Byron Blagburn[1], David Bransby[1], Chris Kerth[1]; [1]Auburn University, Auburn, AL, [2]Tuskegee University, Tuskegee, AL

W170 The use of crawfish meal waste as a protein source for feeding goats. Sebhatu Gebrelul*, C. Reuben Walker, Antonio Harris, Arthur Dantzler; Southern University and A&M College SU Agricultural Research and Extension Center, Baton Rouge, LA

W171 Evaluation of three novel anthelmintics to control internal parasites in female Boer goats. R Franco*[1], M Worku[1], J Miller[2], D Libby[1], T Hanner[1], P Matterson[1]; [1]North Carolina Agricultural and Technical State University, Greensboro, [2]Louisiana State University, Baton Rouge

W172 Evaluation of diatomaceous earth as a component of goat production practices. C Bernard*, M Worku, P Matterson, D Libby, T Hanner, M Ahmedna; North Carolina Agricultural and Technical State University, Greensboro

W173 Effect of two levels of energy supplementation on forage intake, growth, and blood parameters in Boer and Kiko-sired crossbred kids. Stephan Wildeus[1], Kenneth E. Turner*[2], Joni R. Collins[1]; [1]Virginia State University, Petersburg, [2]USDA, ARS, AFSRC, Beaver, WV

W174 Effects of the number of yearling Boer crossbred wethers per automated feeding system on feed intake, feeding behavior, and growth performance. A. L. Goetsch*, T. A. Gipson, G. Detweiler, R. C. Merkel, T. Sahlu; E (Kika) de la Garza American Institute for Goat Research, Langston University, Langston, OK

W175 Influence of progesterone on synchronization and pregnancy rate of Alpine does. M. L. Looper*[1], R. C. Merkel[2], E. R. Loetz[2], A. L. Goetsch[2], L. J. Dawson[3], J. M. Burke[1], R. Flores[4]; [1]USDA-ARS, Dale Bumpers Small Farms Research Center Booneville, AR, [2]E (Kika) de la Garza American Institute for Goat Research, Langston University, Langston, OK, [3]College of Veterinary Medicine, Oklahoma State University, Stillwater, [4]University of Arkansas, Fayetteville

W176 Effect of breed and litter size on yields of milk, milk fat, and milk protein in Boer x Spanish and Spanish does. B. Tamir, R. C. Merkel*, T. A. Gipson, A. L. Goetsch; E (Kika) de la Garza American Institute for Goat Research, Langston University Langston, OK

W177 Evaluation of predictions of body weight and feed intake by growing crossbred Boer goats with a goat simulation model. M. Villaquiran*[1], L. C. Nuty[2], T. A. Gipson[1], A. L. Goetsch[1], H. D. Blackburn[3]; [1]E (Kika) de la Garza American Institute for Goat Research, Langston University, Langston, OK, [2]Cooperative Agricultural Research Center, Prairie View A&M University, Prairie View, TX, [3]USDA/ARS/NPA/NSSL/NAGP, Fort Collins, CO

W178 Goats for vegetation management: animal performance and carrying capacity. S. Hart*, J. Joseph, A. Goetsch; E (Kika) de la Garza American Institute for Goat Research, Langston University, Langston, OK

W179 Effects of feed restriction on heat production by mature meat goats. I. Tovar-Luna*, A. L. Goetsch, R. Puchala, T. Sahlu; E (Kika) de la Garza American Institute for Goat Research, Langston University, Langston, OK

W180 Effects of length of pasture access on energy use by growing meat goats. T. Berhan, R. Puchala*, R.C. Merkel, T.A. Gipson, G. Animut, A.L. Goetsch, T. Sahlu; E (Kika) de la Garza American Institute for Goat Research, Langston University, Langston, OK

W181 Effects of pasture inclusion of mimosa on growth by co-grazing goats and sheep. G. Animut*[1,2], A.L. Goetsch[1], G.E. Aiken[3], R. Puchala[1], G. Detweiler[1], C.R. Krehbiel[2], R.C. Merkel[1], T. Sahlu[1], L.J. Dawson[4], Z.B. Johnson[5]; [1]E (Kika) de la Garza American Institute for Goat Research, Langston University, Langston, OK, [2]Animal Science Department, Oklahoma State University, Stillwater, [3]USDA ARS Dale Bumpers Small Farms Research Center, Booneville, AR, [4]College of Veterinary Medicine, Oklahoma State University, Stillwater, [5]Department of Animal Science, University of Arkansas, Fayetteville

Abstract #

W182 A computerized system for monitoring feeding behavior and individual feed intake of dairy cattle in loose-house conditions. Alex Bach*[1,2], Cristina Iglesias[2], Isabel Busto[3]; [1]ICREA, Barcelona, Spain, [2]IRTA-Unitat de Remugants, Barcelona, Spain, [3]Diputació de Girona, Semega, Girona, Spain

W183 A Comparison of Three Animal Welfare Assessment Programs on California Dairies. C.L. Stull[1], B.A. Reed*[2], S.L. Berry[1]; [1]University of California Cooperative Extension, Davis, [2]University of California Cooperative Extension, Orland

W184 Effects of feed barrier design on feeding and social behavior of loose housed dairy cows. M. I. Endres*[1], M. A. G. von Keyserlingk[2], T. J. DeVries[2], D. M. Weary[2]; [1]University of Minnesota, St. Paul, [2]The University of British Columbia, Vancouver, Canada

W185 The Effect of Feed Intake Levels on Behaviors of Transition Dairy Cows. K.J. Daniels*, J.R. Townsend, S.S. Donkin, E.A. Pajor, A.G. Fahey, M.M. Schutz; Purdue University, West Lafayette, IN

W186 Suckling latency in neonatal Holstein calves. H. E. Carpenter*, J. S. Birney, K. A. Koudele; Andrews University, Berrien Springs, MI

W187 Subsequent effects of an environmental enrichment in the early fattening stage of beef cattle on their behavior, physiology and productivity. Toshie T. Ishiwata*[1], Katsuji K. Uetake[1], Naoshige N. Abe[2], Yusuke Y. Eguchi[1], Toshio T. Tanaka[1]; [1]School of Veterinary Medicine, Azabu University, Sagamihara, Japan, [2]Faculty of Agriculture, Tamagawa University, Machida, Japan

W188 Effect of increasing sodium bicarbonate proportion in high concentrate diets on performance, intake, water consumption and feeding behavior in finishing beef heifers. L. González*, A. Ferret, S. Calsamiglia, X. Manteca; Universitat Autònoma de Barcelona Edifici V, Campus UAB, Bellaterra, Barcelona, Spain

W189 Can sheep learn to minimise the length of their foraging path? Andrew J. Rook*, James E. Cook; Institute of Grassland and Environmental Research North Wyke, Okehampton, Devon, UK

W190 ***We have ways of getting you to. . . . behave!*** Jocelyn K Haskell*, Fredrick D Provenza; Department of Forestry, Range and Wildlife, Utah State University, Logan

W191 Effects of fescue toxicosis on CYP3A4 in rats at thermoneutrality. R.S. Settivari*, V.C. Dhulipala, P.A. Eichen, L.E. Wax, T.J. Evans, G.E. Rottinghaus, D.E. Spiers; University of Missouri, Columbia

W192 Dose-response relationship between ergovaline and physiological changes associated with fescue toxicosis. P. A. Eichen*, D. E. Spiers, G. E. Rottinghaus; University of Missouri, Columiba

W193 Housing effect on behavior and physiology during feed-withdrawal molt in laying hens: furnished cages vs. conventional cages. Kim Pohle*[1], Heng-Wei Cheng[1,2]; [1]Purdue University, [2]USDA-LBRU-ARS

W194 Effects of acute stress on physical and hormonal response in three genetic strains of laying hens. Laura Jefferson*, Heng-wei Cheng; United States Department of Agriculture, Agricultural Research Service, Livestock Behavior Research Unit, West Lafayette, IN

W195 Can perches and platforms affect the incidence of gait abnormalities in broiler chickens? C. Falcone*[1,2], J. A. Mench[2], P. Wakenell[3]; [1]Departamento de Psicologia, Universidade de Sao Paulo, CAPES, Brazil, [2]Department of Animal Science, University of California, Davis, [3]Department of Health and Reproduction, University of California, Davis

W196 Evolution of nursing behavior in Meishan-derived and white sows subjected to an auditory stimulus to decrease nursing intervals throughout lactation. Chantal Farmer*, Suzanne Robert; Agriculture and Agri-Food Canada, Dairy and Swine R & D Centre, Lennoxville, Canada AAFC, Research Centre, Lennoxville, QC, Canada

W197 Trickle versus drop feeding for gilts and sows in gestation crates or pens: reproductive performance and rates of injury. John McGlone[1], Lindsey Hulbert*[1], Jeff Dailey[2], Rebecca McPherson[1], Julie Morrow[2]; [1]Texas Tech University Pork Industry Institute, [2]USDA-ARS Livestock Issues Research Unit

W198 Performance and longevity of gestating sows housed in pens with electronic sow feeder (ESF) and in individual stalls. L. Anil*[1], S. Anil[1], S. K. Baidoo[2], J. Deen[1]; [1]Department of Veterinary Population Medicine, University of Minnesota, Saint Paul, [2]Southern Research and Outreach Center, University of Minnesota,Waseca

W199 Novel arena/object test to assess housing related stress in gestating sows housed in stalls and in pens with electronic sow feeders (ESF). L. Anil*[1], S. Anil[1], S. K. Baidoo[2], J. Deen[1]; [1]Department of Veterinary Population Medicine, University of Minnesota, Saint Paul, [2]Southern Research and Outreach Center, University of Minnesota,Waseca

W200 The effect of cold draft on behavior of newly weaned piglets. Andrea Bruni*, Tina M. Widowski; University of Guelph, Guelph, ON, Canada

W201 Analysis of euthanasia and death in swine breeding herds. Sukumarannair S. Anil*, Leena Anil, John Deen; Department of Veterinary Population Medicine, University of Minnesota, Saint Paul

W303 Cow preference between conventional sand bedded free stalls and free stalls with sand savers. Richard J Norell*[1], Phillip C Deaton[1], Joel H Packham[2], Stuart C Parkinson[3]; [1]University of Idaho, Idaho Falls, [2]University of Idaho, Paris, [3]University of Idaho, Preston

## *ADSA Growth and Development*

Abstract #

W202 Effects of weaning and ionophore on selected blood metabolites and growth in dairy calves. J. L. Klotz*, R. N. Heitmann; Department of Animal Science, The University of Tennessee, Knoxville

W203 The effects of feeding chlortetracycline on the performance of breeding age dairy heifers. E.D. Reid*, P.S. Erickson; University of New Hampshire, Durham

W204 The effect of feeding three milk replacer regimens preweaning on heifer intake, prepubertal and pubertal growth parameters and reproductive performance. C.S. Ballard*[1], H.M. Wolford[1], C.J. Sniffen[2], T. Sato[3], K. Uchida[3], Y. Yabuuchi[3]; [1]W.H. Miner Agricultural Research Institute Chazy, NY, [2]Fencrest LLC Holderness, NH, [3]Zen-Noh National Federation of Agricultural Co-operative Associations Tokyo, Japan

W205 Effects of intake, selection for milk yield, and bST administration on hepatic expression of insulin receptors and components of the somatotropic axis in growing Holstein heifers. S. H. Wu*, W. J. Weber, H. Cheser-Jones, L. B. Hansen, B. A. Crooker; University of Minnesota St. Paul

W206 Effect of implant program on somatotropin (ST) response to growth hormone releasing factor (GRF) in finishing Holstein steers. B. A. Crooker*[1], W. J. Weber[1], C. Cheatham[2], L. H. Baumgard[2], G. C. Duff[2]; [1]University of Minnesota St. Paul, [2]University of Arizona Tucson

W207 Analysis of in vivo body composition of new born calves using dual energy x-ray absorptiometry (DXA). Julia Hampe*, Stefan Nueske, Armin M. Scholz, Martin Foerster; University Munich, GE

W208 Updating growth standards for Canadian Holstein and Ayrshires. Daniel M. Lefebvre*[1], René Lacroix[1]; [1]Dept. of R&D, PATLQ - Quebec DHI Ste-Anne-de-Bellevue, QC, Canada, [2]Dairy Information Systems Group, McGill University Ste-Anne-de-Bellevue, QC, Canada

W209 Identifying ruminal drinking by measurement of respiratory quotient and methane production in preruminant calves. J.J.G.C. van den Borne*, S.J.J. Alferink, W.J.J. Gerrits; Animal Sciences Group, Wageningen University and Research Centre, Wageningen, The Netherlands

W210 Cloning the genomic sequence and proximal promoter of bovine pyruvate carboxylase. Sarah M. Rodriguez*, Christopher A. Bidwell, Shawn S. Donkin; Purdue University, West Lafayette, IN

## *Physiology and Endocrinology*

### *Reproductive Technologies and Management*

Abstract #

W211 The effect of day six or day seven prostaglandin $F_{2a}$ ($PGF_{2a}$) injections and using a disinfectant lubricant with Controlled Internal Drug Release (CIDR®) inserts for estrus synchronization in dairy heifers. W. M. Graves*[1], A. K. McLean[1], R. C. Smith[1], J. B. Rosenberg[2], B. C. Beachnau[3]; [1]University of Georgia, Athens, [2]Fort Dodge Animal Health, Fort Dodge, IA, [3]Pfizer Animal Health, Portland, MI

W212 Development of a boar semen mobility assay. AA Olivera, DL Fernandez*, ES Fonda; Department of Animal and Veterinary Sciences, California State Polytechnic University, Pomona

W213 In vitro production of Holstein embryos using "Beltsville method" sex-sorted sperm. R.D. Wilson*[1], K.A. Weigel[1], P.M. Fricke[1], M.L. Leibfried-Rutledge[2], D.L. Matthews[1], J.J. Rutledge[1,2], V.R. Schutzkus[1]; [1]University of Wisconsin Madison, Madison, [2]BOMED Inc, Madison, WI

W214 Induction of bilateral double ovulation to promote twinning in beef cattle. M. Hogeg[1], A. Bor[2], Y. Lavon[1], M. Maman[1], S. Jacoby[2], D. Wolfenson*[1]; [1]The Hebrew University, Rehovot, Israel, [2]Agricultural Research Organization Bet Dagan, Israel

W215 Effects of holding time prior to freezing on the motility, viability and membrane binding ability of ram sperm. Phillip H. Purdy*; USDA-ARS-National Animal Germplasm Program, Fort Collins, CO

W216 Effects of PGF presynchronization and CIDR on pregnancy rates in suckled beef cattle subjected to fixed-time insemination following estradiol and progesterone treatment to synchronize follicular growth, and PGF and estradiol cypionate treatment to synchronize ovulation. J. A. Small*[1], M. G. Colazo[2], J. P. Kastelic[3], R. J. Mapletoft[2]; [1]Agriculture and Agri-Food Canada Brandon, MB, Canada, [2]WCVM-University of Saskatchewan Saskatoon, SK, Canada, [3]Agriculture and Agri-Food Canada Lethbridge, AB, Canada

W217 Effect of Presynchronization with GnRH on Fertility of Holstein Dairy Heifers Receiving Synchronization of Ovulation and Timed Artificial Insemination (TAI). Humberto Rivera*, Paul M. Fricke; University of Wisconsin, Madison

W218 Effect of termination of pregnancy on serum concentrations of pregnancy associated glycoproteins in beef cows. D.C. Busch*, J.A. Atkins, D.J. Schafer, J.F. Bader, D.J. Patterson, T.E. Parks, J.A. Green, M.F. Smith; University of Missouri, Columbia

W219 Use of supplemental GnRH following timed-insemination on pregnancy rates in dairy cattle exposed to mild heat stress or cool season environments. T Dickerson*, K Graves, J White, S Bowers, A Denson, S Schmidt, S Willard; Mississippi State University, Mississippi State

W220 Effect of prolonged in vivo incubation of sperm from high and low fertility bulls on pregnancy survival in lactating dairy cows. Melissa W. Macfarlane*, Bruce J. Macfarlane, J. Richard Pursley; Michigan State University, East Lansing

W221 Synchronization of beef heifers using cidr with estradiol cypionate. Daniel M. Kniffen*[1], B. M. Neely[1], P. R. Tozer[2], M. L. O'Connor[1]; [1]Penn State University, University Park, [2]Western Australian Department of Agriculture Geraldton, WA. Australia

W222 Synchronization of estrus in suckled beef cows using GnRH, prostaglandin $F_{2a}$ (PG), and progesterone (CIDR): a multi location study. J. E. Larson*[1], G. C. Lamb[1], J. S. Stevenson[2], S. K. Johnson[2], M. L. Day[3], T. W. Geary[4], D. J. Kesler[5], J. M. DeJarnette[6], F. N. Schrick[7], J. D. Arseneau[8]; [1]University of Minnesota, [2]Kansas State University, [3]The Ohio State University, [4]USDA-ARS, [5]University of Illinois, [6]Select Sires, Inc., [7]University of Tennessee, [8]Purdue University

W223 Synchronization of estrus in replacement beef heifers using GnRH, prostaglandin $F_{2a}$ (PG), and progesterone (CIDR): a multi-location study. J. E. Larson*[1], G. C. Lamb[1], T. W. Geary[2], J. S. Stevenson[3], S. K. Johnson[3], M. L. Day[4], D. J. Kesler[5], J. M. DeJarnette[6], D. G. Landblom[7]; [1]University of Minnesota, [2]USDA-ARS, [3]Kansas State University, [4]The Ohio State University, [5]University of Illinois, [6]Select Sires, Inc., [7]North Dakota State University

W224 Ovulatory and reproductive characteristics of sows treated with an intravaginal GnRH agonist gel. Kara Roski*[1], William Flowers[1], G.B. Rampacek[2], D.L. Gregor[3], M. Swanson[3], H.D. Hafs[3]; [1]North Carolina State University, Raleigh, [2]University of Georgia, Athens, [3]EIEICO, Inc., Radnor, PA

W225 The effects of estradiol cypionate on expression of estrus in a follicular synchronization program. B. Dixon*, D. L. Ray, T. B. Hatler, W. J. Silvia; Department of Animal Science, University of Kentucky, Lexington

W226 Influence of milk production on conception following artificial insemination or embryo transfer in lactating Holstein cows. DGB Demetrio*[1], JLM Vasconcelos[1], CA Rodrigues[2]; [1]FMVZ-UNESP Botucatu, SP, Brazil, [2]Samvet Clinica e Embrioes, Brazil

W227 Follicular diameter in postpartum Nellore cows treated with CRESTAR protocol. GC Perez*, RM Santos, JLM Vasconcelos, ETN Pereira, DB Araujo; DPEA-FMVZ-UNESP Botucatu, SP, Brazil

W228 Serum progesterone concentrations in Nellore x Angus heifers treated with 1.38-g or 1.9-g CIDR devices. RM Santos*[1], JLM Vasconcelos[2], GC Perez[2], ABB Maciel[2], OG Sa Filho[2]; [1]FCAV-UNESP Jaboticabal, SP, Brazil, [2]FMVZ-UNESP Botucatu, SP, Brazil

W229 Prolonged in vivo incubation of sperm affects fertility of lactating dairy cows and gender ratio of resulting offspring. Melissa W. Macfarlane*, Bruce J. Macfarlane, J. Richard Pursley; Michigan State University, E. Lansing

W230 Effect of eCG and/or calf removal after CRESTAR protocol in Nellore cows. GC Perez*, JLM Vasconcelos, RM Santos, ETN Pereira, OG Sa Filho; DPEA-FMVZ-UNESP Botucatu, SP, Brazil

W231 Assessment of pregnancy in the mare using digital infrared thermography. S. Bowers*, S. Gandy, B. Anderson, P. Ryan, S. Willard; Mississippi State University, Mississippi State

W232 Optimizing sperm concentration to maximize monospermy and minimize polyspermy with bovine in vitro fertilization . Moises Barcelo-Fimbres*, George E Seidel Jr; Colorado State University, Ft Collins

W233 Fixed-time insemination utilizing an Eazi-Breed™ CIDR® in combination with gonadotropin-releasing hormone or estradiol cypionate. K.J. Stutts*[1], D.W. Forrest[1], C.R. Looney[2]; [1]Texas A&M University, College Station, [2]OvaGenix, Navasota, TX

W234 Deep uterine horn AI improves fertility of lactating dairy cows. J. Richard Pursley*; Michigan State University, E. Lansing

W235 Addition of ECP or calf removal to a modified MGA + CO-Synch protocol for synchronization of ovulation in beef cows. S.K. Johnson, K.R. Harmoney, J.S. Stevenson*; Kansas State University, Manhattan

W236 Effect of a Addition of a CIDR Insert to the Heatsynch Protocol on Ovulation Rate, Pregnancy Rate and Pregnancy Loss in Lactating Dairy Cows. K.N. Gavao*, S.O. Juchem, R.L.A. Cerri, A.C. Coscioni, M. Villasenor, J.E.P. Santos; University of California Davis VMTRC, Tulare

W237 Use of milk progesterone following artificial insemination in a resynchronization program for early rebreeding in dairy cows. A. Denson*, T. Dickerson, S. Bowers, S. Schmidt, K. Graves, K. Moulton, S. Willard; Mississippi State University, Mississippi State

W238 Use of CIDR with a Timed Insemination Protocol in Lactating Dairy Cows During Summer in Mexico. Frederico Moreira*, Rogelio Flores, Joseph Boucher; Pfizer Animal Health

W239 Efficacy of an Injection of Dinoprost Tromethamine When Given Subcutaneously in Two Different Sites on Luteal Regression in Lactating Holstein Cows. R.C. Chebel*[1], J.P. Reynolds[1], R.L.A. Cerri[1], J. Versteeg[2], H. M. Rutgliano[1], J.E.P. Santos[1]; [1]University of California Davis VMTRC, Tulare, [2]Pfizer Animal Health

## *Production, Management and the Environment*

## *Reproduction and Health Management*

Abstract #

W240 A Herd Health Management Program Resulted in Decreased Days Open in First Lactating cows in Northern Thailand. Khwanchai Kreausukon*[1], Veerasak Punyapornwitthaya[1], Pongpat Kattapan[2], Witaya Suriyasathaporn[3]; [1]Clinic of Ruminant, Chiang Mai University, Chiang Mai Province, Thailand, [2]LumPhoon Office of Department of Livestock Development, Lumphoon Province, Thailand

W241 Pregnancy rates and serum cortisol concentrations of relocated recipient cows in an embryo transfer program. JL Lopez*, E Gonzalez, DL Fernandez; California State Polytechnic University, Pomona

W242 Evaluation of temperature and temperature-humidity index and their effects on reproduction in beef cattle. Jamee L. Amundson*, Terry L. Mader, Richard J. Rasby, Q. Steven Hu; University of Nebraska-Lincoln

W243 Synchronization of beef cows using GnRH, prostaglandin $F_{2a}$, and estradiol. W.A. Greene, M.L. Borger*; The Ohio State University, Wooster

W244 Monitoring of estrus characteristics in pubertal and pregnant heifers using radiotelemetry. Melissa Paczkowski*, Thomas Craig, Derry Magee, James Thompson, David Forrest; Texas A&M University, College Station

W245 The effect of body weight change on conception. C.D. Dechow*, J.E. Vallimont, M.L. O'Connor; The Pennsylvania State University, University Park

W246 Productive and reproductive performance of bathed Holstein cows during the summer. M. Tarazon*, J. Valenzuela, S. Araiza, F. Denogean; Universidad de Sonora, Hemosillo, MX

W247 Financial losses and management practices associated with BTSCC. Ana Carolina O. Rodrigues*, Daniel Z. Caraviello, Pamela L. Ruegg; Dept. of Dairy Science, University of Wisconsin-Madison

W248 Consistency Index as a Dynamic Field Measure of BTSCC Variation. Joanna Lukas*[1], M. L. Kinsel[2], J. K. Reneau[1]; [1]University of Minnesota, St Paul, [2]Agricultural Information Management, Inc., Ellensburg, WA

W249 Factors Affecting Raw Milk Quality at Milk Collecting Center-Level in Northern Thailand. S. Boonyayatra[1], S. Rojanasthien[1], K. Kreausukon*[1], P. Tharavichitkul[2], K. Ajariyakhajorn[3]; [1]Faculty of Veterinary Medicine Chiang Mai University, Chiangmai, Thailand, [2]Chiang Mai University, Chiangmai, Thailand, [3]Chulalongkorn University, Bangkok,Thailand

W250 Effect of Season on High Bulk Milk Somatic Cell Count in Northern Thailand. Suvichai Rojstian*, Veerasak Punyapornwittaya, Weerawan Tiwanuntakorn, Sukolrat Boonyayatra, Jarunluk Younggad, Chutchai Apairoj, Witaya Suriyasathaporn; Department of Clinic of Ruminant, Chiangmai University Chiang Mai Province, Thailand

W251 Growth and parasite burdens of St. Croix White and Dorper X St. Croix White lambs grazing native pasture during the wet season in the US Virgin Islands. Raina E. Dodson*, Adam J. Weis, Robert W. Godfrey; University of the Virgin Islands, Agricultural Experiment Station, Kingshill

W252 Phylogenetic relationship and distribution of bacteria in the mucosa of chicken guts: from the crops to ceca. J. Gong[1], W. Si*[1], R. Huang[2], F. Deng[1], Y. Yin[1], H. Yu [1], Y. Han[3]; [1]Food Research Program, Agriculture and Agri-Food Canada Guelph, ON, Canada, [2]Institute of Subtropical Agriculture, Chinese Academy of Sciences Changsha, China, [3]Maple Leaf Foods Agresearch Guelph, ON

Abstract #

W253 A computerized approach to minimize inbreeding of breeding plans. John R. Garbe*, Yang Da; Department of Animal Science, University of Minnesota, St. Paul

W254 Full pedigree analysis of QTL affecting growth, carcass, and meat quality in pigs. N. Vukasinovic*[1], F.-X. Du[1], L. A. Messer[1], J. C. Byatt[1], M. M. Lohuis[1], A. C. Clutter[1], J. Bennewitz[2], N. Reinsch[2], G. Otto[2], K. Sanders[2], N. Borchers[2], E. Kalm[2]; [1]Animal AG Monsanto Company, [2]Institute of Animal Breeding and Husbandry Christian-Albrechts University of Kiel, Germany

W255 Efficiency of selection on multiple QTL in a crossbred population. Napapan Piyasatian*, Rohan Fernando, Jack Dekkers; Iowa State University, Ames

W256 Comparison of normalization and models for the analysis of gene expression data. S. L. Rodriguez-Zas*[1], M. R. Band[2], R. E. Everts[1], B. R. Southey[1], Z. L. Liu[1], H. A. Lewin[1,2]; [1]University of Illinois, Urbana, [2]W. M. Keck Center for Comparative and Functional Genomics, University of Illinois, Urbana

W257 Graphical visualization of two large complex populations using Pedigraph 2.0. John R. Garbe*, Yang Da; Department of Animal Science, University of Minnesota, St. Paul

W258 Spanish buck ß-B inhibin/activin (INHBB) microsatellite polymorphisms. R. Realivasquez*[1], S. A. Ericsson[1], S. F. Spiller[1], W. T. Campbell[1], K. L. Sternes[1], P. H. Purdy[2], H. D. Blackburn[2], J. M. Dzakuma[3]; [1]Sul Ross State University Alpine, TX, [2]USDA-ARS-National Animal Germplasm Program, Fort Collins, CO, [3]Prairie View A&M University, Prairie View, TX

W259 Mapping QTL in complex pedigrees. G. Freyer*[1], N. Vukasinovic[2]; [1]Research Institute for the Biology of Farm Animals, Dummerstorf, Germany, [2]Animal AG Monsanto Company

W260 INHA microsatellite polymorphisms in Angora bucks. S. F. Spiller*[1], S. A. Ericsson[1], R. Realivasquez[1], W. T. Campbell[1], K. L. Sternes[1], P. H. Purdy[2], H. D. Blackburn[2], J. M. Dzakuma[3]; [1]Sul Ross State University Alpine, TX, [2]USDA-ARS-National Animal Germplasm Program, Ft. Collins, CO, [3]Prairie View A&M University, Prairie View, TX

W261 Effects of the ***Compact*** mutant myostatin allele ***Mstn$^{Cmpt\text{-}dl1Abc}$*** introgressed into a high growth mouse line on skeletal muscle cellularity. C. Rehfeldt*[1], G. Ott[2], D.E. Gerrard[3], L. Varga[4], W. Schlote[5], J.L. Williams[6], L. Bünger[7]; [1]Research Institute for the Biology of Farm Animals Dummerstorf, Germany, [2]University of Applied Sciences Lemgo, Germany, [3]Purdue University, West Lafayette, IN, [4]Agricultural Biotechnology Center Gödöllö, Hungary, [5]Humboldt University, Berlin, Germany, [6]Roslin Institute (Edinburgh), Roslin Midlothian, UK, [7]ICAPB University of Edinburgh, Edinburgh, UK

W262 Detection and characterization of microsatellite loci based on PCR. Hoyoung Y. Chung*, Jimin M. Ha, Sungjong J. Oh, Seungwhan W. Lee; National Livestock Research Institute 564 Omokchon

W263 Using plasma IGF-I concentration for genetic improvement of feed efficiency in beef cattle. R. M. Herd[1], D. J. Johnston[2], K. Moore[2], H-U. Graser[2], P. F. Arthur*[3]; [1]NSW Agriculture - Armidale, Australia, [2]Animal Genetics and Breeding Unit, Armidale, Australia, [3]NSW Agriculture - Camden, Australia

W264 Growth hormone gene polymorphisms differentially predict ADG and carcass traits in performance tested Angus and Brangus bulls. M.G. Thomas[1], R.M. Enns[2], G.A. Silver*[1], M.D. Garcia[1], K.L. Shirley[1], V.R. Beauchemin[1], D.M. Hallford[1]; [1]New Mexico State University, [2]Colorado State University

W265 An improved approximation of the gametic covariance matrix for marker assisted genetic evaluation by BLUP. F. Pita*[1], R. Fernando[2], L. Totir[2]; [1]Newsham Genetics, LC, [2]Iowa State University

W266 Identification of quantitative trait loci for carcass and growth traits in swine using principal components analysis. T. M. Stearns*, S. L. Rodriguez-Zas, J. E. Beever, M. Ellis, F. McKeith, B. R. Southey, J. Hartschuh, R. J. Feltes; Department of Animal Sciences, University of Illinois, Urbana

W267 Chromosomal assignment of 24 candidate genes for swine efficient growth. M Grosz*[1], J Byatt[1], C Dyer[1], K Hinds[1], K Eyer[2], C Beattie[2]; [1]Monsanto Company, Chesterfield, MO, [2]Department of Animal Biotechnology, University of Nevada-Reno

W268 Mapping and genetic variation within porcine 70 kiloDalton heat shock protein 2 (HSPA2). M Grosz*[1], G Rohrer[2]; [1]Monsanto Company, Chesterfield, MO, [2]USDA-ARS US Meat Animal Research Center, Clay Center, NE

## *Food Safety*

Abstract #

W269 Correlation of genomic changes with morphological dimorphism of ***Campylobacter jejuni***. Hong Wang*, Michael Slavik; POSC University of Arkansas, Fayetteville

W270 Risk assessment for antibiotic resistance in foodborne pathogens isolated from poultry products. N Kotrola, Rachel Roy*; Auburn University, Auburn, AL

W271 Risk Assessment of stress factors and Listeria monocytogenes Biofilm formation. Bridget Dean*, Paulo Mohyla, Rachel Roy, Nahed Kotrola; Auburn University, Auburn, AL

W272 Fumonisin B1 absorption study in Ussing Chamber model reveals a possibile active transport. Gabriele Casadei[1], Fabio Galvano[2], Nino Chiulli[1], Giacomo Biagi[1], Andrea Piva*[1]; [1]University of Bologna, ITALY , [2]University of Reggio Calabria, ITALY

W273 Effects of Fumonisin B1 on Pathological and Immunological Parameters in Pigs Consuming Diets With or Without the Addition of Activated Charcoal. Andrea Piva*[1], Duarte E. Diaz[4], Gabriele Casadei[1], Enrico Cabassi[2], Gianfranco Piva[3]; [1]University of Bologna, ITALY, [2]University of Parma, ITALY, [3]Catholic Univeristy of the Sacred Heart, ITALY, [4]Fondazione Parco Tecnologico Padano, ITALY

W274 Comparison of Rectoanal Mucosal Swabs (RAMS) and Fecal Culture for Determining Prevalence of ***Escherichia coli*** O157 in Feedlot Cattle. M. A. Greenquist*[1], J. S. Drouillard[1], T. G. Nagaraja[2], J. M. Sargeant[2], B. E. Depenbusch[1], X. Shi[2], K. F. Lechtenberg[3]; [1]Department of Animal Sciences and Industry, Kansas State University, Manhattan, [2]Department of Diagnostic Medicine and Pathobiology, Kansas State University, Manhattan, [3]Midwest Veterinary Services, Inc., Oakland, NE

W275 Effects of nitrate adaptation and chlorate supplementation on fecal ***escherichia coli*** conentrations in holstein steers. J. T. Fox*[1], R. C. Anderson[2], G. E. Carstens[1], R. K. Miller[1], D. J. Nisbet[2]; [1]Texas A&M University, College Station, [2]USDA-ARS, FFSRU, College Station, TX

W276 Effect of caffeine on inactivation of ***Escherichia coli*** O157:H7 in laboratory media. S. A. Ibrahim*; North Carolina A&T State University

W277 Using origanox in combination with sodium lactate and sodium acetate to inhibit the growth of ***Escherichia coli*** O157:H7. S. A. Ibrahim*, S. R. K. Dharmavaram; North Carolina A&T State University

W278 Selection of anti-bacterial peptides against ***E. coli*** O157:H7 and UTI from f88-4/15 library. C. J. Fu*, F. J. Schmidt, S. A. Mounter, M. S. Kerley; University of Missouri, Columbia

## *Dairy Foods*

## *Microbiology*

Abstract #

W279 Lactic acid fermentation by ***Lactobacillus reuteri*** in laboratory medium supplemented with various nutrients. S. Phetsomphou*, S. A. Ibrahim; North Carolina A&T State University

W280 Influence of an ***Arthrospira (Spirulina) platensis*** biomass on acid production of lactococci. Noémi Molnár, László Varga*, Jeno Szigeti, Beáta Gyenis; Institute of Food Science, Faculty of Agricultural and Food Sciences, University of West Hungary, Mosonmagyaróvár, Hungary

W281 Occurrence of Glutathione sulphydryl(GSH) and Antioxidant Activities of Probiotic Lactobacillus spp. Yung H. Yoon*, Jung. R. Byun; Department of Animal Science and Technology, Chung-Ang University

W282 Functionality and Survivability of Probiotics in Carbonated Yogurt Beverage. Frank Lee, Mingruo Guo*; University of Vermont, Burlington

W283 Influence of bile salts on growth, antimicrobial activity and ß-galactosidase activity of ***Lactobacillus reuteri***. S. A. Ibrahim*, S. A. Ahmed; North Carolina A&T State University

W284 Incidence of ***Escherichia coli*** O157:H7 in raw milk and survival of a five strain cocktail of ***E. coli*** O157:H7 during the 60 days aging period of hard cheese made from unpasteurized milk. Joseph Schlesser*[1], Robert Gerdes[2]; [1]Food and Drug Administration, NCFST, Summit-Argo, IL, [2]Illinois Institute of Technology, Summit-Argo

W285 Incorporation and survival of probiotic bacteria in yogurt for use as a functional food. S. Hekmat*[1], S. Royal[2,3], G. Reid[2,3]; [1]Brescia University College at The University of Western Ontario, [2]The University of Western Ontario, [3]Lawson Health Research Institute

W286 Development of probiotic concentrated yogurt using direct reconstitution method. S. Hekmat*, V. W. Y. Ng, A. J. Holman; Brescia University College at The University of Western Ontario

W287 Suitability of ***Kluyveromyces*** spp. for use in single-cell protein production from sweet cheese whey. Balázs Ásványi, Jeno Szigeti, László Varga*; Institute of Food Science, Faculty of Agricultural and Food Sciences, University of West Hungary, Mosonmagyaróvár, Hungary

W288 Ethanol Metabolism by Probiotic Lactic Acid Bacteria ***in vivo***. Woo Y. Yang*[1], Young T. Ahn[2], Kwang S. Lim[2], Chul S. Huh[2], Young J. Baek[2], Hyung S. Kim[1]; [1]Culture Systems, Inc., Mishawaka, IN, [2]Korea Yakult Co., Ltd Yongin si, Kyunggi do, South Korea

W289 Effects of proteolytic starter cultures on melt characteristics of low moisture part skim (LMPS) Mozzarella cheese. S. Das*, R. I. Dave; Dairy Science Department, South Dakota State University, Brookings

W290 Exo-polysaccharides Production in Whey Mineral Concentrate. Nirav Pandya*[1], Rajiv Dave[1], Ashraf Hassan[1], Lloyd Metzger[2]; [1]Dairy Science Department, South Dakota State University, [2]Food Science and Nutrition Department, University of Minnesota

W291 Modification of sweet whey for the growth of ***Bifidobacterium bifidum***. Humberto Hernandez-Sanchez*, Maria Luisa Mier-Espinosa, Maria Teresa Cruz y Victoria; Escuela Nacional de Ciencias Biologicas - Instituto Politecnico Nacional

W292 Optimization Of Fermentation Conditions For Development Of Environmentally Friendly Deicer. Lanwei Zhang, Sumangala Gokavi*, Jiancai Li, Mingruo Guo; University of Vermont

W293 Extraction Of Acetic Acid From Fermented Whey Permeate Broth. Lanwei Zhang, Sumangala Gokavi, Jiancai Li*, Mingruo Guo; University of Vermont

W294 Evaluation of modified M17 broth for growth of ***Lactobacillus reuteri*** and ***Bifidobacterium*** sp. S. A. Ahmed*, S. A. Ibrahim; North Carolina A&T State University

W295 Effect of dietary whey protein and ***Lactobacillus Casei*** ATCC 393 on the change of lymphocytic cell population in rats. H. J. Lim*, J. G. Kim, H. Y. Oh, S. H. Kim, K. Y. Whang; Korea Univ., Seoul, Korea

W296 Viability of ***Bifidobacterium longum*** and ***Lactobacillus reuteri*** in sour cream. S. A. Ibrahim, E.D. Wilson*; North Carolina A&T State University

W297 Yogurt development from camel milk. Isameldin B. Hashim*, Ali H. Khalil; United Arab Emirates University

W298 Physico-chemical and sensory properties of liquid-type yogurt with ***Lactobacillus casei*** 00692. B. J. Jeon*, J. S. Seok, H. S. Kwak; Sejong University, Seoul, Korea 98 Kunja-dong, Kwangjin-gu, Seoul, Korea

## *International Animal Agriculture*

Abstract #

W299 Utilization of ***Leucaena leucocephala*** as supplement for goats in the semi arid areas of Venezuela. T. Clavero*, R. Razz; La Universidad del Zulia

W300 Estimation of genetic and phenotypic parameters of total milk production in Suran Holstein dairy farm. Sonia Zakizadeh, Arash Horufi*, Masume Qolipur; High Education Center of Jihad & Agriculture Mashhad, Sento High Way, Between Jihad and Television Squares

W301 Assessment of microbial colonization and kinetics degradation of Distichlis grass irrigated with fresh or brackish water in dromedary camels. G Alhadrami*[1], A El Awad[1], M Pessarakli[2]; [1]Department of Aridland Agriculture, College of Food Systems, United Arab Emirates University, Al Ain, United Arab Emirates, [2]Department of Plant Sciences, University of Arizona, Tucson

W302 Effect of molasses on nutritional quality of ***Pithecellobium dulce*** silage. T. Clavero*, R. Razz; La Universidad del Zulia

W303 See page 148

# WEDNESDAY, JULY 28, 2004

# SYMPOSIA AND ORAL SESSIONS



## *SYMPOSIUM*

### *Animal Behavior and Well-Being*

Chair: Barry Steevens, University of Missouri

Room: 261/262

| Time | Abstract # | |
|---|---|---|
| 10:30 AM | | Introduction, Barry Steevens |
| 10:35 AM | | Positive Impact of Behavior and Welfare Research on Poultry Production. Patricia Hester, Purdue University |
| 11:15 AM | | Bridging the Gap Between Animal Welfare Research and Application. Temple Grandin, Colorado State University, Ft. Collins. |

## *SYMPOSIUM*

### *Contemporary and Emerging Issues*

### *Current and Future Prospects for Animal Nutrition Management for Environmental Impact Reduction*

Chair: Alan Sutton, Purdue University

Sponsors: ARPAS, ASAS Foundation, Elanco Animal Health, FASS and NRCS

Room: 131

| Time | Abstract # | |
|---|---|---|
| 10:30 AM | | Introduction – Why is USDA Interested? USDA, Natural Resources Conservation Service Representative |
| 10:50 AM | 642 | Natural Resources Conservation Service (NRCS) involvement in animal nutrition management. Thomas Christensen*; USDA NRCS |
| 11:10 AM | 643 | Industry assessment of feed management practice implementation through animal nutritionist focus groups. Glenn Carpenter*; USDA-NRCS |
| 11:30 AM | 644 | Development of rapid methods for assessing nutrient bioavailability. S.C. Ricke*, V.I. Chalova, W.K. Kim; Texas A&M University, College Station |
| 11:50 AM | | Round Table Question and Answer |
| 12:10 PM | | Lunch Break |

## *SYMPOSIUM*

### *Dairy Foods*

### *Marschall Rhodia International Dairy Science Award Lecture*

Chair: Scott Rankin, University of Wisconsin

Sponsor: Rhodia, Inc.

Room: 124

| Time | Abstract # | |
|---|---|---|
| 10:30 AM | | Pathways for flavour development in cheese. Paul L.H. McSweeney, Department of Food and Nutritional Sciences, University College, Cork, Ireland |

## *SYMPOSIUM*

### *Growth and Development*

### *Perspectives, Insights and Tools for Animal Scientists to Obtain USDA and NIH Funding*

Chair: Doug Burrin, Children's Nutrition Research Center

Room: 260

| Time | Abstract # | |
|---|---|---|
| 10:30 AM | | Introduction, Doug Burrin |
| 10:35 AM | | USDA-NRI Program - Organization and Prospective Funding Areas. Mark Mirando, Ph.D. - National Program Leader, Program Director, Animal Reproduction Program, Animal Growth and Nutrient Utilization Program, USDA-National Research Initiative Competitive Grants Program |
| 10:55 AM | | National Institutes of Health - Organization and Insights to Grant Formulation Strategies. Larry Reynolds, Ph.D. - Professor and Director, Center for Nutrition and Pregnancy, Department of Animal & Range Sciences, North Dakota State University |
| 11:15 AM | | Techniques and Approaches Employed by Continually Successful Grant Writers. Gary Hausman, Ph.D. - Research Physiologist, USDA-ARS Richard Russell Research Center and Department of Animal Science, University of Georgia. |
| 11:35 AM | | Discussion |

### *Mixed Models Workshop*

Room: 265/266

Time: 8:00 AM – 5:00 PM

(Second session on 7/29, 8:00 AM – 12:00 PM; Interested parties should attend both sessions. Preregistration fee required.)

Description: A professional development opportunity in the use of mixed models for the analysis of common experimental designs in the animal sciences. Emphasis on repeated measures analysis is continued from previous years. Applications to the analysis of complete and incomplete block designs, including microarray experiments, are also presented. Bioequivalence testing and power computations using mixed model software are introduced this year. Emphasis is placed on the use of SAS PROC MIXED. All professionals and graduate students are invited to attend.

### *Bioethics*

Chair: W. Ray Stricklin, University of Maryland

Room: 125/126

| Time | Abstract # | |
|---|---|---|
| 10:45 AM | 645 | Culture, values and ethics of animal scientists. John Hodges*; European Association of Animal Production Lofererfeld 16, Mittersill, Austria |
| 11:15 AM | 646 | An Argument that Animal Quality of Life Must be Central to Any Moral Justification of Animal Agriculture. W. Ray Stricklin*; Department of Animal & Avian Sciences, University of Maryland, College Park |
| 11:30 AM | | Panel discussion by WCC-204 and Bioethics Program Committee Members on "How to develop an active Bioethics Program at future society meetings." |

## *Breeding and Genetics*

Chair: Don Franke, Louisiana State University

Room: 223

| Time | Abstract # | |
|---|---|---|
| 10:30 AM | 647 | Evaluation of Dorset, Finnsheep, Romanov, Texel, and Montadale breeds of sheep: Reproduction of F1 ewes in spring mating seasons. K. A. Leymaster*, E. Casas, B. A. Freking; USDA-ARS, U.S. Meat Animal Research Center, Clay Center, NE |
| 10:45 AM | 648 | Linear versus threshold model analysis of trainability in a colony of German Shepherd dog guides. J. Cole*[1], E. Leighton[2]; [1]Animal Improvement Programs Laboratory Agricultural Research Service, USDA, Beltsville, MD, [2]The Seeing Eye, Inc., Morristown, NJ |
| 11:00 AM | 649 | Developing breeding objectives for Targhee sheep. R. C. Borg*[1], D. R. Notter[1], R. W. Kott[2], L. A. Kuehn[1]; [1]Department of Animal and Poultry Sciences, Virginia Polytechnic Institute and State University, Blacksburg, [2]Department of Animal and Range Sciences, Montana State University, Bozeman |
| 11:15 AM | 650 | Genetic and environmental factors affecting camel reproduction. Suleiman Hermas*; University of Al-fatah Faculty of Agriculture Dept. of Animal Production, Tripoli-Libya |
| 11:30 AM | 651 | Development of web-based cow-calf decision support software. B.W. Brigham*, D.J. Garrick, R.M. Enns; Colorado State University |



## *Goat Species*

### *Products*

Chair: Sandra Solaiman, Tuskegee University

Room: 263

| Time | Abstract # | |
|---|---|---|
| 10:30 AM | 652 | Protein profile of goat milk in relation with udder health status and somatic cell counts. G. Pisoni[1], L. Basiricò[2], P. Moroni[1], U. Bernabucci*[2], G. Savoini[3]; [1]Dipartimento di Patologia Animale, Igiene e Sanità Pubblica Veterinaria Milano, Italy, [2]Dipartimento di Produzioni Animali Viterbo, Italy, [3]Dipartimento di Scienze e Tecnologie Veterinarie per la Sicurezza Alimentare Milano, Italy |
| 10:45 AM | 653 | Silymarin administration to periparturient dairy goats: effects on milk production and quality. Doriana Tedesco*[1], Sara Galletti[1], Stefania Rossetti[1], Jacopo Turini[1], Giorgio Varisco[2]; [1]Department of Veterinary Sciences and Technologies for Food Safety, Milan, Italy, [2]Istituto Zooprofilattico Sperimentale della Lombardia e dell'Emilia Romagna, Brescia, Italy |
| 11:00 AM | 654 | Effects of goat breed and stage of lactation on yield, sensory quality, and fatty acid concentration of soft cheese. Steve S. Zeng*, Kamal A. Soryal, Beney A. Fekadu, Keseti Tesfai, Blaise Bah; Langston University E (Kika) de la Garza American Institute for Goat Research, Langston University, Langston, OK |
| 11:15 AM | 655 | Growth and carcass characteristics of castrated or intact male Boer X Spanish goats grazing Marshall annual ryegrass. Carla Hopkins-Shoemaker*[1], Sandra Solaiman[2], Chris Kerth[1], William Jones[1], David Bransby[1]; [1]Auburn University, Auburn, AL, [2]Tuskegee University, Tuskegee, AL |
| 11:30 AM | 656 | Influence of maternal breed on meat goat carcass characteristics. R. Browning, Jr.*[1], C. Chisley[2], O. Phelps[2], S. H. Kebe[1], B. Donnelly[1], M. Byars[1], T. Payton[1]; [1]Tennessee State University, Nashville, [2]USDA-Agricultural Marketing Service, Baton Rouge, LA |
| 11:45 AM | 657 | Size, color, and texture of major muscles from kid goat carcasses. K.W. McMillin*, A.P. Brock; Louisiana State University Agricultural Center Dept of Animal Sciences, Baton Rouge, LA |

## *ADSA Growth and Development*

Chair: James Loften, Milk Specialties, Inc.

Room: 267

| Time | Abstract # | |
|---|---|---|
| 10:30 AM | 658 | Effects of intramammary endotoxin treament on porcine milk composition, yield, and resultant piglet growth performance. A. C. W. Kauf*, D. C. Pighetti, A. L. Magliaro, D. A. Pape, L. C. Griel, Jr., R. S. Kensinger; Penn State University, University Park |
| 10:45 AM | 659 | Effects of diet and bST on gene expression profile of heifer mammary parenchyma. B. J. Lew*[1,2], S. S. Sipkovsky[1], G. J. M. Rosa[1], J. S. Liesman[1], R. P. Radcliff[1], H. A. Tucker[1], M. D. S. Oliveira[2], M. J. VandeHaar[1]; [1]Michigan State University, East Lansing, [2]UNESP Jaboticabal, São Paulo, Brazil |
| 11:00 AM | 660 | Growth and developmental characteristics of Holstein and Gir (***Bos indicus***) x Holstein bulls and heifers. S. Schmidt*[1], S. Bowers[1], T. Dickerson[1], K. Graves[1], R. Vann[2], S. Willard[1]; [1]Mississippi State University, Mississippi State, [2]Brown Loam Experiment Station, Mississippi State University, Raymond |
| 11:15 AM | 661 | Growth of crossbred and purebred calves from birth to an age of 50 days studied by dual energy x-ray absorptiometry (DXA). Julia Hampe, Stefan Nueske, Armin M. Scholz*, Martin Foerster; Experimental Farm, University Munich, GE |
| 11:30 AM | 662 | Portal nutrient flux during pre- and post-weaning growth in dairy calves. J. L. Klotz*, R. N. Heitmann; Department of Animal Science, The University of Tennessee, Knoxville |

## *PSA-Environment and Management*

### *Broiler Management*

Chair: George Malone, University of Delaware

Room: 265/266

| Time | Abstract # | |
|---|---|---|
| 9:30 AM | 663 | Impact assessment of feeding high-oil corn to poultry in Brazil. Ermias Kebreab*[1], James France[1], Richard Phipps[2], Steve Leeson[1]; [1]University of Guelph Department of Animal and Poultry Science, University of Guelph, Guelph, ON, Canada, [2]The University of Reading School of AP&D, Earley Gate, Reading, UK |
| 9:45 AM | 664 | Electrostatic space charge system for dust reduction and air quality improvement in commercial broiler facilities. Casey Ritz*[1], Bailey Mitchell[2], Brian Fairchild[1], Michael Czarick[1], John Worley[1]; [1]University of Georgia, [2]Southeast Poultry Research Laboratory USDA-ARS |
| 10:00 AM | 665 | In-house composting of litter and poultry carcasses infected with avian influenza. George W. Malone*[1], Sandy S. Cloud[1], Robert L. Alphin[1], Lewis E. Carr[2], Nathaniel L. Tablante[2]; [1]University of Delaware, Newark, [2]University of Maryland, College Park |
| 10:15 AM | 666 | Spatial Variability of Nutrient Species Within a Poultry House. Phillip R. Owens*, Dana M. Miles, Dennis E. Rowe; USDA-ARS, Waste Management and Forage Research Unit, MS State |

## *PSA-Nutrition*

## *Feed Additives*

Chair: Scott Beyer, Kansas State

Room: 274



| Time | Abstract # | |
|---|---|---|
| 9:30 AM | 667 | Egg antibody to phospholipase $A_2$ increases carcass yield in male broilers. K.D. Roberson*[1], J.L. Kalbfleisch[1], W. Pan[1], R.A. Charbeneau[1], M.E. Cook[2], M. Yang[2]; [1]Michigan State University, [2]University of Wisconsin-Madison |
| 9:45 AM | 668 | Effect of Growth Promoters (Antibiotics + Roxarsone + Copper Sulfate) on Broiler Performance during Stress: Possible Mechanisms of Growth Promotion. Alfonso Mireles Jr.*[1], David Sutton[1], Elizabeth Koutsos[2], Robert Spiller[2], Sun Kim[1]; [1]Foster Poultry Farms, [2]California Polytechnic State University, San Luis Obispo |
| 10:00 AM | 669 | Growth Performance of Male Broiler Chicks Fed Diets Supplemented with Two Levels of Versazyme™ to 26 days of Age. N.H. Odetallah*[1], M.H. Fosnaught[1], J.C.H. Shih[2]; [1]Bioresource International, Raleigh, NC, [2]North Carolina State University, Raleigh |
| 10:15 AM | 670 | Effects of purified ß-Mannanase and commercial product, Hemicell® on performance and uniformity in commercial broilers compared with dietary nutrient adjustment. Mark E. Jackson*[1], Humg-Yu Hsiao[1], David M. Anderson[1], Roger L. James[1], Greg F. Mathis[2]; [1]ChemGen Corp., Gaithersburg, MD, [2]Southern Poultry Research, Inc., Athens, GA |
| 10:30 AM | 671 | Efficacy of purifed ß-mannanase isolated from Hemicell® in broiler chickens with Coccidiosis and Necrotic enteritis. Humg-Yu Hsiao*[1], David M. Anderson[1], Mark E. Jackson[1], Frank L. Jin[1], Greg F. Mathis[2]; [1]ChemGen Corp., Gaithersburg, MD, [2]Southern Poultry Research, Inc. , Athens, GA |
| 10:45 AM | 672 | Effect of Growth Promoters (Antibiotics + Roxarsone + Copper Sulfate) on Broiler Composition during Stress: Possible Mechanisms of Growth Promotion. Alfonso Mireles Jr.*[1], Dave Sutton[1], Elizabeth Koutsos[2], Robert Spiller[2], Sun Kim[1]; [1]Foster Poultry Farms, [2]California Polytechnic State University, San Luis Obispo |
| 11:00 AM | 673 | Effect of mannan oligosaccharides supplementation to laying hen diets. M.I. Gracia*[1], P. Cachaldora[2], L. Tucker[3], F. Baucells[1], P. Medel[1]; [1]Imasde Agropecuaria, S.L. Spain, [2]Coren, S.C.L. Spain, [3]Alltech Inc. Ireland |
| 11:15 AM | 674 | CRINA® POULTRY Essential Oils and BMD in the Diet of Broilers Exposed to ***Clostridium perfringens***. M Sims*[1], P Williams[2], M Frehner[3], R Losa[3]; [1]Virginia Diversified Research Harrisonburg, VA, [2]Akzo Nobel Surface Chemistry LLC, Davis, CA, [3]CRINA SA, Akzo Nobel Group, Switzerland |
| 11:30 AM | 675 | Comparison of direct-fed microbial products Avi-Lution or Avi-Lution Custom to bacitracin methylene disalicylate or no additive in diets of broiler chickens exposed to ***Clostridium perfringens.*** D. Spangler[1], J. Corley[2], G. F. Mathis[3], M. D. Sims[4], D. M. Hooge*[5]; [1]Agri-King, Inc. Fulton, IL, [2]Prince Agri Products, Inc. Quincy, IL, [3]Southern Poultry Research, Inc., Athens, GA, [4]Virginia Scientific Research, Inc., Harrisonburg, VA, [5]Hooge Consulting Service, Inc., Eagle Mountain, UT |
| 11:45 AM | 676 | Growth Performance of Male Broiler Chicks Fed Diets Supplemented with Versazyme™ in Dry and Liquid Form to 26 days of Age. N.H. Odetallah[1], M.H. Fosnaught*[1], J.C.H. Shih[2]; [1]BioResource International Raleigh, NC, [2]North Carolina State University, Raleigh |

## *PSA-Nutrition*

### *Layer and Miscellaneous Nutrition*

Chair: Jeff Firman, University of Missouri

Room: 275

| Time | Abstract # | |
|---|---|---|
| 9:30 AM | 677 | The influence of restricted intake of energy and fat on egg solids in laying hens. James A. Arthur*[1], Kenton S. Kreager[1], Neil P. O'Sullivan[1], H. John Kuhl, Jr.[2]; [1]Hy-Line International Dallas Center, IA, [2]Nest Egg Nutrition Gardnerville, NV |
| 9:45 AM | 678 | Evaluation of Prediction Equations and Modeling Metabolizable Energy Intake for Commercial Strains of Laying Hens. M. A. Jalal[1], S. E. Scheideler[1], D. Marx[2]; [1]Department of Animal Science, University of Nebraska-Lincoln, [2]Department of Statistics, University of Nebraska-Lincoln |
| 10:00 AM | 679 | Effect of enzyme supplementation in laying hens on egg weight and commercial egg classification. M.I. Gracia*[1], G.L. Campbell[2], E. McCartney[3], J. Peinado[1], P. Medel[1]; [1]Imasde Agropecuaria, S.L. Spain, [2]GNC Bioferm Canada, [3]Pen&Tec Consulting Spain |
| 10:15 AM | 680 | Enzyme supplementation of laying hens fed diets containing barley and wheat. P. Medel*[1], L. Pastrana[2], J. Méndez[3], E. McCartney[4], M.I. Gracia[1]; [1]Imasde Agropecuaria, S.L. Spain, [2]Universidad de Vigo Spain, [3]Coren, S.C.L. Spain, [4]Pen&Tec Consulting Spain |
| 10:30 AM | 681 | Evaluation of low-energy diets for a non-feed withdrawal laying hen molt program. P.L. Utterback*, P.E. Biggs, K.A. Rafacz, C.M. Amezcua, K.W. Koelkebeck, C.M. Parsons; University of Illinois |
| 10:45 AM | 682 | The effect of supplemental phytase sources on the sparing effect of phosphorus in Pekin ducks. J. K. Rush*, K. M. Banks, K. L. Thompson, T. J. Applegate; Dept. of Animal Sciences, Purdue University |
| 11:00 AM | 683 | The availability of energy in meat and bone meal and poultry by-product meal in poultry rations. David H Robbins*, Jeffre D Firman; University of Missouri-Columbia |
| 11:15 AM | 684 | Broiler study nutritional evaluation of b.t.cry1f maize corn from ***bacillus thuringiensis*** subsp. ***aizawai*** and phosphinothricin-n-acetyltransferase. James L McNaughton*[1], Larry Zeph[2]; [1]Solution BioSciences, Inc., Salisbury, MD, [2]Pioneer Hi-Bred International, Inc., Johnston, IA |
| 11:30 AM | 685 | Nutrient composition of peanut meal. Nick M. Dale*, Amy B. Batal; Poultry Science, University of Georgia, Athens |
| 11:45 AM | 686 | Sweet potato as a feed resource for layer production in Nigeria. Olusola O.A Ladokun*, Olumide O.O Tewe; University of Ibadan, Ibadan, Nigeria |

## *Ruminant Nutrition*

### *Beef and Dairy Calves*

Chair: Julie Smith, University of Vermont

Room: 132

| Time | Abstract # | |
|---|---|---|
| 10:30 AM | 687 | Calf adipose tissue fatty acid profile, immune function and performance while nursing beef cows consuming high-linoleate or high oleate safflower seed supplements. S. L. Lake*, E. J. Scholljegerdes, E. L. Belden, R. L. Atkinson, D. C. Rule, B. W. Hess; Univeristy of Wyoming, Laramie |
| 10:45 AM | 688 | Effect of feeding extruded soybeans to nursing beef cows on conjugated linoleic acid concentrations in adipose tissue of suckling calves. C. Paradis*[1], R. Bertiaume[2], C. Lafrenière[2], P.Y. Chouinard[1]; [1]Universite Laval Quebec, QC., Canada, [2]Agriculture and Agri-Food Canada Lennoxville, QC., Canada |
| 11:00 AM | 689 | Responses of neonatal calves to milk replacer formulation and pasteurized whole milk. Mark Hill*, Jim Aldrich, Rick Schlotterbeck; Akey, Lewisburg, OH |
| 11:15 AM | 690 | Effect of level of starch and Apex botanicals in neonatal calf starter feeds. Mark Hill*, Jim Aldrich, Rick Schlotterbeck; Akey, Lewisburg, OH |

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|---|---|---|
| 11:30 AM | 691 | Effect of feeding neonatal calves selenium yeast or sodium selenite and supplementing specific fatty acids. Mark Hill*, Jim Aldrich, Rick Schlotterbeck; Akey, Lewisburg, OH |
| 11:45 AM | 692 | Performance and plasma amino acid concentrations of calves on an enhanced-growth feeding program. Marta Terré*[1], Alex Bach[1,2], Maria Devant[1]; [1]IRTA-Unitat de Remugants Barcelona, Spain, [2]ICREA Barcelona, Spain |

### *Teaching/Undergraduate and Graduate Education*

Chair: Dan Hagen, Penn State University

Room: 264



| Time | Abstract # | |
|---|---|---|
| 10:30 AM | 693 | A practicum-based course in equine parturition for undergraduate students. Peter L. Ryan*, David L. Christiansen, Richard M. Hopper, Scott T. Willard, Susan D. Bowers, Timothy W. Dickerson, Gavin L. Olsen; Mississippi State University, Mississippi State |
| | 694 | Withdrawn by author |
| 10:45 AM | 695 | Dairy management symposium training: Instructive partnership between academia and industry. Amin Ahmadzadeh*, M. A. McGuire; University of Idaho, Moscow |
| 11:00 AM | 696 | Development of a Distance Education based Food Safety Microbiology Course in Poultry Science. R.S Hardin*, E.M Hirschler, M.M Kundinger, A.R Sams, S.C Ricke; Texas A&M University, College Station |
| 11:15 AM | | Digital Image Galleries to Improve Teaching Animal Sciences. H. D. Hafs*[1], G. K. McCone[2], J. W. Riesen[3], P. A. Schoknecht[4], and M. R. Stokes[5]. [1]Rutgers Univ., New Brunswick, NJ; [2]Natl. Agric. Library, Beltsville, MD; [3]Univ. Conn, Storrs; [4]Univ. Richmond, VA; [5]Univ. Maine, Orono |

### *SYMPOSIUM*

### *Contemporary and Emerging Issues*

### *Current and Future Prospects for Animal Nutrition Management for Environmental Impact Reduction (con't.)*

Chair: Alan Sutton, Purdue University

Sponsors: ARPAS, ASAS Foundation, Elanco Animal Health, FASS and NRCS

Room: 131

| Time | Abstract # | |
|---|---|---|
| 1:00 PM | 697 | Use of mass balance techniques for nutrient excretion modeling. Todd J. Applegate*[1], Roselina Angel[2]; [1]Department of Animal Sciences, Purdue University, [2]Department of Animal and Avian Sciences, University of Maryland, College Park |
| 1:20 PM | 698 | Interactions between indigenous gut microbiota and animal waste production. John A. Patterson*, Alan L. Sutton; Purdue University, W. Lafayette |
| 1:40 PM | 699 | Historical and current perspectives of nutritional formulation in swine and poultry to reduce environmental impact. Gary Allee*; University of Missouri, Columbia |
| 2:10 PM | 700 | Reducing environmental impact of cattle through precision feeding. Danny G. Fox*[1], Thomas P. Tylutki[1], Luis Orlindo Tedeschi[1], Paul E. Cerosaletti[2]; [1]Cornell University, Ithaca, NY, [2]Cornell Cooperative Extension, Hamden, NY |
| 2:40 PM | 701 | Environmentally friendly feeds: manipulations of diets and feeding to reduce environmental impact from intensive aquaculture. Gary Fornshell*; University of Idaho |
| 3:10 PM | | Break |
| 3:30 PM | 702 | The history and current perspectives of dietary formulation in the horse. L. Lawrence*; University of Kentucky, Lexington |

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|---|---|---|
| 3:50 PM | 703 | Development of on-farm treatment of animal waste. John B. Carey*; Texas A&M University, College Station |
| 4:10 PM | 704 | Alternative uses and value added processing of animal waste products. C.M. Williams*; North Carolina State University |
| 4:30 PM | | Round Table Question and Answer: All speakers will be present for an open question and answer period. |

## *SYMPOSIUM*

## *Extension Education*

## *What is the Future Role of Extension Education?*

Chair: Tom Troxel, University of Arkansas

Room: 261/262

| Time | Abstract # | |
|---|---|---|
| 1:00 PM | | Introduction. Tom Troxel, University of Arkansas |
| 1:10 PM | | Extension Education from a National Perspective. Maynard Hogberg, Iowa State University |
| 1:30 PM | | Extension Education from a State Perspective. Bob Easter, University of Illinois |
| 1:50 PM | | Where will the Funding for Extension Come From? Jeff Armstrong, Michigan State University |
| 2:10 PM | | Break |
| 2:25 PM | | Regionalization of Extension Programs. Jack Britt, University of Tennessee |
| 2:45 PM | | What is Extension's Role in the Future? Panel of three producers: Bob Dixon (AR), Doug Lueking (IL), and Bradley Wolter (IL) |

## *SYMPOSIUM*

## *Food Safety*

## *Alternatives to Antibiotic Use*

Chair: C. M. Bruhn, University of California

Sponsor: Chr. Hansen, Inc.

Room: 221

| Time | Abstract # | |
|---|---|---|
| 1:00 PM | | Introduction. Dr. Christine Bruhn, University of California, Davis, CA. |
| 1:05 PM | 705 | Control of ***Salmonella*** in poultry production, the European experience: can it be adapted to the US? J. Stan Bailey*[1], Tanya Roberts[2]; [1]USDA, Agricultural Research Service, Athens, GA, [2]USDA, Economic Research Service, Washington, DC |
| 1:30 PM | 706 | Use of competitive exclusion to control enterotoxigenic strains of ***E. coli***. R.B. Harvey*, R.C. Anderson, K.J. Genovese, T.R. Callaway, D.J. Nisbet; Food and Feed Safety Research Unit, ARS-USDA, College Station, TX |
| 1:55 PM | | Break |

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|---|---|---|
| 2:15 PM | 707 | Strategies to reduce Campylobacter. Norman J. Stern*[1], E. A. Svetoch[2], B. V. Eruslanov[2], Y. N. Kovalev[2], L. I. Volodina[2], V. V. Perelygin[2], E. V. Mitsevich[2], I. P. Mitsevich[2], V. D. Pokhilenko[2], V. N. Borzenkov[2], V. P. Levchuk[2], O. E. Svetoch[2], T. Y. Kudriavtseva[2]; [1]USDA-ARS-Russell Research Center, Athens, GA, [2]State Research Center for Applied Microbiology, Obolensk, Russia |
| 2:40 PM | 708 | Strategies to reduce ***Clostridium perfringens***. Gregory R. Siragusa*; Agricultural Research Service, USDA Russell Research Center, Athens, GA |
| 3:05 PM | | Round Table Discussion with all Speakers |



## *SYMPOSIUM*

## *Physiology and Endocrinology*

## *The Biology of Stress in Animals*

Co-Chairs: Tom Adams, University of California and Chris McDaniel, Mississippi State University

Room: 223

| Time | Abstract # | |
|---|---|---|
| 1:00 PM | | Welcome and Acknowledgements. Dr. Gary Williams |
| 1:05 PM | | Mechanisms governing the response of the hypothalamic-pituitary-adrenal axis to stressors. Catherine Rivier, The Salk Institute, La Jolla, CA |
| 1:45 PM | | Question and Answer Session |
| 2:00 PM | | Neuroendocrine mechanisms for stress-induced disruption of the sheep estrous cycle. Fred Karsch, University of Michigan, Ann Arbor |
| 2:30 PM | | Question and Answer Session |
| 2:40 PM | | Break |
| 3:10 PM | | Physiological and behavioral consequences of genetic selection for a reduced stress response in Japanese quail. Daniel Satterlee, Louisiana State University, Baton Rouge |
| 3:40 PM | | Question and Answer Session |
| 3:50 PM | | Mechanisms by which heat stress disrupts follicular function and oocyte competence in cattle. Zvi Roth, University of Florida, Gainesville |
| 4:20 PM | | Question and Answer Session |

## *SYMPOSIUM*

## *Women & Minority Issues in Animal Agriculture*

Chair: Francine Bradley, University of California-Davis

Sponsor: Embrex Inc.

Room: 263

| Time | Abstract # | |
|---|---|---|
| 1:00 PM | | Welcome, Introduction and Thanks to Sponsors. Francine Bradley |
| 1:05 PM | | Animal Agriculture traditions and their current influences with respect to participation of women minorities. Francine Bradley, University of California, Davis |
| 1:15 PM | 709 | Gender and Animal Agriculture. Carolyn Sachs*; Professor of Rural Sociology and Women's Studies, Penn State University, University Park |
| 2:00 PM | 710 | A Respect for the Land. Annie J. King*; University of California - Davis |
| 2:30 PM | | Break |
| 3:00 PM | | Challenges and Opportunities for Minorities and Women in Dairy Production. Tilak Dhiman, Utah State University, Logan |

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| 3:15 PM | | Unique Challenges and Rewards for Females in Large Animal Agriculture. Sheryl King, Southern Illinois University, Carbondale |
| 3:30 PM | | Minorities in Animal Science Academia. Xian Lei |
| 3:45 PM | | Concluding Remarks. Francine Bradley |

## *Animal Health*

## *Growth and Immunity*

Chair: Brad Johnson, Kansas State University

Room: 125/126

| Time | Abstract # | |
|---|---|---|
| 1:00 PM | 711 | Preliminary evaluation of the efficacy of halofuginone lactate (Halocur®) as an aid in the prevention of cryptosporidiosis in Ontario dairy calves. Brenna D. Jarvie, Ken E. Leslie*, Andrew S. Peregrine, Todd F. Duffield, J. Scott Weese; University of Guelph, Guelph, ON Canada |
| 1:15 PM | 712 | A yeast cell-wall derivative and ascorbic acid fed to neonatal dairy calves is protective against enteric challenge with ***Salmonella dublin***. D.C. Cary*[1], S.D. Eicher[2], J.A. Patterson[1], T.A. Johnson[1]; [1]Purdue University, West Lafayette, IN, [2]USDA-ARS, West Lafayette, IN |
| 1:30 PM | 713 | Dietary protein and energy and the adaptive immune response of milk replacer-fed dairy calves. M. R. Foote*[1], B. J. Nonnecke[2], W. R. Waters[2], M. V. Palmer[2], M. A. Fowler[3], B. L. Miller[4], D. C. Beitz[1]; [1]Iowa State University Ames, IA, [2]National Animal Disease Center, ARS, USDA, Ames, IA, [3]Land O'Lakes, Inc., St. Paul, MN, [4]Land O'Lakes, Inc., Webster City, IA |
| 1:45 PM | 714 | Pro- and Anti-inflammatory Cytokine Responses in Endotoxin Challenged Bovine Macrophages. J. A. Mills*, J. E. Campanicki, R. M. Dyer; Dept. of Animal and Food Sciences, University of Delaware, Newark |
| 2:00 PM | 715 | Are polymorphisms within the interleukin-8 receptor (CXCR2) gene linked to altered neutrophil function? GM Pighetti*, M Rambeaud, SM Youngerman, AM Saxton; The University of Tennessee, Knoxville |
| 2:15 PM | 716 | Restoration of normal innate immune function in immunosuppressed sheep with OmniGen-AF: a nutritional product. Yong-qiang Wang, Steven B. Puntenney, Neil E. Forsberg*; Department of Animal Sciences, Oregon State University |
| 2:30 PM | 717 | Dietary supplementation of lipoic acid and its effect on circulating metabolic hormones and acute phase proteins of virus-challenged beef steers. T. B. Schmidt*[1], E. P. Berg[1], E. M. Cochran[2], J. J. Garcia[2], S. B. Kleiboeker[1], R. Larson[1], C. W. Morgan[2], C. D. Grager[2], J. A. Carroll[3], D. H. Keisler[1], K. C. Olson[1], G. Rentfrow[1], M. S. Brown[2]; [1]University of Missouri-Columbia, [2]West Texas A&M University, [3]Animal Physiology Research Unit, Agricultural Research Service |
| 2:45 PM | | Break |
| 3:15 PM | 718 | Colicins E1 and N are effective against ***Escherichia coli*** strains responsible for post-weaning diarrhea and edema disease in swine. Chad H. Stahl*[1], Todd R. Callaway[2], Leslie M. Lincoln[1], Steven M. Lonergan[1], Kenneth J. Genovese[2]; [1]Department of Animal Science, Iowa State University, Ames, [2]USDA-ARS Food and Feed Safety Research Unit, College Station, TX |
| 3:30 PM | 719 | Infectious dose of young pigs experimentally inoculated with PRRS virus by oral and intranasal routes. Joseph R Hermann*[1], Mark Kaiser[1], Mike Roof[2], Kelly Burkhart[2], Jeff J Zimmerman[1]; [1]Iowa State University, Ames, [2]Boehringer Ingelheim, Ames, IA |
| 3:45 PM | 720 | A deterministic risk assessment of macrolide use in swine. A. G Mathew*[1], H. S. Hurd[2], S. Doores[3], D. Hayes[4], J. Maurer[5], P. Silley[6], R. N. Jones[7], R. Singer[8]; [1]University of Tennessee, Knoxville, [2]Hurd-Health Consulting, Roland, IA, [3]Pennsylvania State University, University Park, [4]Iowa State University, Ames, [5]University of Georgia, Athens, [6]MB Consult Limited, Bingley, West Yorkshire, UK, [7]The JONES Group/JMI Laboratories, North Liberty, IA, [8]University of Minnesota, St. Paul |

## *Beef Species*

## *Enhancing Energetic Efficiency*

Chair: Susan Duckett, University of Georgia

Room: 132

| Time | Abstract # | |
|---|---|---|
| 1:00 PM | 721 | Growing program effects on efficiency of energy use by feedlot cattle. Clinton R. Krehbiel*, Matthew P. McCurdy, Gerald W. Horn; Oklahoma State University, Stillwater |
| 1:30 PM | 722 | Nutrition ***in utero*** and pre-weaning has long-term consequences for growth and size of Piedmontese- and Wagyu-sired steers. Paul L Greenwood*[1,2], Helen Hearnshaw[1,3], Linda M Cafe[1,3], David W Hennessy[1,3], Gregory S Harper[1,4]; [1]CRC for Cattle and Beef Quality, Armidale, NSW Australia, [2]NSW Agriculture, Armidale, NSW Australia, [3]NSW Agriculture, Grafton, NSW Australia, [4]CSIRO Livestock Industries, St Lucia, QLD Australia |
| 2:00 PM | 723 | Effects of Limit Feeding on Net Nutrient Flux and Oxygen Consumption by the Portal-Drained Viscera. Matthew P. McCurdy*, Matthew J. Hersom, Clinton R. Krehbiel, Gerald W. Horn; Oklahoma State University, Stillwater |
| 2:15 PM | 724 | Effect of time of feeding a limit-fed high grain diet during winter months on growing feedlot steers. S. M. Holt*, R. H. Pritchard, J. A. Clapper; South Dakota State University, Brookings |
| 2:30 PM | 725 | Residual feed intake: an alternative measure of feed efficiency for beef cattle. Gordon E. Carstens*[1], M. S. Kerley[2]; [1]Texas A&M University, College Station, [2]University of Missouri, Columbia |
| 2:45 PM | | Break |
| 3:15 PM | 726 | Correlations among ultrasound carcass estimates, growth performance measures, and residual feed intake in Angus steers. J.I. Szasz*, C.W. Hunt, S.D. Baker, T. Klein, P.S. Kuber, B. Glaze, D. Falk, R. Richard, J. Miller, R.A. Battaglia, R.A. Hill; University of Idaho |
| 3:30 PM | 727 | Relationship of feeding behavior to feed efficiency in crossbred Angus steers. Joseph W. Golden*, Monty S. Kerley; University of Missouri, Columbia |
| 3:45 PM | 728 | The effect of mitochondrial uncoupling proteins 2 and 3 on feed efficiency in crossbreed angus steers. W.H. Kolath*, M.S. Kerley, J.W. Golden; University of Missouri, Columbia |
| 4:00 PM | 729 | Variation in energy expenditures between growing steers with divergent residual feed intakes. Monte B White*, Gordon E Carstens, Casey M Theis, Michael W Kurz, Ching-Yi Chen, Lisa J Slay, Tom H Welsh Jr.; Texas A&M University, College Station |
| 4:15 PM | 730 | Effects of Revalor®-200 vs. Finaplix®-H in single and reimplant strategies for yearling heifers. C.D. Reinhardt[1], W.T. Nichols*[1], J.P. Hutcheson[1], S. Swingle[2], K. Karr[2]; [1]Intervet, Inc., Millsboro, DE, [2]Cactus Research, Ltd., Amarillo, TX |

## *Breeding and Genetics*

## *Dairy Genetic Evaluation*

Chair: Daryl Nash, Ferrum College

Room: 267

| Time | Abstract # | |
|---|---|---|
| 1:00 PM | 731 | International genetic evaluation of longevity traits. J. H. Jakobsen*, U. Emanuelson; Interbull Centre, Uppsala, Sweden |
| 1:15 PM | 732 | Correlated traits used for indirect prediction of productive life in Holsteins. S. Tsuruta*[1], I. Misztal[1], T. J. Lawlor[2]; [1]University of Georgia, Athens, [2]Holstein Association USA Inc., Brattleboro, VT |
| 1:30 PM | 733 | Analysis of the Relationship Between Type Traits and Functional Survival in Canadian Jersey cows. Asheber Sewalem*[1,2], Gerrit Kistemaker[2], Brian Van Doormaal[2]; [1]Agriculture and Agri-Food Canada, [2]Canadian Dairy Network |
| 1:45 PM | 734 | Potential of three-stage selection strategies for enhancing the efficiency of progeny testing programs in US dairy cattle. Kent Weigel*, Nate Zwald; Department of Dairy Science, University of Wisconsin, Madison |

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|---|---|---|
| 2:00 PM | 735 | Genetic base and trait definition update. P. M. VanRaden*; Animal Improvement Programs Laboratory, Agricultural Research Service, USDA, Beltsville, MD |
| 2:15 PM | 736 | International evaluation of Milking Shorthorn-type dairy cattle for production traits. R. A. Barrett*[1], F. Miglior[2], J. Jamrozik[1], G. Jansen[1]; [1]CGIL, Dept. Animal & Poultry Science, University of Guelph, ON, Canada, [2]Agriculture & Agri-Food Canada - CDN, Guelph, ON, Canada |
| 2:30 PM | 737 | Accounting for differences in rate of maturity in yield evaluations. G.R. Wiggans*, P.M. VanRaden; Animal Improvement Programs Laboratory, Agricultural Research Service, USDA, Beltsville, MD |
| 2:45 PM | | Break |
| 3:15 PM | 738 | Prediction of service sire fertility. Melvin T. Kuhn*[1], Jana L. Hutchison[1], John S. Clay[2]; [1]Animal Improvement Programs Laboratory, Agricultural Research Service, USDA, Beltsville, MD, [2]Dairy Records Management Systems, Raleigh, NC |
| 3:30 PM | 739 | Estimation of the economic impact of a unit change in PTA for daughter pregnancy rate. Eunsun Yook*[1], Ronald E. Pearson[1], Paul M. VanRaden[2]; [1]Virginia Tech, Blacksburg, VA, [2]Animal Improvement Programs Laboratory, Animal Research Service, USDA, Beltsville, MD |
| 3:45 PM | 740 | Genetic parameters for days open and pregnancy rate in US Holsteins. S. Oseni, I. Misztal*, S. Tsuruta, R. Rekaya; The University of Georgia, Athens |
| 4:00 PM | 741 | Genetic relationships of milk yield for different parities between bulls and their sons. H. D. Norman*, R. L. Powell, J. R. Wright, P. M. VanRaden; Animal Improvement Programs Laboratory, Agricultural Research Service, USDA, Beltsville, MD |
| 4:15 PM | 742 | Effects of udder traits on milk flow and their associations with temperament of first lactation dairy cows during milking time. Boulbaba Rekik*, Abderrahmen Ben Gara, Rachid Bouraoui, Kaouther Kouki; ESA Mateur 7030 Mateur, Tunisia |

## *Breeding and Genetics*

## *Molecular Genetics, QTL Detection and Marker Assisted Selection*

Chair: Milt Thomas, New Mexico State University

Room: 127

| Time | Abstract # | |
|---|---|---|
| | 743 | Withdrawn by author |
| 1:15 PM | 744 | Detection of quantitative trait loci affecting conformation traits in Holstein cattle. Melissa S Ashwell*[1,3], D Wayne Heyen[2], Tad S Sonstegard[3], Curtis P Van Tassell[3], Harris A Lewin[2]; [1]North Carolina State University, Raleigh, [2]University of Illinois, Urbana, [3]USDA-ARS, Beltsville, MD |
| 1:30 PM | 745 | Statistical power for detecting epistasis QTL effects under the F2 design. Yongcai Mao*, Yang Da; Department of Animal Science, University of Minnesota, St. Paul |
| 1:45 PM | 746 | Including genetic groups for QTL effects in marker assisted selection. K. J. Hanford*[1], R. M. Thallman[2], S. D. Kachman[3], L. D. Van Vleck[1]; [1]USDA-ARS, Roman L. Hruska U.S. Meat Animal Research Center, University of Nebraska, Lincoln, [2]USDA-ARS, Roman L. Hruska U.S. Meat Animal Research Center, Clay Center, NE, [3]University of Nebraska, Department of Statistics, Lincoln |
| 2:00 PM | 747 | Computational analysis of putative imprinting signatures of bovine IGF-II and IGF-II receptor genes. Ikhide G. Imumorin*[1], JongJoo Kim[2], Osaro O. Mgbere[3], Dennis O. Umesiobi[4]; [1]Valdosta State University, Valdosta, GA, [2]Iowa State University, Ames, [3]Rivers State Univesity of Science & Technology, Port Harcourt, Nigeria, [4]University of Natal, Pietermaritzburg, South Africa |
| 2:15 PM | 748 | Evaluation of microsatellite markers on bovine chromosomes 1 and 5 for potential allelic associations with meat charcteristics and growth traits in beef cattle. K.-S. Kim*[1], S. Costello[2], G. J. M. Rosa[1], A. M. Mullen[2], N. E. Raney[1], C. W. Ernst[1]; [1]Michigan State University, East Lansing, [2]National Food Centre Teagasc, Dublin, Ireland |
| 2:30 PM | 749 | A combined line-cross and halfsib model to detect and characterize QTL in an F2 outbred cross population. Jong-Joo Kim*, Jack C.M. Dekkers; Iowa State University, Ames |
| 2:45 PM | | Break |

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|---|---|---|
| 3:15 PM | 750 | Identification of an ovulation rate QTL in cattle on BTA14 using selective DNA pooling and interval mapping. Michael G Gonda*[1], Juan A Arias[2], George E Shook[1], Brian W Kirkpatrick[2]; [1]Dairy Science Department, University of Wisconsin, Madison, [2]Animal Sciences Department, University of Wisconsin, Madison |
| 3:30 PM | 751 | Power and sample size calculations for two color microarray experiments with biological and technical replication. J.P. Steibel*[1], R.J. Tempelman[1], G.J.M. Rosa[1,2]; [1]Department of Animal Science, Michigan State University, [2]Department of Fisheries and Wildlife, Michigan State University |
| 3:45 PM | 752 | A new method to fine map a quantitative trait locus using linkage disequilibrium. Helene Gilbert*[1,2], Mehmet Z. Firat[2], Liviu R. Totir[2], Jack C.M. Dekkers[2], Rohan L. Fernando[2]; [1]Institut National de la Recherche Agronomique SGQA, INRA, 78352 Jouy-en-Josas Cedex, France, [2]Iowa State University, Animal Science, Ames |
| 4:00 PM | 753 | Assessment of respiratory chain complex activities and electron transport chain protein expression in muscle mitochondria in Angus steers with low and high feed efficiency. B.A. Sandelin*[1], A.H. Brown Jr[1], C. Ojano-Dirain[1], M. Iqbal[1], M.A. Brown[2], W.O. Herring[3], M. Akin[4], Z.B. Johnson[1], R.T. Baublits[1]; [1]University of Arkansas, Fayetteville, [2]USDA-ARS Grazinglands Research Laboratory, El Reno, OK, [3]Smithfield Premium Genetics Group, Roanake Rapids, NC, [4]Circle A Angus Ranch, Iberia, MO |
| 4:15 PM | 754 | Samples classification using microarray data: Dealing with potential diagnostics misclassification. Romdhane Rekaya*; Department of Animal and Dairy Science, University of Georgia, Athes |
| 4:30 PM | 755 | Statistical methods to detect imprinted QTL with gender-specific recombination frequencies. Nicole R. London*, Yang Da; Department of Animal Science, University of Minnesota, St. Paul |



## *Dairy Foods*

## *Microbiology*

Chair: Scott Rankin, University of Wisconsin-Madison

Room: 124

| Time | Abstract # | |
|---|---|---|
| 1:00 PM | 756 | Comparison of viscosity and stability of bovine fluid and evaporated milks with those of caprine milk counterparts stored under refrigeration. Catherine O. Maduko*[1], Rob Shewfelt[1], Romeo Toledo[1], Joseph Frank[1], Yao-wen Huang[1], Young W. Park[2]; [1]Department of Food Science and Technology, University of Georgia, Athens, [2]Fort Valley State University Agricultural Research Station, Fort Valley, GA |
| 1:15 PM | 757 | Immunostimulatory activities of a novel AT oligonucleotide from "Immunobiotic" ***Lactobacillus gasseri*** on swine peyer's patch cells. Haruki Kitazawa*, Takeshi Shimosato, Shinichiro Katoh, Masanori Tohno, Yasushi Kawai, Tadao Saito; Graduate School of Agricultural Science, Tohoku University Sendai, Japan |
| 1:30 PM | 758 | AT oligonucleotide from "Immunobiotic" ***Lactobacillus gasseri*** augments immune responses via Toll-like receptor 9 signaling. Takeshi Shimosato*, Haruki Kitazawa, Masanori Tohno, Shinichiro Katoh, Yasushi Kawai, Tadao Saito; Graduate School of Agricultural Science Sendai, Japan |
| 1:45 PM | 759 | Extending shelf life of skim milk with microfiltration. Mark W. Elwell*, David M. Barbano; Northeast Dairy Foods Research Center, Department of Food Science, Cornell University, Ithaca, NY |
| 2:00 PM | 760 | Descriptive analysis of processed cheese manufactured by extrusion technology. Andrea AC Cole*[1], Koushik KA Adhikari[2], Ingolf IU Gruen[1], Hildegarde Heymann[3]; [1]University of Missouri, Columbia, [2]California State Polytechnic University, Pomona, [3]University of California, Davis |
| 2:15 PM | 761 | Developments in the small scale manufacture of process cheese using RVA. R Kapoor*, A Pollard, P Upreti, L. E. Metzger; MN-SD Dairy Foods Research Center, University of Minnesota, Saint Paul |
| 2:30 PM | 762 | Evaluation of process cheese spread meltability using a Rapid Visco Analyzer. Lisa A. Prow*, Lloyd E. Metzger; University of Minnesota, St. Paul |
| 2:45 PM | | Break |

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| 3:15 PM | 763 | A microfiltration (MF) process to maximize the removal of serum proteins from skim milk prior to cheese making. Brandon K Nelson*; Northeast Dairy Foods Research Center, Cornell University, Ithaca, NY |
| 3:30 PM | 764 | Isolation and identification of Micrococcus spp from Egyptian soft cheese. Ahmed S. Zahran*; Minia University |
| 3:45 PM | 765 | Use of Exopolysaccharides Producing Lactic Acid Bacteria for the Production of Buffalo Milk Dahi (Yogurt). Nirav Pandya*[1], Suresh Kanawjia[1], Rajiv Dave[2]; [1]Dairy Technology Department ,National Dairy Research Institute, Karnal, India., [2]Dairy Science Department, South Dakota State University |

## *ASAS Growth and Development II*

Chair: Gary Hausman, USDA-ARS Richard B. Russell Research Center, University of Georgia

Room: 222

| Time | Abstract # | |
|---|---|---|
| 1:00 PM | 766 | Influence of dietary protein and lactose levels on protein synthesis and translation initiation factor activation in neonatal pigs. Jason W. Frank*[1], Jeffery Escobar[1], Agus Suryawan[1], Hanh V. Nguyen[1], Chun W. Liu[1], Scot R. Kimball[2], Leonard S. Jefferson[2], Teresa A. Davis[1]; [1]USDA/ARS Children's Nutrition Research Center, Baylor College of Medicine, Houston, TX, [2]The Pennsylvania State University, College of Medicine, Hershey |
| 1:15 PM | 767 | Infusion of a physiological dose of leucine stimulates muscle protein synthesis in neonatal pigs by enhancing the activity of translation initiation factors. Jeffery Escobar*[1], Jason W Frank[1], Scot R Kimball[2], Agus Suryawan[1], Hanh V Nguyen[1], Chun W Liu[1], Leonard S Jefferson[2], Teresa A Davis[1]; [1]USDA/ARS, Children's Nutrition Research Center, Baylor College of Medicine, Houston, TX, [2]Cellular and Molecular Physiology, Pennsylvania State University, College of Medicine, Hershey |
| 1:30 PM | 768 | Body protein deposition response following sudden changes in ideal protein intake differs between pig types. Héctor R. Martínez*, C.F.M. de Lange; Department of Animal and Poultry Science, University of Guelph, ON, Canada |
| 1:45 PM | 769 | Human somatotropin is more efficacious than porcine somatotropin in growing pigs. Frank R Dunshea*; Department of Primary Industries, Werribee, Victoria, Australia |
| 2:00 PM | 770 | Concentrations of insulin-like growth factors I and II in embryonic fluids of chickens, ducks, and turkeys. D.M. Karcher*[1], J.P. McMurtry[2], T.J. Applegate[1]; [1]Purdue University, Animal Sciences, West Lafayette, IN, [2]USDA/ARS/GBL, Beltsville, MD |
| 2:15 PM | 771 | Selection for Growth Does Not Alter Jejunal Glucose Absorption and Energy Metabolism in Mice. Y. K. Fan[1], W. J. Croom, Jr. *[2], I. L. Taylor[3], L. R. Daniel[2], A. R. Bird[4], B. W. McBride[5], V. L. Christensen[2], E. J. Eisen[2]; [1]National Chung Hsing Univeristy, [2]North Carolina State University, [3]Tulane University, [4]CSIRO Health Sciences and Nutrition, Australia, [5]University of Guelph, Canada |
| 2:30 PM | 772 | Effect of microbial colonisation on activated caspase-3 protein and gene expression in the gnotobiotic pig small intestine. B.P. Willing*, R.H. Siggers, T.W. Shirkey, B.G. Goldade, J.K. Marshall, B. Laarveld, A.G. Van Kessel; Department of Animal and Poultry Science Saskatoon, SK |
| 2:45 PM | | Break |
| 3:15 PM | 773 | The effect of microbial colonisation on disaccharidase activity in the gnotobiotic pig. L.M. Williams, B.P. Willing*, R.H. Siggers, T.W. Shirkey, B.G. Goldade, J.K. Marshall, A.G. Van Kessel; Department of Animal and Poultry Science Saskatoon, Saskatchewan |
| 3:30 PM | 774 | Characterization of specific gene expression following differentiation of bovine stromal-vascular cells into adipocytes. M. J. Hersom*[1], J. W. Ross[2], D. Stein[2], L. McBeth[2], R. D. Geisert[2], U. Desilva[2], C. R. Krebbiel[2], J. R. Malayer[2]; [1]University of Florida, Gainesville, [2]Oklahoma State University, Stillwater |
| 3:45 PM | 775 | Dexamethasone downregulates glucocorticoid receptor expression in cultured bovine preadipocytes. Guillermo Ortiz-Colón*, Aaron C. Grant, Jeanne L. Burton, Matthew E. Doumit, Daniel D. Buskirk; Department of Animal Science, Michigan State University, East Lansing |

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| 4:00 PM | 776 | Dietary coconut oil and conjugated linoleic acid reduce body fat in mice. KM Hargrave*, JL Miner; University of Nebraska, Lincoln |
| 4:15 PM | 777 | Subcutaneous and abdominal fatty acid composition and CLA profiles in grain finished steers. L.H. Baumgard*[1], S.R. Sanders[1], O.B. Mendivil[1], J.K. Kay[1], J.A. Marchello[1], P. Delmonte[2], J.M. Griinari[3], M.P. Yurawecz[2]; [1]The University of Arizona ,Tucson, [2]U.S. Food and Drug Administration, Washington D.C., [3]University of Helsinki, Finland |

## *Lactation Biology*

## *Biology of Lactation*

Chair: Suzanne Sechen, FDA

Room: 264



| Time | Abstract # | |
|---|---|---|
| 1:00 PM | 778 | Exogenous porcine prolactin stimulates mammary development in prepubertal gilts. Chantal Farmer*, Marie-France Palin; Agriculture and Agri-Food Canada, Dairy and Swine R & D Centre, Lennoxville, QC, Canada |
| 1:15 PM | 779 | Gene expression profiling of bovine mammary epithelial cells in response to prolactin and extracellular matrix. Lynn Rowley*[1], D Baird[2], T Wilson[3], J Whitley[1], C Berends[1], M Wells[1], M Goddard[1]; [1]Primary Industries Research, Victoria Attwood, Australia, [2]AgResearch, Lincoln, New Zealand, [3]AgResearch Molecular Biology Unit University of Otago, Dunedin, New Zealand |
| 1:30 PM | 780 | Microarray analysis of prolactin signalling in the bovine mammary gland during lactogenesis. M Wells*[1], C Prosser[2], D Baird[3], T Wilson[4], M Auldist[5], JC Whitley[1], JK Lee[1], J Argento[1], M Goddard[1]; [1]Primary Industries Research Victoria Attwood, Australia, [2]AgResearch Ruakura, New Zealand, [3]AgResearch Lincoln, New Zealand, [4]AgResearch Molecular Biology Unit University of Otago, Dunedin, New Zealand, [5]Primary Industries Research Victoria Ellinbank, Australia |
| 1:45 PM | 781 | Expression of prolactin responsive genes following experimental manipulation of the prolactin axis during early lactation in dairy cows. E. H. Wall*[1], H. M. Crawford[2], G. E. Dahl[2], T. B. McFadden[1]; [1]University of Vermont, Burlington, [2]University of Illinois, Urbana |
| 2:00 PM | 782 | Effects of 21-day short day photoperiod (SDPP) during the dry period on prolactin (PRL) concentrations, lymphocyte PRL receptor (PRL-R) mRNA, and general health of dairy cows. E. D. Reid*[1], T. L. Auchtung[1], D.E. Morin[1], T.B. McFadden[2], G.E. Dahl[1]; [1]University of Illinois, Urbana, [2]University of Vermont, Burlington |
| 2:15 PM | 783 | Exposure to long day photoperiod during the dry period increases mammary gland expression of suppressors of cytokine signaling in dairy cows. E. H. Wall*[1], T. L. Auchtung[2], G. E. Dahl[2], T. B. McFadden[1]; [1]University of Vermont, Burlington, [2]University of Illinois, Urbana |
| 2:30 PM | 784 | The effects of a 21-day short day photoperiod treatment during the dry period on dry matter intake and subsequent milk production in cows. E.D. Reid*[1], R.L. Wallace[1], T.B. McFadden[2], G.E. Dahl[1]; [1]University of Illinois, Urbana, [2]University of Vermont, Burlington |
| 2:45 PM | | Break |
| 3:15 PM | 785 | Evidence that prolactin (PRL) mediates effects of milking frequency in early lactation. H.M. Crawford*[1], T.L. Auchtung[1], E.H. Wall[2], T.B. McFadden[2], G.E. Dahl[1]; [1]University of Illinois, Urbana, [2]University of Vermont, Burlington |
| 3:30 PM | 786 | Impact of Increased Milking Frequency in Early Lactation in Multiparous Dairy Cows. M. J. VanBaale*[1], D. Ledwith[2], J. M. Thompson[3], R. J. Collier[1], L H. Baumgard[1]; [1]The University of Arizona, Tucson, [2]Stotz Dairy, Buckeye, AZ, [3]California State Polytechnic University, San Luis Obispo |
| 3:45 PM | 787 | Effects of milking frequency during early lactation on performance and health of dairy cows. J. Fernandez*, C. M. Ryan, D. M. Galton, T. R. Overton; Cornell University, Ithaca, NY |
| 4:00 PM | 788 | Effects of continuous milking, bST and early-lactation milking frequency on mammogenesis, milk yield and composition in primiparous cows. A.C. Fitzgerald*, E.L. Annen, P.C. Gentry, L.H. Baumgard, R.J. Collier; University of Arizona, Tucson |

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| 4:15 PM | 789 | The anticancer effects of vaccenic acid in milk fat are due to its conversion to conjugated linoleic acid via Ä[9]-desaturase. A. L. Lock*[1], B. A. Corl[1], D. E. Bauman[1], D. M. Barbano[1], C. Ip[2]; [1]Cornell University, Ithaca, NY, [2]Roswell Park Cancer Institute, Buffalo, NY |
| 4:30 PM | 790 | Relationships between somatic cell count and bacterial infection in Italian buffaloes. P Boettcher*[1], A Stella[2], G Pisoni[3], C Sgoifo Rossi[3], R Fedeli[3], M Rinaldi[3], P Moroni[3]; [1]IBBA-CNR Segrate, Italy, [2]CERSA-FPTP Segrate, Italy, [3]University of Milan Milan, Italy |

## *Nonruminant Nutrition*

### *Sow Feeding*

Chair: Doug Cook, Akey

Room: 276

| Time | Abstract # | |
|---|---|---|
| 1:00 PM | 791 | A new sow model to study amino acid arterio-venous differences and uptake by the mammary gland before and after farrowing. Z. Mroz*[1], W. Krasucki[2], S. J. Koopmans[1]; [1]Wageningen University and Research Centre, Division Nutrition and Food Lelystad, The Netherlands, [2]Agricultural University of Lublin Poland |
| 1:15 PM | 792 | Changes in composition in various body tissues in pregnant gilts and its nutritional implication. F. Ji*[1], G. Wu[2], J. R. Blanton Jr.[1], S. W. Kim[1]; [1]Texas Tech University, Lubbock, [2]Texas A&M University, College Station |
| 1:30 PM | 793 | Ideal protein to improve lactation performance of primiparous sows. S. W. Kim*[1], F. Ji[1], Y. G. Kim[2]; [1]Texas Tech University, Lubbock, [2]CJ Corporation, Seoul, Korea |
| | 794 | See page 87 |
| 1:45 PM | 795 | Comparison of ad-libitum and hand-fed sow lactation feeders. Jiajiang Peng*, S. Somes, D. Kirkpatrick, A. Snedegar, Dale Rozeboom; Michigan State University, East Lansing |
| 2:00 PM | 796 | Interactive effects of milk supplementation, parity and season on preweaning mortality and growth performance of piglets on a commercial farm. B.W. Ratliff*[1], A.M. Gaines[1], G.L. Allee[1], M. O'Brien[2], J.A. Coalson[2]; [1]University of Missouri, Columbia, [2]Merrick's, Inc., Union Center, WI |

## *Production, Management and the Environment*

### *Nutritional Management*

Chair: L. Wayne Green, Texas A&M University

Room: 260

| Time | Abstract # | |
|---|---|---|
| 1:00 PM | 797 | Blood metabolites during the transition period of Holstein cows receiving a monensin controlled-release capsule. P. Melendez*[1], J. Goff[3], C. Risco[1], L. Archbald[1], R. Littell[2], A. Donovan[1]; [1]College of Veterinary Medicine, University of Florida, Gainesville, [2]Institute of Food and Agricultural Sciences, University of Florida, Gainesville, [3]National Animal Research Center, USDA, Ames, IA |
| 1:15 PM | 798 | Rumen and blood metabolites at 10 d postpartum in Holstein cows supplemented with monensin. P. Melendez*[1], J. Goff[2], C. Risco[1], L. Archbald[1], R. Littell[3], A. Donovan[1]; [1]College of Veterinary Medicine, University of Florida, Gainesville, [2]National Animal Research Center, USDA, Ames, IA, [3]Institute of Food and Agricultural Sciences, Gainesville, FL |
| 1:30 PM | 799 | Warm-season baleage crops for mid-lactation Holstein cows. M. E. McCormick*; Louisiana State University, Southeast Research Station, Franklinton |
| 1:45 PM | 800 | Evaluating the Distribution of Fatty Acids in the Middle and Outer Layer of Market Pigs Challenged with Conjugated Linoleic Acid. Abby Cox*, Allan Schinckel, Brian Richert, Mickey Latour; Purdue University, West Lafayette, IN |

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| 2:00 PM | 801 | Effect of feeding a low nutrient excretion diet on pig growth performance and carcass characteristics in a commercial wean-finish setting. R.B. Hinson*, M.C. Walsh, D.M. Sholly, S.A. Trapp, D.T. Kelly, J.S. Radcliffe, A.L. Sutton, A.P. Schinckel, B.T. Richert; Purdue University, West Lafayette, IN |
| 2:15 PM | 802 | Finishing steer performance on diets with added vegetable oil. G. M. Hill*[1], S. K. Duckett[2], J. F. Baker[1], E. Paven[2], B. G. Mullinix[1]; [1]University of Georgia, Tifton, [2]University of Georgia, Athens |
| 2:30 PM | 803 | Effect of oil supplementation to finishing cattle on carcass quality and subcutaneous fat composition. Enrique Pavan*[1], Susan Duckett[1], Gary Hill[2]; [1]University of Georgia, Athens, [2]University of Georgia, Tifton |
| 2:45 PM | | Break |
| 3:15 PM | 804 | Effects of Supplement Type on Growth and Pregnancy Rate of Yearling, Brahman-Crossbred Heifers. John D. Arthington*[1], G. Cliff Lamb[2], Findlay M. Pate[1]; [1]University of Florida, Range Cattle Research and Education Center, Ona, [2]University of Minnesota, North Central Experiment Station, Grand Rapids |
| 3:30 PM | 805 | Effects of supplemental yeast fermentation product on early-weaned calf performance while grazing winter ryegrass summer stargrass pastures in Florida. John D. Arthington[1], Sebastian Galindo-Gonzalez*[1], Joao M. B. Vendramini[1,2], Robert S. Kalmbacher[1], Paul Mislevy[1], Lynn E. Sollenberger[2], Ilkyu Yoon[3]; [1]University of Florida, Range Cattle Research and Education Center, Ona, [2]University of Florida, Department of Agronomy, Gainesville, [3]Diamond V, Cedar Rapids, IA |
| 3:45 PM | 806 | Response of cow/calf pairs grazing fescue and individually-supplemented with gradient levels of FEB-200™. D. K. Aaron*[1], D. G. Ely[1], J. Wyles[1], V. Akay[2]; [1]University of Kentucky, [2]Alltech, Inc. |
| 4:00 PM | 807 | Response of cows and calves to gradient levels of a supplemented modified glucomannan when grazing tall fescue. D. G. Ely*[1], D. K. Aaron[1], J. Wyles[1], V. Akay[2]; [1]University of Kentucky, [2]Alltech, Inc. |
| 4:15 PM | 808 | Birth season, preweaning stocking rates and sex effects on birth-to-harvest growth and carcass composition of Simmental-sired calves. F. M. Rouquette*[1], G. Estefan[2], J. W. Turner[2], D. P. Hutcheson[3]; [1]Texas Agricultural Experiment Station, Overton, [2]Texas A&M University, College Station, [3]Texas Agricultural Experiment Station, Amarillo |
| 4:30 PM | 809 | Performance of Early-Weaned Calves Grazing Tifton 85 Bermudagrass and Receiving Three Levels of Supplemental Concentrate. J. M. B. Vendramini*[1,2], L. E. Sollenberger[1], J. D. Arthington[2], J. B. Dubeux, Jr.[1], S. M. Interrante[1]; [1]Department of Agronomy, University of Florida, Gainesville, [2]Range Cattle Research and Education Center, University of Florida, Ona |



## *PSA-Nutrition*

## *Amino Acids*

Chair: Jason Emmert, University of Arkansas

Room: 274

| Time | Abstract # | |
|---|---|---|
| 1:00 PM | 810 | Comparison of methionine sources based on an equimolar trial design with broiler chickens in Brazil. S. Vieira[1], D. Hoehler*[2], A. Lemme[2], A. Kessler[1], S. Pophal[1], A. Ebert[1], G. Eichner[1]; [1]Federal University of Rio Grande del Sul, Brazil, [2]Degussa Corporation, Kennesaw, GA |
| 1:15 PM | 811 | Very young turkeys utilize 2-hydroxy-4-(methylthio) butanoic acid (HMTBA) effectively as a methionine (M) source. R. Gonzalez-Esquerra, M. Vazquez-Añon, T. Hampton, T. W. York, C. W. Wuelling, C. D. Knight; Novus International, Inc., St Charles, MO |
| 1:30 PM | 812 | The Methionine Requirements of Chicks and Hens Fed Corn and Peanut Meal or Soybean Meal Based Diets. G.M. Pesti*, R.I. Bakalli, J.P. Driver; The University of Georgia, Athens |
| 1:45 PM | 813 | The response of broilers to feeds limiting in threonine in the period 7 to 21 days of age. Robert M. Gous[1], Sabine Van Cauwenberghe[2], Claire Relandeau[2], David J. Burnham*[3]; [1]University of KwaZulu-Natal Pietermaritzburg, Natal, South Africa, [2]Ajinomoto Eurolysine SAS Paris, France, [3]Ajinomoto Heartland LLC, Chicago, IL |

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| 2:00 PM | 814 | Impact of L-threonine supplementation in reduced protein diets for broilers. Claire Relandeau*[1], L. Le Bellego[1], J. Bartelt[2], F. Hutterer[2], R. Khidr[3], R. Leitgeb[4]; [1]Ajinomoto Eurolysine E S.A.S. Paris, France, [2]LAH Cuxhaven, Germany, [3]Desert Research Centre Mataria, Egypt, [4]University of Bodenkultur Vienna, Austria |
| 2:15 PM | 815 | Amino acid requirements of laying hens. G.P. Audren*[1], H.L. Classen[1], K. Schwean-Lardner[1], K. Bolton[2]; [1]University of Saskatchewan, Department of Animal and Poultry Science, Saskatoon, SK, Canada, [2]Saskatchewan Agriculture Food and Rural Revitalization, Regina, SK, Canada |
| 2:30 PM | 816 | A comprehensive summary of experiments to define factors that may affect the gain response to 2-hydroxy-4 methylthio butanoic acid (HMTBA) and dl-methionine (DLM) in broilers. M Vazquez-Anon*[1], D D Kratzer[2], R Gonzalez-Esquerra[1], G F Yi[1], C D Knight[1]; [1]Novus International, Inc, St. Louis, MO, [2]E-SCI, Olivete, MI |
| 2:45 PM | | Break |
| 3:15 PM | 817 | Summarized experimental results demonstrate different dose responses of broiler gain to 2-hydroxy-4 methylthio butanoic acid (HMTBA) and dl-methionine (DLM) with multiple putative variables. M Vazquez-Anon*[1], D D Kratzer[2], R Gonzalez-Esquerra[1], G F Yi[1], C D Knight[1]; [1]Novus International, Inc, St. Louis, MO, [2]E-SCI, Olivet, MI |
| 3:30 PM | 818 | Effect of dietary tryptophan on growth and stress of broiler chicks. A. Corzo*[1], M. T. Kidd[1], J. P. Thaxton[1], B. J. Kerr[2]; [1]Mississippi State University, [2]United States Department of Agriculture |
| 3:45 PM | 819 | Standardized ileal amino acid digestibility in broiler nutrition. Maria L. Locatelli*[1], V. Ravindran[2], A. Lemme[1]; [1]Degussa Corporation, Kennesaw, GA, [2]Institute of Food, Nutrition and Human Health, Massey University Palmerston North, New Zealand |
| 4:00 PM | 820 | Variations in the digestible lysine requirement of broilers due to sex, performance parameters and rearing environment. A. R. Garcia*[1], A. B. Batal[1], D.H. Baker[2]; [1]University of Georgia, [2]University of Illinois |
| 4:15 PM | 821 | Chick responses to diets differing in essential and nonessential amino acids. C. A. Fritts*, A. Corzo, M. T. Kidd; Mississippi State University, Mississippi State |
| 4:30 PM | 822 | Effect of dietary lysine and stock density on broiler performance and breast meat quality. Cécile Berri[1], Claire Relandeau*[2], Laurent Le Bellego[2], Michel Picard[1]; [1]INRA Station de Recherches Avicoles Nouzilly, France, [2]Ajinomoto Eurolysine S.A.S. Paris, France |

## *PSA-Nutrition*

### *Vitamin/Minerals and Miscellaneous Nutrition*

Chair: David Ledoux, University of Missouri

Room: 275

| Time | Abstract # | |
|---|---|---|
| 1:00 PM | 823 | Efficacy of vitamin D source and level on performance and bone mineralization of broilers fed dietary treatments for six weeks. D.R. Ledoux*[1], J.N. Broomhead[1], D.R. Campbell[2], J.W. Wilson[2], N.E. Ward[2]; [1]University of Missouri, Columbia, [2]DSM Nutritional Products, Inc., Parsippany, NJ |
| 1:15 PM | 824 | Influence of large doses of vitamin C on performance,plasma and bone calcium and phosphorus, bone characteristics and egg quality of local Dandarawi hens exposed to cold stress. M.M. Metwally*; Dept.of Animal and Poultry Production, Assiut University, Assiut, Egypt |
| 1:30 PM | 825 | Litter quality and feet dermatites with broilers in response to corn-soybean vegetarian feeds. Germano Eichner, Sergio L Vieira*, Rogerio P Ott, Eduardo S Viola, Jair G Almeida; UFRGS, Porto Alegre, RS Brazil |
| 1:45 PM | 826 | Effects of ***salmonella typhymurium*** lipopolysaccharide challenge on the performance and zinc metabolism in laying hens supplemented with zinc from different sources. Tingshui Cheng*, Yuming Guo, Jianmin Yuan; College of Animal Science and Technology, China Agricultural University Yuanmingyuan West Road, Beijing, P.R.China |
| 2:00 PM | 827 | Effects of broiler strain on nonphytate phosphorus requirement. M. E. Persia*, W. W. Saylor; University of Delaware, Newark |

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|---|---|---|
| 2:15 PM | 828 | Plasma and tissue selenium and plasma glutathione peroxidase concentrations of broilers fed a selenium-deficient diet following a selenium-loading period. R. L. Payne*, L. L. Southern; LSU Agricultrual Center, Baton Rouge |
| 2:30 PM | 829 | Validation of a selenium-deficient diet for broilers. R. L. Payne*, L. L. Southern; LSU Agricultural Center, Baton Rouge |
| 2:45 PM | | Break |
| 3:15 PM | 830 | Growth performance and spontaneous bone fracture incidence of toms fed various levels of calcium and non-phytate phosphorus to heavy market weight. K.D. Roberson*, J.L. Kalbfleisch, R.A. Charbeneau, W. Pan; Michigan State University |
| 3:30 PM | 831 | The impact of dietary copper source and level on hen performance, egg quality and egg yolk cholesterol. Paul H. Patterson[1], Terri L. Cravener[1], Danny M. Hooge*[2]; [1]The Pennsylvania State University, University Park, [2]Hooge Consulting Service, Inc., Eagle Mountain, UT |
| 3:45 PM | 832 | Use of 2-hydroxy-4(methylthio) butanoic acid (HMTBA) as a ligand for organic trace minerals. J.J. Dibner*, M. Trehy, C.S. Schasteen, J.A. Hume; Novus International, Inc., St. Louis, MO |
| 4:00 PM | 833 | Reduction of ascites mortality in broilers by dietary coenzyme $Q_{10}$ supplementation. Ailian Geng*, Yuming Guo, Ying Yang; College of Animal Science and Technology, China Agricultural University Yuanming West Road, Beijing, P.R. China |
| 4:15 PM | 834 | Comparison of growth potential and carcass components of a new strain of tom turkeys with other commercial strains. K.D. Roberson*[1], J.L. Kalbfleisch[1], D. Dransfield[2]; [1]Michigan State University, [2]British United Turkeys of America |
| 4:30 PM | 835 | Effects of cereal, heat proccessing, and fiber on productive performance and digestive traits of broilers. J.M. González-Alvarado[1], E.J. Moreno[2], D.G. Valencia[2], R. Lázaro[2], G.G. Mateos*[2]; [1]Universidad Autónoma de Tlaxcala, México, [2]Universidad Politécnica de Madrid, Spain |



## *Ruminant Nutrition*

## *Beef - Digestibility & Production*

Chair: Harvey Freetly, USDA, ARS

Room: 220

| Time | Abstract # | |
|---|---|---|
| 1:00 PM | 836 | Site and extent of digestion in beef cattle consuming restricted amounts of forage and supplemental ruminally undegradable protein. E. J. Scholljegerdes*, T. R. Weston, F. S. D'Angieri, P. A. Ludden, B. W. Hess; Department of Animal Science, University of Wyoming, Laramie |
| 1:15 PM | 837 | Digestion of barley-based high-grain diets supplemented with rumen degradable and undegradable protein in steers. - digestion trial. B. W. Pamp*, M. L. Bauer, G. P. Lardy, S. A. Soto-Navarro; Dept. of Animal and Range Sciences, North Dakota State University, Fargo |
| 1:30 PM | 838 | Effect Of Choice-Select Spread On Carcass Value And Profitability In Early-Weaned Simmental Steers. Nathan A. Pyatt*[1], Larry L. Berger[1], Dan B. Faulkner[1], Paul M. Walker[2]; [1]University of Illinois, Urbana, [2]Illinois State Unversity, Normal |
| 1:45 PM | 839 | Effect Of Dressed Price On Carcass Value And Profitability In Early-Weaned Simmental Steers. Nathan A. Pyatt*[1], Larry L. Berger[1], Dan B. Faulkner[1], Paul M. Walker[2]; [1]University of Illinois, Urbana, [2]Illinois State University, Normal |
| 2:00 PM | 840 | Effects of carbohydrate source and forage level in the diet on nitrogen balance, digestibility and portal nutrient flux in sheep. A. F. Branco*, G. F. Mouro, F. J. Maia, T. F. Minella, L. P. Rigolon, S. M. Coneglian; Universidade Estadual de Maringa |
| 2:15 PM | 841 | Digestion characteristics of corn plus cottonseed meal compared to whole cottonseed plus de-oiled rice bran as supplements for beef cattle and the effects of extrusion. MS Gadberry*[1], PA Beck[2], SA Gunter[2], DW Kellogg[3]; [1]University of Arkansas, Cooperative Extension Service Little Rock, [2]University of Arkansas, Southwest Research and Extension Center, Hope, [3]University of Arkansas, Dept Animal Science, Fayetteville |

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| 2:30 PM | 842 | Using a dynamic mechanistic ruminant model to estimate the effect of large changes in starch fermentation rates and site of digestion on cattle growth. B.N. Nagorcka*[1], S. Bird[2]; [1]CSIRO Livestock Industries Canberra, Australia, [2]University of New England NSW, Australia |
| 2:45 PM | 843 | Ruminal nutrient degradation of untreated and chemically treated wheat grain. K.-H. Suedekum*[1], M. Klein[1], M. Paschke-Beese[1], O. Schade[2]; [1]University of Kiel, Germany, [2]Raiffeisen HaGe Nord, Rendsburg, Germany |

## *Ruminant Nutrition*

## *Dairy - Transition Cows*

Chair: Clay Zimmerman, Blue Seal Feeds, Inc.

Room: 130

| Time | Abstract # | |
|---|---|---|
| 1:00 PM | 844 | Altered feeding behavior occurs in both primiparous and multiparous Holsteins during the periparturient period. M. A. DeGroot*, P. D. French; Oregon State University, Corvallis |
| 1:15 PM | 845 | Effects of increased exposure to pre-calving diets containing BioChlor: Reproductive performance. PJ DeGaris[1], IJ Lean*[1], DM McNeill[2], AR Rabiee[1]; [1]Bovine Research Australasia NSW, Australia, [2]University of Sydney NSW, Australia |
| 1:30 PM | 846 | Effects of increased exposure to pre-calving diets containing BioChlor: Milk production. PJ DeGaris[1], IJ Lean*[1], DM McNeill[2], AR Rabiee[1]; [1]Bovine Research Australasia NSW, Australia, [2]University of Sydney NSW, Australia |
| 1:45 PM | 847 | Effects of increased exposure to pre-calving diets containing BioChlor: Cow health. PJ DeGaris[1], IJ Lean*[1], DM McNeill[2], AR Rabiee[1]; [1]Bovine Research Australasia NSW, Australia, [2]University of Sydney NSW, Australia |
| 2:00 PM | 848 | Effect of a dry propylene glycol product for postpartum Holstein dairy cows on health and performance. Y.-H. Chung*[1], K. S. Heyler[1], T. W. Cassidy[1], S. L. Ward[1], I. D. Girard[2], G. A. Varga[1]; [1]Department of Dairy and Animal Science, The Pennsylvania State University, University Park, [2]Probiotech International Inc., Saint-Hyacinthe, QC, Canada |
| 2:15 PM | 849 | Effects of method of delivery of glycerol on performance of dairy cows during the transition period. K. L. Ogborn*[1], R. Paratte[1], K. L. Smith[1], P. W. Jardon[2], T. R. Overton[1]; [1]Cornell University, Ithaca, NY, [2]West Central Soy, Ralston, IA |
| 2:30 PM | 850 | Effects of feeding propionate and calcium salts of long-chain fatty acids on transition dairy cow performance. J.M. DeFrain*, A.R. Hippen, K.F. Kalscheur, R.S. Patton; South Dakota State University, Brookings |
| 2:45 PM | | Break |
| 3:15 PM | 851 | The effect of prepartum monensin supplementation on milk production in dairy cows. A. Arieli*, U. Dicken; Hebrew University Fac. Agric, Rehovot 76100, Israel |
| 3:30 PM | 852 | Effect of lowered prepartum DCAD on urinary pH: A meta-analysis. E. Charbonneau*[1], D. Pellerin[1], G.R. Oetzel[2]; [1]Université Laval, QC, Canada, [2]University of Wisconsin, Madison |
| 3:45 PM | 853 | Direct-Fed Microbial Supplementation On Ruminal Digestion, Health And Performance Of Pre- And Postpartum Dairy Cattle. James E. Nocek*[1], William P. Kautz[2]; [1]Spruce Haven Farm and Res Ctr, Auburn, NY, [2]Chr Hansen BioSystems, Milwaukee, WI |
| 4:00 PM | 854 | Production and blood metabolites in multiparous Holstein and Jersey cows fed rumen-protected choline during the periparturient period. N. A. Janovick*[1], D. B. Carlson[1], J. E. Garrett[2], J. K. Drackley[1]; [1]University of Illinois, Urbana, [2]Balchem Encapsulates, Slate Hill, NY |
| 4:15 PM | 855 | Feeding soybeans and rumen-protected choline to dairy cows during the periparturient period and early lactation: effects on plasma lipid balance. W.A. Oelrichs*, M.C. Lucy, M.S. Kerley, J.N. Spain; University of Missouri, Columbia |

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|---|---|---|
| 4:30 PM | 856 | Effects of physiological state, prepartum dietary carbohydrate source, and chromium supplementation on dynamics of insulin, glucose, and fatty acid metabolism in dairy cows. K. L. Smith*[1], M. R. Waldron[1], T. R. Overton[1], J. K. Drackley[2], R. C. Boston[3], M. T. Socha[4]; [1]Cornell University, Ithaca, NY, [2]University of Illinois, Urbana, [3]University of Pennsylvania, Kennett Square, [4]Zinpro Corporation, Eden Prairie, MN |
| 4:45 PM | 857 | Inducing hypocalcemia in rumen fistulated steers to determine effectiveness of anionic salt treatments for transition dairy cattle. Mark A. Froetschel*[1], Devendra Kumar[1], Pat G. Smith [1], Stacy N. Nichols[2]; [1]The University of Georgia, Athens, [2]West Central Soy, Ralston, IA |

## *Swine Species*

Chair: Bob Goodband, Kansas State University

Room: 276



| Time | Abstract # | |
|---|---|---|
| 3:15 PM | 858 | Gilt selection for improved lifetime productivity. J.L. Patterson*[1], G.R. Foxcroft[1], M.J. Pettitt[2], E. Beltranena[1]; [1]Swine Research & Technology Centre, Edmonton, AB, [2]Prairie Swine Centre Inc., Saskatoon, SK |
| 3:30 PM | 859 | Efficient sows are good mothers. Rob Bergsma*; IPG, Institute for Pig Genetics, 6640 AA Beuningen, The Netherlands |
| 3:45 PM | 860 | Comparison of different measures of carcass composition and lean growth in swine. D.W. Newcom[1], K.J. Stalder*[1], G.F. Jones[2]; [1]Dept. of Animal Science, Iowa State University, Ames, [2]Dept. of Agriculture, Western Kentucky University, Bowling Green |
| 4:00 PM | 861 | Effects of removing different proportions of slaughter weight pigs from pens on subsequent growth performance. Jacob M. DeDecker*[1], Mike Ellis[1], Bradley F. Wolter[2], Beau A. Peterson[1]; [1]University of Illinois, Urbana, [2]The Maschhoffs, Inc., Carlyle, IL |

# THURSDAY, JULY 29, 2004
## *SYMPOSIA AND ORAL SESSIONS*

### *SYMPOSIUM*

### *Animal Health*

### *Integrative Aspects of Immunity, Nutrient Metabolism, and Production in Livestock*

Chair: Thomas Overton, Cornell University

Sponsors: Elanco Animal Health and Pfizer Animal Health

Room: 274

| Time | Abstract # | |
|---|---|---|
| 8:00 AM | | Introduction. T.R. Overton, Cornell University Ithaca, NY |
| 8:05 AM | 862 | What are the costs of immunity? Kirk C. Klasing*[1], Brooke D. Humphrey[1], Alfonso J. Mireles [2], Elizabeth A. Koutsos[3]; [1]Dept Animal Science, University of California, Davis, [2]Foster Farms Dept. Feed Research, [3]Dept. Animal Science, California State University, San Luis Obispo |
| 8:50 AM | 863 | Interactive responses in gut immunity, and systemic and local changes in the IGF system in nursery pigs in response to ***Salmonella enterica*** serovar Typhimurium. B. J. Johnson*, S. S. Dritz, K. A. Skjolaas-Wilson, T. E. Burkey, J. E. Minton; Kansas State University, Manhattan |
| 9:35 AM | 864 | Protein tyrosine nitration: a membrane-organized mechanism for altered signal transduction during proinflammatory stress. T.H. Elsasser*[1], S. Kahl[1], J.L. Sartin[2], C. Li[1]; [1]USDA, Agricultural Research Service, Beltsville, MD, [2]Auburn University, Auburn, AL |
| 10:20 AM | 865 | Parturition-Induced Changes in Neutrophil Gene Expression: Implications for Cell Function. Jeanne L. Burton*, Sally A. Madsen, Ling-Chu Chang, Patty S.D. Weber, Kelly R. Buckham, Paul M. Coussens; Michigan State University, Department of Animal Science |

### *SYMPOSIUM*

### *Extension Education*

### *The Use of Electronic Media for Extension and Producer Education*

Chair: Tom R. Troxel, University of Arkansas

Room: 124

| Time | Abstract # | |
|---|---|---|
| 8:00 AM | | Introduction. Tom Troxel, University of Arkansas |
| 8:10 AM | 866 | Maximize your efficiency through online knowledge bases. Craig H. Wood*, Ashley S. Griffin; University of Kentucky, Lexington |
| 8:30 AM | | E-Extension. Jan Poley, NE |
| 8:50 AM | 867 | The power of $W^3$: delivering courses, training, and extension programs over the web. Ashley S. Griffin*, Craig H. Wood; University of Kentucky, Lexington |
| 9:10 AM | | Break |
| 9:25 AM | | On line certification program for beef producers. Ron Lemenager, Purdue University |
| 9:45 AM | | Swine and beef business daily. Thomas Stein, Megafarms |
| 10:05 AM | | Using online technology to teach advance reproductive management. Darrel Kesler, University of Illinois |

## *SYMPOSIUM*

### *Goat Species*

### *Export Potential, Market Outlook, and Value-Added Processing*

Chair: Terry A. Gipson, Langston University

Room: 263

| Time | Abstract # | |
|---|---|---|
| 8:05 AM | | Introduction. Terry A. Gipson, E (Kika) de la Garza American Institute for Goat Research, Langston University |
| 8:15 AM | 868 | Export potential, market outlook, and value-added processing of goat fibers. Christopher J. Lupton*; Texas Agricultural Experiment Station, Texas A&M University System, San Angelo |
| 8:45 AM | 869 | Marketing slaughter goats and goat meat products. Tatiana L. Stanton*; Cornell University, Ithaca, NY |
| 9:30 AM | | Break |
| 9:45 AM | 870 | Value-added processing and consumer preference of goat meat. K.W. McMillin*; Louisiana State University Agricultural Center Dept of Animal Sciences, Baton Rouge |
| 10:30 AM | | Dairy goats and dairy goat products: export potential, market outlook, and value-added processing. Linda S. Campbell, Khimaira Farm, Luray, Virginia |



## *SYMPOSIUM*

### *International Animal Agriculture*

### *Animal Agriculture in Global Context*

Chair: Tilak R. Dhiman, Utah State University

Sponsors: EAAP and Monsanto Company

Room: 125/126

| Time | Abstract # | |
|---|---|---|
| 8:30 AM | | The livestock revolution/implications-a view from developing countries. David Miano Mwangi, Kenya Agricultural Research Institute and International Livestock Research Institute Kenya |
| 9:15 AM | 871 | Setting research agendas for animal science in a global context. Margaret Gill*, Rodd Dyer; Macaulay Institute Craigiebuckler, Aberdeen, Scotland |
| 10:15 AM | | Livestock and environment from global prospect. Emilio A. Laca; Egronomy and Range Science Department, University of California, Davis |
| 11:00 AM | 872 | Today's poultry industry from a global perspective. Paul Aho*; Poultry Perspective Storrs, Connecticut |
| 11:45 AM | | Panel Discussion |

## *Mixed Models Workshop*

Room: 265/266

Time: 8:00 AM – 12:00 PM

(Previous session on 7/28, 8:00 AM – 5:00 PM; Interested parties should attend both sessions. Preregistration fee required.)

Description: A professional development opportunity in the use of mixed models for the analysis of common experimental designs in the animal sciences. Emphasis on repeated measures analysis is continued from previous years. Applications to the analysis of complete and incomplete block designs, including microarray experiments, are also presented. Bioequivalence testing and power computations using mixed model software are introduced this year. Emphasis is placed on the use of SAS PROC MIXED. All professionals and graduate students are invited to attend.

## *Animal Behavior and Well-Being*

Chair: Adroaldo Zanella, Michigan State University

Room: 127

| Time | Abstract # | |
|---|---|---|
| | 873 | Withdrawn by author |
| 8:15 AM | 874 | Choice of attractive conditions by beef cattle in a Y-maze just after release from restraint. Toshie T. Ishiwata*[1], Robert J. R. J. Kilgour[2], Katsuji K. Uetake[1], Yusuke Y. Eguchi[1], Toshio T. Tanaka[1]; [1]School of Veterinary Medicine, Azabu University Sagamihara, Japan, [2]Agricultural Research Centre, NSW Agriculture Trangie, NSW, Australia |
| 8:30 AM | 875 | Out-wintering pads (owp) for steers–animal wellbeing and production. M.C. Hickey*[1], A.P. Moloney[2], P. French[3]; [1]Teagasc Beef Research Centre Grange, Dunsany, Co. Meath, Ireland, [2]Teagasc Beef Research Centre Dunsany, Co. Meath, Ireland, [3]Teagasc Beef Research Centre Dunsany, Co. Meath, Ireland |
| 8:45 AM | 876 | Effect of feeding Ascophyllum Nodosum on thermoregulation, behavior, and dehydration of sheep subjected to 12-h of transport. Gregory S Archer*, Ted H. Friend, Christa Iacono, Peter Krawczel, Ryan Johnson; Texas A&M University, College Station |
| 9:00 AM | 877 | The Effect Of A Naloxone Implant On The Oestrus Behavior, The Lh Preovulatory Surge And On The Ovulation Rate Of The Crossbreed Mexican Ewe During The Breeding Season. Victor Fuentes*, Paula Fuentes; CentroUniversitario de los Altos, Universidad de Guadalajara, Mexico Km 7.5 Carretera a Yahualica, Tepatitlan, Jalisco, Mexico |
| 9:15 AM | 878 | Utilization of an onboard watering system by slaughter horses during transport. Christa M Iacono*, Ted H Friend, Ryan Johnson, Peter Krawczel, Greg Archer; Texas A&M University, College Station |
| 9:30 AM | 879 | Effect of continuous versus rested transport on blood chemistry, electrolytes and behavior of lambs. P. Krawczel*, T. Friend; Department of Animal Science, Texas A&M University, College Station |
| 9:45 AM | 880 | The effect of long-chain polyunsaturated fatty acid and vitamin E supplementation of ewes on neonatal lamb vigour. Judith L. Capper*, Robert G. Wilkinson, Sandra E. Pattinson, Alexander M. Mackenzie, Liam A. Sinclair; Harper Adams University College Newport, Shropshire, United Kingdom |

## *Breeding and Genetics*

## *Beef Cattle*

Chair: Denny Crews, Agriculture and Agri-Food Canada Research Centre

Room: 261/262

| Time | Abstract # | |
|---|---|---|
| 8:00 AM | 881 | Estimates of genetic parameters for infectious keratoconjunctivitis in beef calves before weaning. G. D. Snowder*[1], L. D. Van Vleck[2], L. V. Cundiff[1], G. L. Bennett[1]; [1]USDA-ARS, U.S. Meat Animal Research Center Clay Center, NE, [2]USDA-ARS, U.S. Meat Animal Research Center Lincoln, NE |
| 8:15 AM | 882 | Investigation of gestation length in ***Bos indicus*** x ***Bos taurus*** reciprocal backcross calves produced through embryo transfer. T.S. Amen*, A.D. Herring, C.A. Gill, J.O. Sanders; Texas A&M University, College Station |
| 8:30 AM | 883 | Genetic correlations between postweaning feed efficiency and cow traits. P. F. Arthur*[1], J. A. Archer[2], A. Reverter[3], D. J. Johnston[4], R. M. Herd[5]; [1]NSW Agriculture - Camden, Australia, [2]AgResearch, Mosgiel, New Zealand, [3]CSIRO, Brisbane, Australia, [4]Animal Genetics and Breeding Unit, Armidale, Australia, [5]NSW Agriculture - Armidale, Australia |
| 8:45 AM | 884 | Investigation of birth weight in ***Bos indicus*** x ***Bos taurus*** reciprocal backcross calves produced through embryo transfer. T.S. Amen*, A.D. Herring, C.A. Gill, J.O. Sanders; Texas A&M University, College Station |
| 9:00 AM | 885 | Teat scores in first-parity Gelbvieh cows: Relationship with suspensory score and calf growth traits. R. L. Sapp*, R. Rekaya, J. K. Bertrand; The University of Georgia, Athens |
| 9:15 AM | 886 | Calving day and age at first calving in Angus heifers. Jennifer Minick*, Doyle Wilson; Iowa State University, Ames |
| 9:30 AM | 887 | Genetic prediction for estimating mature cow maintenance energy requirements. Scott E. Speidel*, Dorian J. Garrick, Richard M. Enns; Colorado State University, Fort Collins |
| 9:45 AM | | Break |
| 10:15 AM | 888 | Estimates of genetic correlations among carcass traits adjusted to different end points. A. Rios-Utrera*[1], Larry V. Cundiff[2], Keith E. Gregory[2], Robert M. Koch[1], Michael E. Dikeman[3], Mohammad Koohmaraie[2], L. Dale Van Vleck[4]; [1]University of Nebraska, Lincoln, [2]USDA, ARS, Roman L. Hruska U.S. Meat Animal Research Center, Clay Center, NE, [3]Kansas State University Department of Animal Sciences and Industry, Manhattan, [4]USDA, ARS, Roman L. Hruska U.S. Meat Animal Research Center, Lincoln, NE |
| 10:30 AM | 889 | Genetic evaluation of beef cattle for growth using records across a wide range of ages. J. Bohmanova*, I. Misztal; University of Georgia, Athens |
| 10:45 AM | 890 | Examining the genetic diversity of Hereford cattle. M.A. Cleveland*[1], R.M. Enns[1], D.J. Garrick[1], H.D. Blackburn[2]; [1]Colorado State University, Fort Collins, [2]National Animal Germplasm Program, National Center for Genetic Resources Preservation, ARS, USDA, Fort Collins, CO |
| 11:00 AM | 891 | Evaluation of Angus field records: Using new sets of variances to estimate weaning weight EPDs and the effect on genetic trends. A. Hassen*, D. E. Wilson; Iowa State University |
| 11:15 AM | 892 | Genetic evaluation of feedlot performance and efficiency in beef cattle marketed at a constant finish endpoint. C.J.B. Devitt*[1], J.W. Wilton[2], T.L. Fernandes[2], S.P. Miller[2]; [1]Beef Improvement Ontario, Guelph, ON, Canada, [2]University of Guelph, Guelph, ON, Canada |
| 11:30 AM | 893 | Predicting breeding values for feed intake from individual or pen-fed data. K.M. Olson*, D.J. Garrick, R.M. Enns; Colorado State University, Fort Collins |
| 11:45 AM | 894 | The use of ultrasound to evaluate growth and carcass quality in Nelore cattle. Fabiano R. C. Araujo[1,2], Fernando Manicardi[3], José Roberto Hofig Ramos[4], Cláudio U. Magnabosco[5,1], Thomas R. Famula[1], Roberto D. Sainz*[1]; [1]University of California, Davis, [2]Aval Serviços Tecnológicos S/S Uberaba, MG, Brasil, [3]Grupo OMB Pontes e Lacerda, MT, Brasil, [4]Grupo HoRa Cornélio Procópio, PR, Brasil, [5]Embrapa Cerrados, Bolsista CNPq Brasilia, DF, Brasil |

## *Breeding and Genetics*

## *Swine*

Chair: Jack Dekkers, Iowa State University

Room: 260

| Time | Abstract # | |
|---|---|---|
| 8:00 AM | 895 | Validation of QTL's in a swine population selected for ovulation rate. Michelle R. Mousel*, Gary A. Rohrer, Kreg A. Leymaster, Ron K. Christenson; USDA-ARS; U.S. Meat Animal Research Center, Clay Center, NE |
| 8:15 AM | 896 | Identification of quantitative trait loci affecting reproduction and early growth in pigs. J. Holl*[1], J. P. Cassady[2], D. Pomp[1], R. K. Johnson[1]; [1]University of Nebraska, Lincoln, [2]North Carolina State University, Raleigh |
| 8:30 AM | 897 | Mapping genes affecting scrotal hernia condition in domestic pigs. F.-X. Du*, N. Mathialagan, C.J. Dyer, M.D. Grosz, L.A. Messer, A.C. Clutter, T. Wang, M.M. Lohuis, J.C. Byatt; Animal AG Monsanto Company |
| 8:45 AM | 898 | Prospecting for pig SNPs in the human genome: have we struck gold? Laura Grapes*[1], Stephen Rudd[2], Rohan Fernando[1], Karine Megy[3], Dominique Rocha[3], Max Rothschild[1]; [1]Iowa State University, [2]Institute for Bioinformatics, GSF-National Research Center for Environment and Health, [3]University of Cambridge |
| 9:00 AM | 899 | An evaluation of performance and carcass characteristics between pigs sired by boars from two different time periods. C.R. Schwab*, T.J. Baas, D.W. Newcom, K.J. Stalder; Iowa State University |
| 9:15 AM | 900 | Characterization of a line of pigs selected for increased litter size for two RFLPs identified in ***follistatin***. C. D. Blowe*, E. J. Eisen, O. W. Robison, J. P. Cassady; North Carolina State University, Raleigh |
| 9:30 AM | 901 | Detection of Quantitative Trait Loci for Growth, Carcass, and Meat Quality Traits in a Pietrain x (Large White × Landrace) Line Cross . N. Vukasinovic*[1], F.-X. Du[1], L. A. Messer[1], J. C. Byatt[1], M. M. Lohuis[1], A. C. Clutter[1], J. Bennewitz[2], N. Reinsch[2], G. Otto[2], K. Sanders[2], N. Borchers[2], C. Looft[2], E. Kalm[2]; [1]Animal AG Monsanto Company, [2]Institute of Animal Breeding and Husbandry Christian-Albrechts University of Kiel, Germany |
| 9:45 AM | | Break |
| 10:15 AM | 902 | An evaluation of meat and eating quality traits between pigs sired by boars from two different time periods. C.R. Schwab*, T.J. Baas, D.W. Newcom, K.J. Stalder; Iowa State University |
| 10:30 AM | 903 | Growth and carcass composition in pig lines divergently selected for testosterone production and their crossbred progeny. J. M. Bender*, J. P. Cassady; North Carolina State University |
| 10:45 AM | 904 | Detection of quantitative trait loci segregation within pure breeds in a Berkshire x Yorkshire $F_2$ population. H. Zhao*[1], J.-J. Kim[1], M. Perez-Enciso[2], J. C. M. Dekkers[1]; [1]Iowa State University, Ames, [2]Universitat Autonoma de Barcelona Spain |
| 11:00 AM | 905 | PACE: An integrated pig genome database. Jan W.M. Merks*[1], Tony J.A. van Kampen[2], Rik van Wijk[1], Barbara Harlizius[1], Annemieke Rattink[3], Gerard Albers[3], Martien A.M. Groenen[2]; [1]IPG, Institute for Pig Genetics BV, 6640 AA Beuningen, The Netherlands, [2]Wageningen University and Research Centre, Department of Animal Sciences - Animal Breeding and Genetics Group, 6700 AH Wageningen, The Netherlands, [3]Nutreco Breeding Research Centre, 5830 AE Boxmeer |
| 11:15 AM | 906 | Estimation of genetic parameters for farrowing mortality, litter size and test performance of first parity Large White sows. Jesus Arango*[1], Ignacy Misztal[1], Shogo Tsuruta[1], Matt Culbertson[2], William Herring[2]; [1]University of Georgia, Athens, [2]Smithfield Premium Genetics, Roanoke Rapids, NC |
| 11:30 AM | 907 | Comparison of deposition rates for loin muscle area, backfat, and intramuscular fat percentage among breeds in the 2003 National Barrow Show Sire Progeny Test. Bryce D. Martin*, Tom J. Baas, Clint Schwab, Doug W. Newcom, Jay F. Lampe, Ken J. Stalder; Iowa State University |

## *Nonruminant Nutrition*

## *Feed Ingredients & Management*

Chair: Scott Radcliffe, Purdue University and Gonzalo Mateos, Universidad Politecnica de Madrid

Room: 276

| Time | Abstract # | |
|---|---|---|
| 8:00 AM | 908 | Effect of whey and lactose source on nursery pig performance. A.M. Gaines*, B.W. Ratliff, P. Srichana, G.L. Allee; University of Missouri, Columbia |
| 8:15 AM | 909 | Effect of specialty protein supplements on nitrogen balance and digestibility in weanling pigs. J. Zhao*, A.F. Harper, K.E. Webb, Jr., M.E. Estienne; Virginia Polytechnic Institute and State University, Blacksburg |
| 8:30 AM | 910 | Use of rice in substitution of corn in diets for young pigs. B. Vicente[1], D. G. Valencia[1], R. Lázaro*[1], M. A. Latorre[2], G. G. Mateos[1]; [1]Universidad Politécnica de Madrid Spain, [2]Universidad Cardenal H.Oria CEU Spain |
| 8:45 AM | 911 | Growth and carcass characteristics of pigs fed biotechnologically derived and non-biotechnologically derived corn and harvested at different weights. M.G. Custodio*[1], W.J. Powers[1], E. Huff-Lonergan[1], M.A. Faust[2], J. Stein[3]; [1]Iowa State University, Ames, [2]ABS Global, Inc., DeForest, WI, [3]Syngenta Biotechnology, Inc., Research Triangle Park, NC |
| 9:00 AM | 912 | Nutritional value of a corn containing a glutamate dehydrogenase gene for growing pigs. Gary A. Apgar*[1], Thomas A. Guthrie[1], Kenneth E. Griswold[2], Michael P. Martin[1], J. Scott Radcliffe[3], Merlin D. Lindemann[4]; [1]Southern Illinois University, Carbondale, [2]Penn State Univ. Extension, Lancaster, [3]Purdue University, West Lafayette, IN, [4]University of Kentucky, Lexington |
| 9:15 AM | 913 | The digestive fate of the ***gdhA*** transgene in corn diets fed to weanling swine. J. M. Beagle*[1], G. A. Apgar[1], K. L. Jones[1], K. E. Griswold[2], X. Qui[1], M. P. Martin[1]; [1]Southern Illinois University, Carbondale, [2]Penn State Extension, Lancaster |
| 9:30 AM | 914 | Effects of increasing pantothenic acid on growth performance and carcass characteristics of finishing pigs reared in a commercial environment. C.N. Groesbeck*, R.D. Goodband, M.D. Tokach, S.S. Dritz, J.L. Nelssen, J.M. DeRouchey; Kansas State University |
| 9:45 AM | | Break |
| 10:15 AM | 915 | Effects of reduced crude protein and fiber supplementation on nitrogen and phosphorus digestibility and manure generation. D.M. Sholly*, S.L. Hankins, M.C. Walsh, A.L. Sutton, B.T. Richert; Purdue University, West Lafayette, IN |
| 10:30 AM | 916 | Comparison of models fitted to electronically recorded swine growth data over a limited test period. Gordon Vander Voort*, C.F.M de Lange; University of Guelph, Guelph, ON, Canada |
| 10:45 AM | 917 | Processing of Western Canadian feed ingredients improves their digestibility in nile tilapia (***Oreochromis niloticus***). T.L. Borgeson*, D.L. Thiessen, V.J. Racz, M.D. Drew; University of Saskatchewan |

## *Physiology and Endocrinology*

## *Stress and Inflammation: Effects on Animal Performance*

Chair: Tom Adams, University of California

Room: 264

| Time | Abstract # | |
|---|---|---|
| 8:00 AM | 918 | Performance of gilts housed individually in stalls or in groups in pens during the first 30 d post-mating. M.J. Estienne*, A.F. Harper, J.W. Knight; Virginia Polytechnic Institute and State University, Blacksburg |
| 8:15 AM | 919 | Effects of stress and genotype on immune and cortisol measures in pigs. Mhairi A Sutherland*, Sherrie R Niekamp, Sandra L Rodriguez-Zas, Janeen L Salak-Johnson; University of Illinois, Urbana |
| 8:30 AM | 920 | The use of a Hens' Odorant Analogue to control stress consequences in Broilers. Iltud Madec*[1], Jean Francois Gabarrou[2], Alexandre Bruneau[1], Laurent Bougrat[1], Dominique Saffray[1], Brigitte Silliart[3], Patrick Pageat[1]; [1]Pherosynthese le Rieu Neuf 84490 Saint Saturnin apt France, [2]Esa Purpan 75 Voie du Toec 31076 Toulouse France, [3]Env Nantes la Chantrerie 44307 Nantes France |
| 8:45 AM | 921 | Involvement of anterior pituitary arginine vasopressin receptor V3 in the stress response of cattle. Marlon Knights*[1], N. Kent Ames[2], George. W Smith[2]; [1]Div. Animal and Veterinary Sciences, West Virginia University, [2]Departments of Large Animal Clinical Sciences, Michigan State University, [3]Deparments of Animal and Physiology, Michigan State University |
| 9:00 AM | 922 | Plasma progesterone response to ACTH administration in the ewe during diestrus and following ovariectomy. Robert W. Godfrey*[1], Adam J. Weis[1], Raina E. Dodson[1], Melinda Loewer[1], Scott T. Willard[2]; [1]University of the Virgin Islands, [2]Mississippi State University |
| 9:15 AM | 923 | Plasma progesterone response to ACTH administration in the pregnant ewe during early and late stages of gestation. Scott T. Willard*[1], Adam J. Weis[2], Raina E. Dodson[2], Melinda Loewer[2], Robert W. Godfrey[2]; [1]Mississippi State University, [2]University of the Virgin Islands |
| 9:30 AM | 924 | Effects of temperament on stress indicators in Brahman heifers. K. O. Curley, Jr.*[1,2], D. A. Neuendorff[2], A. W. Lewis[2], J. J. Cleere[2], T. H. Welsh, Jr.[1], R. D. Randel[2]; [1]Texas Agricultural Experiment Station College Station, [2]Texas Agricultural Experiment Station, Overton |
| 9:45 AM | | Break |
| 10:15 AM | 925 | Administration of exogenous prolactin (PRL) to steers on short day photoperiod: effects on PRL, PRL-receptor (PRL-R) expression, and immune function. T. L. Auchtung*, G. E. Dahl; University of Illinois, Urbana |
| 10:30 AM | 926 | Characterization of changes in hepatic expression of inflammation-associated genes during the peripartum period in multiparous Holstein cows using quantitative real time-PCR (RT-PCR). N. A. Janovick*, J. J. Loor, H. M. Dann, H. A. Lewin, J. K. Drackley; University of Illinois, Urbana |
| 10:45 AM | 927 | Effect of estrus and pregnancy status on growth hormone receptor and IGF-I gene expression in the uterus and liver of postpartum dairy cows. M.L. Rhoads*, J.P. Meyer, W.R. Lamberson, D.H. Keisler, M.C. Lucy; University of Missouri, Columbia |
| 11:00 AM | 928 | Assessments of udder temperature gradients pre- and post-milking relative to milk production in Holstein cows as determined by digital infrared thermography. S. Schmidt*, S. Bowers, T. Dickerson, K. Graves, S. Willard; Mississippi State University, Mississippi State |
| 11:15 AM | 929 | Heat dissipation in winter-acclimated lactating cows and non-lactating heifers subjected to increased ambient temperature and solar radiation in Arizona. B.C. Pollard*, E.A. Annen, L.H. Baumgard, R.C. Cheatham, M.D. Estheimer, M.E. Dwyer, A.C. Fitzgerald, H.C. Halfliger, C.E. Moore, J.K. Kay, O.B. Mendivil, P.C. Gentry, D.A. Henderson, C.M. Steining, R.J. Collier; The University of Arizona, Tucson |
| 11:30 AM | 930 | Hepatic gene expression profiling in lactating dairy cows during an initial period of hyperthermia. R. P. Rhoads*[1], J. D. Sampson[1], R. J. Tempelman[2], S. S. Sipkovsky[2], P. M. Coussens[2], M. C. Lucy[1], J. N. Spain[1], D. E. Spiers[1]; [1]University of Missouri, Columbia, [2]Michigan State University, East Lansing |
| 11:45 AM | 931 | Exposure to endotoxin during estrus or corpus luteum formation impaired reproductive functions in cows. Y. Lavon[1], G. Leitner[2], T. Goshen[1], M. Hogeg[1], R. Braw-Tal[3], M. Maman[1], S. Jacoby[3], D. Wolfenson*[1]; [1]The Hebrew University Rehovot, Israel, [2]The Veterinary Institute Bet Dagan, Israel, [3]Agricultural Research Organization Bet Dagan, Israel |

## *Ruminant Nutrition*

## *Dairy - Digestibility and Microbiology*

Chair: Kenneth Griswold, Penn State University Cooperative Extension

Room: 131

| Time | Abstract # | |
|---|---|---|
| 8:00 AM | 932 | Estimation of energy value of feed and its use in ration formulation. Henry F. Tyrrell*; Cooperative State Research, Education & Extension Service, USDA, Washington, DC |
| 8:30 AM | 933 | Feed Efficiency Is Driven By Dry Matter Digestibility. David P. Casper*, Lance Whitlock, Dan Schauff, Dave Jones, Dave Spangler, Gbenga Ayangbile; Agri-King, Inc., Fulton, IL |
| 8:45 AM | 934 | Predicting feed passage rate in dairy cattle. Seongwon Seo*[1], Luis O Tedeschi[1], Charles G Schwab[2], Danny G Fox[1]; [1]Cornell University, Ithaca, NY, [2]University of New Hampshire, Durham |
| 9:00 AM | 935 | Effect of peNDF and starch source on digestibility and ruminal pH and turnover in dairy cows. P. Berzaghi*[1], D.R. Mertens[2]; [1]University of Padova, Italy, [2]ARS-US Dairy Forage Research Center, Madison, WI |
| 9:15 AM | 936 | In situ estimation of dry matter digestibility and degradable intake protein to evaluate the effects of corn processing method and length of ensiling. Joshua R. Benton*, Terry J. Klopfenstein, Galen E. Erickson; University of Nebraska, Lincoln |
| 9:30 AM | 937 | Effects of nonfiber carbohydrate source and protein degradability on ruminal protein fractions and NDF disappearance. M. B. Hall*, C. C. Larson; Department of Animal Sciences, University of Florida, Gainesville |
| 9:45 AM | 938 | Effect of starch source on supply of glycogenic nutrients in dairy cows. A.M. van Vuuren*, V.A. Hindle, J.W. Cone; Animal Sciences Group, Wageningen UR, AB Lelystad, The Netherlands |
| 10:00 AM | | Break |
| 10:30 AM | 939 | Microbial profiling of ruminal and omasal samples from cows fed different sources of methionine. S. K. R. Karnati*, J. T. Sylvester, Z. Yu, S. M. Noftsger, N. R. St-Pierre, M. Morrison, J. L. Firkins; The Ohio State University, Columbus |
| 10:45 AM | 940 | Effects of different components of garlic oil on rumen microbial fermentation in a continuous culture system. Marta Busquet[1], Sergio Calsamiglia*[1], Alfred Ferret[1], Christopher Kamel[2]; [1]Universitat Autonoma de Barcelona, Spain, [2]University of Leeds, UK |
| 11:00 AM | 941 | Effects of ***Lactobacillus acidophilus*** and ***Propionibacterium freudenreichii*** on performance and rumen characteristics of Holstein dairy cows in mid-lactation. M. L. Raeth-Knight*, J. G. Linn; University of Minnesota, St. Paul |
| 11:15 AM | 942 | Effect of calcium source on ruminal soluble calcium and microbial fermentation. E.J. Baird*[1], V. Fellner[1], S.J. McLeod[1], J.W. Spears[1], F.R. Valdez[2]; [1]Dept. of Ani. Sci., North Carolina State University, Raleigh, [2]Kemin Americas, Des Moines, IA |

## *Ruminant Nutrition*

## *Dairy – Feedstuffs*

Chair: Lance Baumgard, University of Arizona

Room: 132

| Time | Abstract # | |
|---|---|---|
| 8:00 AM | 943 | Impact of feeding high free fatty acid whole cottonseed on milk yield and composition. J. K. Bernard*[1], J. Siciliano-Jones[2], T. C. Wedegaertner[3]; [1]The University of Georgia, [2]FARME Institute, [3]Cotton Incorporated |
| 8:15 AM | 944 | Utilisation of whole-crop pea silage in dairy cow rations as a potential protein source to replace soya bean meal. Kenton J Hart*, Robert G Wilkinson, Liam A Sinclair, Jim A Huntington; Harper Adams University College Newport, Shropshire, UK |
| 8:30 AM | 945 | Replacement of blood meal with a supplement containing bacterial and fungal fermentation extracts in diets fed to mid-lactation dairy cows. C.S. Ballard*[1], P. Mandebvu[1], M.P. Carter[1], K.W. Cotanch[1], R.J. Grant[1], C.J. Sniffen[2], W. Rodee[3], L. Robinson[3]; [1]W.H. Miner Agricultural Research Institute, Chazy, NY, [2]Fencrest LLC, Holderness, NH, [3]Agriformulations, Inc., Waddington, NY |
| 8:45 AM | 946 | Replacement of alfalfa haylage with ensiled wet distillers grains and beet pulp in lactating dairy cows diets. A. D. Garcia*, K. F. Kalscheur, A. R. Hippen, D. J. Schingoethe; South Dakota State University, Brookings |
| 9:00 AM | 947 | Increasing wet distillers grains in the diets of dairy cows on milk production and nutrient utilization. K. F. Kalscheur*, A. L. Justin, A. R. Hippen, D. J. Schingoethe; South Dakota State University, Brookings |
| 9:15 AM | 948 | Dietary factors influencing milk protein content of cows fed grass silage-based diets. P Huhtanen*[1], J Nousiainen[2]; [1]MTT Agrifood Research Finland FIN-31600 Finland, [2]Valio Ltd, Valio, Finland |
| 9:30 AM | 949 | Effects of NDF from alfalfa hay, grass hay, straw, and whole cottonseed on performance of lactating cows. P.B. Bucci*, M.L. Eastridge, C.V.D.M. Ribeiro; The Ohio State University, Columbus |
| 9:45 AM | | Break |
| 10:15 AM | 950 | Rumen fill and intake regulation of grazing dairy cows under continuous stocking. Hassan Z. H. Taweel*, Bart M. Tas, Jan Dijkstra, Seerp Tamminga; Department of Animal Sciences, Animal Nutrition Group, Wageningen University, Wageningen, The Netherlands |
| 10:30 AM | 951 | Corn grain endosperm type and brown midrib 3 corn silage: site of nutrient digestion and ruminal digestion kinetics in lactating dairy cows. C. C. Taylor*, M. S. Allen; Michigan State University, East Lansing |
| 10:45 AM | 952 | Effects of physically effective NDF on chewing activity and rumen pH of dairy cows fed diets based on barley silage. Karen A. Beauchemin*, Wen Z. Yang; Research Center, Agriculture and Agri-Food Canada, Lethbridge, AB, Canada |
| 11:00 AM | 953 | Effect of barley and its amylopectin content on ruminal fermentation and nitrogen utilization in lactating dairy cows. A. E. Foley*[1], A. N. Hristov[1], A. Melgar[1], J. K. Ropp[1], R. P. Etter[1], C. W. Hunt[1], K. Huber[2]; [1]Department of Animal and Veterinary Science, [2]Department of Food Science and Toxicology, University of Idaho, Moscow |
| 11:15 AM | 954 | A nutritional evaluation of assiniboia oat, baler oat, and rosser barley silage for dairy cattle. T.L. Heck*, D.A. Christensen, J.J. McKinnon, P. Yu; Department of Animal and Poultry Science, University of Saskatchewan, Saskatoon, SK, Canada. |
| 11:30 AM | 955 | Lactation performance and milk fatty acid profile of dairy goats fed four different forage species. A. Doyon*[1], G.F. Tremblay[2], P.Y. Chouinard[1]; [1]Universite Laval Quebec, QC., Canada, [2]Agriculture and Agri-Food Canada Quebec, QC., Canada |
| 11:45 AM | 956 | Effects of Feeding Flaxseed on Fatty Acid Composition in Milk and Cheese in Dairy Ewes. R. Zhang*, A. F. Mustafa, X. Zhao; McGill University, Ste-Anne-De-Bellevue-QC Canada |

# ADSA Student Affiliate Division

## MONDAY, JULY 26, 2004

### *Undergraduate Paper Presentations*

Chair: David Winston, Virginia Polytechnic Institute and State University

Room: 230

| Time | Abstract # | |
|---|---|---|
| | | ***Original Research/Independent Study Undergraduate Paper Presentations*** |
| 11:00 AM | 957 | The luteolytic potential of reduced doses of prostaglandin. J Brinkerhoff*, R Silcox, J Donley, C Kubo; Brigham Young University, Provo, UT |
| 11:15 AM | 958 | Evidence for differential degradation of $a_s$- and ß-casein in milk from mastitic quarters. K. M. Matson*, A. C. W. Kauf, A. L. Magliaro, R. S. Kensinger; The Pennsylvania State University, University Park |
| 11:30 AM | 959 | Cottage cheese manufactured using transglutaminase enzyme for increase in yield. Karissa Nielsen*, D.R. Henning; South Dakota State University, Brookings |
| 11:45 AM | 960 | Analysis of financial measures comparing 3 management styles. Wayne T. Wencl*, Gregg Hadley; University of Wisconsin, River Falls |
| 12:00 PM | 961 | Wastewater treatment to reduce phosphorus losses from dairy farms. L.D. Hughes*, K.F. Knowlton, N.G. Love, A.M. Gamboni, C.M. Parsons; Virginia Polytechnic Institute and State University, Blacksburg |
| | | ***Dairy Production Undergraduate Paper Presentations*** |
| 1:00 PM | 962 | Leptin: what is its role in the dairy cow? D. C. Barbour*, E. H. Jaster; California Polytechnic State University San Luis Obispo |
| 1:15 PM | 963 | Managing an Ovulation Synchronization Program with PCDART. Justin C. Roberts*; Louisiana State University, Baton Rouge |
| 1:30 PM | 964 | "Factors Affecting Fertility Rates in Embryo Transfers". Jessica Hockney*; North Carolina State University, Raleigh |
| 1:45 PM | 965 | Effects of pasteurization on colostrum quality. Meghan L Moody*; Pennsylvania State University |
| 2:00 PM | 966 | Got Milk Insurance? Lindsay B Core*; University of Kentucky, Lexington |
| 2:15 PM | 967 | The battle against high somatic cell counts: worth fighting - worth winning. Amy R. Hazel*, Jeffrey K. Reneau; University of Minnesota, St. Paul |
| 2:30 PM | 968 | The Effects of Presynchronization, in Conjunction with Ovsynch, on Pregnancy Rate in Dairy Cattle. R. A. Sterry*, S. C. Kelm; University of Wisconsin-River Falls |
| 2:45 PM | 969 | Ionophores: Friend or Foe? M.C. Scott*; Virginia Polytechnic Institute and State University, Blacksburg |
| 3:00 PM | 970 | Centralized Pregnancy Detection- A New Option for Fertility Evaluation. Andrea Barten*, Larry Fox; Washington State University, Pullman |
| | | ***Dairy Foods Undergraduate Paper Presentations*** |
| 3:30 PM | 971 | An Industry Approach to Increasing the Consumption of Dairy Products. Bridget Lyons*; Louisiana State University, Baton Rouge |
| 3:45 PM | 972 | Probiotics in dairy products- Beyond nutrition. Somphavanh Phetsomphou*; North Carolina A&T State University |
| 4:00 PM | 973 | On-Farm Milk Processing. Abigail R Nelkie*; North Carolina State University, Raleigh |
| 4:15 PM | 974 | Farmstead Cheese Production. Katherine E. Harwick*; Pennsylvania State University, University Park |

| | | |
|---|---|---|
| 4:30 PM | 975 | Eliminating the Calcium Crisis. Jenni D. Woodcock*; University of Kentucky |
| 4:45 PM | 976 | Low-fat Dairy Products: Meeting the Needs of a Health Conscious Generation. L. Daubert*; Virginia Polytechnic Institute and State University, Blacksburg |

Abstract #

977 See page 121

# Author Index

Numbers following names refer to abstract numbers: a number alone indicates an oral presentation, an M prior to a number indicates a Monday poster, a T indicates a Tuesday poster, and a W indicates a Wednesday poster.

The author index is created directly and automatically from the abstracts. If an author's name is typed differently on multiple abstracts, the entries in the author index will reflect these discrepancies. Efforts have been made to make this index consistent; however, errors from author entry contribute to inaccuracies.

## *A*

## *B*

## *C*

## *D*

## *E*



## *F*

## *G*

## *H*

## *I*



## *J*

## *K*

## *L*

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# Program at a Glance

## Sunday, July 25

| Room | 8 am - 5 pm | 8 am - 12 pm | 1 pm - 5 pm | 7 pm - 10 pm |
|---|---|---|---|---|
| Room 124 | **Set up in** | Triennial Growth Symposium | Triennial Growth Symposium | |
| Room 125/126 | **Exhibit Hall 5** | | (2 pm - 3 pm) ADSA Production Division Council Meeting<br>(3 pm - 4 pm) ADSA Production Division Nominating Committee | |
| Room 127 | | | (3 pm - 5 pm) 2004/2005 Program Chairs Meeting | |
| Room 130 | | (12 pm - 1 pm) PSA Ancillary Scientist Lunch | (2 pm - 4 pm) ADSA Committee on Evaluation of Dairy Products | |
| Room 131 | | | PSA Informal Nutrition Conference | |
| Room 132 | | PSA Ancillary Scientist Symposium | PSA Ancillary Scientist Symposium | |
| Room 220 | | *Set up Opening Session* | *Set up Opening Session* | Opening Session/Reception |
| Room 221 | | *Set up Opening Session* | *Set up Opening Session* | Opening Session/Reception |
| Room 222 | | *Set up Opening Session* | *Set up Opening Session* | Opening Session/Reception |
| Room 223 | | *Set up Opening Session* | *Set up Opening Session* | Opening Session/Reception |
| Room 224 | | *Set up Opening Session* | *Set up Opening Session* | Opening Session/Reception |
| Room 225 | | Dairy Foods Workshop | *Set up Opening Session* | Opening Session/Reception |
| Room 226 | | *Set up Opening Session* | *Set up Opening Session* | Opening Session/Reception |
| Room 227 | | *Set up Opening Session* | *Set up Opening Session* | Opening Session/Reception |
| Room 228 | | *Set up Opening Session* | *Set up Opening Session* | Opening Session/Reception |
| Room 229 | | *Set up Opening Session* | *Set up Opening Session* | Opening Session/Reception |
| Room 230 | | (11 am - 12 pm) SAD Advisor-Officer Meeting | | |
| Room 231 | | (12 pm - 1 pm) SAD Mid-day Mixer and Pizza Party | | |
| Room 232 | | (12 pm - 1 pm) SAD Mid-day Mixer and Pizza Party | | |
| Room 240 | | | SAD Dairy Quiz Bowl Seating and Preliminary Rounds | (6:30 pm - 7 pm) SAD Dairy Quiz Bowl Final Found |
| Room 241 | | | SAD Dairy Quiz Bowl Seating and Preliminary Rounds | |
| ***Show Management Rooms*** | | | | |
| Room 116 | Media Room | Media Room | Media Room | |
| Room 120 | Speaker Ready Room | Speaker Ready Room | Speaker Ready Room | |
| Room 121 | Hospitality Room | Hospitality Room | Hospitality Room | |
| Room 123 | Committee Meetings | | (3 pm - 4 pm) ADSA Production Division Resolutions Committee<br>(5 pm - 6 pm) ADSA Dairy Foods Division Council Meeting | (9 pm - 11 pm) FSADAH Committee Meeting |

# Program at a Glance

## Monday, July 26

| Room | 7:30 am - 9:30 am | 9:30 am - 12 pm | 1 pm - 5 pm |
|---|---|---|---|
| Room 124 | **Posters Only in** | Forages & Pastures: Tall Fescue | Meat Science/Muscle Biology I |
| Room 125/126 | **Exhibit Hall 5** | ADSA Foods GS Competition | ADSA-ASAS Northeast GS Competition |
| Room 127 | | ADSA Production GS Competition | ADSA Production GS Competition/ADSA Southern Branch |
| Room 130 | | Ruminant Nutrition: Beef-Energy & Nitrogen | Ruminant Nutrition: Beef-Feedstuffs |
| Room 131 | | Growth & Development: Gut Peptides | Air Emissions & Poultry Production |
| Room 132 | | Ruminant Nutrition: Dairy-Minerals | Ruminant Nutrition: Dairy-Protein & Amino Acids |
| Room 220 | | Physiology & Endocrinology: Fetal Mort | Lactation Biology: Physiology of Lactation |
| Room 221 | | Breeding & Genetics: Methodology 1 | Physiology/Endocrinology: Genomics |
| Room 222 | | Combined Extension Symposium | Combined Extension Symposium |
| Room 223 | | Breeding & Gentics: Genetics of Dairy Health | Breeding & Genetics: Feed Utilization |
| Room 224 | | Milk Protein & Enzymes: Dairy Foods | PME: Health & Misc. |
| Room 225 | | Animal Behavior I | Extension Education: Applied Reproduction Management |
| Room 228 | | (12 pm - 1 pm) Poultry National Extension Luncheon | |
| Room 229 | | (8:30 am - 9:30 am) ADSA Centennial Publications Committee Meeting; (10 am - 12 pm) ARPAS Exams | |
| Room 230 | | (8:30 am - 9:15 am) SAD Business Meeting<br>(9:30 am - 10:30 am) SAD Activities Symposium<br>(11 - 12:15 pm) SAD Undergraduate Paper Presentations | SAD Undergraduate Paper Presentations |
| Room 231 | | (9:30 am - 10:30 am) SAD Judging of Yearbooks, Scrapbooks, Annual Reports | |
| Room 232 | | (9:30 am - 10:30 am) SAD Interviews for Outstanding Student and Advisor Awards | |
| Room 260 | | Dairy Foods: Chemistry | Dairy Foods: Raw Milk Cheese<br>(5:15 pm) ADSA Town Hall Meeting |
| Room 261/262 | | Horse Abstracts | Horse Symposium |
| Room 263 | | PSA Processing & Products: Meat Quality | PSA Processing & Products: Microbiology & Egg |
| Room 264 | | PSA Physiology: Poultry Digestion & Metabolism | PSA Physiology: Reproduction Physiology |
| Room 265/266 | | PSA Environment & Management: Enteric Bacteria | PSA Environment & Management: Breeder & Incubation |
| Room 267 | | PSA Pathology | PSA Immunology |
| Room 274 | | PSA Nutrition: Amino Acids | PSA Nutrition: Feed Additives |
| Room 275 | | Nonruminant Nutrition: Finishing Pigs | Nonruminant Nutrition: Wealing Pigs |
| Room 276 | ▼ | PSA Antibiotics in Animal Feeds | Food Safety: Animal Production |
| Exhibit Hall 5 | Poster Presentations | Exhibits and Posters | Exhibits and Posters |
| ***Show Management Rooms*** | | | |
| Room 116 | Media Room | Media Room | Media Room |
| Room 120 | Speaker Ready Room | Speaker Ready Room | Speaker Ready Room |
| Room 121 | Hospitality Room | Hospitality Room | Hospitality Room |
| Room 123 | Committee Meetings | (7:30 am - 9:30 am) PSA Foundation Breakfast Meeting<br>(12 pm - 1 pm) WPSA-USA Branch Luncheon | (2 pm - 3:30 pm) ADSA DISCOVER Steering Committee Meeting |

# Program at a Glance

## Tuesday, July 27

| Room | 7:30 am - 9:30 am | 9:30 am - 12 pm | 1 pm - 5 pm |
|---|---|---|---|
| Room 124 | **Posters Only in** | Ruminant Nutrition: Beef Minerals | ADSA Southern Section Symposium |
| Room 125/126 | **Exhibit Hall 5** | Ruminant Nutrition: Lactation, Health & Gut | Animal Behavior II |
| Room 127 | | Companion Animals Abstracts | Companion Animals Symposium |
| Room 130 | | Growth & Development/Lactation Biology Symposium | Growth & Development/Lactation Biology Symposium |
| Room 131 | | Ruminant Nutrition Sympsosium | Alpharma Beef Cattle Nutrition Symposium |
| Room 132 | | Bioethics Symposium | Ruminant Nutrition: Dairy Additives |
| Room 220 | | Breeding & Genetics: Method II | Sheep Species |
| Room 221 | | Forages & Pastures: Dairy Production | Forages & Pastures: Grazing Management |
| Room 222 | | Growth & Development: ASAS I | Physiology & Endocrinology: Nutritional Regulations |
| Room 223 | | Physiology & Endocrinology: Strategic Appt Breeding | ADSA Foundation Scholar Production |
| Room 224 | | ADSA Production Division Business Meeting (11 am) | |
| Room 225 | | (12 pm - 1 pm) PSA Graduate Student Luncheon | |
| Room 226 | | (12 pm - 1 pm) National Poultry Waste Management Luncheon | |
| Room 227 | | (12 pm - 1 pm) ARPAS Business Meeting | |
| Room 229 | | | (1 pm - 3 pm) ARPAS Exams |
| Room 230 | | (8:30 am - 10 am) SAD Business Meeting - Election of Officers (10 am - 11:15 am) SAD Student Careers Symposium: Leaders in Training | (2 pm - 3:30 pm) SAD Committee Meeting: Old & New Officers and Advisors |
| Room 231 | | | (12 pm - 2 pm) SAD Student Awards Luncheon<br>(2 pm - 3 pm) SAD Pictures |
| Room 232 | | | (12 pm - 2 pm) SAD Student Awards Luncheon<br>(2 pm - 3 pm) SAD Pictures |
| Room 260 | | ADSA Foundation Scholar Foods & Dairy Foods Division Business Meeting | Dairy Foods Human Nutrition Symposium |
| Room 261/262 | | Production/Management/Environment: Reproduction & Behavior | Production/Management/Environment: Heat Stress |
| Room 263 | | Extension Education: Dairy | Extension Education: Animal |
| Room 264 | | Swine Symposium | Dairy Foods: Cheeses |
| Room 265/266 | | PSA Environment & Management: Layer Management | Animal Health: Transition Cow |
| Room 267 | | PSA Genetics | Breeding & Genetics: Dairy Crossbreeding |
| Room 274 | | PSA Nutrition: Alternate Ingredients | WPSA Lecture/PSA Business Meeting |
| Room 275 | | PSA Nutrition: Amino Acids II | Ruminant Nutrition: Dairy Fats |
| Room 276 | ▼ | Nonruminant Nutrition: Minerals | Nonruminant Nutrition: Amino Acids |
| Exhibit Hall 5 | Poster Presentations | Exhibits and Posters | Exhibits and Posters |
| ***Show Management Rooms*** | | | |
| Room 116 | Media Room | Media Room | Media Room |
| Room 120 | Speaker Ready Room | Speaker Ready Room | Speaker Ready Room |
| Room 121 | Hospitality Room | Hospitality Room | Hospitality Room |
| Room 123 | Committee Meetings | (8:30 am - 12:30 pm) WAAP General Assembly | (3:30 pm - 5:30 pm) ASAS JAS Forum |

# Program at a Glance

## Wednesday, July 28

| Room | 7:30 am - 9:30 am | 9:30 am - 12 pm | 1 pm - 5 pm |
|---|---|---|---|
| Room 124 | **Posters Only in** | ADSA Business Meeting/Marschall Rhodia Lecture | Dairy Foods: Microbiology |
| Room 125/126 | **Exhibit Hall 5** | Joint Business Meeting/Bioethics Abstracts (11 am) | Animal Health: Growth & Immunity |
| Room 127 | | ASAS Business Meeting | Breeding & Genetics: Molecular Genetics |
| Room 130 | | | Ruminant Nutrition: Transition Cow |
| Room 131 | | Contemporary and Emerging Issues | Contemporary and Emerging Issues |
| Room 132 | | Ruminant Nutrition: Beef & Dairy Calves | Beef Species (with invited abstracts) |
| Room 220 | | | Ruminant Nutrition: Beef Digest |
| Room 221 | | | Food Safety Symposium |
| Room 222 | | | Growth & Development: ASAS II |
| Room 223 | | Breeding & Genetics | Physiology & Endocrinology: Stress Symposium |
| Room 225 | | PSA Banquet Setup | PSA Banquet Setup |
| Room 226 | | PSA Banquet Setup | PSA Banquet Setup |
| Room 227 | | (12 pm - 1 pm) WPSA-Canada Business Meeting | |
| Room 229 | | | (1 pm - 3 pm) ARPAS Exams |
| Room 230 | | | (4:30 pm - 6 pm) International/Closing Reception |
| Room 231 | | | (4:30 pm - 6 pm) International/Closing Reception |
| Room 232 | | | (4:30 pm - 6 pm) International/Closing Reception |
| Room 260 | | Growth & Development Workshop | Production/Management/Environment: Nutritional Management |
| Room 261/262 | | Animal Behavior & Well Being Symposium | Extension Education: Future Roles |
| Room 263 | | Goat Species Abstracts | Women & Minority Issues Symposium |
| Room 264 | | Teaching & Undergraduate Education | Lactation Biology |
| Room 265/266 | | Mixed Models Workshop | Mixed Models Workshop |
| Room 267 | | Growth & Development: ADSA I | Breeding & Genetics: Dairy Genetics |
| Room 274 | | PSA Nutrition: Feed Additives | PSA Nutrition: Amino Acids |
| Room 275 | | PSA Nutrition: Layer Nutrition | PSA Nutrition: Vitamins and Minerals |
| Room 276 | ▼ | PSA Environment & Management: Broiler Management | Nonruminant Nutrition: Sow Feeding/Swine Species |
| Exhibit Hall 5 | Poster Presentations | Exhibits and Posters | Exhibits and Posters |
| ***Show Management Rooms*** | | | |
| Room 116 | Media Room | Media Room | Media Room |
| Room 120 | Speaker Ready Room | Speaker Ready Room | Speaker Ready Room |
| Room 121 | Hospitality Room | Hospitality Room | Hospitality Room |
| Room 123 | Committee Meetings | (11 am - 2 pm) NE ASAS/ADSA Business Meeting & Luncheon | (11 am - 2 pm) NE ASAS/ADSA Business Meeting & Luncheon (2:30 pm - 3:30 pm) Retirees Social |

# Program at a Glance

## Thursday, July 29

| Room | 8 am - 12 pm |
|---|---|
| Room 124 | Extension: Education: Electronic Media |
| Room 125/126 | International Animal Agriculture |
| Room 127 | Animal Behavior & Well Being III |
| Room 131 | Ruminant Nutrition: Dairy Digestibility |
| Room 132 | Ruminant Nutrition: Feedstuffs |
| Room 260 | Breeding & Genetics: Swine |
| Room 261/262 | Breeding & Genetics: Beef |
| Room 263 | Goat Symposium |
| Room 264 | Physiology & Endocrinology: Stress |
| Room 265/266 | Mixed Models Workshop |
| Room 274 | Animal Health Symposium |
| Room 276 | Nonruminant Nutrition: Ingredients |
| ***Show Management Rooms*** | |
| Room 116 | Media Room |
| Room 120 | Speaker Ready Room |
| Room 121 | Hospitality Room |
| Room 123 | Committee Meetings |

# Notes