AMERICAN DAIRY SCIENCE ASSOCIATION®

2022 ADSA® ANNUAL MEETING

KANSAS CITY, MO ★ JUNE 19–22

Connection • Content • Community

Conference Information and Scientific Program

adsa.org/2022

2022 ADSA Annual Meeting
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◀ Access the online ADSA Annual Meeting program.

Get the most up-to-date schedule with the EventPilot conference app. ▶

Printed program

Meeting app

https://www.adsa.org/2022/

Notice

Portions of this meeting will be photographed, videotaped, and recorded for future distribution, promotion, or other purpose by ADSA. ADSA reserves the right to use any photo or video taken at the annual meeting without the expressed written consent of those included in the content.

Important Message

In the event that protestors interrupt the meetings, please ignore them. Their goal is to attract attention and any attention you give them will only help their cause. Convention staff have a plan in place to handle these situations, and they depend on our cooperation. If members of the media approach you for an interview about the disturbance, please politely decline and direct them to the convention's media room, where spokespersons will be available.

Thank you for your cooperation.

Welcome to ADSA 2022!

On behalf of the American Dairy Science Association, we welcome you to Kansas City and the 2022 ADSA Annual Meeting. For the first time since 2019, we eagerly look forward to reconnecting in person, enjoying camaraderie with colleagues, making new professional contacts, and tapping into the intellectual energy and creativity that occur when scientists with a common passion come together to share their latest research. For those unable to attend in person, our hybrid meeting this year will also welcome colleagues from around the world who will join us virtually in real time. Welcome all!

We have a terrific meeting planned, packed with technical sessions and symposia that are noteworthy for the quality of their scientific programming, their theoretical and practical value in seeking answers to today's urgent needs, and their visionary anticipation of future challenges and opportunities. This annual meeting also includes expanded opportunities to network with colleagues in informal social venues that offer more space to build lasting relationships across geography and time. We are a dairy science community, we are global, and this year's annual meeting brings that reality into focus. We are especially excited to welcome our undergraduate and graduate student attendees into this community.

Here are a few of the many high points in the 2022 program that caught my eye as your president. On tap for Monday morning is the Joint Dairy Foods/National Mastitis Council Symposium, and on Tuesday morning, we present the Joint Dairy Foods/Lactation Biology Symposium. Both symposia represent opportunities to draw the Production and Dairy Foods Divisions together in areas of mutual interest. A pair of symposia on Wednesday place the spotlight on ADSA's international partnerships. The Riddet Institute and AgResearch International Partnership Program Symposium highlights a new Dairy Foods Division partnership with our colleagues in New Zealand, and the Joint ADSA Production, Management, and the Environment Committee/EAAP Exchange Symposium showcases the longstanding partnership of the Production Division and EAAP.

Finally, the 2022 Annual Meeting could not have happened without the extraordinary year-long effort by the Program Committee, volunteers, and staff! My sincere thanks to Trevor DeVries (overall program chair) and his committee: Rani Govindasamy-Lucey, Corwin Nelson, Sam Alcaine, Kevin Harvatine, Kayanush Aryana, and Mike VandeHaar. Also, sincere thanks to the FASS staff, particularly Cara Tharp, and the ADSA executive director, Jerry Bowman, for their superb support in bringing all the inputs together to create a great meeting. I would like to recognize our sponsors and volunteers for helping to deliver an outstanding meeting. And, of course, special thanks to our session chairs, speakers, presenters, and exhibitors—we would not be able to have this event without you. Now please go forth and enjoy the fruits of this hard work and planning!

Paul Kindstedt
ADSA President

General Meeting Information

Location

The 2022 ADSA Annual Meeting is being held at the Kansas City Convention Center and surrounding hotels in Kansas City, Missouri, and virtually around the world.

Schedule of Events

A preconference workshop is scheduled for Sunday, June 19, and the opening session will be held on Sunday evening. Scientific sessions will begin Monday morning, June 20, and run through 5:30 pm on Wednesday, June 22; please check the scientific program starting on page 36.

As well as great scientific programming, we have an outstanding lineup of networking events where you can reconnect with friends and colleagues and catch up after a long three years! You won't want to miss the following events, which are included as part of your registration. We look forward to seeing you at these events during your week at ADSA!

First-Time Attendees' Reception
Sunday, June 19, 5:00 – 5:45 pm

If this is your first time attending an ADSA annual meeting, please join us at this reception to meet ADSA leadership and members of the ADSA staff and learn how to get the most out of your first ADSA annual meeting.

Opening Session and Reception
Sunday, June 19, 6:00 – 8:30 pm

Join us at the opening session to hear from ADSA President Paul Kindstedt with updates on the state of the association and celebrate the new ADSA Fellows, the recipients of the ADSA Award of Honor and ADSA Distinguished Service Award, and the new inductees into JDS Club 100. A reception follows with live music by a jazz trio from Louis Pettinelli Entertainment.

ADSA Awards Program and Ice Cream Social
Tuesday, June 21, 7:00 – 8:00 pm; 8:15 – 9:30 pm

All meeting participants, families, and friends are welcome to attend the 2022 ADSA awards program. Please join us at this special event to recognize and congratulate the 2022 award winners. Stay after the awards program and enjoy ice cream at the perennial favorite—the Ice Cream Social!

NEW! All-Attendee Luncheon
Wednesday, June 22, 12:30 – 2:00 pm

All meeting participants are invited to join us for our first-ever all-attendee luncheon. Wear your school colors as we host a tailgate-style buffet. Network with colleagues and tell everyone why your school is the best!

NEW! Closing Reception
Wednesday, June 22, 6:00 – 9:00 pm

Wrap up the week at ADSA with great food and great company! All meeting participants are invited to join us for our all-attendee closing reception. Use this last event of the week to talk about all of the great science exchanged at ADSA 2022.

Program Format for 2022

Poster sessions (Monday–Wednesday)	7:30 am – 9:30 am
Morning scientific sessions	9:30 am – 12:30 pm
Lunch break	12:30 pm – 2:00 pm
Afternoon scientific sessions	2:00 pm – 5:30 pm
Afternoon ice cream break (exhibit hall; Monday–Wednesday)	3:30 pm – 4:00 pm

Meeting rooms will be equipped for electronic presentations and preloaded sessions. Virtual access to recordings will begin on Monday, June 13.

Virtual Meeting

Information about virtual meeting access will be emailed to all registered attendees and be posted to the ADSA website. For more information about accessing livestreams and on-demand content, please see **adsa.org/2022vm**.

Registration Hours

Registration for the ADSA Annual Meeting will be located in the concourse above Exhibit Hall A in the Convention Center. Registration hours are as follows:

Saturday, June 18	3:00 pm – 5:00 pm
Sunday, June 19	7:00 am – 7:00 pm
Monday, June 20	6:30 am – 5:30 pm
Tuesday, June 21	7:00 am – 5:30 pm
Wednesday, June 22	7:00 am – 5:30 pm

Media Check-In

Please check in at the Registration Desk in the Kansas City Convention Center.

Media Room

A media room will be available throughout the meeting to provide a space for media representatives to work. Meeting press releases will be available there. Complimentary registration is available for members of the media. For more information, please contact **adsa@adsa.org.**

Business Center

The Harvest Business Center is available to help you while you are attending an event at the Kansas City Convention Center. The Harvest Business Center is conveniently located indoors near the 2200 Lobby of the Convention Center (13th Street and Central). They offer a variety of services for the convenience of our meeting attendees, including shipping, printing, and copying. They can ship and receive through FedEX and UPS. They also offer office supplies such as pens, flash drives, tape, phone chargers, and batteries. There is a also a FedEx just a few blocks from the Convention Center at 111 Main St. Unit 111 Kansas City, MO 64106.

Job Resource Center

The Job Resource Center is located in the exhibit hall. Job announcements and CVs will be organized into the following categories for posting: Animal Behavior and Well-Being; Animal Health; Animal Breeding; Extension; Food Safety; Food Science; Forages and Pastures; Genetics; Growth and Development; International Animal Agriculture; Lactation; Pharmacology and Toxicology; Physiology and Endocrinology; Production and Management; Ruminant Nutrition; and Teaching.

Camera, Video Camera, and Cell Phone Policy

Use of cameras, video cameras, tablets, or smartphones for calls or audio/video recording is prohibited during oral and poster presentations to minimize disruption and unauthorized dissemination of data. Anyone found in violation of this policy will be asked to leave the session.

ARPAS Continuing Education Units

The 2022 ADSA Annual Meeting has been approved for up to 21 continuing education units (CEUs) for the American Registry of Professional Animal Scientists (ARPAS) certification requirements. Check the schedule of events for times and location of the ARPAS exams.

Social Media

Follow the ADSA Annual Meeting on Twitter (**@ADSAorg**) using the official conference hashtag #ADSA2022. Tweet about interesting posters and presentations, social events, or fun things to do and see while in Kansas City.

Presentation Information

Oral and Invited Speakers: Onsite Upload Information

Oral sessions will begin at 9:30 am on Monday, Tuesday, and Wednesday.

Onsite upload: Onsite presentation upload will be available; files can be delivered to the Preload Room (2206) at the convention center (Saturday: 3:00 to 5:00 pm; Sunday through Wednesday 7:00 am to 5:00 pm).

Presentations must be uploaded by 5:00 pm on the day before your scheduled presentation. Files will not be accepted via email. No presentations will be loaded while the session is in progress or between presentations.

Poster Presentations

We have dedicated two-hour blocks on Monday, Tuesday, and Wednesday for poster presentations. The "open poster" sessions will be from 7:30 to 9:30 am in Exhibit Hall A. Coffee and pastries will be served in the hall from 8:00 to 9:00 am on Monday, Tuesday, and Wednesday mornings, and ice cream will be served from 3:30 to 4:00 pm on Monday, Tuesday, and Wednesday afternoons.

Each poster will be available for public viewing for the entire day, with the presenting authors in attendance during the open posters time (7:30–9:30 am). All posters must be mounted on the board 30 minutes before the beginning of the day's session **(poster sessions begin at 7:30 am so posters must be mounted on boards by 7:00 am)** and must list the abstract number and corresponding day. The exhibit hall will open at 6:30 am on Monday, Tuesday, and Wednesday. **Posters must be removed after 5:00 pm on Monday and Tuesday and after 4:00 pm on Wednesday.** Any posters remaining after those times will be removed by the convention center staff and discarded.

Each poster board area is **48 inches high and 96 inches wide**. Use of this space is determined by the presenter, with the following exceptions: the top of the poster space must include the abstract number with corresponding letter of the day it is being presented, title, authors, and affiliations. The lettering for this section should be at least 1 inch high.

Locating the Correct Poster Board

Each poster board number corresponds to the abstract number as noted in the program. Monday, Tuesday, and Wednesday poster board numbers are followed by an M, T, or W, respectively. Refer to the Program at a Glance for layout of posters by session and abstract number.

ADSA 2022 Mobile App—An Easy Way to Plan Your Schedule

Using the ADSA 2022 mobile app (for Android and iOS devices), you can browse sessions, read abstracts, build a personal schedule, view content offline, connect with other meeting attendees, share photos, and start discussions — all from within the app. To download the app, please visit the app store (Google or Apple), download and launch the "EventPilot conference app", and then search for "ADSA22". If you previously used this app for a different conference, click " ... More" from the home screen, choose "Find Event" and then enter "ADSA22". Stop by the registration desk or the preload room if you have questions on how to use the app!

Kansas City Information

Recently dubbed "The New Midwest," Kansas City has something to offer everyone — the history of swinging jazz, the worldwide home of Hallmark, amazing shopping options, and world-renowned museums. Of course, when most people think of Kansas City, barbecue comes to mind, with good reason: the city's signature food is served up at more than 100 barbecue establishments, each boasting a house specialty. That's plenty of options for a week at ADSA!

Kansas City, also known as the City of Fountains, is home to more than 200 fountains—more than any other city in the world except Rome. From large and majestic to small and whimsical, discover waterworks dedicated to fallen firefighters, the city's children, women's leadership, and more. Kansas City's most photographed fountain is the ornate Mill Creek Fountain, located near the Spanish-inspired Country Club Plaza. Take some time to see a few fountains while you're in town! There is so much to see and do in Kansas City—Learn more at **https://www.visitkc.com/**.

The ADSA Annual Meeting will be held at the Kansas City Convention Center, located in the heart of downtown Kansas City.

Check the Kansas City area map on page 18 for attractions close to the convention center and meeting hotels.

Special Events

Events listed are at the Convention Center unless otherwise noted. Coffee and pastries will be served from 8:00 to 9:00 am, and ice cream will be served from 3:30 to 4:00 pm in the exhibit hall on Monday, Tuesday, and Wednesday. Please make time to talk with our exhibitors while you are enjoying complimentary breakfast or afternoon ice cream!

Kansas City Zoo
Saturday, June 18, 12:45 pm – 5:00 pm
Buses will depart from Crowne Plaza, Student Headquarters Hotel
Tickets: $24

The Kansas City Zoo is home to more than 1,700 animals, representing more than 200 species. Students will have the opportunity to explore the zoo and attend various educational programs to learn about animal care in a zoo environment. Price includes zoo ticket and bus transportation. Undergraduate students and their club advisors are given first opportunity. Tour will be offered to others on a remaining availability basis.

SAD Undergraduate Student Hospitality Room
Saturday, June 18, 6:30 pm – 7:00 pm
Crowne Plaza, Student Headquarters Hotel

The SAD Hospitality Room will be available on Saturday evening for members to gather and meet others as you arrive. Information about the SAD schedule will be available.

SAD Undergraduate Student Informal Mixer: SAD Dine Around
Saturday, June 18, 7:00 pm
Meet in SAD Hospitality Room, Crowne Plaza

SAD officers will host a dine around event on Saturday for schools arriving early. Stop by the SAD hospitality room Saturday afternoon if your club would like to participate. Students from participating schools are encouraged to join different dinner groups for a fun evening of networking and good food. Participants are responsible for the cost of their meal.

SAD Undergraduate Student Midday Mixer & Luncheon
Sunday, June 19, 11:00 am –12:00 pm
Convention Center
Tickets: $5

Join your fellow dairy clubs and meet your 2022-2023 Student Affiliate Division (SAD) Officer candidates. Ticket price includes lunch. Note: Registration is limited to ADSA undergraduate student members and dairy club advisors.

ADSA Graduate Student Three-Minute Thesis Challenge
Sunday, June 19, 2:30 – 3:30 pm
Convention Center

ADSA graduate students are encouraged to participate in the return of the Three-Minute Thesis Challenge. This event will test the competitors' ability to convey their research in a way that is understandable to all, in three minutes or less! Emphasis will be placed on the ability to explain research to a lay audience.

Entry details will be released prior to the annual meeting, and competition will be limited to 10 students selected by a panel of judges based upon strength of CV and a 100-word interpretive summary.

All ADSA members are invited to attend the challenge and watch students compete for cash prizes and present their research in a fun and exciting way!

GSD Business Meeting and Open Forum
Sunday, June 19, 4:00 – 4:45 pm
Convention Center

The opening discussion of the meeting will welcome our new officers and provide important details for GSD's upcoming week.

Dairy Quiz Bowl Final Round
Sunday, June 19, 4:30 pm – 5:00 pm
Convention Center

After a long COVID hiatus, university teams from across North America are excited to compete in the ADSA-SAD Dairy Quiz Bowl. The event gives schools an opportunity to demonstrate their knowledge about dairy production, processing, and ADSA history. The Student Affiliate Division (SAD) invites you to join them for the thrill of the final round of competition as the top two schools go head-to-head for the title of 2022 Dairy Quiz Bowl Champion.

First-Time Attendees' Reception
Sunday, June 19, 5:00 – 5:45 pm

If this is your first time attending an ADSA annual meeting, please join us at this reception to meet ADSA leadership and members of the ADSA staff and learn how to get the most out of your first ADSA annual meeting.

Opening Session and Reception
Sunday, June 19, 6:00 – 8:30 pm

Join us at the opening session to hear from ADSA President Paul Kindstedt with updates on the state of the association and celebrate the new ADSA Fellows, the recipients of the ADSA Award of Honor and ADSA Distinguished Service Award, and the new inductees into JDS Club 100. A reception follows with live music by a jazz trio from Louis Pettinelli Entertainment.

GSD Mixer
Sunday, June 19, 7:30 – 9:30 pm
No Other Pub – Power & Light District
Tickets: $10

Kick off the week with a fun night of entertainment and networking with your fellow dairy science graduate students! Use this opportunity to meet other graduate students you can network with throughout the week at the annual meeting.

No Other Pub by Sporting KC is a one-of-a-kind sports bar, gaming parlor, and social lounge in downtown Kansas City's Power & Light District.

SAD Undergraduate Student Poster and Paper Competitions
Convention Center
Monday, June 20

Support the future of ADSA - plan time in your schedule to visit the undergraduate poster and oral presentations on Monday morning. See program for complete details.

GSD Workshop: Effective Science Communication
Monday, June 20, 12:30 – 2:00 pm
Convention Center

Even the best science is destined to remain undiscovered unless it is presented in a clear and compelling way that sparks innovation and drives adoption. Students will discover how to take their research findings to effectively communicate with audiences outside of academia and their fields. Lunch is included.

Joe Proudman, Associate Director for Communications for the CLEAR Center, UC Davis, focuses on science communication and oversees content strategy, crisis communication, social media, advertising, and stakeholder relations.

SAD Undergraduate Career Roundtable Luncheon
Monday, June 20, 12:45 pm – 2:15 pm
Convention Center
Tickets: $10

A program favorite, the Career Roundtable Luncheon gives undergraduate students the opportunity to dine and network with professional members representing a wide array of careers in the dairy industry. The program is conveniently scheduled during the annual meeting lunch break on Monday. Participants will learn about careers in the industry, get useful tips on planning for their careers, and much more. Students are encouraged to dress professionally (business casual or better) and bring several copies of their resumes. Students should also plan time to visit industry reps in the exhibit hall for information about internships and job opportunities.

SAD Activities Symposium
Monday, June 20, 2:30 pm – 3:45 pm
Convention Center

This SAD tradition is back! The Activities Symposium is an opportunity for each chapter to share their dairy club work with others attending the meeting. The Activities Symposium can be a very valuable exchange of ideas that will help other chapters in organizing new activities.

GSD Mix and Mingle Professional Networking
Monday, June 20, 6:00 – 8:00 pm
Marriott KC Downtown

Plan to attend the GSD Mix and Mingle with professional members. At this speed-networking event, graduate students will have the opportunity to mingle with industry professionals and faculty members looking for employees.

Students are encouraged to bring copies of their CV as well as business cards. Professional ADSA members looking to hire graduate students or discuss research are encouraged to attend the mixer as a way to interact with graduate students outside of the typical poster session atmosphere. Light refreshments will be provided.

SAD Undergraduate Student Dine Around and Mixer: KC Live!
Monday, June 20, 7:00 pm – 11:00 pm
KC Live! in the Power & Light District

With competitions behind you, undergrads are invited to take the evening off for a night of fun on the town at KC Live! Situated in the Power & Light District, KC Live! is an entire city block with two levels of restaurants, taverns, and night spots. We hope to see you there!

Live from Kansas City Hybrid Roundtables
–Nutrition
–Physiology
Sponsored by AARN (Australian Association of Ruminant Nutrition)
Monday, June 20, 8:30 pm – 9:30 pm

Join us live, both in-person and virtually, for these robust discussions with expert panelists! For more information on joining the livestream, please see **adsa.org/2022vm**.

Fun Run, sponsored by RP Nutrients, Landus, and Evonik
Tuesday, June 21, 6:00 am

Whether you are a fierce competitor or a leisurely jogger, the ADSA Fun Run will provide you with the fresh air, exercise, and fun you are looking for. The scenic course around downtown Kansas City offers spectacular views and running/walking options for all levels. Rise and shine a little early before conference sessions start and join us for this fun activity that is sure to refresh you for the whole day! The race begins at 6:00 am. Additional event details will be provided to participants closer to the event. Don't wait, sign up today and be one of the first 300 runners to get a complimentary ADSA Fun Run t-shirt. See you on the course!

Live from Kansas City Hybrid Roundtables
–Dairy Foods
–Health
Sponsored by AARN
Tuesday, June 21, 7:30 – 8:30 am

Join us live, both in-person and virtually, for these robust discussions with expert panelists! For more information on joining the livestream, please see **adsa.org/2022vm**.

Small Group Mentoring Sessions
Tuesday, June 21, 9:15 am – 10:15 am
Convention Center

ADSA Mentor Program connects professional members with undergraduate students for small group mentoring sessions during the annual meeting. ADSA Past Presidents and others will meet with small groups of students to attend scientific presentations by interest area, followed by discussions of the topics presented. Engagement in the scientific presentations and interactions with conference attendees will help students develop their technical skills and build their professional network. Advance registration is required. Students are encouraged to register for this session. Please indicate at least two research interest areas on the registration form.

SAD Professional Development Workshop: Confident Communications by Dairy Management Inc.
Tuesday, June 21, 10:30 am –11:30 am
Convention Center

Confident Communications: Intentional, clear and confident communications is a cornerstone of success whether you're in the classroom, doing an interview, starting your career or contributing to a meeting. Join us to for this interactive session where we'll talk about the fundamentals of confident communications, and how you can craft your conversations for your audience.

ADSA Undergraduate Student Awards Luncheon
Tuesday, June 21, 11:45 am – 2:00 pm
Convention Center
Tickets: $50 professional member; $40 student

Plan to attend this year's Student Affiliate Division awards luncheon. The afternoon will be capped with the presentation of student awards and announcement of new SAD officers. Both students and professionals are encouraged to attend. This is a wonderful chance to show your support and appreciation for our industry's next generation.

GSD Career Insights Lunch
Tuesday, June 21, 12:30 – 2:00 pm
Convention Center
Tickets: $10

Graduate students—plan to join us for lunch and interact with a diverse panel of academia and industry professionals! Be prepared to question panel members about their experience moving from graduate school to the professional world. This lunch is intended to give students an informal environment in which to inquire about each professional's personal journey and the challenges they encountered along the way. A $10 registration fee is required and a boxed lunch is included.

ADSA Awards Program and Ice Cream Social
Tuesday, June 21, 7:00 – 8:00 pm; 8:15 – 9:30 pm

All meeting participants, families, and friends are welcome to attend the 2022 ADSA awards program. Please join us at this special event to recognize and congratulate the 2022 award winners. Stay after the awards program and enjoy ice cream at the perennial favorite—the Ice Cream Social!

All-Attendee Luncheon
Wednesday, June 22, 12:30 – 2:00 pm

All meeting participants are invited to join us for our first-ever all-attendee luncheon. Wear your school colors as we host a tailgate-style buffet. Network with colleagues and tell everyone why your school is the best!

Closing Reception
Wednesday, June 22, 6:00 – 9:00 pm

Wrap up the week at ADSA with great food and great company! All meeting participants are invited to join us for our all-attendee closing reception. Use this last event of the week to talk about all of the great science exchanged at ADSA 2022.

2022 ADSA Award Donors

Alltech Biotechnology Center
American Dairy Science Association
American Dairy Science Association Foundation
American Feed Industry Association
Cargill Animal Nutrition
Council on Dairy Cattle Breeding
Daisy Brand
DeLaval Inc.
Hoard's Dairyman
International Dairy Foods Association
Lallemand Animal Nutrition
National Dairy Council
National Milk Producers Federation Dairy Scholarship Fund
Novus International
Nutrition Professionals Inc.
Purina Animal Nutrition
Schreiber Foods
West Agro Inc.
Zinpro Corporation
Zoetis

Exhibit Schedule

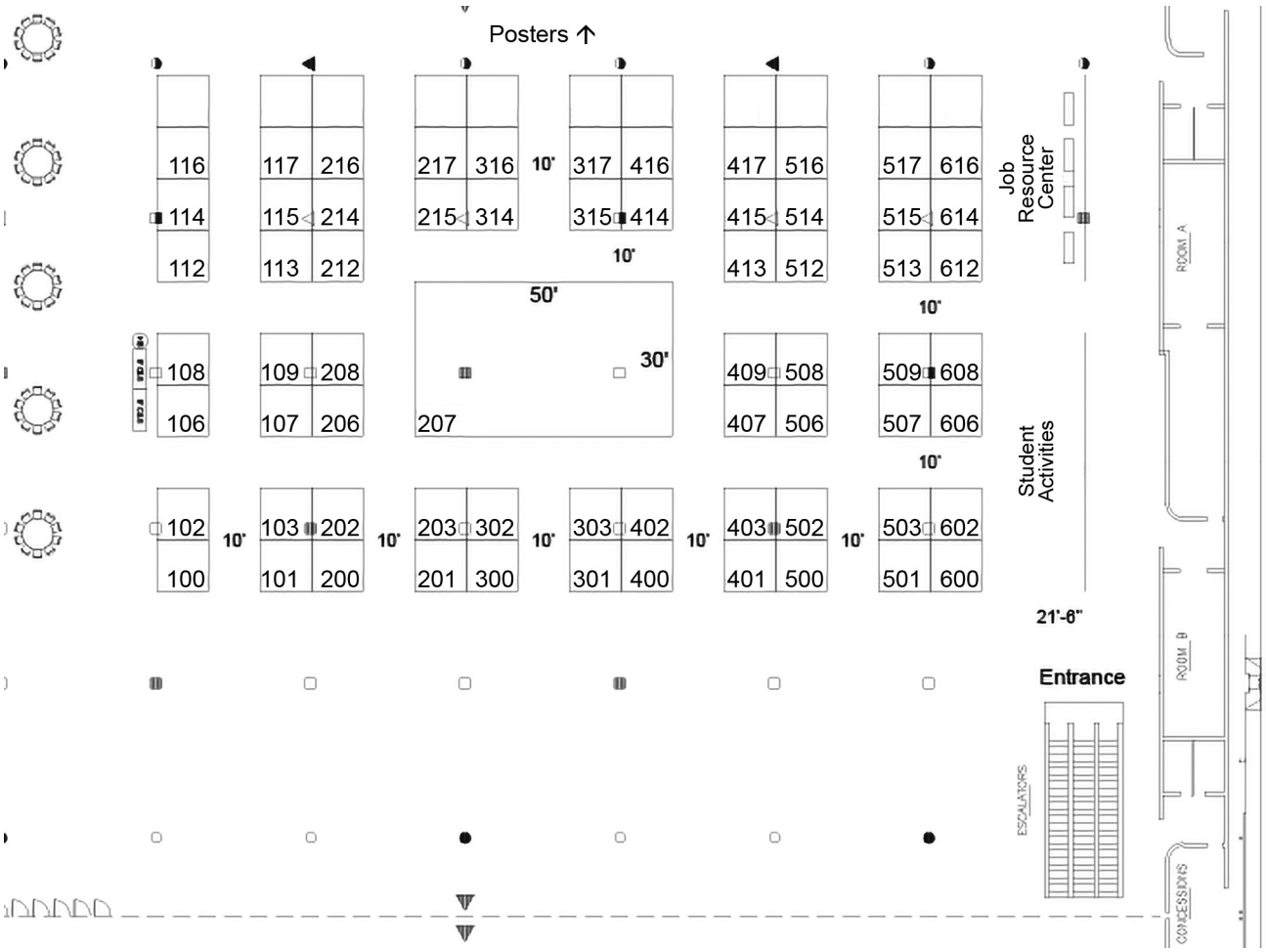
Sunday, June 19
- Set up exhibits ..... 10:00 am – 6:00 pm

Monday, June 20
- Exhibits open ..... 8:00 am – 5:00 pm

Tuesday, June 21
- Exhibits open ..... 8:00 am – 4:00 pm
- Dismantle exhibits ..... 4:00 pm – 6:00 pm

Coffee and pastries will be served from 8:00 to 9:00 am, and ice cream will be served from 3:30 to 4:00 pm on Monday, Tuesday, and Wednesday in the Exhibit Hall.

Exhibit Floor Plan



Guide to Exhibitors/Booth Numbers

A special thank you to our 2022 ADSA Annual Meeting Exhibitors!

Exhibit Directory

Adisseo North America
4400 N Point Pkwy, Ste 275
One Point Royal
Alpharetta, GA 30022-2429
www.adisseo.com
Booth(s): 215, 314

At Adisseo, we are nutritionists with a long tradition of applying our expertise to nutritional additives. We are dedicated to serving the animal production industry by helping premixers, feed manufacturers, and integrators improve their performance and become more competitive.

AFI-Agri Feed International, L.L.C
7444 Thrush Ave.
Rockwell, IA 50469
641-456-8596
www.agri-feed.com
Booth(s): 219, 318

AFI provides quality, specialty yeast fermentation products for the global dairy, beef, swine, poultry and livestock industry. As an industry innovator, AFI continues to earn customer loyalty around the world by always striving to improve the bottom line of producers. Today, AFI provides its customers with a full line of innovative, science-based, yeast fermentation products.

Afimilk
5520 Nobel Dr, Ste 175
Madison, WI 53711
www.afimilk.com
Booth(s): 519

Afimilk provides dairy technology, software, and data management for dairy farms.

Ag Processing Inc./Amino Plus
12700 West Dodge Road
Omaha, NE 68154
www.aminoplus.com
Booth(s): 212

Ag Processing Inc. is the largest cooperative soybean processor in the world and producer of AminoPlus, the number one volume bypass soybean meal supplement in United States. The AminoPlus process utilizes soybean meal to provide high amino acid quality, rumen bypass, and intestinal digestibility without the addition of chemicals or non-soybean components.

American Dairy Science Association (ADSA)
1800 S Oak St, Ste 100
Champaign, IL 61820-6974
www.adsa.org
Booth(s): 203, 302

Established in 1906, ADSA is an international organization of educators, scientists, industry, and government representatives who are committed to advancing the dairy industry. All are keenly aware of the vital role the dairy sciences play in fulfilling the economic, nutritive, and health requirements of the world's population. Together, ADSA members have discovered new methods and technologies that have revolutionized the dairy industry. Please visit www.adsa.org for more information.

ADSA Graduate Student Division (GSD)
1800 S. Oak St., STE 100
Champaign, IL 61820
www.adsa.org/Membership/Graduate-Student-Division
Booth(s): 513

The ADSA Graduate Student Division (GSD) offers meetings, webinars, and workshops that focus on career development and professional growth topics. We also provide extensive networking opportunities with the goal of increasing the graduate student experience. Membership in the GSD provides dairy science graduate students access to the benefits of traditional ADSA membership, such as:

- myDairy Career—a free employment website for both dairy production and dairy food students
- Access to the Searchable Proceedings of Animal Conferences® (S-PAC), the most comprehensive animal production and management conference proceeding database
- Deep registration discount for the ADSA Annual Meeting
- Connections with dairy scientists across the globe through the ADSA online membership directory.

ADSA Journals
1800 S. Oak St., STE 100
Champaign, IL 61820
www.journalofdairyscience.org
www.jdscommun.org
Booth(s): 300

Journal of Dairy Science (JDS), an official journal of ADSA, is the leading general dairy research journal in the world. JDS readers represent education, industry, and government agencies in more than 70 countries with interests in biochemistry, breeding, economics, engineering, environment, food science, genetics, microbiology and food safety, nutrition, pathology, physiology, processing, public health, quality assurance, and sanitation.

JDS Communications, an official journal of ADSA, publishes focused, hypothesis-driven original research studies designed to answer a specific question on the production or processing of milk or milk products intended for human consumption. Research published in this journal is broadly divided into animal production, physiology, health, and genetics, and dairy foods for human consumption.

ADSA Student Affiliate Division (SAD)
1800 S. Oak St., STE 100
Champaign, IL 61820
www.adsa.org/Membership/Student-Affiliate-Division
Booth(s): 612

The Student Affiliate Division (SAD) of ADSA consists of student affiliate chapters across the country. The chapters are local clubs organized at colleges and universities offering courses that pertain to the production of dairy cattle and dairy foods. The purpose of the SAD is to provide a channel of communication for the exchange of information among the various member chapters and between ADSA and the member chapters; to acquaint students with ADSA, its scope, purpose, and program; and to develop leadership and promote scholastic achievement among students interested in the dairy industry.

American Registry of Professional Animal Scientists (ARPAS)
1800 S Oak St., Ste 100
Champaign, IL 61820-6974
www.arpas.org
Booth(s): 608

All successful certification and licensing programs are targeted to serve and protect the public's interest. More government regulations and controls require that practicing professionals establish accountability by means of registry and certification programs. In today's business climate, producer and industry clients want assurance that they are getting advice from certified professionals who stay on the cutting edge. By completing the requirements for registration, maintaining your continuing education units, and adhering to the code of ethics, ARPAS registration provides you with a new level of recognition to help you distinguish yourself to your clients as a Professional Animal Scientist.

Axiōta
2809 East Harmony road #190
Fort Collins, CO 80528
www.axiota.com
Booth(s): 501

Axiota® delivers best-in-class animal health products with proven modes of action that help manage risk and support cattle health, performance, and well-being across all stages of beef and dairy production. The Axiota portfolio includes MULTIMIN® 90 and Lactipro®. MULTIMIN® 90 is a prescription-only injectable trace mineral that provides a supplemental source of zinc, selenium, copper, and manganese. Trace minerals are the building blocks of the immune and reproductive systems and MULTIMIN® 90 provides sure trace mineral supply by timed injection. Lactipro® supplies an immediate, viable population of Mega e® – a prolific, rumen-native microbe that preferentially consumes lactic acid and produces butyrate.

Balchem Corporation
52 Sunrise Park
New Hampton, NY 10958-0600
www.balchem.com
Booth(s): 303, 402

Balchem provides state-of-the-art solutions and the finest quality products for a range of industries worldwide, including human nutrition, animal nutrition, and industrial applications. We apply proven science and industry-leading technologies backed by years of success in the feed industry. You will not find a more experienced and committed team of scientists and researchers strategically aligned to identify and develop high-quality, innovative, proprietary products designed to meet your animal nutrition, productivity and wellness needs. But in the end, it all comes down to results — real results you can count on, results that help you meet your goals.

C-Lock Inc.
1350 Concourse Dr.
Rapid City, SD 57703
www.c-lockinc.com
Booth (s): 403, 502

C-Lock utilizes cutting-edge science and engineering to measure, monitor, analyze, and control ruminant biological parameters on an individual basis. Our company's mission is to provide technological solutions for researchers and producers to improve efficiency, productivity, and sustainability across the livestock sector. Our GreenFeed technology measures metabolic gas fluxes of ruminants, and our SmartFeed systems measure and control individual animal feed intake both in confinement and pasture-based environments. Additionally, our SmartScale captures animal weight and performance each time an animal goes to water. All of C-Lock's systems are wireless, portable, and modular, making our systems adaptable to any production environment.

CattleEye Ltd.
The Innovation Centre, Queens Road
Belfast, BTE 9DT
Northern Ireland, United Kingdom
www.cattleeye.com
Booth(s): 316

CattleEye is the first autonomous livestock monitoring platform. The system uses a low cost security camera mounted over the exit of a milking parlor and connected to the Internet. No wearables – collars, ear tags or pedometers – on the cows. Artificial intelligence algorithms start learning how to identify, monitor and evaluate individual cow behavior in the herd, providing actionable insights to the dairy producers.

Chr. Hansen
99015 W Maple St
Milwaukee, WI 53214
www.chr-hansen.com
Booth(s): 506

With an ever-expanding range of probiotics, we at Chr. Hansen work continuously to develop products which enable farmers to produce high-quality, sustainable, and safe food that consumers demand. With the world's largest commercial bank of bacterial strains, we continue to innovate and produce the best bacterial solutions for dairy cattle.

Cumberland Valley Analytical Services
4999 Zane A Miller Drive
Waynesboro, PA 17268
www.foragelab.com
Booth(s): 317, 319

Cumberland Valley Analytical Services is a full-service forage and feed testing laboratory serving the US, Canada, and the world. We specialize in providing contract support for the establishment and operation of NIR feed labs. We are focused on serving the analytical needs of the research community.

Dairy Records Management Systems
313 Chapanoke Rd, Ste 100
Raleigh, NC 27603-3435
www.drms.org
Booth(s): 415

Dairy Records Management Systems (DRMS) is the country's largest volume dairy records processing Ccenter for managing and delivering dairy data. Immediate, continuous processing occurs as herd and lab data arrive, with automated edits to ensure accuracy. Choose from 60+ DHI reports. On-farm software solutions include PCDART, the PocketDairy app, and the most automatic milk recording, heat monitoring and robotic system interfaces in the industry. Get more. Do more.

DSM Nutritional Products
45 Waterview Blvd.
Parsippany, NJ 07054
https://www.dsm.com/anh/en_NA/home.html
Booth(s): 409

We supply science-based products, services, and innovations for the health, well-being and sustainability of farm animals. Our 3 business lines include (1) essential products: vitamins, premixes, and carotenoids; (2) performance solutions + BIOMIN: advanced nutritional solutions, including enzymes, mycotoxin deactivation, and eubiotics; and (3) precision services: data analysis and diagnostics at work.

Evonik Corporation
1701 Barrett Lakes Blvd., Suite 340
Kennesaw, GA 30144
https://corporate.evonik.com/en
Booth (s): 507

Better feed for better food: the science of animal nutrition is one of the keys to efficient and sustainable livestock production. Through decades of experience in animal nutrition, deep understanding of customer requirements, scientific expertise, and global presence, we provide you with knowledge-based system solutions for your sustainable and efficient production of meat, fish, eggs, and milk.

FASS Inc.
1800 S Oak St., Ste 100
Champaign, IL 61820-6974
www.fass.org
Booth(s): 400

Since 1998, FASS has provided shared management services to not-for-profit animal science and related organizations. FASS services include accounting, conference planning and event management, membership and administration, publication services, and information technology services. FASS is a 501(c)(3) support organization. Our tax-exempt status allows us to serve our clients at very reasonable rates. Currently, we provide services to more than 10,000 professionals in animal agriculture and other sciences. FASS has the staff resources, talent, and experience your organization needs to let your leadership focus on driving your organization forward.

Feedstuffs
12400 Whitewater Dr, Ste 160
Minnetonka, MN 55343-4158
www.Feedstuffs.com
Booth(s): 315

Animal agriculture's news and information leader.

Förster-Technik North America
56 Yates Avenue
Cambridge, ON N1P 0A3
Canada
www.foerster-technik.com
Booth(s): 618

We have automatic calf feeders for group housing and single housing, and we can measure activity in calves while they are in pens using our Smart Neck Bands, including light to find calves quickly. We have Smart Tanks for whole-milk calf feeding, which knows when the tank is full or empty, and with fully automatic cleaning of nipple and hoses to and from the feed stations. We also have the 40 fit program to feed the right amount to each calf all day long, including the ability to feed paired calves in a single stall.

Hoard's Dairyman
28 Milwaukee Avenue West, PO Box 801
Fort Atkinson, WI 53538
www.hoards.com
Booth(s): 407

Hoard's Dairyman is the most read and trusted dairy industry magazine. Since 1885, *Hoard's Dairyman* has provided dairy producers of every size and type, as well as veterinarians, nutritionists, and other decision makers insights with expertise on feeding, breeding, animal health, and milk quality. Online, **hoards.com** is the dairy producer's top resource for headline news, industry updates, market trends, and more to help them be more efficient and profitable.

IMV Imaging
2900 43rd St NW, Suite 600
Rochester, MN 55901
www.imv-imaging.com
Booth (s): 602

IMV imaging is the dedicated veterinary diagnostic imaging division within the IMV Technologies group. We have over 35 years of experience designing and manufacturing veterinary ultrasound equipment. We don't just sell a system. We build long-term relationships to support you clinically, technically, and with any other challenges that come your way. We partner with companies that are an extension of our business. With IMV Imaging as your partner, you can call our team at any time to support and service your equipment.

Kindstrom-Schmoll Inc.
PO Box 44459
Eden Prairie, MN
www.kindstrom-schmoll.com
Booth (s): 413

Since 1954, Kindstrom-Schmoll Inc. has provided the highest quality specialty ingredients to all areas of the feed industry. We are partnered with an impressive list of well-known ingredient manufacturers, each selected because they share our core value: providing the absolute best customer service and ingredient technology.

Locus Animal Nutrition
30600 Aurora Rd., Suite 180
Solon, OH 44139
www.locusanimalnutrition.com
Booth(s): 416

Founded by probiotic experts, Locus Animal Nutrition™ (Locus AN) uses patented technology to create non-GMO, direct-fed microbial (DFM) feed additives aimed at maximizing feed efficiency and minimizing methane emissions in livestock. The unique approach enables rapid strain selection, deployment, and scaling for use across the U.S. and eventually international markets for a global impact. Locus AN has partnered with leading researchers at UC Davis, Penn State and University of Florida to conduct in vitro and in vivo trials projecting a substantially positive impact on cattle productivity and on-farm sustainability.

The company gets its core scientific capabilities from its parent company, Locus Fermentation Solutions (Locus FS), a globally recognized green technology company driven by world-class scientists with a proven track record and more than 875 patents. To learn more, visit LocusAnimalNutrition.com.

Novus International Inc.
20 Research Park Drive
St. Charles, MO 63304
www.novusint.com
Booth(s): 418

Novus International, Inc. is a leader in swine, poultry and dairy nutrition solutions driven by science. Novus's products and services look at the whole animal, focusing on productivity and well-being, in order to feed the world affordable and wholesome food. Novus operations include corporate offices, research and development laboratories, and manufacturing facilities around the world. For more information, visit Novus's website at **www.novusint.com**.

Origination LLC
1300 McKnight Road North
Maplewood, MN 55119
www.OriginationO2D.com
Booth(s): 208

Origination LLC (O2D), located in Minnesota, is a premier distributor of animal feed ingredients, fertilizers, and ice melt to the upper Mississippi region of the United States. Our world-class proprietary DCAD supplements for dairy cattle have been providing effective and economic nutrition solutions to producers both domestically and internationally with research proven results. Over the company's seven-decade long history, Origination has been an innovative provider of quality products and value-added services to the agriculture market.

Poultry Protein and Fat Council
1530 Cooledge Rd
Tucker, GA 30084-7303
www.poultryrenderers.org
Booth(s): 600

The Poultry Protein and Fat Council was formed to provide funding for research on related topics in the poultry rendering industry. Renderers agreed that research was an urgent and vital need and have funded over $2.2 million in subsequent years on numerous topics.

Protekta Inc.
2680 E. Main Street, Suite 205
Plainfield, IN 46168
www.protekta.com
Booth (s): 414

The team at Protekta is dedicated to living up to the essence of the company name. Its transformative products are specifically designed to protect animals from common stressors that impact their health All of the products offered by Protekta are innovative and evidence-based solutions that are designed to prevent illness through optimal nutrition, specialty feed ingredients, and healthy environmental conditions.

Randox Food Diagnostics
515 Industrial Boulevard
Kearneysville, WV 25430
www.randoxfood.com
Booth (s): 503

Randox Food Diagnostics offers a comprehensive range of user-friendly analysers and screening arrays for the detection of contaminants in milk using our patented multiplex Biochip Array Technology. The revolutionary InfiniPlex for Milk can simultaneously detect up to 130 contaminants in under 30 minutes, extending beyond traditional antibiotic testing platforms. The InfiniPlex array includes screening for anti-inflammatories, corticosteroids, growth promoters and anti-parasitics from a 25-µL of sample of raw milk, with zero sample preparation required. The Bovine Pathogen Array can detect antibodies against six of the most significant bovine pathogens from a single milk sample: bovine viral diarrhoea, infectious bovine rhinotracheitis, paratuberculosis, leptospirosis, neosporosis, and fasciolosis.

RP Nutrients
1988 Energy Dr.
East Troy, WI 53120
www.rpnutrients.com
Booth (s): 606

RP Nutrients Inc. was established in 2008 with the vision to bring innovative and well-researched products to market. Prioritizing research and effectiveness, we look to build a better, more efficient agricultural environment with nutrition, technology, and management by partnering with similarly motivated companies and individuals.

SoyBest
PO Box 157
West Point, NE 68788-0157
www.soybest.com
Booth(s): 419, 518

SoyBest is a high-bypass soybean meal manufactured using a mechanical screwpress.

Stuhr Enterprises LLC
505 West Main
Marshall, MN 56258
www.stuhrenterprises.com
Booth(s): 512

Stuhr Enterprises LLC is a global company based in Marshall, Minnesota, with manufacturing plants in Iowa and Missouri. The company is research- and technology-based with innovative manufacturing process applications. It makes and markets two transition cow feed additives: Anion Booster and Glucose Booster. Anion Booster is the most palatable anion additive available in the market and is commonly the best value compared with other anion sources. Glucose Booster is the most effective glucose precursor available on the market, with recent research proving its efficacy at the University of California–Davis School of Veterinary Medicine and Research Center (Tulare, CA). Organic Anion Booster is a uniquely manufactured blend of organic feeds built to produce a very palatable 100% organic DCAD feeding option for prepartum organic cows.

Vetagro Inc.
17 E. Monroe St., Suite 179
Chicago IL 60603
www.vetagro.com
Booth(s): 202

Vetagro specializes in the microencapsulation of feed additives and nutrients tailored to match the digestive capacity and intestinal transit time of ruminants, poultry and swine. We are present globally, with international patents evidencing our novelty and innovation. Our dairy products include Timet, rumen-protected methionine to optimize nitrogen metabolism and therefore improving milk protein yield, MecoVit, a synergistic combination of rumen-protected methionine, choline, betaine, and B vitamins, targeting the metabolism of the transition dairy cow; SmartSel, the "smart" alternative to organic selenium and free sodium selenite. To find out more about Vetagro products, please visit us at our booth.

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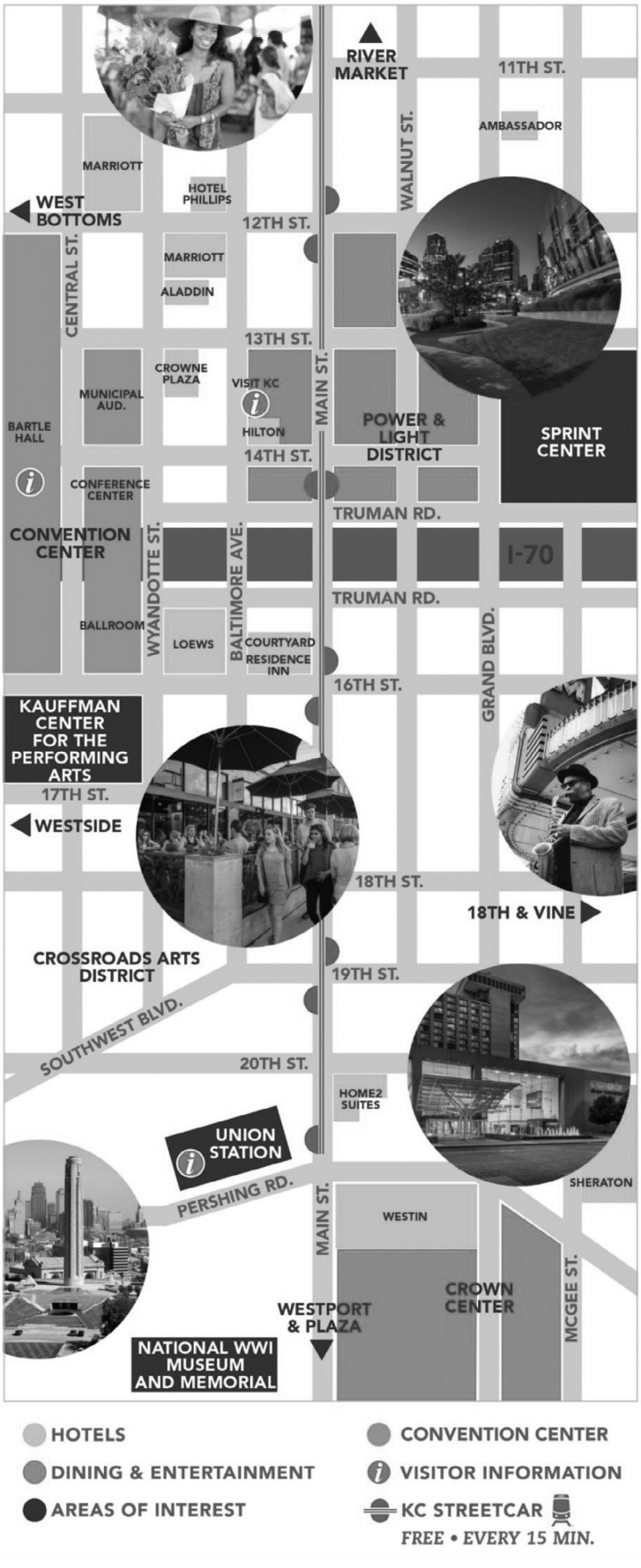
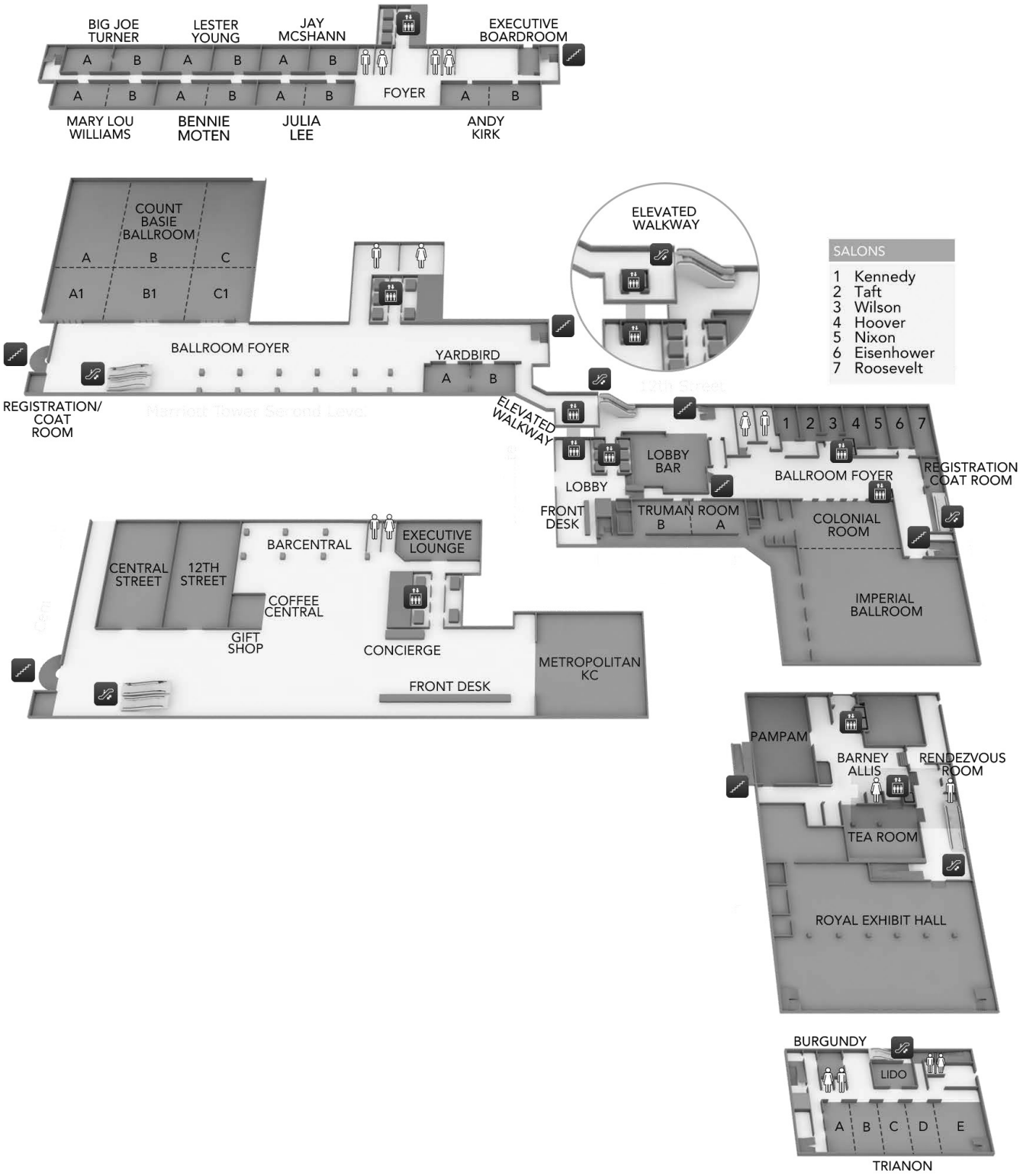
Zinpro Corporation
Zoetis
Zook Nutrition and Management Inc.

Thank you for your support!

Downtown Kansas City

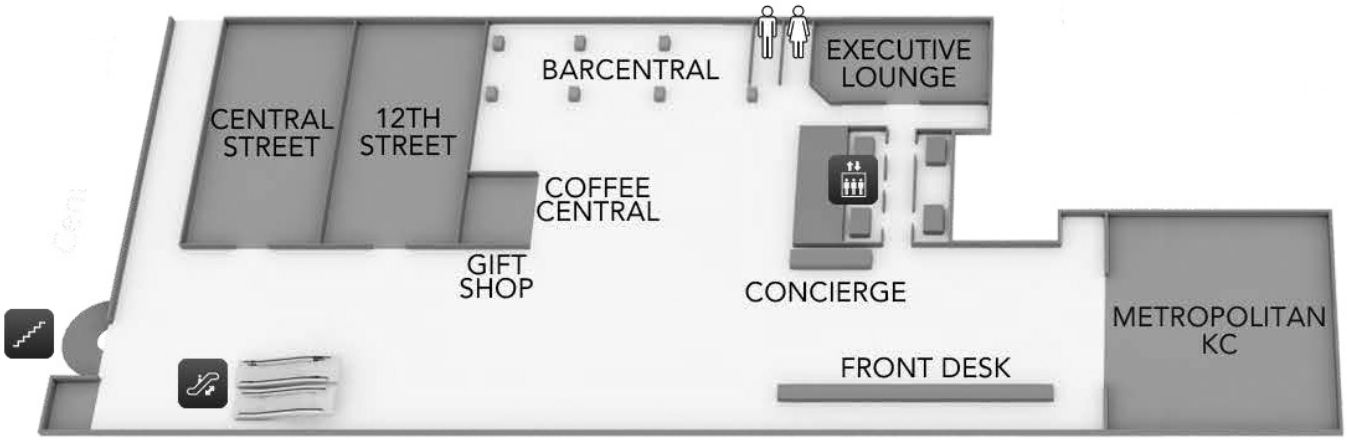


Kansas City Marriott
All Levels

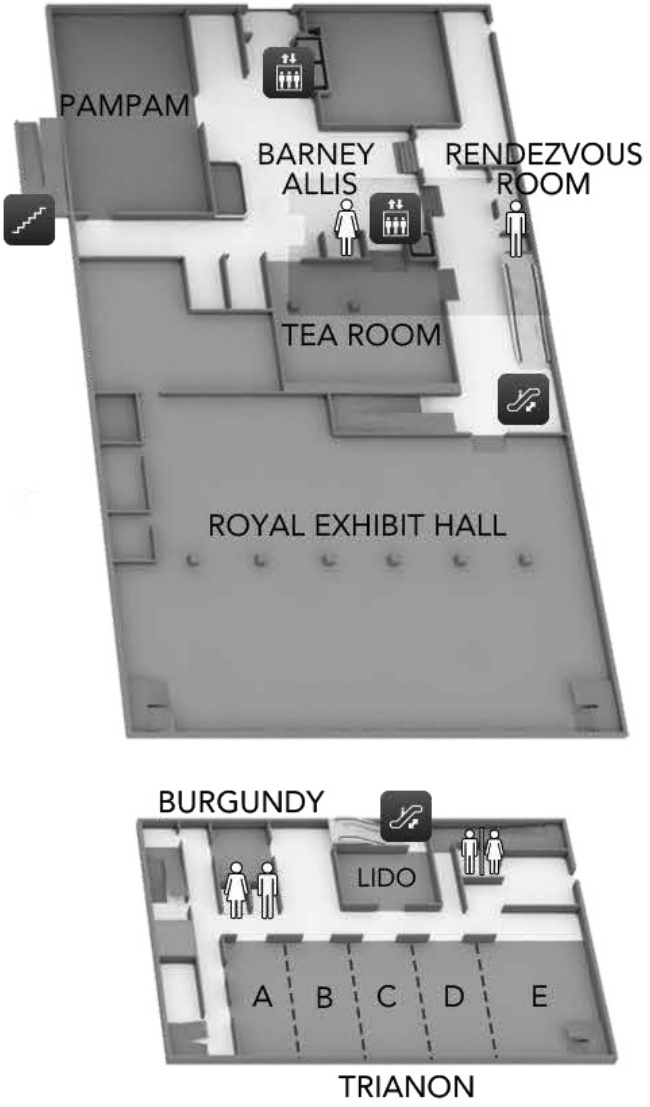


Kansas City Marriott
Main and Lower Levels

Main/Street Level

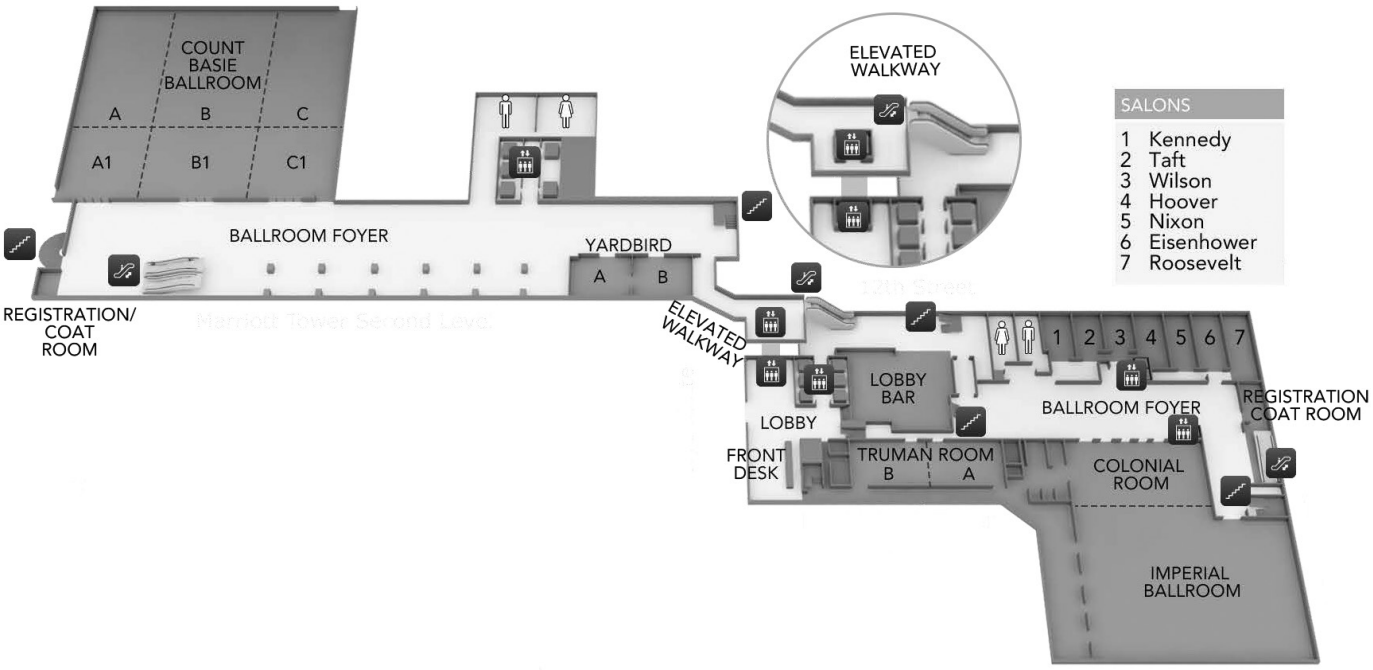


Lower Level

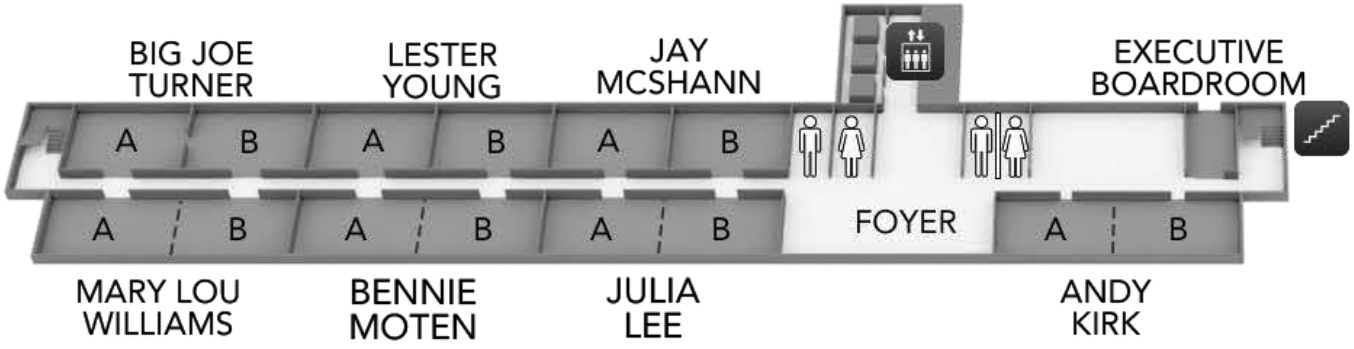


Kansas City Marriott
Levels 2 and 3

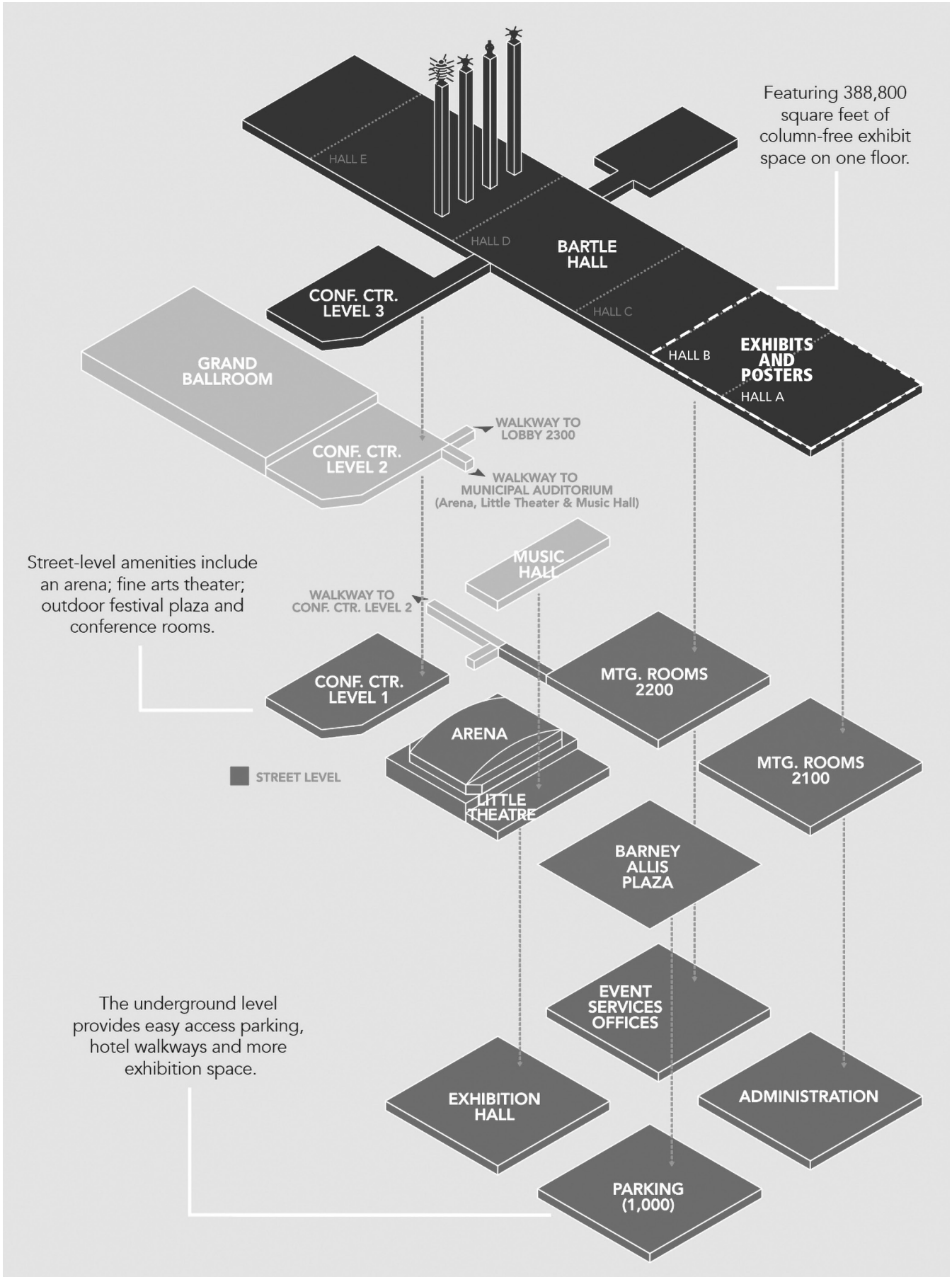
Second Level



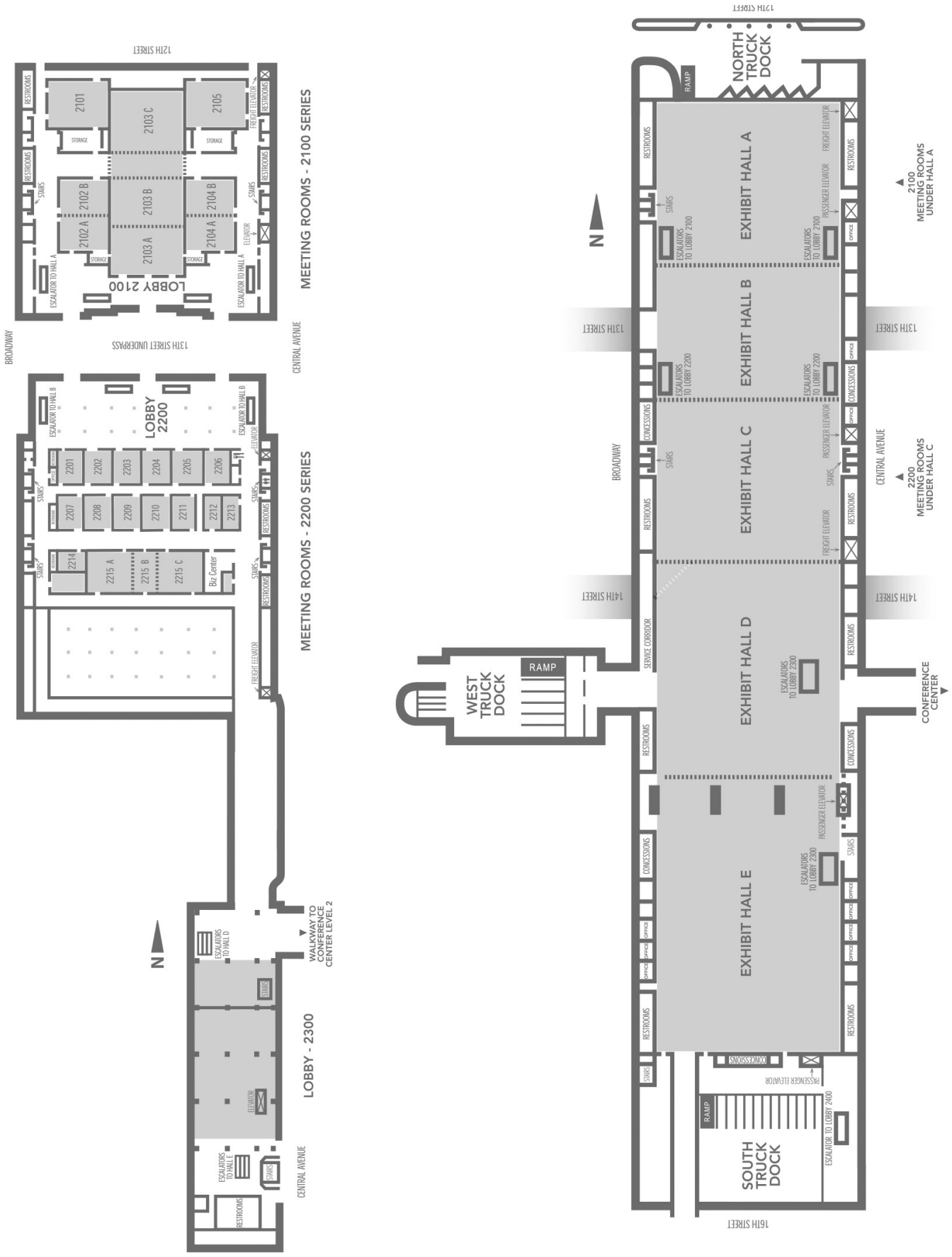
Third Level



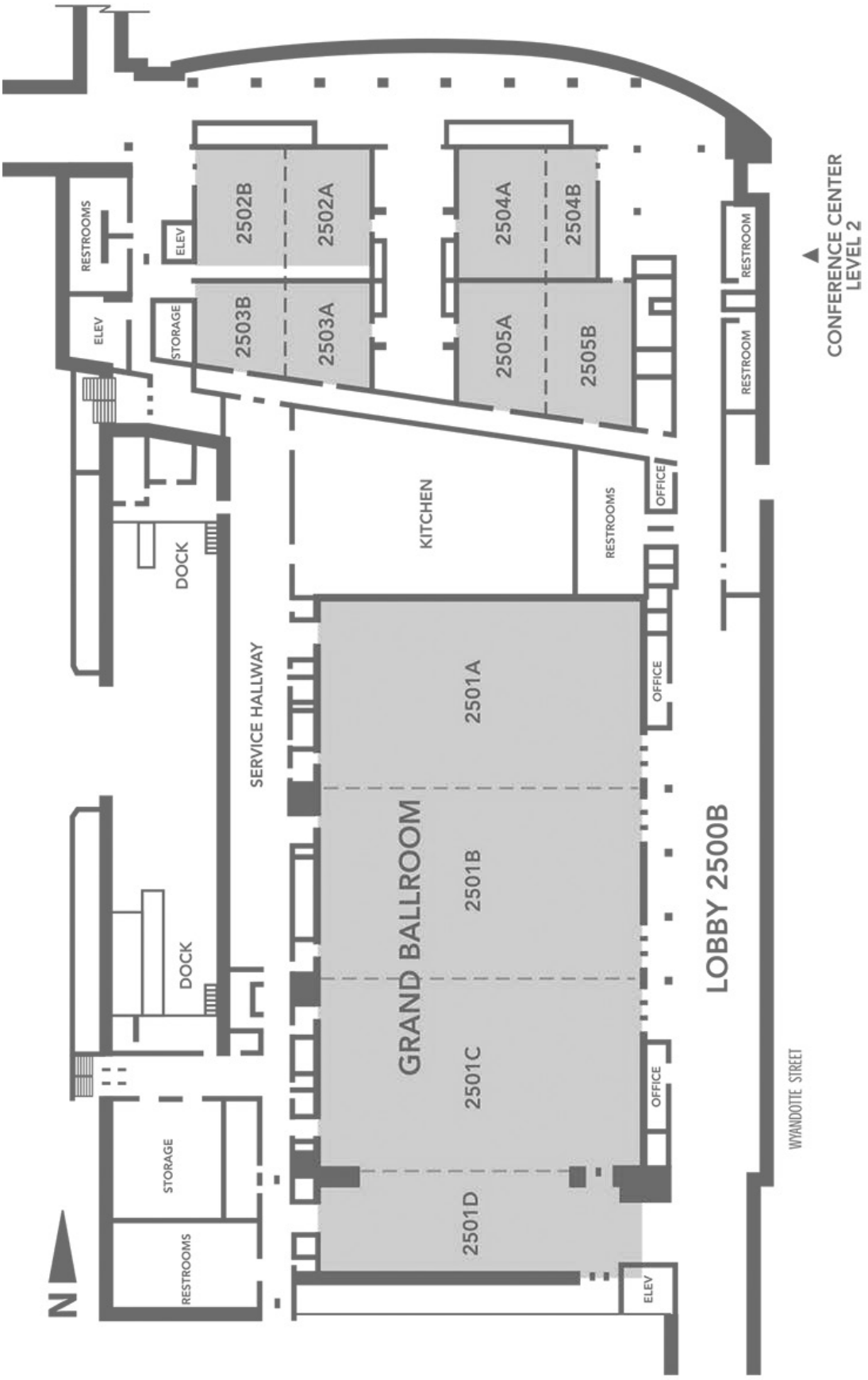
Kansas City Convention Center



Kansas City Convention Center



Kansas City Convention Center



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Virtus Nutrition
Zoetis

Schedule of Events

Scheduling and locations are subject to change without notice.
All events take place at the Marriott and Kansas City Convention Center (CC) unless otherwise noted.

Friday, June 17, 2022

8:00 am – 12:00 pm	ADSA Executive and Finance Committee Meeting	Roosevelt
12:00 pm – 5:00 pm	ADSA Board of Directors Meeting	Roosevelt

Saturday, June 18, 2022

8:00 am – 5:00 pm	ADSA Board of Directors Meeting	Roosevelt
12:45 pm – 5:00 pm	SAD Dairy Tour	Offsite
6:30 pm – 7:00 pm	SAD Hospitality Room	The Depot, Crowne Plaza
7:00 pm	SAD Informal Mixer: Undergrad Dine Around	Offsite

Sunday, June 19, 2022

8:00 am – 12:00 pm	ADSA New Board Orientation	Roosevelt
8:00 am – 12:00 pm	Workshop: Dairy Records Workshop	CC 2205
8:15 am – 9:15 am	SAD Officers and Advisors Meeting	CC 2213
9:00 am – 3:00 pm	ARPAS Governing Council Meeting	Truman B
9:30 am – 10:15 am	SAD First Business Meeting	CC 2203
10:00 am – 11:00 am	SAD Quiz Bowl Officials Meeting	CC 2213
10:30 am – 11:00 am	SAD Quiz Bowl Seeding Test	CC 2502A
11:00 am – 12:00 pm	SAD Midday Mixer	CC 2502A
11:00 am – 12:00 pm	ADSA JDSC Editors Meeting	Truman A
12:00 pm – 5:00 pm	Media Room	CC 2212
12:00 pm – 1:00 pm	ADSA JDS/JDSC Luncheon	Truman A
12:15 pm – 4:15 pm	SAD Quiz Bowl Seating/Preliminary Rounds	CC 2201
12:15 pm – 4:15 pm	SAD Quiz Bowl Seating/Preliminary Rounds	CC 2202
12:15 pm – 4:15 pm	SAD Quiz Bowl Seating/Holding Room	CC 2203
2:30 pm – 3:30 pm	GSD 3-Minute Thesis Competition	CC 2215B
1:00 pm – 4:00 pm	ADSA JDS Editors Meeting	Truman A
2:00 pm – 3:30 pm	ADSA Foundation Board of Trustees Meeting	Roosevelt
4:00 pm – 6:00 pm	ADSA JDS/JDSC Editors Reception	Bar M
4:00 pm – 4:45 pm	GSD Business Meeting and Open Forum	CC 2215B
4:30 pm – 5:00 pm	SAD Quiz Bowl Final Round	CC 2201
5:00 pm – 5:45 pm	First Time Attendees Orientation and Reception	CC 2504 AB
6:00 pm – 6:45 pm	Opening Session	CC Ballroom 2501 AB
6:45 pm – 8:30 pm	Opening Reception	CC Ballroom 2501 C
7:00 pm	GSD Mixer	Offsite

Monday, June 20, 2022

6:30 am – 7:00 am	SAD Undergraduate Student Poster Setup	CC Bartle Exhibit Hall
6:30 am – 8:00 am	ADSA Production Division Extension Breakfast	12th Street
7:15 am – 8:30 am	SAD Turns in Yearbooks and Scrapbooks	CC Bartle Exhibit Hall
7:30 am – 9:30 am	SAD Poster Competitions	CC Bartle Exhibit Hall
7:30 am – 9:30 am	Poster Session	CC Bartle Exhibit Hall
8:00 am – 9:00 am	Coffee and Pastries	CC Bartle Exhibit Hall
8:00 am – 5:00 pm	Exhibitor Lounge	CC Bartle Exhibit Hall
8:00 am – 5:00 pm	Media Room	CC 2212

8:00 am – 5:00 pm	Job Resource Center	CC Bartle Exhibit Hall
8:00 am – 9:00 am	Welcome to S-PAC.	CC Bartle Exhibit Hall
8:15 am – 9:15 am	SAD Interviews for Outstanding Student	CC 2203
8:15 am – 9:45 am	SAD Judging of Yearbooks and Scrapbooks	CC Bartle Exhibit Hall
9:30 am – 11:45 pm	SAD Undergraduate Original Research Presentations	CC 2201
9:30 am – 11:00 pm	SAD Undergraduate Production Presentations	CC 2202
11:00 am – 12:30 pm	SAD Dairy Foods Presentations	CC 2203
12:30 pm – 2:00 pm	ARPAS Business Meeting	CC 2104A
12:30 pm – 2:00 pm	GSD Workshop: Effective Science Communication	CC 2105
12:30 pm – 2:00 pm	ADSA Past Presidents' Luncheon	12th Street
12:45 pm – 2:15 pm	SAD Career Roundtable Luncheon	CC 2502A
1:00 pm – 2:00 pm	Dairy Foods Division Business Meeting	CC 2215B
2:00 pm – 4:00 pm	ARPAS Exam	CC 2205
2:30 pm – 3:45 pm	SAD Activities Symposium	CC 2203
3:30 pm – 4:00 pm	Afternoon Ice Cream Break	CC Bartle Exhibit Hall
5:00 pm – 5:30 pm	SAD Removes Posters	CC Bartle Exhibit Hall
5:00 pm – 7:00 pm	Informal Calf Gathering.	Truman A
5:00 pm – 8:00 pm	CSAS Reception	Offsite
7:00 pm – 9:00 pm	GSD Mix and Mingle Professional Networking	Truman B
7:00 pm – 11:00 pm	SAD Mixer	Offsite
8:30 pm – 9:30 pm	Live from Kansas City Hybrid Roundtable–Nutrition	CC 2102A
8:30 pm – 9:30 pm	Live from Kansas City Hybrid Roundtable–Physiology	CC 2102B

Tuesday, June 21, 2022

6:00 am	Fun Run.	Offsite
6:30 am – 8:00 am	Dairy Foods Breakfast (Prot. and Enzymes)	Eisenhower
6:30 am – 8:00 am	JDS/JDSC/JMC Editorial Board Breakfast/Meeting	Truman A
7:30 am – 8:30 am	Live from Kansas City Hybrid Roundtable–Dairy Foods	CC 2102A
7:30 am – 8:30 am	Live from Kansas City Hybrid Roundtable–Health	CC 2215A
7:30 am – 9:30 am	Poster Session.	CC Bartle Exhibit Hall
8:00 am – 9:00 am	Coffee and Pastries	CC Bartle Exhibit Hall
8:00 am – 9:00 am	Welcome to S-PAC.	CC Bartle Exhibit Hall
8:00 am – 9:00 am	SAD Business Meeting – Election of Officers	CC 2203
8:00 am – 4:00 pm	Exhibitor Lounge	CC Bartle Exhibit Hall
8:00 am – 5:00 pm	Media Room	CC 2212
9:15 am – 10:15 am	SAD Small Group Mentoring Session	CC 2203
10:00 am – 11:00 am	Discover Conference Steering Committee Meeting	CC 2213
10:30 am – 12:30 pm	ARPAS Exam	CC 2205
10:30 am – 11:30 am	SAD Professional Development Workshop	CC 2502B
12:30 pm – 1:30 pm	ACAS Business Meeting	CC 2201
11:45 pm – 2:00 pm	SAD Award Luncheon	CC 2502A
12:30 pm – 2:00 pm	GSD Career Insights Luncheon	CC 2504A
12:30 pm – 2:00 pm	Dairy Foods Division Program Planning Lunch	CC 2213
12:30 pm – 2:00 pm	Production Division Lunch.	CC 2104A
2:00 pm – 4:00 pm	SAD Student Exhibits – Pick up Yearbooks and Scrapbooks	CC Bartle Exhibit Hall
2:00 pm – 6:30 pm	ARPAS Symposium & Reception.	CC 2102B
2:30 pm – 3:30 pm	SAD Committee Meeting – Old and New Officers and Advisors	CC 2502A
3:30 pm – 4:00 pm	Afternoon Ice Cream Break	CC Bartle Exhibit Hall
5:00 pm – 6:30 pm	ADSA Awards Dinner	Tea Room/Barney Allis Lobby/Mezzanine Level

7:00 pm – 8:00 pm	ADSA Awards Program	Imperial Ballroom
8:15 pm – 9:30 pm	Ice Cream Social	Colonial Ballroom/ Prefunction

Wednesday, June 22, 2022

7:30 am – 9:30 am	Poster Session	CC Bartle Exhibit Hall
8:00 am – 9:00 am	Coffee and Pastries	CC Bartle Exhibit Hall
8:00 am – 12:00 pm	Media Room	CC 2212
8:00 am – 9:00 am	Farm Bill and Science Policy Discussion with USDA NIFA	CC 2201
8:30 am – 9:30 am	ADSA Business Meeting and Open Forum	CC 2203
10:30 am – 12:30 pm	ARPAS Exam	CC 2205
12:30 pm – 2:30 pm	ADSA Board of Directors Meeting	Roosevelt
12:30 pm – 2:00 pm	All Attendee Luncheon	CC Bartle Exhibit Hall
3:30 pm – 4:00 pm	Afternoon Ice Cream Break	CC Bartle Exhibit Hall
4:00 pm – 5:00 pm	Southern Branch Business Meeting	CC 2104B
6:00 pm – 9:00 pm	Closing Reception	CC Ballroom 2501 D

ADSA-Student Affiliate Division (SAD) Special Events

Saturday, June 18

Kansas City Zoo
12:45 pm – 5:00 pm
Buses will depart from Crowne Plaza, Student Headquarters Hotel
Tickets: $24

The Kansas City Zoo is home to more than 1,700 animals, representing more than 200 species. Students will have the opportunity to explore the zoo and attend various educational programs to learn about animal care in a zoo environment. Price includes zoo ticket and bus transportation. Undergraduate students and their club advisors are given first opportunity. Tour will be offered to others on a remaining availability basis.

SAD Undergraduate Student Hospitality Room
6:30 pm – 7:00 pm
Crowne Plaza, Student Headquarters Hotel

The SAD Hospitality Room will be available on Saturday evening for members to gather and meet others as you arrive. Information about the SAD schedule will be available.

SAD Undergraduate Student Informal Mixer: SAD Dine Around
7:00 pm
Meet in SAD Hospitality Room, Crowne Plaza

SAD officers will host a dine around event on Saturday for schools arriving early. Stop by the SAD hospitality room Saturday afternoon if your club would like to participate. Students from participating schools are encouraged to join different dinner groups for a fun evening of networking and good food. Participants are responsible for the cost of their meal.

Sunday, June 19

SAD Undergraduate Student Midday Mixer & Luncheon
11:00 am–12:00 pm
Convention Center
Tickets: $5

Join your fellow dairy clubs and meet your 2022-2023 Student Affiliate Division (SAD) Officer candidates. Ticket price includes lunch. Note: Registration is limited to ADSA undergraduate student members and dairy club advisors.

Dairy Quiz Bowl Final Round
4:30 pm – 5:00 pm
Convention Center

After a long COVID hiatus, university teams from across North America are excited to compete in the ADSA-SAD Dairy Quiz Bowl. The event gives schools an opportunity to demonstrate their knowledge about dairy production, processing, and ADSA history. The Student Affiliate Division (SAD) invites you to join them for the thrill of the final round of competition as the top two schools go head-to-head for the title of 2022 Dairy Quiz Bowl Champion.

Monday, June 20

SAD Undergraduate Student Poster and Paper Competitions
Convention Center

Support the future of ADSA - plan time in your schedule to visit the undergraduate poster and oral presentations on Monday morning. See program for complete details.

SAD Undergraduate Career Roundtable Luncheon
12:45 pm – 2:15 pm
Convention Center
Tickets: $10

A program favorite, the Career Roundtable Luncheon gives undergraduate students the opportunity to dine and network with professional members representing a wide array of careers in the dairy industry. The program is conveniently scheduled during the annual meeting lunch break on Monday. Participants will learn about careers in the industry, get useful tips on planning for their careers, and much more. Students are encouraged to dress professionally (business casual or better) and bring several copies of their resumes. Students should also plan time to visit industry reps in the exhibit hall for information about internships and job opportunities.

SAD Activities Symposium
2:30 pm – 3:45 pm
Convention Center

This SAD tradition is back! The Activities Symposium is an opportunity for each chapter to share their dairy club work with others attending the meeting. The Activities Symposium can be a very valuable exchange of ideas that will help other chapters in organizing new activities.

SAD Undergraduate Student Dine Around and Mixer: KC Live!
Monday June 20
7:00 pm – 11:00 pm
KC Live! in the Power & Light District

With competitions behind you, undergrads are invited to take the evening off for a night of fun on the town at KC Live! Situated in the Power & Light District, KC Live! is an entire city block with two levels of restaurants, taverns, and night spots. We hope to see you there!

Tuesday, June 21

Small Group Mentoring Sessions
9:15 am - 10:15 am
Convention Center

ADSA Mentor Program connects professional members with undergraduate students for small group mentoring sessions during the annual meeting. ADSA Past Presidents and others will meet with small groups of students to attend scientific presentations by interest area, followed by discussions of the topics presented. Engagement in the scientific presentations and interactions with conference attendees will help students develop their technical skills and build their professional network. Advance registration is required. Students are encouraged to register for this session. Please indicate at least two research interest areas on the registration form.

SAD Professional Development Workshop: Confident Communications by Dairy Management Inc.
10:30 am–11:30 am
Convention Center

Confident Communications: Intentional, clear and confident communications is a cornerstone of success whether you're in the classroom, doing an interview, starting your career or contributing to a meeting. Join us to for this interactive session where we'll talk about the fundamentals of confident communications, and how you can craft your conversations for your audience.

ADSA Undergraduate Student Awards Luncheon
11:45 am–2:00 pm
Convention Center
Tickets: $50 professional member; $40 student

Plan to attend this year's Student Affiliate Division awards luncheon. The afternoon will be capped with the presentation of student awards and announcement of new SAD officers. Both students and professionals are encouraged to attend. This is a wonderful chance to show your support and appreciation for our industry's next generation.

ADSA-SAD 2022 Annual Meeting Commemorative T-Shirts Available!

Get your very own 2022 SAD commemorative T-shirt!

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SAD Schedule of Events

Rooms listed below are in the Kansas City Convention Center unless otherwise noted.
*Consult the meeting website (**https://www.adsa.org/sad**) for the latest program information.*

Saturday, June 18

12:45 pm – 5:00 pm	SAD Dairy Tour	Offsite
6:30 pm – 7:00 pm	SAD Hospitality Room	The Depot, Crowne Plaza
7:00 pm	SAD Informal Mixer: Undergrad Dine Around	Offsite

Sunday, June 19

8:15 am – 9:15 am	SAD Officers and Advisors Meeting	CC 2213
9:30 am – 10:15 am	SAD First Business Meeting	CC 2203
10:00 am – 11:00 am	SAD Quiz Bowl Officials Meeting	CC 2213
10:30 am – 11:00 am	SAD Quiz Bowl Seeding Test	CC 2502A
11:00 am – 12:00 pm	SAD Midday Mixer	CC 2502A
12:15 pm – 4:15 pm	SAD Quiz Bowl Seating/Preliminary Rounds	CC 2201
12:15 pm – 4:15 pm	SAD Quiz Bowl Seating/Preliminary Rounds	CC 2202
12:15 pm – 4:15 pm	SAD Quiz Bowl Seating/Holding Room	CC 2203
4:30 pm – 5:00 pm	SAD Quiz Bowl Final Round	CC 2201

Monday, June 20

6:30 am – 7:00 am	SAD Undergraduate Student Poster Setup	CC Bartle Exhibit Hall
7:15 am – 8:30 am	SAD Turns in Yearbooks and Scrapbooks	CC Bartle Exhibit Hall
7:30 am – 9:30 am	SAD Poster Competitions	CC Bartle Exhibit Hall
8:15 am – 9:15 am	SAD Interviews for Outstanding Student	CC 2203
8:15 am – 9:45 am	SAD Judging of Yearbooks and Scrapbooks	CC Bartle Exhibit Hall
9:30 am – 11:45 pm	SAD Undergraduate Original Research Presentations	CC 2201
9:30 am – 11:00 pm	SAD Undergraduate Production Presentations	CC 2202
11:00 am – 12:30 pm	SAD Dairy Foods Presentations	CC 2203
12:45 pm – 2:15 pm	SAD Career Roundtable Luncheon	CC 2502A
2:30 pm – 3:45 pm	SAD Activities Symposium	CC 2203
5:00 pm – 5:30 pm	SAD Removes Posters	CC Bartle Exhibit Hall
7:00 pm – 11:00 pm	SAD Mixer	Offsite

Tuesday, June 21

6:30 am	Fun Run	Offsite
8:00 am – 9:00 am	SAD Business Meeting – Election of Officers	CC 2203
9:15 am – 10:15 am	SAD Small Group Mentoring Session	CC 2203
10:30 am – 11:30 am	SAD Professional Development Workshop	CC 2502B
11:45 pm – 2:00 pm	SAD Award Luncheon	CC 2502A
2:00 pm – 4:00 pm	SAD Student Exhibits – Pick up Yearbooks and Scrapbooks	CC Bartle Exhibit Hall
2:30 pm – 3:30 pm	SAD Committee Meeting – Old and New Officers and Advisors	CC 2502A
7:00 pm – 8:00 pm	ADSA Awards Program	Imperial Ballroom
8:15 pm – 9:30 pm	Ice Cream Social	Colonial Ballroom/ Prefunction

Wednesday, June 22

12:30 pm – 2:00 pm	All Attendee Luncheon	CC Bartle Exhibit Hall
6:00 pm – 9:00 pm	Closing Reception	CC Ballroom 2501 D

Thank you to sponsors and donors for their generous support of SAD and GSD events at ADSA 2022!

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Teaching/Undergraduate and Graduate Education
Michel Wattiaux (chair)
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ADSA Southern Section Symposium
Barbara Jones

ADSA Graduate Student Symposium
Lautaro Rostoll Cangiano (chair)

CSAS Symposium
Mike Steele

ARPAS Symposium
Heidi Rossow

Graduate Student Competition: ADSA Dairy Foods Oral
Hari Meletharayil (chair)
Rodrigo Ibanez Alfaro
Neha Singh

Graduate Student Competition: ADSA Dairy Foods Poster
Hadi Eshpari (chair)
Ashraf Hassan
Minto Michael
Khilendra Bhanduriya

Graduate Student Competition: ADSA Production Oral (MS/PhD)
Corwin Nelson (chair)
Laura Hernandez
Virginia Brandao
Mike Socha
Kristen Glosson
Robin White

Graduate Student Competition: ADSA Production Poster (MS/PhD)
Pablo Pinedo (chair)
Ben Enger
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Lorenzo Hernandez Castellano
Jessica McArt
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ADSA Southern Section Oral Competition
Barbara Jones

ADSA SAD Undergraduate Oral and Poster Competitions
Chad Dechow (chair)
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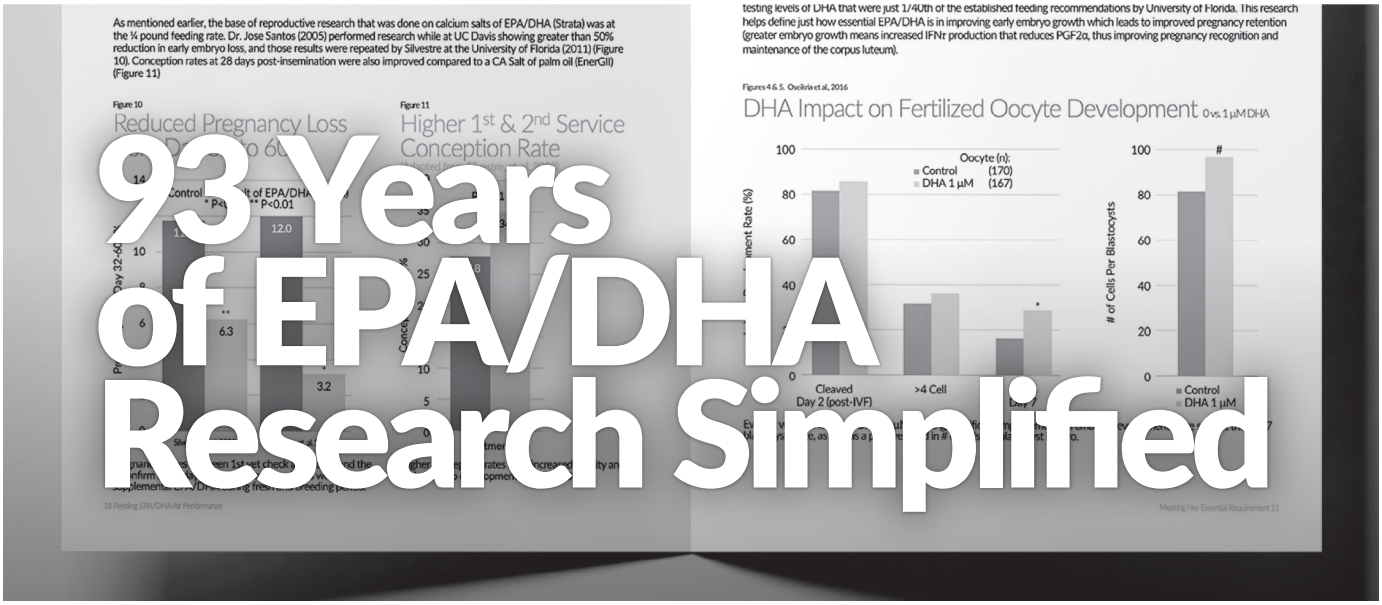

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POSTER PRESENTATIONS

SYMPOSIA AND ORAL SESSIONS

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POSTER PRESENTATIONS

ORAL PRESENTATIONS

Friday, June 24
Virtual Presentations with Live Q&A

Monday, June 20

POSTER PRESENTATIONS

ADSA Graduate Student (MS) Production Poster Competition

(competition was held virtually prior to the meeting)

2382V **Effect of forages with varying fiber digestibility on lactation performance and methane emissions of dairy cows.**
D. J. Nelson*[1,2] and K. F. Kalscheur[2,1], [1]*University of Wisconsin–Madison, Department of Animal and Dairy Sciences, Madison, WI*, [2]*US Dairy Forage Research Center, USDA-ARS, Madison, WI*.

2383V **Effectiveness of GnRH as a resynchronization tool in lactating dairy cows.**
A. Santos*, T. Minela, L. R. Martins, and J. R. Pursley, *Michigan State University, East Lansing, MI*.

2384V **Abomasal infusion of branched-chain amino acids or branched-chain keto-acids alter lactation performance in early lactation dairy cows.**
K. Gallagher*[1], I. Bernstein[1], C. Collings[1], D. Main[1], S. Naughton[1], V. Mavangira[2], M. VandeHaar[1], and Z. Zhou[1], [1]*Michigan State University, Department of Animal Science, East Lansing, MI*, [2]*Michigan State University, Large Animal Clinical Sciences, East Lansing, MI*.

2385V **Differences in body temperature regulation during heat stress and seasonal depression in milk yield between Holstein, Brown Swiss, and crossbred cows.**
C. J. Cuellar*[1], T. F. Amaral[1], M. Saleem[1,2], L. M. Jensen[1], Q. A. Hoorn[1], M. L. J. Haimon[1], S. Jeensuk[1], T. S. Maia[1], and P. J. Hansen[1], [1]*University of Florida, Gainesville, FL*, [2]*University of Veterinary and Animal Sciences, Lahore, Pakistan*.

2386V **Assessment of the effects of prepartum anti-inflammatory therapies on cow health and reproductive performance in Holstein dairy cows.**
E. Jimenez*[1], J. Spring[1], M. Martinez[1], E. Hovingh[1], J. Lawhead[2], and A. A. Barragan[1], [1]*Department of Veterinary and Biomedical Sciences, Penn State University, University Park, PA*, [2]*Millerstown Veterinary Associates, Millerstown, PA*.

2387V **Condition of surplus dairy calves at livestock dealers in Ohio.**
H. Maggard*[1], M. Moran[2], G. Habing[2], D. Renaud[3], K. Proudfoot[4], D. Wilson[3], and J. Pempek[1], [1]*Department of Animal Sciences, College of Food, Agriculture, and Environmental Sciences, Columbus, OH*, [2]*Department of Veterinary Preventive Medicine, College of Veterinary Medicine, Columbus, OH*, [3]*Department of Population Medicine, University of Guelph, Guelph, ON, Canada*, [4]*Department of Health Management, Atlantic Veterinary College, University of Prince Edward Island, Charlottetown, PE, Canada*.

2388V **Use of rumen-protected lysine labeled with ^{15}N-lysine to estimate bioavailability.**
K. L. Clark*[1], L. R. Rebelo[1], J. E. Copelin[1], T. Clifford[2], I. Brown-Crowder[2], M. J. Poss[2], and C. Lee[1], [1]*Department of Animal Sciences, The Ohio State University, Wooster, OH*, [2]*Kemin Industries, Inc., Des Moines, IA*.

2389V **Effects of colostrum management and meloxicam administration on hematological parameters in transported preweaned calves.**
K. Elmore*[1], D. Konetchy[1], M. Chahine[2], A. Laarman[3,1], B. Agustinho[1], P. Rezamand[1], and G. Chibisa[1], [1]*Department of Animal, Veterinary, and Food Science, Moscow, ID*, [2]*Department of Animal, Veterinary, and Food Sciences, Twin Falls Research and Extension Center University of Idaho, Twin Falls, ID*, [3]*Department of Agricultural, Food, and Nutrition Science, University of Alberta, Edmonton, Alberta, Canada*.

2390V **Direct effects of heat stress on hepatic mitochondrial function in lactating dairy cattle.**
A. S. Marquez-Acevedo*, P. Villamediana, C. C. Josefson, R. J. Collier, and A. L. Skibiel, *University of Idaho, Moscow, ID*.

2391V **Relationship between management, reticulorumial pH, and risks of subacute ruminal acidosis.**
F. Huot*[1], S. Claveau[2], A. Bunel[2], R. M. Petri[3], D. E. Santschi[4], E. Paquet[1], and R. Gervais[1], [1]*Université Laval, Québec, QC, Canada*, [2]*Agrinova, Alma, QC, Canada*, [3]*Agriculture and Agri-Food Canada, Sherbrooke, QC, Canada*, [4]*Lactanet, Sainte-Anne-de-Bellevue, QC, Canada*.

2392V **Effects of trace mineral and forage sources on mineral solubility, ruminal fermentation, digestibility and N utilization.**
M. L. Johnson*[1], J. A. Arce-Cordero[1], E. Sarmikasoglou[1], J. R. Vinyard[1], R. R. Lobo[1], V. Brandao[2], and A. P. Faciola[1], [1]*University of Florida, Gainesville, FL*, [2]*Micronutrients LLC, Indianapolis, IN*.

2393V **Withdrawn.**

2394V **Effect of dietary palmitic acid supplementation and milking frequency on milk production and composition in early lactation dairy cows.**
M. Landry*[1,2], F. Huot[1,2], R. Lessard[3], Y. Lebeuf[1,2], J. Chamberland[1,2], G. Brisson[1,2], D. E. Santschi[4], É. Paquet[1], D. E. Rico[5], P. Y. Chouinard[1,2], and R. Gervais[1,2], [1]*Université Laval, Quebec, Canada*, [2]*Centre de recherche en sciences et technologie du lait, Quebec, Canada*, [3]*Université de Sherbrooke, Quebec, Canada*, [4]*Lactanet, Quebec, Canada*, [5]*Centre de recherche en sciences animales de Deschambault, Quebec, Canada*.

ADSA Graduate Student (PhD) Production Poster Competition

(competition was held virtually prior to the meeting)

2395V **Defining clinical diagnosis and treatment of puerperal metritis in dairy cows: A scoping review.**
A. Garzon*[1], G. Habing[2], F. Lima[1], N. Silva-del-Rio[1,3], F. Samah[1], and R. Pereira[1], [1]*Department of Population Health and Reproduction, School of Veterinary Medicine, University of California, Davis, Davis, CA*, [2]*Department of Veterinary Preventive Medicine, Ohio State University, Columbus, OH*, [3]*Veterinary Medicine Teaching and Research Center, University of California, Davis, Tulare, CA*.

2396V **Acute-phase proteins and their relation to oil inclusion on the diet of dairy heifers.**
N. C. Gonçalves*[1,8], P. H. P. Küster[6], J. G. Laguna[2], T. F. Silva[2,3], E. O. S. Saliba[4], G. R. Moreira[5], T. F. Moreira[6], R. M. Meneses[6], G. S. S. C. Barbosa[7], C. I. A. Queiroz[7], L. A. Fonseca[9], L. D. Bento[9], V. A. C. Azevedo[2], and A. M. Macedo[1], [1]*Laboratório de Genética Bioquímica, LGB, Universidade Federal de Minas Gerais, UFMG, Belo Horizonte, Minas Gerais, Brazil*, [2]*Laboratório de Genética Celular e Molecular, LGCM, Universidade Federal de Minas Gerais, UFMG, Belo Horizonte, Minas Gerais, Brazil*, [3]*l'Institut Agro Rennes-Angers, INRAE, Rennes, Bretagne, France*, [4]*Laboratório de Nutrição Animal, Universidade Federal de Minas Gerais, UFMG, Belo Horizonte, Minas Gerais, Brazil*, [5]*Departamento de Estatística e Informática, Universidade Federal Rural de Pernambuco, UFRPE, Recife, Pernambuco, Brazil*, [6]*Departamento de Ciência Animal, Universidade Federal de Minas Gerais, UFMG, Belo Horizonte, Minas Gerais, Brazil*, [7]*Universidade Federal de Viçosa, UFV, Campus Florestal, Florestal, Minas Gerais, Brazil*, [8]*Escola Superior São Francisco de Assis, ESFA, Santa Teresa, Espírito Santo, Brazil*, [9]*Laboratório Clínico Veterinário, Universidade Federal de Viçosa, UFV, Campus Viçosa, Viçosa, Minas Gerais, Brazil*.

2397V **Dry matter intake and metabolic profile of dairy heifers fed with different kinds of vegetable oils.**
N. C. Gonçalves*[1,8], J. G. Laguna[2], T. F. Silva[2,3], E. O. S. Saliba[4], G. R. Moreira[5], T. F. Moreira[6], R. M. Meneses[6], G. S. S. C. Barbosa[7], C. I. A. Queiroz[7], P. H. P. Küster[6], G. P. Peruzzo[8], L. C. S. Souza[7], Y. C. Guedes[4], V. A. C. Azevedo[2], A. M. Macedo[1], [1]*Laboratório de Genética Bioquímica, LGB, Universidade Federal de Minas Gerais, UFMG, Belo Horizonte, Minas Gerais, Brazil*, [2]*Laboratório de Genética Celular e Molecular, LGCM, Universidade Federal de Minas Gerais, UFMG, Belo Horizonte, Minas Gerais, Brazil*, [3]*l'Institut Agro Rennes-Angers, INRAE, Rennes, Bretagne, France*, [4]*Laboratório de Nutrição Animal, Universidade Federal de Minas Gerais, UFMG, Belo Horizonte, Minas Gerais, Brazil*, [5]*Departamento de Estatística e Informática, Universidade Federal Rural de Pernambuco, UFRPE, Recife, Pernambuco, Brazil*, [6]*Departamento de Ciência Animal, Universidade Federal de Minas Gerais, UFMG, Belo Horizonte, Minas Gerais, Brazil*, [7]*Universidade Federal de Viçosa, UFV, Campus Florestal, Florestal, Minas Gerais, Brazil*, [8]*Escola Superior São Francisco de Assis, ESFA, Santa Teresa, Espírito Santo, Brazil*.

2398V **Modulation of innate and adaptive responses in cow whole blood by plant phytochemicals.**
B. Mulakala*[1], H. Ismail[2], and M. Worku[2], [1]*The University of Vermont, Burlington, VT*, [2]*North Carolina A&T State University, Greensboro, NC*.

2399V **Effects of dietary betaine supplementation and partial rumen content transplantation on metabolism in heat-stressed Holstein cows.**
A. Javaid*[1], A. R. Gonzalez[2], D. E. Rico[3], and J. W. McFadden[1], [1]*Cornell University, Ithaca, NY*, [2]*Université Laval, Québec, QC, Canada*, [3]*CRSAD, Deschambault, QC, Canada*.

2400V **Varying colostrum insulin ingestion does not affect blood metabolites or immunoglobulin G absorption in neonatal Holstein bulls but affects intestinal development.**
K. S. Hare*[1], K. Swanson[2], M. Nagorske[3], K. M. Wood[1], and M. A. Steele[1], [1]*University of Guelph, Guelph, ON, Canada*, [2]*North Dakota State University, Fargo, ND*, [3]*Saskatoon Colostrum Company Ltd., Saskatoon, SK, Canada*.

2401V **Calcium dynamics and associated patterns of milk constituents in early lactation multiparous Holsteins.**
J. A. Seminara*, K. R. Callero, I. R. Frost, R. M. Martinez, H. A. McCray, A. M. Reid, D. M. Barbano, and J. A. A. McArt, *Cornell University, Ithaca, NY*.

2402V **Changes in uterine metabolome associated with metritis development and cure in lactating Holstein cows.**
E. B. de Oliveira*[1,2], J. V. M. Pereira[2,3], D. R. Williams[1,2], H. F. Monteiro[1], P. Menta[4], V. S. Machado[4], and F. S. Lima[1], [1]*Department of Population Health and Reproduction, School of Veterinary Medicine, University of California, Davis, Davis, CA*, [2]*Veterinary Medicine Teaching Research Center, Tulare, CA*, [3]*Federal University of Viçosa, Vicosa, MG, Brazil*, [4]*Department of Veterinary Sciences, Texas Tech University, Lubbock, TX.*

2403V **Transcriptome analysis reveals the essential roles of alternative splicing regulation in heat-stressed Holstein cows.**
L. Hu*[1,2], Q. Xu[3], G. Guo[4], L. F. Brito[2], and Y. Wang[1], [1]*China Agricultural University, Beijing, China*, [2]*Purdue University, West Lafayette, IN*, [3]*Beijing Jiaotong University, Beijing, China*, [4]*Beijing Sunlon Livestock Development Company Limited, Beijing China*.

2404V **Effect of prepartum dietary cation-anion difference (DCAD) strategy and level of dietary calcium on peripartum mineral status of multiparous Holstein cows.**
G. Graef*[1], A. Kerwin[1], L. Ferro[1], S. Ordaz-Puga[1], C. Ryan[1], T. Westhoff[1], K. Glosson[2], K. Zanzalari[2], J. Chapman[2], and T. Overton[1], [1]*Cornell University, Ithaca, NY*, [2]*Phibro Animal Health Corporation, Teaneck, NJ.*

2405V **Effects of α-amylase enhanced corn silage on silage fermentation and total-tract nutrient digestibility early post-harvest when fed with different starch concentrations to lactating dairy cows.**
K. C. Krogstad* and B. J. Bradford, *Michigan State University, East Lansing, MI.*

2406V **Effects of enriching maternal colostrum with bovine dried colostrum replacer on IgG absorption in newborn male calves.**
A. J. Lopez*[1], H. McCarthy[1], T. T. Yohe[1], J. Echeverry-Munera[1], M. Nagorske[2], D. L. Renaud[3], and M. A. Steele[1], [1]*Department of Animal Biosciences, Animal Science and Nutrition, University of Guelph, Guelph, ON, Canada*, [2]*The Saskatoon Colostrum Company Ltd., Saskatoon, SK, Canada*, [3]*Department of Population Medicine, University of Guelp, Guelph, ON, Canada*.

2407V **In vitro effects of sodium acetate and sodium propionate on the fermentation profile of dairy cows fed different forage-to-concentrate ratios.**
J. Scott* and R. Kohn, *University of Maryland College Park, College Park. MD.*

2408V **Effect of inclusion of different essential oils on wet corn gluten feed at ensiling.**
L. Pereira*[1,2], P. Rezamand[2], B. Agustinho[2], G. Vigne[1], D. Volpi[1], Q. Tavares[1], N. Mello[1], P. Schmidt[1], and M. Zopollatto[1], [1]*Federal University of Parana, Curitiba, Paraná, Brazil*, [2]*University of Idaho, Moscow, ID.*

2409V **Heat stress and total-tract gastrointestinal permeability in lactating dairy cows.**
M. Ellett*, M. Hanigan, C. Parsons, R. Rhoads, and K. Daniels, *Virginia Tech, Blacksburg, VA.*

2410V **Effects of magnesium sources and buffer inclusion on ruminal microbiome and fermentation in dairy cows.**
R. R. Lobo*[1], J. A. Arce-Cordero[1], M. N. Marinho[1], S. So[2], A. D. Ravelo[3], B. C. Agustinho[4], J. Vinyard[1], M. L. Johnson[1], M. Soltis[5], E. Sarmikasoglou[1], H. F. Monteiro[6], and A. Faciola[1], [1]*University of Florida, Gainesville, FL*, [2]*National University of Battambang, Battambang, Cambodia*, [3]*University of Minnesota, St Paul, MN*, [4]*University of Idaho, Moscow, ID*, [5]*University of Tennessee, Knoxville, TX*, [6]*University of California, Davis, CA.*

ADSA Graduate Student (MS) Production Oral Competition

(competition was held virtually prior to the meeting)

1446V **Episodic heat stress during the dry period of Northern New York Holstein cows in confined housing.**
E. M. Fread*[1,2], C. S. Ballard[1], A. E. Pape[1], and R. J. Grant[1], [1]*W. H. Miner Agricultural Research Institute, Chazy, NY*, [2]*University of Vermont, Burlington, VT.*

1447V **Effect of *Staphylococcus aureus* intramammary infection on heifer mammary gland growth and development.**
P. H. Baker*[1], F. K. Arnold[2], D. D. Clevenger[1], S. K. Jacobi[2], R. M. Akers[3], and B. D. Enger[1], [1]*The Ohio State University, Wooster, OH*, [2]*The Ohio State University, Columbus, OH*, [3]*Virginia Polytechnic Institute and State University, Blacksburg, VA.*

1448V **Effects of wildfire smoke $PM_{2.5}$ on preweaned Holstein dairy calves.**
A. Pace*, P. Rezamand, and A. L. Skibiel, *University of Idaho, Moscow, ID.*

1449V **Effects of supplementing native rumen microbes on milk production of mid-lactation dairy cows.**
K. Goldsmith*[1], J. Liesman[1], J. Lefler[2], and M. VandeHaar[1], [1]*Michigan State University, East Lansing, MI*, [2]*Native Microbials, Inc., San Diego, CA.*

1450V **Effects of bacterial inoculant containing *Lactobacillus buchneri* and *Lactococcus lactis* on corn silage fermentation and aerobic stability.**
C. A. N. de Guzmán Cerna*[1], K. G. Arriola[1], I. Fernandez-Marenchino[1], K. V. Almeida[2], F. X. Amaro[1], H. Sultana[1], and D. Vyas[1], [1]*University of Florida, Gainesville, FL*, [2]*University of New Hampshire, Durham, NH*.

1451V **The effect of dietary cation-anion difference and dietary buffer for lactating dairy cattle during mild heat stress.**
C. A. Bertens*[1], C. Shoffel[2], M. Crombie[3], and G. B. Penner[1], [1]*University of Saskatchewan, Saskatoon, SK, Canada*, [2]*Papillon Agricultural Company, Easton, MD*, [3]*MIN-AD Inc., Winnemucca, NV*.

1452V **Effects of weaning strategies on health, hematology, and productivity in Holstein dairy calves.**
A Wolfe*[1], P Rezamand[2], B Agustinho[2], D Konetchy[2], and A Laarman[1,2], [1]*University of Alberta, Edmonton, Alberta, CA*, [2]*University of Idaho, Moscow, ID*.

1453V **Oleic acid limits lipolysis and improves mitochondrial function in adipose tissue from periparturient dairy cows.**
U. Abou-Rjeileh*[1], D. Salcedo[1], J. Parales[1], C. Prom[1], M. Chirivi[1], N. J. O'Boyle[2], J. Laguna[1], A. L. Lock[1], and G. A. Contreras[1], [1]*Michigan State University, East Lansing, MI*, [2]*University of Nottingham, Loughborough, United Kingdom*.

1454V **Effects of post-day one colostrum supplementation on growth and health of preweaning dairy heifers.**
H. R. McCarthy*[1], A. J. Lopez[1], A. Pineda[1], D. L. Renaud[1], M. Nagorske[2], and M. A. Steele[1], [1]*University of Guelph, Guelph, ON, Canada*, [2]*Saskatoon Colostrum Company Ltd., Saskatoon, SK, Canada*.

ADSA Graduate Student (PhD) Production Oral Competition

(competition was held virtually prior to the meeting)

1455V **Integrating animal-level data for early detection of subclinical ketosis in dairy cows using machine learning algorithms.**
R. E. P. Ferreira*, T. Bresolin, H. T. Holdorf, H. M. White, and J. R. R. Dorea, *University of Wisconsin–Madison, Madison, WI*.

1456V **Dietary effects on branched-chain volatile fatty acid use for bacterial lipid synthesis in dual-flow cultures varying in forage and polyunsaturated fatty acid concentrations.**
K. E. Mitchell*[1], S. L. Kienzle[1], B. A. Wenner[1], C. Lee[2], D. H. Kleinschmit[3], M. T. Socha[3], and J. L. Firkins[1], [1]*Department of Animal Sciences, The Ohio State University, Columbus, OH*, [2]*Department of Animal Sciences, The Ohio State University, Wooster, OH*, [3]*Zinpro Corporation, Eden Prairie, MN*.

1457V **DNA methylation in first exon potentially regulate gene expression during bovine subclinical mastitis caused by *Staphylococcus aureus*.**
M. Wang*[1,2], M. Laterrière[3], P.-L. Dudemaine[1], N. Bissonnette[1], D. Gagné[3], J.-P. Roy[4], M.-A. Sirard[2], and E. M. Ibeagha-Awemu[1], [1]*Sherbrooke Research and Development Centre, Agriculture and Agri-Food Canada, Sherbrooke, Quebec, Canada*, [2]*Department of Animal Science, Laval University, Quebec city, Quebec, Canada*, [3]*Quebec Research and Development Centre, Agriculture and Agri-Food Canada, Quebec city, Quebec, Canada*, [4]*University of Montréal, St-Hyacinthe, Quebec, Canada*.

1458V **Lactating cows inseminated following estrus have greater early pregnancy losses compared to the fertility program Double-Ovsynch.**
T. Minela*, A. Santos, and J. R. Pursley, *Michigan State University, East Lansing, MI*.

1459V **Effect of altered photoperiod precalving on colostrum production by dairy breed.**
K. Alward*, J. Duncan, and R. Cockrum, *Virginia Tech, Blacksburg, VA*.

1460V **Effects of source of supplementary trace minerals on reproductive biology and performance in dairy cows.**
B. Mion*[1], G. Madureira[1], B. Van Winters[1], J. F. W. Spricigo[1], M. Steele[1], J. LaMarre[2], S. J. LeBlanc[3], and E. S. Ribeiro[1], [1]*Department of Animal Biosciences, University of Guelph, Guelph, ON, Canada*, [2]*Department of Biomedical Sciences, University of Guelph, Guelph, ON, Canada*, [3]*Department of Population Medicine, University of Guelph, Guelph, ON, Canada*.

1461V **Gestation length and dystocia of Holsteins mated to Holstein and beef breed service sires.**
B. L. Basiel*, T. L. Felix, and C. D. Dechow, *Pennsylvania State University, University Park, PA*.

1462V **Effects of 5-hydroxytryptophan on energy metabolism in dairy cows.**
V. Pszczolkowski*, M. Connelly, A. Beard, J. Laporta, L. Hernandez, and S. Arriola Apelo, *UW-Madison, Madison, WI*.

1463V **Association between residual feed intake and reproduction in Holstein cows.**
M. N. Marinho* and J. E. P. Santos, *University of Florida*.

1464V **Effects of ruminal lipopolysaccharides on growth and fermentation end products of pure cultured bacteria.**
E. Sarmikasoglou*[1], J. Ferrell[2], J. Vinyard[1], M. Flythe[2], A. Tuanyok[1], and A. Faciola[1], [1]*University of Florida, Gainesville, FL*, [2]*United States Department of Agriculture, Agricultural Research Service, Lexington, KY*.

1465V **Identifying on-farm factors associated with the level of free fatty acids in bulk tank milk.**
H. M. Woodhouse*[1], D. F. Kelton[1], S. J. LeBlanc[1], and T. J. DeVries[2], [1]*University of Guelph Department of Population Medicine, Guelph, ON, Canada*, [2]*University of Guelph Department of Animal Biosciences, Guelph, ON, Canada*.

1466V **Lipolysis inhibition improves clinical outcomes in the treatment of ketosis in dairy cows: An individually randomized multigroup parallel controlled trial.**
M. Chirivi*, D. Cortes, A. O'Connor, and G. A. Contreras, *Large Animal Clinical Sciences, Michigan State University, East Lansing, MI*.

1467V **Effects of feeding rumen-protected methionine and calcium salts enriched in omega-3 fatty acids on lactation in periparturient dairy cows.**
T. L. France*, K. S. Juarez-Leon, A. Javaid, M. G. Vogellus, and J. W. McFadden, *Cornell University, Ithaca, NY*.

ADSA Graduate Student Southern Section Oral Competition

(competition was held virtually prior to the meeting)

1468V **Effects of heat stress on inflammation and intestinal integrity in dairy calves.**
Z. Yu*, J. M. Cantet, and A. G. Rius, *Department of Animal Science, University of Tennessee Institute of Agriculture, Knoxville, TN*.

1469V **Effects of dry matter concentration, microbial inoculant and ensiling duration on fermentative profile and aerobic stability of annual ryegrass silages.**
F. X. Amaro*[1], K. G. Arriola[1], L. Mu[1], S. Farooq[1], C. A. N. de Guzman[1], H. Sultana[1], A. O. Oyebade[1], A. T. Adesogan[1], M. Wallau[2], and D. Vyas[1], [1]*Department of Animal Sciences, University of Florida, Gainesville, FL*, [2]*Agronomy Department, University of Florida, Gainesville, FL*.

1470V **Dry period environmental impact on colostrum volume and quality.**
K. Alward*, A. Nin-Velez, J. Duncan, and R. Cockrum, *Virginia Tech, Blacksburg, VA*.

ADSA-SAD Original Research Poster Competition

2015M **Environmental effects on milk yield and daily activity of lactating Holstein and Jersey cows.**
A. Bazzell* and J. Carter, *Middle Tennessee State University, Murfreesboro, TN.*

2016M **Effect of prophylactic calcium supplementation on regulators of calcium homeostasis in multiparous Holstein cows.**
I. R. Frost*, C. R. Seely, K. R. Callero, J. A. Seminara, H. A. McCray, R. M. Martinez, A. M. Reid, C. N. Wilbur, K. J. Koebel, and J. A. A. McArt, *Cornell University, Ithaca, NY.*

2017M **Does providing a nipple reduce pain behaviors in dairy calves after caustic paste disbudding?**
R. Burno*, K. Juckem, K. Wichman, K. C. Creutzinger, A. C. Clark, and S. I. Kehoe, *University of Wisconsin-River Falls, River Falls, WI.*

2018M **Postmortem evaluation of placement of a lidocaine block for disbudding in dairy calves.**
O. Horsman*, J. Haines, V. Rakoczy, A. A. Reyes, and S. I. Kehoe, *University of Wisconsin-River Falls, River Falls, WI.*

2019M **Assessment of the effects of prepartum anti-inflammatory therapies on body condition score, daily milk yield, and daily rumination time in Holstein dairy cows.**
S. Spring*[1], E. Jimenez[1], M. Martinez[1], E. Hovingh[1], J. Lawhead[2], and A. A. Barragan[1], [1]*Department of Veterinary and Biomedical Sciences, Penn State University, University Park, PA*, [2]*Millerstown Veterinary Associates, Millerstown, PN.*

2020M **The effects of reducing time from follicle emergence to luteolysis in lactating dairy cows. Part 1: Ovulatory follicle size, E_2, and P_4.**
S. McBeth*, P. Gibb, S. Wilkinson, T. Minela, and J. R. Pursley, *Michigan State University, East Lansing, MI.*

2021M **The effects of reducing time from follicle emergence to luteolysis in lactating dairy cows. Part 2: Characteristics of estrus.**
P. Gibb*, S. McBeth, S. Wilkinson, T. Minela, and J. R. Pursley, *Michigan State University, East Lansing, MI.*

ADSA Graduate Student Dairy Foods Poster Competition

2000M **Efficacy of bacteriophage biocontrol of *Escherichia coli* in soft and hard raw milk cheese during production and storage.**
S. Kandil*[1,2], J. Powles[1], K. Farag[1], and L. McIntyre[1], [1]*Harper Adams University, Newport, United Kingdom*, [2]*Alexandria University, Alexandria, Egypt.*

2001M **Monitoring heat-induced conformational changes and binding between milk fat globule membrane and β-lactoglobulin using quartz crystal microbalance.**
S. Fishel*, J. Ortega-Anaya, H. Huellemeier, and R. Jiménez-Flores, *The Ohio State University, Columbus, OH.*

2002M **Impact of gas ultrafine bubbles on the efficacy of antimicrobials for eliminating 72-h *Listeria monocytogenes* biofilms on a dairy processing surface.**
P. Unger*, A. Sekhon, S. Sharma, A. Lampien, and M. Michael, *Washington State University, Pullman, WA.*

2003M **Metagenomic comparison of kefir grains and milk kefir and identification of antimicrobial peptides.**
B. D. Gonzalez-Orozco*[1], I. García-Cano[1], A. Escobar-Zepeda[2], R. Jimenez-Flores[1], and V. Alvarez[1], [1]*Department of Food Science and Technology, Parker Food Science and Technology Building, The Ohio State University, Columbus, OH*, [2]*EMBL-EBI's Microbiome Informatics team, Hinxton, United Kingdom.*

2004M **Predicting the phase stability of reconstituted UHT milk using vibrational spectroscopic techniques–Phase 1: Proof of capacity of spectroscopic techniques.**
Y. Shao*[1], L. He[2], and H. Zheng[1], [1]*North Carolina State University, Raleigh, NC*, [2]*University of Massachusetts Amherst, Amherst, MA.*

2005M **The role of protein and fat on the physical properties and flavor of ultrafiltrated milk beverages.**
A. J. Hernandez*[1], T. Truong[1], D. M. Barbano[2], and M. A. Drake[1], [1]*North Carolina State University, Raleigh, NC*, [2]*Cornell University, Ithaca, NY.*

2006M **Evaluating consumer perception and liking of sweeteners in yogurt.**
E. Crown*[1], C. M. Racette[1], D. M. Barbano[2], and M. A. Drake[1], [1]*North Carolina State University, Raleigh, NC*, [2]*Cornell University, Ithaca, NY.*

2007M **Effect of dietary palmitic acid supplementation and milking frequency on cheese-making properties of milk.**
M. Blouin*[1,2], M. Landry[1,2], C. Vaubaillon[3], É. Paquet[1], P. Y. Chouinard[1,2], R. Gervais[1,2], G. Brisson[1,2], and J. Chamberland[1,2], [1]*Université Laval, Quebec, Canada*, [2]*STELA Dairy Research Center, Institute on Nutrition and Functional Foods (INAF), Quebec, Canada*, [3]*Institut Agro Rennes-Angers, Rennes, France*.

2008M **The impact of heat process and dipotassium phosphate on chemical, physical, and sensory properties of milk protein beverages.**
H. Hoyt*[1], J. Pranata[2], D. M. Barbano[2], and M. A. Drake[1], [1]*North Carolina State University, Raleigh, NC*, [2]*Cornell University, Ithaca, NY*.

2009M **In vitro antimicrobial effect of lactose oxidase against dairy spore formers.**
M. Valdiviezo*, D. DeRiancho, and S. Alcaine, *Cornell University, Ithaca, NY*.

2010M **Use of educational messages to influence dairy consumption behavior in inadequate dairy consumers.**
J. S. Myers*[1], S. Clark[2], and K. A. Schmidt[1], [1]*Kansas State University, Manhattan, KS*, [2]*Iowa State University, Ames, IA*.

2011M **Optimization of skim milk fermentation parameters for maximum galactose yields.**
L. Wise* and S. Alcaine, *Cornell University, Ithaca, NY*.

2012M **Effect of different molecular weight hyaluronic acid on functional properties of skim milk.**
R. Joshi*, A. Aditya, S. G. Sutariya, and P. Salunke, *South Dakota State University, Brookings, SD*.

2013M **Effect of varying pH on the cold gelling behavior of highly concentrated micellar casein concentrate (HC-MCC).**
N. Pougher* and P. Sharma, *Utah State University, Logan, UT*.

2014M **Evaluation of biofilm formation and the cleaning efficacy of the milk sampling ports.**
R. Kalita*[1,2] and S. Anand[1,2], [1]*Midwest Dairy Foods Research Center, Minneapolis, MN*, [2]*Dairy and Food Science Department, South Dakota State University, Brookings, SD*.

2039M **Evaluating the efficacy of colostrum as a therapy for diarrhea in young calves.**
H. S. Carter*[1], M. A. Steele[1], J. H. C. Costa[2], M. Nagorske[3], and D. L. Renaud[1], [1]*University of Guelph, Guelph, ON, Canada*, [2]*University of Kentucky, Lexington, KY*, [3]*Saskatoon Colostrum Company Ltd., Saskatoon, SK, Canada*.

2040M **Survey of bacterial pathogens in calves from dairies across the United States.**
S. Paszkiewicz*, J. Thompson, A. Smith, and T. Rehberger, *Church and Dwight, Waukesha, WI*.

Animal Behavior and Well-Being 1

2022M **The associations between feeding behaviors collected from automatic milk feeders and disease in group-housed preweaned dairy calves.**
R. Perttu*[1], M. Peiter[1], T. Bresolin[2], J. Dórea[2], and M. Endres[1], [1]*University of Minnesota, St. Paul, MN*, [2]*University of Wisconsin–Madison, Madison, WI*.

2023M **Condition of surplus dairy calves at livestock dealers in Ohio: A cross-sectional study.**
H. Maggard*[1], M. Moran[2], G. Habing[2], D. Renaud[3], K. Proudfoot[4], D. Wilson[3], and J. Pempek[1], [1]*Department of Animal Sciences, College of Food, Agriculture, and Environmental Sciences, Columbus, OH*, [2]*Department of Veterinary Preventive Medicine, College of Veterinary Medicine, Columbus, OH*, [3]*Department of Population Medicine, University of Guelph, Guelph, ON, Canada*, [4]*Department of Health Management, Atlantic Veterinary College, University of Prince Edward Island, Charlottetown, PE, Canada*.

2024M **Can lactating dairy cows housed in tie-stalls be monitored by a behavior-monitoring collar?**
A. E. Varney*[1], M. W. Setser[1], P. H. Luimes[2], J. H. C. Costa[1], and T. A. Burnett[2], [1]*University of Kentucky, Lexington, KY*, [2]*University of Guelph, Ridgetown Campus, Ridgetown, ON, Canada*.

2025M **Effects of early social housing on longer-term performance and age of onset to estrus in dairy heifers.**
E. E. Lindner*, T. Martins, S. B. Doyle, and E. K. Miller-Cushon, *University of Florida, Gainesville, FL*.

2026M **Personality is associated with performance in individually housed crossbred Holstein × Angus calves.**
E. Michalski*[1], M. Woodrum[1], G. Mazon[1], H. Neave[2], and J. Costa[1], [1]*University of Kentucky, Lexington, KY*, [2]*Aarhus University, Aarhaus, Denmark*.

1112M **Effect of systemic ceftiofur therapy on metritis cure, reproductive performance, culling, and milk yield in metritic cows.**
P. R. Menta*[1], E. B. Oliveira[2], J. G. Prim[3], K. N. Galvao[3,4], F. S. Lima[2], M. A. Ballou[1], N. R. Noyes[5], and V. S. Machado[1], [1]*Department of Veterinary Sciences, Texas Tech University, Lubbock, TX*, [2]*Department of Population Health and Reproduction, School of Veterinary Medicine, University of California, Davis, CA*, [3]*Department of Large Animal Clinical Sciences, College of Veterinary Medicine, University of Florida, Gainesville, FL*, [4]*D. H. Barron Reproductive and Perinatal Biology Research Program, University of Florida, Gainesville, FL*, [5]*Department of Veterinary Population Medicine, University of Minnesota, St. Paul, MN*.

2027M **Modifications of microRNA abundance in milk fat globules after LPS challenge in Holstein cows.**
C. Leroux*[1], J. Pires[1], K. Pawlowski[2], M. Cuccato[3,1], S. Bes[1], T. Cannizzo[3], P. Sacchi[3], and Y. Faulconnier[1], [1]*INRAE, St Genes Champanelle, France*, [2]*Faculty of Veterinary Medecine, Warsaw, Poland*, [3]*Dipartimento di Scienze Veterinarie, Torino, Italy*.

2028M **Inflammatory biomarkers are associated with altered eating behavior and lower feed intake of transition cows.**
P. D. French* and S. A. Hagerty, *PHD R&D, Fort Atkinson, WI*.

2029M **Assessment of the effects of prepartum anti-inflammatory therapies on cow health and reproductive performance in Holstein dairy cows.**
E. Jimenez*[1], J. Spring[1], M. Martinez[1], E. Hovingh[1], J. Lawhead[2], and A. A. Barragan[1], [1]*Department of Veterinary and Biomedical Sciences, Penn State University, University Park, PA*, [2]*Millerstown Veterinary Associates, Millerstown, PN*.

2030M **Association of passive transfer of immunity, measured by serum total protein, with health measures and serum metabolites in female Jersey calves.**
M. Mazinani[1], B. J. Tverdy[1], C. Y. Tsai[1], W. J. Price[2], and P. Rezamand*[1], [1]*Animal, Veterinary, and Food Sciences, University of Idaho, Moscow, ID*, [2]*Statistical Programs, College of Agricultural and Life Sciences, University of Idaho, Moscow, ID*.

2031M **Dexamethasone improved productivity of heat-stressed dairy calves.**
J. M. Cantet*, Z. Yu, M. R. R Nair, and A. G. Ríus, *University of Tennessee Institute of Agriculture, Knoxville, TN*.

2032M **A pilot study evaluating use of a beneficial biofilm product in individual calf housing.**
C. A. Reynolds*[1,2], R. A. Scuderi[3], A. L. Skidmore[3], and S. Y. Morrison[1], [1]*William H. Miner Agricultural Research Institute, Chazy, NY*, [2]*University of Vermont, Burlington, VT*, [3]*Lallemand Animal Nutrition, Milwaukee, WI*.

2033M **Parenteral antioxidant supplementation at birth improves the response to intranasal vaccination in newborn dairy calves.**
A. Nayak and A. Abuelo*, *Department of Large Animal Clinical Sciences, College of Veterinary Medicine, Michigan State University, East Lansing, MI*.

2034M **The effect of long-distance transportation on growth of surplus dairy calves.**
H. M. Goetz*[1], D. F. Kelton[1], J. H. C. Costa[2], K. C. Creutzinger[3], C. B. Winder[1], and D. L. Renaud[1], [1]*Department of Population Medicine, University of Guelph, Guelph, ON, Canada*, [2]*Department of Animal and Food Sciences, University of Kentucky, Lexington, KY*, [3]*Department of Animal and Food Science, University of Wisconsin-River Falls, River Falls, WI*.

2035M **Association between bovine respiratory disease and hematological variables during the preweaning period in dairy calves transported to a calf-raising facility.**
L. P. Bielamowicz*[1], M. L. Celestino[1], L. Fernandes[1], P. R. Menta[1], M. A. Ballou[1], R. C. Neves[2], and V. A. Machado[1], [1]*Department of Veterinary Sciences, Texas Tech University, Lubbock, TX*, [2]*Department of Veterinary Clinical Sciences, College of Veterinary Medicine, Purdue University, West Lafayette, IN*.

2036M **The influence of immune response on colostral IgG in US and Canadian Holstein dairy cows.**
T. Altvater-Hughes*[1], L. Wagter-Lesperance[1], D. Hodgins[1], C. Bauman[2], S. Larmer[3], and B. Mallard[1], [1]*Department of Pathobiology, University of Guelph, Guelph, ON, Canada*, [2]*Department of Population Medicine, University of Guelph, Guelph, ON, Canada*, [3]*Semex, Guelph, ON, Canada*.

2037M **A cross-sectional study on antimicrobial use and calf management practices in Canadian preweaned dairy calves.**
T. Uyama*[1], D. Renaud[1], D. Léger[2], D. Rizzo[2], E. Morrison[1], E. de Jong[3], K. McCubbin[3], H. Barkema[3], S. Dufour[4], J. Sanchez[5], L. Heider[5], J. McClure[5], S. LeBlanc[1], C. Winder[1], D. Kelton[1], [1]*Department of Population Medicine, ON Veterinary College, University of Guelph, Guelph, ON, Canada*, [2]*Centre for Food-borne, Environmental and Zoonotic Infectious Diseases, Public Health Agency of Canada, Guelph, ON, Canada*, [3]*Department of Production Animal Health, Faculty of Veterinary Medicine, University of Calgary, Calgary, Alberta, Canada*, [4]*Faculté de médecine vétérinaire, Université de Montréal, St-Hyacinthe, Québec, Canada*, [5]*Department of Health Management, Atlantic Veterinary College, University of Prince Edward Island, Charlottetown, Prince Edward Island, Canada*.

2038M **Navel healing in male and female Holstein calves over the first 14 days of life: A longitudinal cohort study.**
T. E. von Konigslow*[1,2], T. F. Duffield[1], K. Beattie[1], C. B. Winder[1], D. L. Renaud[1], and D. F. Kelton[1], [1]*University of Guelph, Guelph, ON, Canada*, [2]*Cornell University, Ithaca, NY*.

Breeding and Genetics 1

2041M **Withdrawn**

2042M **Investigating environmental robustness and fertility in dairy cattle using automated sensor data and meteorological observations.**
P. L. Rockett*[1], C. M. Rochus[1], F. Malchiodi[2], and C. F. Baes[1,3], [1]*Centre for Genetic Improvement of Livestock, University of Guelph, Guelph, ON, Canada*, [2]*Semex Alliance, Guelph, ON, Canada*, [3]*Institute of Genetics, University of Bern, Bern, Switzerland*.

2043M **Residual feed intake and its genetic parameters in preweaning calves.**
K. Hoeksema*[1], K. Houlahan[1], H. R. Oliveira[1,2], F. Miglior[1,2], F. S. Schenkel[1], and C. F. Baes[1,3], [1]*Centre for Genetic Improvement of Livestock, Department of Animal Biosciences, University of Guelph, Guelph, ON, Canada*, [2]*Lactanet, Guelph, ON, Canada*, [3]*Institute of Genetics, Vetsuisse Faculty, University of Bern, Bern, Switzerland*.

2044M **Variation in fecal potentially degradable NDF and associations with genetic merit in Holstein heifers and cows.**
C. D. Dechow*, I. W. Haagen, L. Han, and K. J. Harvatine, *Penn State University, University Park, PA*.

2045M **Association of telomere length with genetic merit for fitness in Holsteins of different ages.**
T. Muratori*[1], I. W. Haagen[1], A. Shabtay[2], M. Cohen-Zinder[2], and C. D. Dechow[1], [1]*Penn State University, University Park, PA*, [2]*Newe Ya'ar Research Center, Agricultural Research Organization, Ramat Yishay, Israel*.

2046M **Breed differences between Montbéliardes, Holsteins, and their crosses for production, body condition score, stature, and telomere length.**
I. Haagen*, T. Muratori, and C. Dechow, *Penn State University, University Park, PA*.

Dairy Foods 1: Microbiology

2047M ***Bacillus mosaicus* contamination in milk processed with microfiltration.**
T. T. Lott*, N. H. Martin, and M. Wiedmann, *Cornell University, Ithaca, NY*.

2048M **Antimicrobial resistance profiles of *Listeria monocytogenes* isolated from dairy processing environments over 10 years in British Columbia, Canada.**
A. Domen*[1,3], J. Porter[1], J. Waite-Cusic[1], L. McIntyre[2], and J. Kovacevic[3,1], [1]*Oregon State University, Corvallis, OR*, [2]*BC Centre for Disease Control, Vancouver, BC, Canada*, [3]*Food Innovation Center, Portland, OR*.

2049M **FD&C Red No. 40 dye degradation in strawberry milk by *Paenibacillus odorifer*.**
A. Torres*, C. Rush, and J. Waite-Cusic, *Oregon State University, Corvallis, OR*.

2050M **Mycological counts and aflatoxin M1 levels in whey powder-based supplements for seniors.**
B. C. S. F. Pereira[1], V. F. Moebus*[1], M. Aronovich[2,3], L. A. M. Keller[1], and R. M. Franco[1], [1]*Universidade Federal Fluminense, Niterói, Rio de Janeiro, Brazil*, [2]*Phileo by Lesaffre, Campinas, São Paulo, Brazil*, [3]*Empresa de Pesquisa Agropecuária do Estado do Rio de Janeiro - PESAGRO/RJ, Niterói, Rio de Janeiro, Brazil*.

2051M **Exploring environmental reservoirs for *Paucilactobacillus wasatchensis*.**
N. Mishra*[1], M. Culumber[1], K. Mann[1], C. Oberg[1], and D. McMahon[2], [1]*Weber State University, Ogden, UT*, [2]*Utah State University, Logan, UT*.

2052M **Microbiota evaluation and aflatoxin M1 detection in newborns food supplements.**
V. F. Moebus*[1], B. C. S. F. Pereira[1], L. A. Pinto[1], M. Aronovich[2,3], R. M. Franco[1], and L. A. M. Keller[1], [1]*Universidade Federal Fluminense, Niterói, Rio de Janeiro, Brazil*, [2]*Phileo by Lesaffre, Campinas, São Paulo, Brazil*, [3]*Empresa de Pesquisa Agropecuária do Estado do Rio de Janeiro - PESAGRO/RJ, Niterói, Rio de Janeiro, Brazil*.

2053M **Identification of antimicrobial fermentation products by *Latilactobacillus curvatus*.**
D. Leatham*[1], T. S. Oberg[2], K. Stevenson[2], R. Ward[2], and C. J. Oberg[1], [1]*Weber State University, Ogden, UT*, [2]*Utah State University, Logan, UT*.

2054M **Selective survival of dairy protective cultures to high-pressure processing by leveraging freeze-drying and encapsulation.**
M. McGillin* and S. Alcaine, *Cornell University, Ithaca, NY.*

2055M **Antifungal activity of exogenous proteins produced by *Bacillus velezensis* and *Bacillus licheniformis* isolated from an alpine Swiss-style cheese against recurrent mold strains in dairy facilities.**
R. D. Melendrez-Alvarez*[1], I. Garcia-Cano[1], A. Escobar-Zepeda[2,4], A. C. Mayta-Apaza[1], L. F. Osorio[3], and R. Jimenez-Flores[1], [1]*The Ohio State University, Columbus, OH*, [2]*Wellcome Trust Sanger Institute, Hinxton, United Kingdom*, [3]*Panamerican Agricultural School, Zamorano University, Valle de Yeguare, FM, Honduras*, [4]*EMBL-EBI, Hinxton, United Kingdom.*

2056M **Selective media for the isolation of *Paucilactobacillus wasatchensis*.**
C. Wahlstrom*[1], M. Domek[1], and M. Culumber[1], [1]*Weber State University, Ogden, UT*, [2]*Utah State University, Logan.*

2057M **Amino acid decarboxylation is a potential source of CO_2 production by *Paucilactobacillus wasatchensis* WDC04 in cheese.**
K. Sorensen*[1], G. Barrera[1], M. Culumber[1], M. Domek[1], C. Oberg[1], T. Oberg[2], and D. McMahon[2], [1]*Weber State University, Ogden, UT*, [2]*Utah State University, Logan, UT.*

2058M **Effect of high milk protein content on thermal inactivation of *Salmonella* during manufacturing of high milk protein chocolate chip cookies.**
A. Singh* and L. Channaiah, *University of Missouri, Columbia, MO.*

2059M **Effect of extended storage on the survivability and thermal resistance of *Listeria monocytogenes* and *Salmonella* in milk powders.**
A. S. Sekhon*[1], Y. Yang[1], P. Unger[1], A. Singh[2], and M. Michael[1], [1]*Washington State University, Pullman, WA*, [2]*University of Missouri, Columbia, MO.*

2060M **Milk phospholipids modify adhesion of *Bifidobacterium infantis* ATCC 15697 to human goblet-like cells through changes in surface proteins.**
E. Kosmerl*, I. García-Cano, J. Ortega-Anaya, D. Rocha-Mendoza, and R. Jiménez-Flores, *The Ohio State University, Columbus, OH.*

Forages and Pastures 1

2061M **Aerobic stability of corn silage inoculated with different strains of *Lactobacillus buchneri*.**
G. D. O. Leite, W. S. Alves, A. J. S. Macedo, V. P. Silva, F. E. Pimentel, C. L. Stanciola, K. G. Ribeiro, and O. G. Pereira*, *Federal University of Vicosa, Vicosa, MG, Brazil.*

2062M **A survey of berry processing score and nutrient content of sorghum silage on commercial livestock operations across the United States.**
K. Raver*[1], J. Goeser[1,2], and S. Marshall[3], [1]*Rock River Laboratory Inc., Watertown, WI*, [2]*University of Wisconsin, Madison, WI*, [3]*Rock River Laboratory Texas, Edmonson, TX.*

2063M **Evaluation of pasture biomass from cool-season and Kernza pastures with satellite imagery compared to an electronic plate meter.**
L. D. Clemente* and B. Heins, *University of Minnesota, St. Paul, MN.*

2064M **Effect of inclusion of different essential oils at ensiling on fermentative profile of wet corn gluten feed.**
L. Pereira*[1,2], P. Rezamand[2], B. Agustinho[2], G. Vigne[1], D. Volpi[1], Q. Tavares[1], N. Mello[1], P. Schmidt[1], and M. Zopollatto[1], [1]*Federal University of Parana, Curitiba, Paraná, Brazil*, [2]*University of Idaho, Moscow, ID.*

2065M **Fermentation profile of soybean silage harvested at 2 stages of maturity treated with microbial inoculants.**
O. G. Pereira*, A. J. S. Macedo, K. G. Ribeiro, D. N. Coutinho, H. R. O. Santos, V. P. Silva, J. P. S. Roseira, and J. O. Alves, *Federal University of Vicosa, Vicosa, MG, Brazil.*

2066M **Degradability and in situ ruminal kinetics of the residues of 3 varieties of passion fruit (*Passiflora edulis*).**
I. Espinoza*, A. Sanchez, E. Torres, D. Romero, M. Medina, H. Miranda, L. Montenegro, A. Barrera, and G. Alvarez, *Universidad Tecnica Estatal de Quevedo, Quevedo, Los Rios, Ecuador.*

2067M **Ration content of undegradable and physically effective neutral detergent fiber and its relationship with dry matter intake and energy-corrected milk yield of Holstein cows.**
M. Farricker*[1], J. Darrah[1], A. Pape[1], M. Miller[2], and R. Grant[1], [1]*William H. Miner Agricultural Research Institute, Chazy, NY*, [2]*J.D. Heiskell & Co., Buffalo, NY.*

2068M **Can additives overcome the deleterious effects of delayed sealing on the fermentation of alfalfa silage?**
X. Liu*, C. Mellinger, G. Weiner, and L. Kung Jr., *University of Delaware, Newark, DE.*

2069M **Ethanol and organic acid content in sugarcane silage inoculated with *Lactobacillus buchneri*.**
G. B. Neto*[1], A. W. P. Freitas[1], R. B. Botelho[1], C. A. Rosa[2], and J. P. Sampaio[3], [1]*Animal Science Institute of Department of Agriculture and Food Supply, Ribeirão Preto, São Paulo, Brazil*, [2]*Universidade Federal de Minas Gerais, Belo Horizonte, Minas Gerais, Brazil*, [3]*Universidade Nova de Lisboa, Lisboa, Portugal.*

2070M **Effect of neutral detergent fiber source in low forage diets on lactation performance and nutrient digestibility of Holstein dairy cows.**
S. Y. Morrison*[1], H. Uchihori[2], K. Hirano[2], J. W. Darrah[1], C.S Ballard[1], H. M. Dann[1], and R. J. Grant[1], [1]*The William H. Miner Agricultural Research Institute, Chazy, NY*, [2]*ZEN-NOH National Federation of Agricultural Cooperative Associations, Tokyo, Japan.*

Physiology and Endocrinology 1

2071M **The role of lactation stage on nutrient partitioning in response to acetate supply.**
D. Urrutia[1,2], C. Muñoz[2], E. M. Ungerfeld[3], K. J. Harvatine[4], and N. Urrutia*[2], [1]*Universidad de Chile, La Pintana, RM, Chile*, [2]*Instituto de Investigaciones Agropecuarias - Remehue, Osorno, Los Lagos, Chile*, [3]*Instituto de Investigaciones Agropecuarias - Carillanca, Temuco, Araucanía, Chile*, [4]*The Pennsylvania State University, University Park.*

2072M **Chromium and palmitic acid supplementations modulate oxidized linoleic acid metabolite biosynthesis in periparturient dairy cows.**
G. A. Contreras*[1], M. Chirivi[1], U. Abou-Rjeileh[1], J. Gandy[1], J. Parales[2], and A. L. Lock[2], [1]*Department of Large Animal Clinical Sciences, Michigan State University, East Lansing, MI*, [2]*Department of Animal Science, Michigan State University, East Lansing, MI.*

2073M **Effect of feeding an acidogenic diet with calcidiol during the dry period on calcium mobilization and serum vitamin D metabolites.**
M. Garcia*, K. P. Zanzalari, J. D. Chapman, and B. D. Humphrey, *Phibro Animal Health Coorporation, Teaneck, NJ.*

2074M **Effects of induced subclinical hypocalcemia on serotonin and parathyroid hormone concentrations in lactating Holstein cows.**
W. Frizzarini*[1], J. Diniz[2], M. Connelly[1], and L. Hernandez[1], [1]*University of Wisconsin, Madison, WI*, [2]*Federal University of Minas Gerais, Belo Horizonte, MG, Brazil.*

2075M **Influence of prepartum dietary cation-anion difference and the magnitude of calcium decline at the onset of lactation on blood calcium and serotonin dynamics.**
M. Connelly*[1], R. Rodney[2], J. Kuehnl[1], J. P. N. Andrade[1], F. S. Andrade[1], S. Henschel[1], E. Block[3], I. Lean[4], and L. Hernandez[1], [1]*University of Wisconsin–Madison, Madison, WI*, [2]*Australian National University, Canberra, Australia*, [3]*Arm & Hammer Animal Nutrition, Princeton, NJ*, [4]*Scibus, Camden, NSW, Australia.*

2076M **Influence of cobalt source, folic acid, and rumen-protected methionine supplementation on hepatic enzyme activities of one-carbon metabolism in peripartal Holstein cows.**
V. Lopreiato*[1], A. S. Alharthi[2], M. T. Socha[3], and J. J. Loor[4], [1]*Department of Veterinary Sciences, Università degli studi di Messina, Messina, Italy*, [2]*Department of Animal Production, College of Food and Agriculture Sciences, King Saud University, Riyadh, Saudi Arabia*, [3]*Zinpro Corporation, Eden Prairie, MN*, [4]*Department of Animal Sciences and Division of Nutritional Sciences, University of Illinois, Urbana, IL.*

2077M **Alterations in skeletal muscle transcriptome profiles in response to ethyl-cellulose rumen-protected methionine during the periparturient period in dairy cows.**
L. Thanh*[1,2], Q. Jiang[2], N. Wichasit[2,3], F. Batistel[4], C. Parys[5], J. Guyader[5], and J. J. Loor[2], [1]*Can Tho University, Ninh Kieu Can Tho, Vietnam*, [2]*University of Illinois, Urbana, IL*, [3]*Naresuan University, Phitsanulok, Thailand*, [4]*University of Florida, Gainesville, FL*, [5]*Evonik Operations GmbH, Hanau-Wolfgang, Essen, Germany.*

2078M **Effects of ethyl-cellulose rumen-protected methionine on skeletal muscle abundance of insulin signaling, protein turnover, and antioxidant proteins during the periparturient period in dairy cows.**
L. Thanh*[1,2], N. Wichasit[2,3], Y. Li[4], A. Aboragah[2], F. Batistel[5], C. Parys[6], J. Guyader[6], and J. J. Loor[2], [1]*Can Tho University, Ninh Kieu Can Tho, Vietnam*, [2]*University of Illinois, Urbana, IL*, [3]*Naresuan University, Phitsanulok, Thailand*, [4]*Anhui Agricultural University, Hefei, Anhui, China*, [5]*University of Florida, Gainesville, FL*, [6]*Evonik Operations GmbH, Hanau-Wolfgang, Essen, Germany.*

2079M **Postruminal choline ion supplementation during a feed restriction-induced negative nutrient balance and the liver lipidome.**
D. N. Coleman*, Y. Liang, R. Bucktrout, and J. J. Loor, *Department of Animal Sciences, University of Illinois, Urbana, IL.*

2080M **Supplementing heat-stressed cows with a plant extract and electrolytes supplement increases milk production and intake and enriches the adipose tissue proteome with Nrf2-oxidative stress response proteins.**
J. R. Daddam[1], D. Daniel[2], I. Pelech[3], G. Kra[1,2], H. Kamer[1], Y. Lavon[4], U. Moallem[1], and M. Zachut*[1], [1]*Agriculture Research Organization, Volcani Center, Rishon Lezion, Israel*, [2]*Faculty of Agriculture, the Hebrew University in Jerusalem, Rehovot, Israel*, [3]*Department of Cattle, Extension Service, Ministry of Agriculture, Rishon Lezion, Israel*, [4]*Israeli Cattle Board Association, Caesarea, Israel.*

Production, Management, and the Environment 1

2081M **Associations of pen-level management factors with biomarkers, health, and milk yield.**
A. L. Kerwin[1], W. S. Burhans[2], D. V. Nydam[3], and T. R. Overton*[1], [1]*Department of Animal Science, Cornell University, Ithaca, NY*, [2]*Dairy-Tech Group, South Albany, VT*, [3]*Department of Population Medicine and Diagnostic Sciences, College of Veterinary Medicine, Cornell University, Ithaca, NY.*

2082M **Associations of herd-level management factors with biomarkers, health, milk yield, and reproduction.**
A. L. Kerwin[1], W. S. Burhans[2], D. V. Nydam[3], and T. R. Overton*[1], [1]*Department of Animal Science, Cornell University, Ithaca, NY*, [2]*Dairy-Tech Group, South Albany, VT*, [3]*Department of Population Medicine and Diagnostic Sciences, College of Veterinary Medicine, Cornell University, Ithaca, NY.*

2083M **Hyperinflamed cows at dry-off also have an exaggerated inflammatory response and decreased milk production in the next lactation.**
B. M. Goetz*, M. A. Abeya, S. Rodriquez-Jimenez, E. A. Horst, E. J. Mayorga, and L. H. Baumgard, *Iowa State University, Ames, IA.*

2084M **Body condition score change affects hepatic health and disease prevalence.**
G. F. M. Leão[1], N. B. R. Marani[1], A. B. R. Lima[1], J. J. Boiarski[1], P. S. Donato[1], D. C. Consentini[2], L. F. M. Moroz[3], and R. Almeida*[4], [1]*Dairy Innovation, Guarapuava, PR, Brazil*, [2]*University of Wisconsin, Madison, WI*, [3]*Cowtraining, Carambeí, PR, Brazil*, [4]*Universidade Federal do Paraná, Curitiba, PR, Brazil.*

2085M **Maternal prepartum body condition score affects calf performance from birth to weaning.**
M. Poczynek[1,3], L. S. Nogueira[1], J. H. Carneiro[1], H. P. Janssen[2], F. C. Cardoso[3], and R. Almeida*[1], [1]*Universidade Federal do Paraná, Curitiba, PR, Brazil*, [2]*Negócios Leite Castrolanda Cooperativa Agroindustrial, Castro, PR, Brazil*, [3]*Department of Animal Sciences, University of Illinois, Urbana, IL.*

2086M **Impact of prepartum body condition score on milk production, backfat thickness mobilization and blood β-hydroxybutyrate concentrations.**
L. S. Nogueira[1], M. Poczynek[1], J. H. Carneiro[1], H. P. Janssen[2], and R. Almeida*[1], [1]*Universidade Federal do Paraná, Curitiba, PR, Brazil*, [2]*Negócios Leite Castrolanda Cooperativa Agroindustrial, Castro, PR, Brazil.*

2087M **Serum amino acids and other metabolites of weaned heifers in response to diurnal heat stress.**
H. K. J. P. Wickramasinghe*[1], L. Showman[2], M. A. Perera[2], D. C. Beitz[1], and J. A. D. R. N. Appuhamy[1], [1]*Department of Animal Science, Iowa State University, Ames, IA*, [2]*W. M. Keck Metabolomics Research Laboratory, Iowa State University, Ames, IA.*

2088M **Predicting ribeye area and shape of live calves through 3-dimensional image analyses of body surface.**
J. Caffarini*[1], J. Dorea[2,3], and T. Bresolin[2], [1]*Department of Neurology, University of Wisconsin–Madison, WI*, [2]*Department of Animal and Dairy Sciences, University of Wisconsin–Madison, WI*, [3]*Department of Biological Systems Engineering, University of Wisconsin–Madison, WI.*

2089M **Early prediction of muscle score of beef-on-dairy cattle using depth images and deep learning approaches.**
L. G. R. Pereira*[1,2], J. C. F. Silva[2], T. Bresolin[2], R. E. P. Ferreira[2], and J. R. R. Doera[2], [1]*Brazilian Agricultural Research Corporation–Embrapa Dairy Cattle, Juiz de Foa, MG, Brazil*, [2]*Department of Animal and Dairy Sciences, University of Wisconsin, Madison, WI.*

2090M **Determining an automatic teat sprayer system's effectiveness on eliminating bacteria on the teat skin of Holstein dairy cows.**
G. Canny*[1], B. Jones[1,2], J. Waddell[1], J. Spencer[2], and J. Speshock[1], [1]*Tarleton State University, Stephenville, TX*, [2]*Tarleton State University, Stephenville, TX*, [3]*Tarleton State University, Stephenville, TX*, [4]*Tarleton State University, Stephenville, TX*, [5]*Texas A&M AgriLife Extension Service, College Station, TX*.

Reproduction 1

2091M **Evaluating the relationship between previous estrous characteristics and production parameters on days to and estrous intensity at first service in a dairy with a robotic milking system.**
S. Johnson* and J. Bohlen, *University of Georgia, Athens, GA*.

2092M **Effect of a targeted reproductive management program based on automated detection of estrus during the voluntary waiting period on reproductive performance of lactating dairy cows.**
A. L. Laplacette*[1], C. Rial[1], G. S. Magaña Baños[2], J. A. Garcia Escalera[2], and J. O. Giordano[1], [1]*Department of Animal Science, Cornell University, Ithaca, NY*, [2]*Merck Animal Health, Mexico*.

2093M **Automated estrus alert features during the voluntary waiting period and AI period were affected by cow features and early lactation events and associated with first-service outcomes in lactating dairy cows.**
C. Rial*, A. L. Laplacette, and J. O. Giordano, *Department of Animal Science, Cornell University, Ithaca, NY*.

2094M **Rumination time, calving features, health events, and dairy cow performance are associated with estrus expression during the voluntary waiting period.**
C. Rial*, A. L. Laplacette, and J. O. Giordano, *Department of Animal Science, Cornell University, Ithaca, NY*.

2095M **Use of a rapid immunity test as an early pregnancy diagnosis tool.**
C. C. Florentino[1], J. V. S. Leite[1], Q. Huo[2], and L. S. Caixeta*[1], [1]*University of Minnesota, Saint Paul, MN*, [2]*University of Central Florida, Orlando, FL*.

2096M **Prediction of pregnancy in lactating dairy cows with machine learning algorithms using behavioral, physiological, and performance sensor data and other cow, herd, and environmental data.**
G. E. Granados*, M. M. Perez, and J. O. Giordano, *Department of Animal Science, Cornell University, Ithaca, NY*.

2097M **Effectiveness of GnRH as a resynchronization tool in lactating dairy cows.**
A. Santos*, T. Minela, L. R. Martins, and J. R. Pursley, *Michigan State University, East Lansing, MI*.

2098M **Reproductive outcomes of lactating Holstein cows submitted to a Double-Ovsynch protocol and receiving timed AI with conventional semen or timed embryo transfer of flushed, frozen/thawed embryos.**
N. Hincapie*[1], M. R. Lauber[1], A. Sanchez[2], P. Guarneri[2], A. Valenza[3], and P. M. Fricke[1], [1]*Department of Animal and Dairy Sciences, University of Wisconsin–Madison, Madison, WI*, [2]*Embryovet, Verolanuova, Italy*, [3]*CEVA Salute Animale, Agrate Brianza, Italy*.

2099M **Effects of not using a CIDR and one PGF after the first GnRH in a modified 5-d Synch protocol for dairy heifers.**
I. M. R. Leão*[1], M. S. El Azzi[1,2], E. Anta-Galvan[1], T. Valdes-Arciniega[1], and J. P. N. Martins[1], [1]*Department of Medical Sciences, School of Veterinary Medicine, University of Wisconsin–Madison, Madison, WI*, [2]*Faculdade de Zootecnia e Medicina Veterinária, Universidade Federal de Lavras, Lavras, MG, Brazil*.

2100M **Key performance indicators used by dairy consultants during a first visit to evaluate reproductive performance.**
R. Armengol[1], L. Fraile[1,2], and A. Bach*[3,4], [1]*Department of Animal Science, ETSEA, University of Lleida, Lleida, Spain*, [2]*Agrotecnio, University of Lleida, Lleida, Spain*, [3]*Marlex Research and Education, Barcelona, Spain*, [4]*Institució Catalana de Recerca i Estudis Avançats (ICREA), Barcelona, Spain*.

Ruminant Nutrition: General 1

2101M **Nutritional profile of partial mixed rations and concentrates fed on Canadian dairy farms utilizing automated milking systems.**
B. J. Van Soest*[1], R. D. Matson[1], T. F. Duffield[2], D. E. Santschi[3], K. Orsel[4], E. A. Pajor[4], G. B. Penner[5], T. Mutsvangwa[5], and T. J. DeVries[1], [1]*Department of Animal Biosciences, University of Guelph, Guelph, ON, Canada*, [2]*Department of Population Medicine, University of Guelph, Guelph, ON, Canada*, [3]*Lactanet, Sainte-Anne-de-Bellevue, Quebec, Canada*, [4]*Faculty of Veterinary Medicine, University of Calgary, Calgary, Alberta, Canada*, [5]*Department of Animal and Poultry Science, University of Saskatchewan, Saskatoon, SK, Canada*.

2102M **Effect of lignin in diets similar in fiber content on energy utilization in lactating Jersey cows.**
J. Stypinski*[1], P. Kononoff[1], and W. Weiss[2], [1]*University of Nebraska–Lincoln, Lincoln, NE*, [2]*The Ohio State University, Wooster, OH.*

2103M **Using diet composition to predict production responses of lactating dairy cows on commercial Canadian dairy farms.**
J. M. dos Santos Neto*[1], K. Bobetsis[2], B. Schurman[2], I. Haig[2], and A. L. Lock[1], [1]*Michigan State University, East Lansing, MI*, [2]*Ritchie-Smith Feeds, Inc., Abbotsford, BC, Canada*.

2104M **The effect of displacing conventional alfalfa hay with lower-lignin alfalfa hay on milk production and gas production of lactating Jersey cows.**
K. Buse*[1], B. Bradford[2], M. Doohong[3], K. Jagadish[3], and P. Kononoff[1], [1]*University of Nebraska–Lincoln, Lincoln, NE*, [2]*Michigan State University, East Lansing, MI*, [3]*Kansas State University, Manhattan, KS*.

2105M **Lactation performance of Holstein dairy cattle fed different ratios of alfalfa hay to corn silage.**
S. Y. Morrison*[1], Y. Zang[1], J. W. Darrah[1], H. M. Dann[1], C. S. Ballard[1], D. C. Weakley[2], and R. J. Grant[1], [1]*The William H. Miner Agricultural Research Institute, Chazy, NY*, [2]*Forage Genetics International, Gray Summitt, MO*.

2106M **Interactions of substituting corn silage with sugar beep pulp and dietary starch levels on performance and milk fat synthesis in dairy cows.**
M. Malekkhahi[1], A. Razzaghi[2], and D. Vyas*[1], [1]*Department of Animal Sciences, University of Florida, Gainesville, FL*, [2]*Innovation Center, Ferdowsi University of Mashhad, Razavi Khorasan Province, Iran*.

2107M **Effects of hydroponically sprouted cereal grains on apparent nutrient digestibility, production, and enteric methane emission in lactating dairy cattle.**
S. Jenkins*[1], E. Slack[1], and F. Diaz[2], [1]*HydroGreen Incorporated, CubicFarm System Corporation, Sioux Falls, SD*, [2]*Dellait Dairy Research Center, Brookings, SD*.

2108M **Increasing dose of prepartum rumen-protected choline: Effects on milk production in Holstein dairy cows.**
H. T. Holdorf*[1], K. E Ruh[1], M. J. Martin[1], G. J Combs[1], S. J. Henisz[1], S. J. Erb[1], W. E. Brown[1], K. A. Estes[2], and H. M. White[1], [1]*University of Wisconsin–Madison, Madison, WI*, [2]*Balchem Corporation, New Hampton, NY*.

2109M **Lactation performance in dairy cows supplemented with microbial additives.**
M. N. Marinho*, M. C. Perdomo, B. S. Simões, A. Husnain, U. Arshad, C. C. Figueiredo, P. M. Peixoto, and J. E. P. Santos, *University of Florida, Gainesville, FL*.

2110M **Effects of hydroponically sprouted cereal grains on digestibility and growth in transition dairy calves.**
E. Slack*[1], S. Jenkins[1], F. Diaz[2], and A. Garcia[2], [1]*HydroGreen Incorporated, Cubic Farm System Corporation, Sioux Falls, SD*, [2]*Dellait Dairy Research Center, Brookings, SD*.

2111M **Influence of a proprietary blend of yeast fermentation products, enzymes, and probiotics on production performance of lactating Dairy Cattle.**
T. B. Burrell*[1], M. A. Ballou[3], V. S. Machado[3], and B. W. Jones[1,2], [1]*Tarleton State University, Stephenville, TX*, [2]*Texas A&M AgriLife Research, Stephenville, TX*, [3]*Texas Tech University, Lubbock, TX*.

2112M **Relationships of blood-based indices of liver health during the transition period with performance and health.**
T. M. Nelson*[1], A. L. Kerwin[1], L. N. Ferro[1], C. M. Ryan[1], G. M. Graef[1], T. A. Westhoff[1], A. S. Sipka[1], D. M. Barbano[1], B. Stone[2], I. Yoon[2], and T. R. Overton[1], [1]*Cornell University, Ithaca, NY*, [2]*Diamond V, Cedar Rapids, IA*.

2113M **Associations of nutritional strategies with biomarkers, health, milk yield, and reproduction.**
A. L. Kerwin[1], W. S. Burhans[2], D. V. Nydam[3], and T. R. Overton*[1], [1]*Department of Animal Science, Cornell University, Ithaca, NY*, [2]*Dairy-Tech Group, South Albany, VT*, [3]*Department of Population Medicine and Diagnostic Sciences, College of Veterinary Medicine, Cornell University, Ithaca, NY*.

2114M **Assessment of rumen-protected choline supplementation on milk production and blood metabolites in mid-lactation dairy cows.**
G. J. Combs*[1], M. J. Martin[1], K. Estes[2], K. A. Weigel[1], and H. M. White[1], [1]*University of Wisconsin–Madison, Madison, WI*, [2]*Balchem Corp, New Hampton, NY*.

2115M **Modeling prepartum urinary calcium excretion in response to dietary acidogenic salts.**
D. B. Vagnoni*[1], M. Davidson[1], L. Rubio[1], G. R. Oetzel[2], and E. Comets[3], [1]*California Polytechnic State University, San Luis Obispo, CA*, [2]*University of Wisconsin School of Veterinary Medicine, Madison, WI*, [3]*INSERM, Université de Paris, Paris, France*.

2116M **Effect of different DCAD levels in the close-up diet on peripartum calcium status and dairy cow performance.**
J. B. Veneman*[1], H. C. Verduijn[2], A. Klop[3], and J. O. Goelema[1], [1]*De Heus Animal Nutrition, Ede, the Netherlands*, [2]*Adaptation Physiology group, Wageningen University, Wageningen, the Netherlands*, [3]*Wageningen UR Livestock Research, Wageningen, the Netherlands*.

2117M **Effects of rumen modifiers developed to reduce rumen proteolysis in dairy cows.**
P. Piantoni*, Y. Roman-Garcia, C. Canale, S. van Zijderveld, and G. Schroeder, *Cargill Animal Nutrition and Health, Innovation Campus, Elk River, MN*.

2118M **Evaluation of the effects of exogenous enzymes in the diet of lactating cows.**
L. M. Maciel[1], G. M. da Rosa[1], D. S. Milczevski[1], M. M. Marquetti[1], L. B. Los[2], A. S. Martins[3], and R. Almeida*[1], [1]*Universidade Federal do Paraná, Curitiba, PR, Brazil*, [2]*Frísia Cooperativa Agroindustrial, Carambeí, PR, Brazil*, [3]*Universidade Estadual Ponta Grossa, Ponta Grossa, PR, Brazil*.

2119M **Effects of feeding a pelleted electrolyte on lactating dairy cows under heat stress conditions.**
T. M. Ruiz[2], J. F. Van Cleve[2], N. C. Upah*[1], and B. W. Kolstad[1], [1]*TechMix LLC, Stewart, MN*, [2]*University of Puerto Rico, Mayagüez, Puerto Rico*.

Ruminant Nutrition: Calves and Heifers 1

2120M **Colostrum microbiome and plasma metabolome in calves are altered in response to ethyl-cellulose rumen-protected methionine during late pregnancy.**
N. Wichasit*[1,2], A. Elolimy[3], A. Alharthi[4], Q. Jiang[2], C. Parys[5], J. Guyader[5], W. Tartrakoon[5], and J. J. Loor[2], [1]*Naresuan Uiversity, Phitsanulok, Thailand*, [2]*University of Illinois, Urbana, IL*, [3]*National Research Center, Giza, Egypt*, [4]*King Saud University, Riyad, Saudi Arabia*, [5]*Evonik Operations GmbH, Hanau-Wolfgang, Essen, Germany*.

2121M **Varying colostrum insulin ingestion does not affect blood metabolites or immunoglobulin G absorption in neonatal Holstein bulls but affects intestinal development.**
K. S. Hare*[1], K. Swanson[2], M. Nagorske[3], K. M. Wood[1], and M. A. Steele[1], [1]*University of Guelph, Guelph, ON, Canada*, [2]*North Dakota State University, Fargo, ND*, [3]*Saskatoon Colostrum Company Ltd., Saskatoon, SK, Canada*.

2122M **Investigating the efficacy of using a concentrated, whey-based colostrum to achieve passive transfer of immunity in neonatal Jersey calves.**
C. S. Colburn[1], O. M. Peña[2], C. Velasquez[2], R. Miller[3], M. J. Aguerre[2], and A. J. Geiger*[4], [1]*J.D. Heiskell & Company, Tulare, CA*, [2]*Department of Animal and Veterinary Sciences, Clemson University, Clemson, SC*, [3]*Piedmont Research and Education Center, Clemson University, Clemson, SC*, [4]*Zinpro Corporation, Eden Prairie, MN*.

2123M **The biological value of transition milk: Immunoglobulin G, insulin-like growth factor-I, and lactoferrin in primiparous and multiparous dairy cows.**
M. Tortadès*, E. Garcia-Fruitós, A. Arís, and M. Terré, *Institut de Recerca i Tecnologia Agroalimentàries, Caldes de Montbui, Barcelona, Spain*.

2124M **Nutritional diarrhea in calves fed high solids milk replacer.**
M. L. Pister* and J. K. Drackley, *University of Illinois, Urbana, IL*.

2125M **Effects of tributyrin supplementation in milk replacer or calf starter on growth performance and gastrointestinal tract development in dairy calves.**
K. Murayama*[1,2], T. Fukui[2], K. Sakamoto[3], K. Inouchi[1], and T. Sugino[2], [1]*Dairy Technology Research Institute, The National Federation of Dairy Co-operative Associations (ZEN-RAKU-REN), Nishi-shirakawa, Fukushima, Japan*, [2]*The Research Center for Animal Science, Graduate School of Integrated Science for Life, Hiroshima University, Higashi-Hiroshima, Japan*, [3]*YPTECH Co. Ltd., Chiyoda-ku, Tokyo, Japan*.

2126M **Effects of maternal dietary rumen-protected choline supplementation during late gestation on calf growth and metabolism.**
T. H. Swartz[1], B. J. Bradford[1], M. Lemke*[1], L. K. Mamedova[1], R. Agnew[1], J. Fehn[1], E. Owczarzak[1], and K. A. Estes[2], [1]*Michigan State University, East Lansing, MI*, [2]*Balchem Corporation, New Hampton, NY*.

Ruminant Nutrition: Carbohydrates and Lipids 1

2127M **Short-term effect of increasing dietary fatty acids on milk fat.**
A. N. Staffin*[1], R. Bomberger[1], R. Shepardson[2], E. Barnoff[1], and K. J. Harvatine[1], [1]*Penn State University*, *University Park, PA*, [2]*Milk Specialties Global*, *Eden Prairie, MN*.

2128M **Effects of medium-chain fatty acid supplementation on productive and metabolic performance of dairy cows in the transition period.**
G. C. Aguiar[1], J. C. S. Lourenço[1], E. W. Carneiro[2], C. G. Cordeiro[3], J. A. Negrão[4], and R. Almeida*[1], [1]*Universidade Federal do Paraná*, *Curitiba, Paraná, Brazil*, [2]*Royal Agrifirm Group*, *Curitiba, Paraná, Brazil*, [3]*Agropecuária Régia*, *Palmeira, Paraná, Brazil*, [4]*Universidade de São Paulo*, *Piracicaba, São Paulo, Brazil*.

2129M **Comparison of profile of fatty acids extracted with hexane isopropanol from whole milk and fat cakes.**
C. Matamoros* and K. J. Harvatine, *Department of Animal Science, The Pennsylvania State University*, *University Park, PA*.

2130M **Effect of soy phospholipids in a saturated fatty acid supplement on digestibility and production responses of mid-lactation dairy cows.**
A. M. Burch*, M. Machiela, J. M. dos Santos Neto, and A. L. Lock, *Michigan State University*, *East Lansing, MI*.

2131M **Abomasal infusion of oleic acid improves plasma hormones and metabolites in early lactation dairy cows.**
J. M. dos Santos Neto*, U. Abou-Rjeileh, J. Parales-Giron, C. M. Prom, G. A. Contreras, and A. L. Lock, *Michigan State University*, *East Lansing, MI*.

2132M **Meta-analysis examining the effect of different ratios of palmitic and oleic acids in supplemental fat blends on molar changes in de novo and preformed milk fatty acids in dairy cows.**
A. C. Benoit*, J. M. dos Santos Neto, and A. L. Lock, *Michigan State University*, *East Lansing, MI*.

Ruminant Nutrition: Gut Physiology, Fermentation, and Digestion 1

2133M **In vitro supplementation of leucine increases the proportion of *iso*-15:0 and *iso*-17:0 fatty acids in rumen microbial cell membranes.**
M. Schiksnis, L. Matthews*, S. Greenwood, and J. Kraft, *The University of Vermont*, *Burlington, VT*.

2134M **Effects of cashew nut shell extract and monensin on microbial fermentation in a dual-flow continuous culture.**
E. Sarmikasoglou*[1], M. Johnson[1], J. Vinyard[1], P. Sumadong[1,2], R. R. Lobo[1], J. A. Cordero[1], A. Bahman[1], A. Ravelo[1], S. Halima[1], C. Hikita[3], T. Watanabe[3], and A. Faciola[1], [1]*University of Florida*, *Gainesville, FL*, [2]*Khon Kaen University*, *Khon Kaen, Thailand*, [3]*Idemitsu Kosan Co., Ltd*., *Tokyo, Japan*.

2135M **Evaluation of hour points required to accurately describe NDF fermentation kinetics.**
M. C. Barry[1] and M. B. Hall*[2], [1]*AgModels, LLC*, *Tully, NY*, [2]*U.S. Dairy Forage Research Center, USDA-ARS*, *Madison, WI*.

2136M **Effects of a blend of organic acids on ruminal fermentation in a dual-flow continuous culture.**
R. R. Lobo*[1], J. A. Arce-Cordero[1], J. R. Vinyard[1], M. L. Johnson[1], M. R. Watson[1], A. Bahman[1], S. W. Ma[1], G. Dagaew[2], P. Sumadong[2], E. Sarmikasoglou[1], E. Grilli[3,4], and A. Faciola[1], [1]*University of Florida*, *Gainesville, FL*, [2]*Khon Kaen University*, *Khon Kaen, Thailand*, [3]*University of Bologna*, *Bologna, Italy*, [4]*Vetagro Inc*., *Chicago, IL*.

2137M **Rumen bacterial taxa and dietary nutrient predictors in cows with differing risk of ruminal acidosis.**
H. Golder*[1,2], J Rehberger[3], A. Smith[3], S. LeBlanc[4], T. Duffield[4], H. Rossow[5], R. Bogdanich[6], L. Hernandez[7], E. Block[3], and I. Lean[1,2], [1]*Scibus*, *Camden, NSW, Australia*, [2]*Dairy Science Group, Faculty of Veterinary Science, The University of Sydney*, *Camden, NSW, Australia*, [3]*Arm & Hammer Animal and Food Production*, *Princeton, NJ*, [4]*Department of Population Medicine, ON Veterinary College, University of Guelph*, *Guelph, ON, Canada*, [5]*Veterinary Medicine Teaching and Research Center, School of Veterinary Medicine, University of California–Davis*, *Tulare, CA*, [6]*Cross Street Veterinary Clinic*, *Tulare, CA*, [7]*Department of Animal and Dairy Sciences, University of Wisconsin–Madison*, *Madison, WI*.

2138M **Effect of dietary inclusion of probiotics on fecal microbiome in lactating dairy cows.**
H. Guan[1], A. Oyebade[2], P. Fan[2], K. C. Jeong[2], F. X. Amaro[2], L. Mu[2], C. A. N. de Guzmán[2], I. M. Fernandez[2], S. Lee[2], and D. Vyas*[2], [1]*Institute of Qinghai-Tibet Plateau, Southwest Minzu University*, *Chengdu, China*, [2]*University of Florida*, *Gainesville, FL*.

2139M **Effects of trace mineral and forage sources on mineral solubility, ruminal fermentation, digestibility, and N utilization.**
M. L. Johnson*[1], J. A. Arce-Cordero[1], E. Sarmikasoglou[1], J. R. Vinyard[1], R. R. Lobo[1], V. Brandao[2], and A. P. Faciola[1], [1]*University of Florida*, *Gainesville, FL*, [2]*Micronutrients LLC*, *Indianapolis, IN*.

2140M **Evaluation of 2- and 3-pool models to describe neutral detergent fiber fermentation kinetics.**
M. C. Barry*[1] and M. B. Hall[2], [1]*AgModels, LLC*, *Tully, NY*, [2]*U.S. Dairy Forage Research Center, USDA-ARS*, *Madison, WI*.

2141M **Effects of dietary betaine supplementation and partial rumen content transplantation on metabolism in heat-stressed Holstein cows.**
A. Javaid*[1], A. R. Gonzalez[2], D. E. Rico[3], and J. W. McFadden[1], [1]*Cornell University*, *Ithaca, NY*, [2]*Université Laval*, *Québec, QC, Canada*, [3]*CRSAD*, *Deschambault, QC, Canada*.

2142M **In vitro effects of sodium acetate and sodium propionate on the fermentation profile of dairy cows fed different forage-to-concentrate ratios.**
J. Scott* and R. Kohn, *University of Maryland College Park*, *College Park. MD*.

Ruminant Nutrition: Protein/Amino Acids Posters 1

2143M **Chemical characterization of a new high-protein corn milling coproduct.**
A. L. Carroll[1], M. L. Jolly-Breithaupt[2], and P. J. Kononoff*[1], [1]*Department of Animal Science, University of Nebraska–Lincoln*, *Lincoln, NE*, [2]*POET*, *Sioux Falls, SD*.

2144M **Abomasal infusion of branched-chain amino acids or branched-chain keto-acids alter lactation performance in early lactation dairy cows.**
K. Gallagher*[1], I. Bernstein[1], C. Collings[1], D. Main[1], S. Naughton[1], V. Mavangira[2], M. VandeHaar[1], and Z. Zhou[1], [1]*Department of Animal Science, Michigan State University*, *East Lansing, MI*, [2]*Large Animal Clinical Sciences, Michigan State University*, *East Lansing, MI*.

2145M **Embryonic epigenome modification induced by maternal feed supplementation of rumen-protected methionine in dairy cows.**
M. Hoelker[1,2], C. Blaschka[1], M. Drillich[3], M. Iwersen[3], U. Besenfelder[4], V. Havlicek[4], S. Gebremedhn[2,5], D. Tesfaye[2,5], E. Tholen[2], C. Parys*[6], A. Helmbrecht[6], J. Guyader[6], and D. Salilew-Wondim[2], [1]*Department of Animal Science, Biotechnology and Reproduction of Farm Animals, University of Goettingen*, *Goettingen, Germany*, [2]*Institute of Animal Sciences, Animal Breeding, University of Bonn*, *Bonn, Germany*, [3]*Clinical Unit for Herd Health Management, University Clinic for Ruminants, Department for Farm Animals and Veterinary Public Health, University of Veterinary Medicine Vienna*, *Vienna, Austria*, [4]*Reproduction Centre-Wieselburg, University of Veterinary Medicine Vienna*, *Vienna, Austria*, [5]*Department of Biomedical Sciences, Animal Reproduction and Biotechnology Laboratory, Colorado State University*, *Fort Collins, CO*, [6]*Evonik Operations GmbH*, *Hanau, Germany*.

2146M **Determining the relative metabolizable methionine content of rumen-protected products and their effect on production responses.**
J. Parales-Giron*[1], J. de Souza[2], P. S. Yoder[2], and A. L. Lock[1], [1]*Michigan State University*, *East Lansing, MI*, [2]*Perdue AgriBusiness*, *Salisbury, MD*.

2147M **Effects of choline or betaine supplementation on whole-body methionine flux in growing steers with modulated methyl group status.**
M. S. Grant*[1], J. M. Marsh[1], K. J. Hazlewood[1], M. D. Miesner[2], Y. Zhang[3], and E. C. Titgemeyer[1], [1]*Department of Animal Sciences and Industry, Kansas State University*, *Manhattan, KS*, [2]*Department of Clinical Sciences, Kansas State University*, *Manhattan, KS*, [3]*Kansas State University*, *Manhattan, KS*.

2148M **Effects of rumen modifiers aiming to reduce proteolysis on rumen fermentation and N flow in dual-flow continuous culture.**
Y. Roman-Garcia*, S. El-Haddad, P. Piantoni, and G. Schroeder, *Cargill Animal Nutrition and Health, Innovation Campus*, *Elk River, MN*.

2149M **Effects of different soybean meals on ruminal fermentation, microbial growth, nutrient digestion, and nitrogen partitioning in a dual-flow continuous culture system.**
A. Bahman, J. Arce-Cordero*, H. Monteiro, R. Lobo, A. Ravelo, and A. Faciola, *University of Florida*, *Gainesville, FL*.

2150M **Effects of NexPro on feed intake, feed efficiency, feeding behavior, and apparent nutrient digestibility of early lactation dairy cows.**
S. A. Hagerty*[1], M. L. Jolly-Breithaupt[2], K. J. Herrick[2], D. A. Balk[2], and P. D. French[1], [1]*PHD R&D*, *Fort Atkinson, WI*, [2]*POET Bioproducts*, *Sioux Falls, SD*.

ADSA-SAD Dairy Production Oral Competition

Chair: **Chad Dechow, Penn State University**
CC 2202
9:30 AM – 11:00 AM

9:30 AM 1010 **Improving cow cooling with methodologies used in other animal industries.**
W. Strickland* and J. Bohlen, *University of Georgia*, *Athens, GA*.

9:45 AM 1011 **Effects of increasing dietary omega-3 fatty acid concentrations on dairy cattle milk fat composition and reproduction.**
C. Newman* and E. Eckelkamp, *University of Tennessee*, *Knoxville, TN*.

10:00 AM 1012 **Make every drop count: Improving water productivity on US dairies.**
G. Norris* and D. Olver, *The Pennsylvania State University*, *University Park, PA*.

10:15 AM 1013 **Room to grow: the impact of housing on dairy cattle welfare.**
I. Revere* and E. Miller-Cushon, *University of Florida*, *Gainesville, FL, United States*.

10:30 AM 1014 **Pain management for disbudding dairy calves.**
V. Rakoczy*, J. Haines, O. Horsman, and S. I. Kehoe, *University of Wisconsin-River Falls*, *River Falls, WI*.

10:45 AM 1015 **Effects of heat stress on dry cows and heifers.**
M. Sifford*, D. Winston, and K. Daniels, *Virginia Tech*, *Blacksburg, VA*.

ADSA-SAD Original Research Oral Competition

Chair: **Chad Dechow, Penn State University**
CC 2201
9:30 AM – 11:45 AM

9:30 AM 1016 **Enhancing net food availability for people by feeding "leftover" feeds to dairy cows.**
S. Puda*, K. Goldsmith, J. Liesman, and M. VandeHaar, *Michigan State University*, *East Lansing, MI*.

9:45 AM 1017 **Disbudding alters immune gene expression in leukocytes of Holstein calves.**
A. Hohenshell*, E. Shangraw, K. McCoy, and T. McFadden, *University of Missouri*, *Columbia, MO*.

10:00 AM 1018 **Effect of plant maturity on yield, nutritional composition, and fiber digestion kinetics of small grains for silage.**
A. Cappellina*[1], C. Teets[1], W. Thomason[1], K. Payne[2], S. Stewart[1], and G. Ferreira[1], [1]*Virginia Tech*, *Blacksburg, VA*, [2]*Southern Piedmont Agricultural Research and Education Center*, *Blackstone, VA*.

10:15 AM 1019 **Effect of cow personality on their adaptation to an automated milking system following parturition.**
J. E. Brasier*, A. J. Schwanke, and T. J. DeVries, *Department of Animal Biosciences, University of Guelph*, *Guelph, ON, Canada*.

10:30 AM **Break**

10:45 AM 1020 **Assessment of the associations between haptoglobin concentration during the late dry period and calving-related events in dairy cattle.**
M. Shabloski*, E. Jimenez, M. Martinez, E. Hovingh, and A. A. Barragan, *Department of Veterinary and Biomedical Sciences, Penn State University*, *University Park, PA*.

11:00 AM 1021 **Can a probiotic intervention affect feeding behavior patterns of Angus × Holstein calves?**
M. Berry*, G. Mazon, and J. H. C. Costa, *University of Kentucky*, *Lexington, KY*.

11:15 AM 1022 **Impact of region and year on profitability across the United States.**
S. Jones*, C. Martinez, and E. Eckelkamp, *University of Tennessee*, *Knoxville, TN*.

11:30 AM 1023 **Assessing the impact of storage time and shape of the block on the slicability of commercial cheddar cheese.**
N. Pace*, A. Parhi, and P. Sharma, *Utah State University*, *Logan, UT*.

ADSA Graduate Student Dairy Foods Oral Competition

Chair: **Hari Meletharayil, National Dairy Council**
CC 2215B
9:30 AM – 12:00 PM

9:30 AM 1000 **Development of a predictive model for milk spoilage due to psychrotolerant spore-formers along the supply chain.**
C. Qian*, S. L. Murphy, T. T. Lott, N. H. Martin, and M. Wiedmann, *Cornell University*, *Ithaca, NY*.

9:45 AM 1001 **Impact of reverse osmosis and pH adjustment on the thermal precipitation of calcium phosphate from milk permeate.**
N. Paugam*[1,3], Y. Pouliot[1,3], G. Remondetto[2], and G. Brisson[1,3], [1]*Université Laval*, *Québec, Québec, Canada*, [2]*Agropur*, *Saint-Hubert, Québec, Canada*, [3]*STELA Dairy Research Center*, *Québec, Québec, Canada*.

10:00 AM 1002 **Combination of ultra-high-pressure homogenization and reverse osmosis to modify buttermilk constituents' structure.**
L. Krebs*, Y. Pouliot, and G. Brisson, *Food Science Department, STELA Dairy Research Center, Institute of Nutrition and Functional Foods (INAF), Université Laval*, *Québec, QC, Canada*.

10:15 AM 1003 **Understanding the relationships between interfacial behavior of dairy protein ingredients and characteristics of oil-in-water emulsion droplets.**
Y. Lin*[1], T. Wagoner[2], and H. Zheng[1], [1]*Southeast Dairy Foods Research Center, Department of Food, Bioprocessing and Nutrition Sciences, North Carolina State University*, *Raleigh, NC*, [2]*Perfect Day Inc.*, *Berkeley, CA*.

10:30 AM 1004 **Microwave vacuum drying of cheese: Effect of process parameters on product properties.**
B. Gong*, J. Dumpler, and C. Moraru, *Cornell University*, *Ithaca, NY*.

10:45 AM 1005 **Soft matter strategy for creating novel food texturizer: Cold set whey protein gels constructed by fractal protein assemblies.**
U. Amin* and H. Zheng, *Southeast Dairy Foods Research Center, Department of Food, Bioprocessing and Nutrition Sciences, North Carolina State University*, *Raleigh, NC*.

11:00 AM 1006 **Characterizing flow behavior of milk protein powders using shear cell methodology.**
K. Palmer*[1], A. Parhi[1], A. Shetty[2], V. Sunkesula[3], and P. Sharma[1], [1]*Utah State University*, *Logan, UT*, [2]*Anton Paar USA*, *Ashland, VA*, [3]*Idaho Milk Products*, *Jerome, ID*.

11:15 AM 1007 **Evaluation of a typical floor cleaning protocol to remove *Listeria monocytogenes* biofilms from dairy floors.**
B. Chowdhury*[1,2], S. Anand[1,2], and B. Kraus[3], [1]*Midwest Dairy Foods Research Center*, *Minneapolis, MN*, [2]*Dairy and Food Science Department, South Dakota State University*, *Brookings, SD*, [3]*Wells Enterprises Inc.*, *Le Mars, IA*.

11:30 AM 1008 **Determining the mode of action of antimicrobial peptide of *Bacillus subtilis* isolated from membrane biofilm.**
S. Jha*[1,2] and S. Anand[1,2], [1]*Midwest Dairy Foods Research Center*, *Minneapolis, MN*, [2]*South Dakota State University*, *Brookings, SD*.

11:45 AM 1009 **Association of dairy consumption patterns with the incidence of type 2 diabetes: Findings from Alberta's Tomorrow project.**
E. Yuzbashian*[1], M. Pakseresht[2,1], J. Vena[2], and C. B. Chan[1,3], [1]*Department of Agricultural, Food and Nutritional Science, University of Alberta*, *Edmonton, Alberta, Canada*, [2]*Alberta Health Services*, *Edmonton, Alberta, Canada*, [3]*Department of Physiology, University of Alberta*, *Edmonton, Alberta, Canada*.

Animal Behavior and Well-Being Symposium: Associations of Cow and Worker Welfare

Chair: **Alex Bach, ICREA**

Sponsor: **Danone North America**

CC 2102A

9:30 AM – 12:30 PM

This session will also be livestreamed. For more information, please see adsa.org/2022vm.

9:30 AM 1024 **What are affective states and why do they matter?**
M. Špinka*, *Czech University of Life Sciences*, *Prague, Czechia*.

10:05 AM 1025 **Key social behavioral aspects influencing calf and heifer performance and health.**
J. H. C. Costa*[1], M. W. Setser[1], A. G. Bradtmueller[1], and H. W. Neave[2], [1]*Department of Animal and Food Science, University of Kentucky*, *Lexington, KY*, [2]*Department of Animal Science, Aarhus University*, *Tjele, Denmark*.

10:40 AM 1026 **A first time for everything: The influence of parity on the behavior of transition dairy cows.**
K. Proudfoot*[1] and J. Huzzey[2], [1]*University of Prince Edward Island*, *Charlottetown, PE, Canada*, [2]*California Polytechnic State University*, *San Luis Obispo, CA*.

11:15 AM 1027 **Implications of worker affective state on herd productivity.**
A. E. Stone*, *Department of Animal and Dairy Sciences, Mississippi State University*, *Starkville, MS*.

11:50 AM 1028 **Mental health and farming: Research updates and potential paths forward.**
B. N. M. Hagen*, *Department of Population Medicine, ON Veterinary College, University of Guelph*, *Guelph, ON, Canada*.

12:25 PM **Questions and Discussion**

Breeding and Genetics Symposium: Beyond Genetic Markers—Additional Data to Improve Long-Term Selection

Chair: **Paul VanRaden, USDA Animal Genomics and Improvement**

CC 2101

9:30 AM – 12:30 PM

This session will also be livestreamed. For more information, please see adsa.org/2022vm.

9:30 AM 1041 **Genomic evaluation methods to include intermediate correlated features such as high-throughput or omics phenotypes.**
A. Legarra*[1] and O. F. Christensen[2], [1]*INRAE, GenPhySE*, *Castanet-Tolosan, France*, [2]*Aarhus University, Center for Quantitative Genetics and Genomics*, *Tjele, Denmark*.

10:00 AM 1042 **Lineage-resolved complete metagenomics with long-read sequencing for rumen microbial characterization.**
D. M. Bickhart*[1], J. C. McClure[1], S. B. Shin[2], and T. P. L. Smith[2], [1]*USDA ARS DFRC*, *Madison, WI*, [2]*USDA ARS MARC*, *Clay Center, NE*.

10:15 AM 1043 **The long-term effects of genomic selection.**
Y. C. J. Wientjes*[1], P. Bijma[1], J. van den Heuvel[2], B. J. Zwaan[2], Z. G. Vitezica[3], and M. P. L. Calus[1], [1]*Wageningen University and Research, Animal Breeding and Genomics*, *Wageningen, the Netherlands*, [2]*Wageningen University and Research, Laboratory of Genetics*, *Wageningen, the Netherlands*, [3]*INRAE, GenPhySE*, *Castanet-Tolosan, France*.

10:45 AM 1044 **Genetic trends, generation interval, and inbreeding changes since the implementation of genomic selection in US dairy cattle.**
F. Guinan[1], G. Wiggans[2], D. Norman[2], J. Dürr[2], J. Cole[3], C. Van Tassell[4], I. Misztal[1], A. Cesarani[1], and D. Lourenco*[1], [1]*Department of Animal and Dairy Science, University of Georgia*, *Athens, GA*, [2]*Council on Dairy Cattle Breeding*, *Bowie, MD*, [3]*URUS Group LP*, *Madison, WI*, [4]*Animal Genomics and Improvement Laboratory, Agricultural Research Service, USDA*, *Beltsville, MD*.

11:00 AM 1045 **Genetic gains for milk traits from various genetic evaluation methods.**
H. D. Norman*[1], F. L. Guinan[2], and J. W. Durr[1], [1]*Council on Dairy Cattle Breeding*, *Bowie, MD*, [2]*University of Wisconsin–Madison*, *Madison, WI*.

11:15 AM **Break**

11:30 AM 1046 **Tools and resources for accurate imputation of cattle sequence.**
R. D. Schnabel*, *University of Missouri*, *Columbia, MO*.

12:00 PM 1047 **Mixed-model GWAS on milk production traits of 1.16M genotyped Holstein cattle.**
J. Jiang*[1], J. Cheng[1], C. Maltecca[1], L. Ma[2], P. M. VanRaden[3], and J. R. O'Connell[4], [1]*Department of Animal Science, North Carolina State University*, *Raleigh, NC*, [2]*Department of Animal and Avian Sciences, University of Maryland*, *College Park, MD*, [3]*Animal Genomics and Improvement Laboratory, USDA-ARS*, *Beltsville, MD*, [4]*Department of Medicine, University of Maryland School of Medicine*, *Baltimore, MD*.

12:15 PM 1048 **SLEMM: Million-scale genomic best linear unbiased predictions with window-based SNP weighting.**
J. Cheng*[1], C. Maltecca[1], P. Vanraden[2], J. O'Connell[3], L. Ma[4], and J. Jiang[1], [1]*North Carolina State University*, *Raleigh, NC*, [2]*Animal Genomics and Improvement Laboratory, USDA-ARS*, *Beltsville, MD*, [3]*University of Maryland School of Medicine*, *Baltimore, MD*, [4]*University of Maryland*, *College Park, MD*.

Joint Dairy Foods/National Mastitis Council Symposium: Redefining Raw Milk Quality

Chair: **Nicole Martin, Cornell University**
CC 2215A
9:30 AM – 12:30 PM
This session will also be livestreamed. For more information, please see adsa.org/2022vm.

9:30 AM **Welcome**

9:35 AM 1049 **Impact of microbial populations in raw milk on processed dairy product quality.**
N. Martin*, *Cornell University*, *Ithaca, NY*.

10:05 AM 1050 **Understanding the oxidative stability and susceptibility of raw milk.**
J. K. Amamcharla*, *Kansas State University*, *Manhattan, KS*.

10:35 AM 1051 **Ensuring dairy product sensory quality by minimizing farm-related defects.**
S. Clark*, *Iowa State University*, *Ames, IA*.

11:05 AM 1052 **Farm factors affecting nontraditional aspects of raw milk quality.**
D. F. Kelton*, *University of Guelph*, *Guelph, ON, Canada*.

11:35 AM 1053 **Bridging the gap: Optimizing partnerships between producers and processors for enhanced milk quality.**
M. Wustenberg*, *Tillamook County Creamery Association*, *Tillamook, OR*.

12:05 PM **Discussion**

Extension Education Symposium: Using Social Media to Engage Dairy Consumers and Community

Chair: **Gustavo Schuenemann, The Ohio State University**
CC 2104B
9:30 AM – 12:30 PM
This session will also be livestreamed. For more information, please see adsa.org/2022vm.

9:30 AM 1054 **Engaging the next generation of animal scientists through social media.**
A. Faciola*, *University of Florida*, *Gainesville, FL*.

10:00 AM 1055 **Using short videos to enhance communication and engage stakeholders.**
J. Bohlen*, *University of Georgia*, *Athens, GA*.

10:30 AM **Break**

11:00 AM 1056 **Dairy farming: Engaging youth and consumers through social media.**
A. Ryan*, *MVP Dairy LLC*.

11:30 AM 1057 **Building a successful YouTube channel for extension clientele.**
B. Beam*, *The Ohio State University*, *Hillsboro, OH*.

12:00 PM **Discussion**

Reproduction Platform Session: 43rd Discover® Conference: Dairy Cattle Reproduction: Lessons Learned and Future Frontiers

Chair: **Anna Denicol, University of California, Davis**

CC 2102B

9:30 AM – 12:00 PM

This session will also be livestreamed. For more information, please see adsa.org/2022vm.

9:30 AM **Welcome and Overview**

9:45 AM 1074 **Revisiting the 43rd Discover Conference—Dairy cattle reproduction: Lessons learned and future frontiers.**
J. O. Giordano*[1], E. S. Ribeiro[2], J. Dalton[3], A. C. Denicol[4], A. DeVries[5], and M. C. Lucy[6], [1]*Department of Animal Science, Cornell University*, *Ithaca, NY*, [2]*Department of Animal Biosciences, University of Guelph*, *Guelph, ON, Canada*, [3]*Department of Animal, Veterinary and Food Sciences, University of Idaho*, *Caldwell, ID*, [4]*Department of Animal Science, University of California-Davis*, *Davis, CA*, [5]*Department of Animal Sciences, University of Florida*, *Gainesville, FL*, [6]*Department of Animal Sciences, University of Missouri*, *Columbia, MO*.

10:15 AM 1075 **Parity, milk production, and reproduction in different production systems.**
I. Lean*[1,2], H. Golder[1,2], S. LeBlanc[4], T. Duffield[4], and J. Santos[3], [1]*Scibus*, *Camden, NSW, Australia*, [2]*Dairy UP, University of Sydney*, *Camden, New South Wales, Australia*, [3]*Department of Animal Sciences, University of Florida*, *Gainesville, FL*, [4]*Department of Population Medicine, ON Veterinary College, University of Guelph*, *Guelph, ON, Canada*.

10:30 AM 1076 **Metabolomics of uterine luminal fluid according to genomic merit for fertility traits.**
G. Madureira*[1], A. Fleming[2], and E. Ribeiro[1], [1]*Department of Animal Biosciences, University of Guelph*, *Guelph, ON, Canada*, [2]*Lactanet Canada*, *Guelph, ON, Canada*.

10:45 AM **Break**

11:00 AM 1077 **Impaired interferon-tau production and action during embryo mortality in lactating Holstein-Friesian cows.**
C. L. Gonzalez-Berrios*, J. V. Bishop, H. Van Campen, M. G. Thomas, and T. R. Hansen, *Colorado State University*, *Fort Collins, Colorado*.

11:15 AM 1078 **Combining data for estrus expression during the voluntary waiting period and predictors of reproductive outcomes identified subgroups of cows with different reproductive performance.**
C. Rial*, A. L. Laplacette, and J. O. Giordano, *Department of Animal Science, Cornell University*, *Ithaca, NY*.

11:30 AM **Discussion**

Animal Health 1

Chair: **Fernanda Rosa, Texas Tech University**

CC 2104A

9:30 AM – 12:30 PM

9:30 AM 1040 **Effect of weaning age and pace on biosynthesis of oxylipids in Holstein dairy calves.**
B. C. Agustinho*[1], A. Wolfe[2], C. Y. Tsai[1], L. P. de Moura[1], D. E. Konetchy[1], A. H. Laarman[1,2], and P. Rezamand[1], [1]*Department of Animal, Veterinary and Food Sciences, University of Idaho*, *Moscow, ID*, [2]*Agricultural, Life and Environmental Sciences, University of Alberta*, *Edmonton, AB, Canada*.

9:45 AM 1030 **Strategic management of bovine colostrum.**
D. C. Sockett*[1], L. W. Smith[1], N. S. Keuler[2], and T. J. Earleywine[3], [1]*Wisconsin Veterinary Diagnostic Laboratory, University of Wisconsin*, *Madison, WI*, [2]*Department of Statistics, University of Wisconsin–Madison*, *Madison, WI*, [3]*Land O'Lakes*, *Cottage Grove, WI*.

10:00 AM 1031 **Epidemiology of bovine colostrum yield: Associations with cow and management factors in New York State herds.**
T. A. Westhoff*, C. M. Ryan, T. R. Overton, and S. Mann, *Cornell University*, *Ithaca, NY*.

10:15 AM **Break**

10:30 AM 1033 **The effect of long-distance transportation on hematological parameters in surplus dairy calves.**
H. M. Goetz*[1], D. F. Kelton[1], J. H. C. Costa[2], K. C. Creutzinger[3], C. B. Winder[1], and D. L. Renaud[1], [1]*Department of Population Medicine, University of Guelph*, *Guelph, ON, Canada*, [2]*Department of Animal and Food Sciences, University of Kentucky*, *Lexington, KY*, [3]*Department of Animal and Food Science, University of Wisconsin-River Falls*, *River Falls, WI*.

10:45 AM 1034 **Calf management risk factors associated with perinatal mortality in Canadian dairy farms.**
S. G. U. Sedó*[1], C. B. Winder[1], R. A. Molano[2], D. E. Santschi[2], and D. L. Renaud[1], [1]*University of Guelph*, *Guelph, ON, Canada*, [2]*Lactanet*, *Saint-Anne-De-Bellevue, Québec, Canada*.

11:00 AM 1035 **Effect of feeding *Echinacea purpurea* to dairy calves on health and growth.**
B. K. McNeil*[1], D. L. Renaud[2], M. A. Steele[1], A. J. Keunen[3], and T. J. DeVries[1], [1]*Department of Animal Biosciences, University of Guelph*, *Guelph, ON, Canada*, [2]*Department of Population Medicine, University of Guelph*, *Guelph, ON, Canada*, [3]*Mapleview Agri Ltd.*, *Palmerston, ON, Canada*.

11:15 AM 1036 **Treatment of pneumonic preweaning dairy calves with 2 commercial antibiotics reduced systemic inflammatory signs and the relative abundance of bacterial genera associated with the disease.**
A. C. C. H. Tomazi[1], A. P. A. Vinhal[1], T. Tomazi*[1,2], L. Bringhenti[1,3], M. X. Rodrigues[1,3], H. J. Huson[1], T. R. Bilby[2], and R. C. Bicalho[1,3], [1]*Cornell University*, *Ithaca, NY*, [2]*Merck Animal Health*, *Madison, NJ*, [3]*FERA Animal Health LLC*, *College Station, TX*.

11:30 AM 1037 **Health assessment of calves raised in alternative rearing systems.**
B. Gonçalves da Costa*, K. Sharpe, M. Endres, and B. Heins, *University of Minnesota*, *Minneapolis, MN*.

11:45 AM 1038 **Effects of the novel concept "outdoor veal calf" on antimicrobial use, mortality, weight gain, and animal welfare parameters in Switzerland.**
J. Becker*[1], G. Schüpbach-Regula[2], A. Steiner[1], V. Perreten[3], D. Wüthrich[1,3], A. Hausherr[1,3], and M. Meylan[1], [1]*Clinic for Ruminants, Vetsuisse Faculty, University of Bern*, *Bern, Bern, Switzerland*, [2]*Veterinary Public Health Institute, Vetsuisse Faculty, University of Bern*, *Liebefeld, Bern, Switzerland*, [3]*Institute of Veterinary Bacteriology, Vetsuisse Faculty, University of Bern*, *Bern, Bern, Switzerland*.

12:15 PM 1039 **Antimicrobial susceptibility in *Escherichia coli* and Pasteurellaceae at the beginning and at the end of the fattening process in veal calves: Comparing "outdoor veal calf" and conventional operations.**
J. Becker*[1], V. Perreten[2], A. Steiner[1], D. Stucki[1], G. Schüpbach-Regula[3], A. Collaud[2], A. Rossano[2], D. Wüthrich[1,2], A. Muff-Hausherr[1,2], and M. Meylan[1], [1]*Clinic for Ruminants, Vetsuisse Faculty, University of Bern*, *Bern, Bern, Switzerland*, [2]*Institute of Veterinary Bacteriology, Vetsuisse Faculty*, *Bern, Bern, Switzerland*, [3]*Veterinary Public Health Institute, Vetsuisse Faculty, University of Bern*, *Liebefeld, Bern, Switzerland*.

Growth and Development 1

Chair: **Kimberley Morrill, Chr. Hansen**

CC 2105

9:30 AM – 10:30 AM

9:30 AM 1058 **Dam body condition score alters offspring serum cortisol concentration in Holstein calves but did not affect neonatal leptin surge.**
W. E. Brown*, H. T. Holdorf, and H. M. White, *Department of Animal and Dairy Sciences, University of Wisconsin–Madison*, *Madison, WI*.

9:45 AM 1059 **Peripheral blood mononuclear cell mitochondrial enzyme activity in calves indicates future lactation performance.**
A. M. Niesen* and H. A. Rossow, *University of California–Davis, Davis, CA*.

10:00 AM 1060 **Effect of colostrum management and meloxicam administration on indicators of stress and inflammation in transported preweaned calves.**
K. Elmore*[1], D. Konetchy[1], M. Chahine[2], A. Laarman[3,1], B. Agustinho[1], P. Rezamand[1], and G. Chibisa[1], [1]*Department of Animal, Veterinary, and Food Science, University of Idaho*, *Moscow, ID*, [2]*Department of Animal, Veterinary, and Food Sciences, Twin Falls Research and Extension Center University of Idaho*, *Twin Falls, ID*, [3]*Department of Agricultural, Food, and Nutrition Science, University of Alberta*, *Edmonton, Alberta, Canada*.

10:15 AM 1061 **Growth and health costs of dairy calves raised in individual, pair, or group housing compared with dairy calves raised on cows.**
K. Sharpe*[1], B. Gonçalves da Costa[2], M. Endres[2], and B. Heins[1,2], [1]*West Central Research and Outreach Center*, *Morris, MN*, [2]*University of Minnesota*, *St. Paul, MN*.

Production, Management, and the Environment 1

Chair: **Gail Carpenter, Iowa State University**

CC 2103A

9:30 AM – 12:30 PM

9:30 AM 1062 **From promising enteric methane reducing strategies to actual reduction: Challenges along the way.**
D. Van Wesemael*, L. Vandaele, J. Van Mullem, S. De Campeneere, and N. Peiren, *ILVO*, *Melle, Belgium*.

9:45 AM 1063 **Predicting climate neutrality for the California dairy industry.**
C. J. McCabe*, H. E. El Mashad, and F. M. Mitloehner, *University of California, Davis*, *Davis, CA*.

10:00 AM 1064 **Survey of California nutritionists on almond hull usage.**
J. Heguy*[1], J. Asmus[2], and E. DePeters[3], [1]*University of California Agriculture and Natural Resources*, *Modesto, CA*, [2]*January Innovations*, *Lodi, CA*, [3]*University of California-Davis*, *Davis, CA USA*.

10:15 AM 1065 **The effect of feeding rumen-protected capsicum during the transition period on performance of early lactation dairy cows.**
G. Acetoze* and K. Preisinger, *Archer Daniels Midland*, *Decatur, IL*.

10:30 AM 1066 **Effect of feeding a *Saccharomyces cerevisiae* fermentation product to Holstein cows under heat stress conditions on milk production efficiency—A pen-level randomized controlled trial.**
M. Thomas, R. C. Serrenho, S. O. Puga, J. M. Torres, S. O. Puga, and M. Stangaferro*, *Dairy Health and Management Services*, *Lowville, NY*.

10:45 AM 1067 **A tannin and saponin blend impacts methane production in lactating dairy cows.**
A. Carrazco*[1], E. Ross[1], Y. Zhao[2], Y. Pan[1], E. DePeters[1], and F. Mitloehner[1], [1]*Department of Animal Science, University of California, Davis*, *Davis, CA*, [2]*Air Quality Research Center, University of California, Davis*, *Davis, CA*.

11:00 AM 1068 **Impact of OmniGen AF in dry cows heat stressed with an electric blanket model.**
K. A. Forbes*[1], L. T. Casarotto[1], L. Cattaneo[1,2], K. M. Glosson[3], B. D. Humphrey[3], J. D. Chapman[3], and G. E. Dahl[1], [1]*University of Florida*, *Gainesville, FL*, [2]*Universita Cattolica de Sacro Cuore*, *Piacenza, Italy*, [3]*Phibro Animal Health*, *Teaneck, NJ*.

11:15 AM 1069 **Nitrogen efficiency as performance indicator and its relationship with diet composition in commercial dairy herds.**
F. X. Amaro*[1], F. Ferreira[2], D. R. Bruno[3], A. Vieira-Neto[4], J. M. Piñeiro[5], and D. Vyas[1], [1]*Department of Animal Sciences, University of Florida*, *Gainesville, FL*, [2]*Department of Population Health and Reproduction, University of California-Davis*, *Tulare, CA*, [3]*University of California Cooperative Extension*, *Fresno, CA*, [4]*Department of Animal Sciences and Industry, Kansas State University*, *Manhattan, KS*, [5]*Department of Animal Science, Texas A&M AgriLife Research and Extension Center*, *Amarillo, TX*.

11:30 AM 1070 **Predicting dairy pen dry matter intake using a Weibull density function.**
P. M. Lucey* and H. A. Rossow, *UC Davis Veterinary Medicine Teaching and Research Center*, *Tulare, CA*.

11:45 AM 1071 **Association between feeding management practices and milk production on automatic milking farms.**
D. Swartz*, B. Gednalske, M. Schutz, J. Salfer, and M. Endres, *University of Minnesota*, *St. Paul, MN*.

12:00 PM 1072 **Effects of automated feeding systems on milk components and ration consistency.**
K. Kamau*[1], B. J. Thorpe[2], K. E. Meier[2], M. I. Endres[1], and I. J. Salfer[1], [1]*Department of Animal Science, University of Minnesota*, *St. Paul, MN*, [2]*Lely North America*, *Pella, IA*.

12:15 PM 1073 **Identifying on-farm factors associated with the level of free fatty acids in bulk tank milk.**
H. M. Woodhouse*[1], D. F. Kelton[1], S. J. LeBlanc[1], and T. J. DeVries[2], [1]*University of Guelph Department of Population Medicine*, *Guelph, ON, Canada*, [2]*University of Guelph Department of Animal Biosciences*, *Guelph, ON, Canada*.

Ruminant Nutrition 1: Calf Growth—Applied Nutrition

Chair: **Fernanda Batistel, University of Florida**
CC 2103B
9:30 AM – 11:30 AM

9:30 AM 1079 **Effect of different lipids sources added to milk replacers on body weight, body condition score, fecal score, and biometric measurements in bull calves.**
N. C. Pedersen[1], P. P. K Petersen[1], S. S. Abdullah[2], P. F. Lomar[1], H. H. Hansen[1], A. L. Alves Neves[1], R. A. M. Vieira[3], and E. Vargas-Bello-Pérez*[1], [1]*Department of Veterinary and Animal Sciences, Faculty of Health and Medical Sciences, University of Copenhagen*, *Frederiksberg, Denmark*, [2]*Department of Anatomy and Histology, University of Veterinary and Animal Sciences*, *Lahore, Pakistan*, [3]*Laboratório de Zootecnia, Universidade Estadual do Norte Fluminense*, *Campos dos Goytacazes, Brazil*.

9:45 AM 1080 **Impact of calcium gluconate feeding on intestinal microbial populations in a growing steer model.**
O. Y. Koyun*[1], E. E. Rowland[1], J. M. Lourenco[1], J. J. Baloyi[1], F. L. Fluharty[1], T. D. Pringle[1], A. M. Stelzleni[1], R. L. Stewart[1], M. McCarthy[2], S. Fry[2], K. E. Griswold[2], and T. R. Callaway[1], [1]*Department of Animal and Dairy Science, University of Georgia*, *Athens, GA*, [2]*Micronutrients Inc.*, *Indianapolis, IN*.

10:00 AM **Break**

10:15 AM 1082 **Impact of different fat sources added to milk replacers and starter feed for bull calves on in vitro organic matter degradation and volatile fatty acids.**
E. Vargas-Bello-Pérez*[1], S. S. Abdullah[2], K. Tajonar[3], R. Dhakal[1], A. L. Alves Neves[1], R. A. M. Vieira[4], and H. H. Hansen[1], [1]*Department of Veterinary and Animal Sciences, Faculty of Health and Medical Sciences, University of Copenhagen*, *Frederiksberg, Denmark*, [2]*Department of Anatomy and Histology, University of Veterinary and Animal Sciences*, *Lahore, Pakistan*, [3]*Departamento de Medicina y Zootecnia de Rumiantes, Facultad de Medicina Veterinária y Zootecnia, Universidad Nacional Autónoma de México*, *Mexico*, [4]*Laboratório de Zootecnia, Universidade Estadual do Norte Fluminense*, *Campos dos Goytacazes, Brazil*.

10:30 AM 1083 **Effect of varying levels of a phytogenic compound in combination with a functional mineral compound and yeast cell wall extract on calf growth and health.**
S. E. Schuling* and D. E. Schimek, *NutriQuest*, *Mason City, IA*.

10:45 AM 1084 **Effect of increasing monensin concentration on the performance of lactating dairy cows.**
A. C. Benoit*[1], P. A. LaPierre[1], G. D. Mechor[2], D. M. Barbano[1], and M. E. Van Amburgh[1], [1]*Cornell University*, *Ithaca, NY*, [2]*Elanco Animal Health*, *Greenfield, IN*.

11:00 AM 1085 **Effect of partially replacing baleage with forage canola on energy utilization in dairy cows.**
L. H. P. Silva[1,2], Y. Zang[1], M. Ghelickhan[1], Y. Geng[3], S. L. Dillard[4], K. J. Soder[5], and A. F. Brito*[1], [1]*University of New Hampshire*, *Durham, NH*, [2]*Western Kentucky University*, *Bowling Green, KY*, [3]*Chinese Academy of Agricultural Sciences*, *Beijing, China*, [4]*Auburn University*, *Auburn, AL*, [5]*USDA-Agricultural Research Service, Pasture Systems and Watershed Management Research Unit*, *University Park, PA*.

11:15 AM 1086 **Occurrence of mycotoxins in US dairy total mixed rations 2018–2022.**
E. Schwandt*[1], P. Gott[1], L. Zheng[1], U. Hofstetter[2], and A. Levy[1], [1]*DSM Nutritional Products*, *Parsippany, NJ*, [2]*DSM Austria GmbH*, *Getzersdorf, Austria*.

Ruminant Nutrition 2: Lipids and Carbohydrates

Chair: **James Tully, Pine Creek Nutrition Service Inc.**
CC 2103C
9:30 AM – 12:30 PM

9:30 AM 1087 **The form, more than the fatty acids profile of fat supplements, influences digestibility but not necessarily the production performance of dairy cows.**
J. Shpirer[1,2], L. Lifshitz[1], H. Kamer[1], Y. Portnik[1], and U. Moallem*[1], [1]*Department of Ruminants Science, Volcani Center*, *Rishon LeZion, Israel*, [2]*Department of Animal Science, the Hebrew University of Jerusalem*, *Rehovot, Israel*.

9:45 AM 1088 **Interaction between *DGAT1* polymorphism, parity, and acetate supplementation on feeding behavior, milk synthesis, and plasma metabolites in dairy cows.**
C. Matamoros*, C. D. Dechow, and K. J. Harvatine, *Department of Animal Science, The Pennsylvania State University*, *University Park, PA*.

10:00 AM 1089 **Interaction between *trans*-10,*cis*-12 CLA and acetate supplementation on milk fat production and milk fatty acids.**
C. Matamoros* and K. J. Harvatine, *Department of Animal Science, The Pennsylvania State University*, *University Park, PA*.

10:15 AM 1090 **Rumen and abomasal infusion of an exogenous emulsifier improves nutrient digestibility of lactating dairy cows.**
J. M. dos Santos Neto*, C. M. Prom, and A. L. Lock, *Michigan State University*, *East Lansing, MI*.

10:30 AM 1091 **Meta-analysis examining the effect of palmitic acid supplementation on molar changes in de novo and preformed milk fatty acids in dairy cows.**
A. C. Benoit*, J. M. dos Santos Neto, and A. L. Lock, *Michigan State University*, *East Lansing, MI*.

10:45 AM 1092 **Effect of palmitic acid supplementation on production responses of primiparous dairy cows during early lactation.**
J. Parales-Giron*, J. M. dos Santos Neto, L. C. Worden, and A. L. Lock, *Michigan State University*, *East Lansing, MI*.

11:00 AM 1093 **Effect of 2-hydroxy-4-(methylthio)butanoate blended in a fatty acid supplement on lactating dairy cow performance when feeding diets with increased risk for diet-induced milk fat depression.**
S. L. Bennett*[1], R. Bomberger[1], J. Albrecht[2], O. Drehmel[2], C. Soderholm[2], M. Scott[2], and K. J. Harvatine[1], [1]*Pennsylvania State University*, *State College, PA*, [2]*Milk Specialties Global*, *Eden Prairie, MN*.

11:15 AM 1094 **Dietary effects on branched-chain volatile fatty acid use for bacterial lipid synthesis in dual-flow cultures varying in forage and polyunsaturated fatty acid concentrations.**
K. E. Mitchell*[1], S. L. Kienzle[1], B. A. Wenner[1], C. Lee[2], D. H. Kleinschmit[3], M. T. Socha[3], and J. L. Firkins[1], [1]*Department of Animal Sciences, The Ohio State University*, *Columbus, OH*, [2]*Department of Animal Sciences, The Ohio State University*, *Wooster, OH*, [3]*Zinpro Corporation*, *Eden Prairie, MN*.

11:30 AM 1095 **Oleic acid limits lipolysis and improves mitochondrial function in adipose tissue from periparturient dairy cows.**
U. Abou-Rjeileh*[1], D. Salcedo[1], J. Parales[1], C. Prom[1], M. Chirivi[1], N. J. O'Boyle[2], J. Laguna[1], A. L. Lock[1], and G. A. Contreras[1], [1]*Michigan State University*, *East Lansing, MI*, [2]*University of Nottingham*, *Loughborough, United Kingdom*.

11:45 AM 1096 **Rumen vs. abomasal infusion of oleic acid as an approach to determine the potential for an oleic acid-enriched calcium-salt to affect digestibility and production of dairy cows.**
A. M. Burch*[1], J. de Souza[2], and A. L. Lock[1], [1]*Michigan State University*, *East Lansing, MI*, [2]*Perdue AgriBusiness*, *Salisbury, MD*.

12:00 PM 1097 **Effect of dietary fiber to starch ratio on bovine milk oligosaccharide profiles.**
S. D. Durham*[1], D. G. Lemay[2], Z. Wei[1], K. F. Kalscheur[3], J. W. Finley[4], N. Fukagawa[5], and D. Barile[1,6], [1]*Department of Food Science and Technology, University of California-Davis*, *Davis, CA*, [2]*Agricultural Research Service, USDA, Western Human Nutrition Research Center*, *Davis, CA*, [3]*Agricultural Research Service, USDA, Dairy Forage Center*, *Madison, WI*, [4]*Agricultural Research Service, USDA, Office of National Programs*, *Beltsville, MD*, [5]*Agricultural Research Service, USDA, Beltsville Human Nutrition Research Center*, *Beltsville, MD*, [6]*Foods for Health Institute, University of California-Davis*, *Davis, CA*.

12:15 PM 1098 **Rumen-protected choline (RPC) reduces hepatic triacylglycerol content by increasing hepatic triglyceride-rich lipoprotein secretion.**
U. Arshad*, A. Husnain, M. B. Poindexter, R. Zimpel, and J. E. P. Santos, *University of Florida*, *Gainesville, FL*.

ADSA-SAD Dairy Foods Oral Competition

Chair: **Chad Dechow, Penn State University**
CC 2203
11:00 AM – 12:30 PM

11:00 AM 1099 **The legalization of raw milk sales: A method to aid in the safety of unpasteurized dairy products.**
R. Hutton* and J. Bohlen, *University of Georgia*, *Athens, GA*.

11:15 AM 1100 **Quality control methods for detection of the A1 variant of β-casein in bulked milk.**
J. Becker*, K. Daniels, and D. Winston, *Virginia Tech*, *Blacksburg, VA*.

11:30 AM 1101 **Are dairy foods healthy or is it just a coincidence?**
C. Langford*, G. Mazon, and J. H. C. Costa, *University of Kentucky*, *Lexington, KY*.

11:45 AM 1102 **Synthetic milk: Milk without the moo.**
S. Hettinger*, *University of Florida*, *Gainesville, FL*.

12:00 PM 1103 **Impact of milk components on cheese quality.**
R. Rahn*, C. Zaring, and E. Eckelkamp, *University of Tennessee*, *Knoxville, TN*.

12:15 PM 1104 **The emerging world of postbiotics.**
C. Arrowsmith* and D. Olver, *The Pennsylvania State University*, *University Park, PA*.

Breeding and Genetics Platform Session: 42nd Discover® Conference: Managing Genetic Diversity for Future Dairy and Livestock Breeding

Chair: **Natascha Vukasinovic, Zoetis**
CC 2101
2:00 PM – 5:30 PM
This session will also be livestreamed. For more information, please see adsa.org/2022vm.

2:00 PM 3001INV **Preserving and managing genetic diversity.**
C. D. Dechow and H. Blackburn.

2:15 PM 1117 **Single-step genomic evaluation of crossbreed dairy cattle in the US.**
A. Cesarani[1], D. Lourenco*[1], S. Tsuruta[1], A. Legarra[2], E. L. Nicolazzi[3], P. M. VanRaden[4], and I. Misztal[1], [1]*Department of Animal and Dairy Science, University of Georgia*, *Athens, GA*, [2]*INRA, UMR1388 GenPhySE*, *Castanet-Tolosan, France*, [3]*Council on Dairy Cattle Breeding*, *Bowie, MD*, [4]*Animal Genomics and Improvement Laboratory, Agricultural Research Service, USDA*, *Beltsville, MD*.

2:30 PM 1118 **Do historically popular sires still capture the genetic composition of the recent US Holstein generation?**
Y. Steyn*, R. Abdollahi-Arpanahi, D. Lourenco, and I. Misztal, *University of Georgia*, *Athens, GA*.

2:45 PM 1119 **Reasons for disposal and cull cow value of Holstein and crossbred dairy cattle.**
S. L. Portner* and B. J. Heins, *Department of Animal Science, University of Minnesota*, *St. Paul, MN*.

3:00 PM 1120 **Comparison of three-breed rotational crossbreds of Montbéliarde, Viking Red, and Holstein with Holstein cows fed 2 alternative diets for dry matter intake, production, and residual feed intake.**
G. M. Pereira[1,2], B. J. Heins*[1,2], and L. B. Hansen[2], [1]*University of Minnesota*, *Morris, MN*, [2]*University of Minnesota*, *St. Paul, MN*.

3:15 PM 1121 **Fatty acid profiles of Holstein, Grazecross, and ProCROSS cows in an experimental dairy herd.**
B. J. Heins*, *University of Minnesota*, *Morris, MN*.

3:30 PM **Break**

3:45 PM 1122 **Gene mapping and genomic prediction of bull fertility in Brown Swiss cattle.**
H. A. Pacheco*[1], A. Rossoni[2], A. Cecchinato[3], and F. Peñagaricano[1], [1]*University of Wisconsin–Madison*, *Madison, WI*, [2]*Italian Brown Breeders Association*, *Bussolengo, Verona, Italy*, [3]*University of Padova*, *Legnaro, Padua, Italy*.

4:00 PM 1123 **A major QTL for brachygnathia inferior in Brown Swiss cattle.**
S. Widmer*[1], F. R. Seefried[2], C. Flury[3], and C. Drögemüller[1], [1]*Institute of Genetics, Vetsuisse Faculty, University of Bern*, *Bern, Switzerland*, [2]*Qualitas AG*, *Zug, Switzerland*, [3]*School of Agricultural, Forest and Food Sciences, Bern University of Applied Sciences*, *Zollikofen, Switzerland*.

4:15 PM 1124 **Evidence of selection against recessive defects.**
H. D. Norman*[1], D. J. Null[2], and P. M. VanRaden[2], [1]*Council on Dairy Cattle Breeding*, *Bowie, MD*, [2]*USDA-ARS Animal Genomics and Improvement Laboratory*, *Beltsville, MD*.

4:30 PM 1125 **Gestation length and dystocia of Holsteins mated to Holstein and beef breed service sires.**
B. L. Basiel*, T. L. Felix, and C. D. Dechow, *Pennsylvania State University*, *University Park, PA*.

4:45 PM 1126 **Changes in herd statistics for dairy cattle in the US.**
F. L. Guinan*[1,2], G. R. Wiggans[2], H. D. Norman[2], J. B. Cole[3], T. M. McWhorter[1], J. W. Dürr[2], and D. Lourenco[1], [1]*University of Georgia*, *Athens, GA*, [2]*Council on Dairy Cattle Breeding*, *Bowie, MD*, [3]*URUS*, *Madison, WI*.

5:00 PM 1127 **Application of insemination values to support cow mating decisions.**
A. De Vries*[1], P. Pinedo[2], N. Bliznyuk[1], R. H. Fourdraine[3], and J. S. Clay[3], [1]*University of Florida*, *Gainesville, FL*, [2]*Colorado State University*, *Fort Collins, CO*, [3]*Dairy Records Management Systems*, *Raleigh, NC*.

5:15 PM **Discussion**

CSAS Symposium: New Frontiers of Automated Milking System Nutrition

Chair: **Michael Steele, University of Guelph**

CC 2102B

2:00 PM – 5:30 PM

This session will also be livestreamed. For more information, please see adsa.org/2022vm.

2:00 PM 1128 **Does the feed reward provided in automated milking systems drive cow performance?**
G. B. Penner*, *University of Saskatchewan*, *Saskatoon, SK, Canada*.

2:30 PM 1129 **Practical considerations of automated milking systems nutrition in dairy production.**
C. Gordon*, *Trouw Nutrition North America*, *Puslinch, ON, Canada*.

3:00 PM 1130 **How can automated milking systems be used to change dairy farm nutritional management?**
T. J. DeVries*, *Department of Animal Biosciences, University of Guelph*, *Guelph, ON, Canada*.

3:30 PM **Break**

4:00 PM **Panel Discussion**

Dairy Foods Symposium: Consumer Perceptions of Dairy—Are They Fact or Fiction?

Chair: **John Lucey, University of Wisconsin**

CC 2215A

2:00 PM – 5:30 PM

This session will also be livestreamed. For more information, please see adsa.org/2022vm.

2:00 PM **Welcome**

2:05 PM 1139 **Has milk production become more environmentally sustainable in the past 50 years?**
E. Kebreab* and E. Pressman, *University of California–Davis Davis, CA*.

2:50 PM 1140 **Should we replace animal foods with plants to improve our health?**
A. Stanton*, *Royal College of Surgeons in Ireland*, *Dublin, Ireland*.

3:35 PM **Break**

4:00 PM 1141 **Food sustainability and protein: Debunking the myths—Why the metrics matter.**
P. J. Moughan*, *Riddet Institute, Massey University*, *Palmerston North, New Zealand*.

4:45 PM **Discussion**

Lactation Biology Symposium: Nutrient Transport in the Mammary Gland

Chairs**: Feng–Qi Zhao, University of Vermont, Amy Skibiel, University of Idaho, and Rupert Bruckmaier, University of Bern**

CC 2104B

2:00 PM – 5:30 PM

This session will also be livestreamed. For more information, please see adsa.org/2022vm.

2:00 PM 1152 **Nutrient transport requires water transport.**
C. H. Knight*, *BreatheScience*, *Ayr, UK*.

2:35 PM 1153 **Glucose transport in the mammary gland.**
M. Villagrán* and L. Mardones, *Universidad Católica de la Santísima Concepción*, *Concepción, Chile*.

3:10 PM 1154 **Glucose promotes de novo milk fatty acid synthesis in the mammary gland of lactating goats via the AMPK-ChREBP axis.**
W. Y. Zhang*, J. X. Liu, and H. B. Shi, *Institute of Dairy Science, College of Animal Science, Zhejiang University*, *Hangzhou, China*.

3:25 PM **Break**

3:45 PM 1155 **The transport of free and peptide-bound amino acids in the mammary gland.**
X. S. Wei[1,2], C. Wang[2], and H. Y. Liu*[1], [1]*College of Animal Science, Zhejiang University*, *Hangzhou, Zhejiang, China*, [2]*College of Animal Science and Technology and College of Veterinary Medicine, Zhejiang A&F University*, *Hangzhou, Zhejiang, China*.

4:20 PM 1156 **Immune response to LPS-induced mastitis in early lactation dairy cows fed nitrogenic, glucogenic or lipogenic diets.**
P. M. Jermann, L. A. Wagner, J. J. Gross, O. Wellnitz, and R. M. Bruckmaier*, *Veterinary Physiology, Vetsuisse Faculty, University of Bern*, *Bern, Switzerland*.

4:35 PM 1157 **Mineral transport in the mammary gland.**
S. L. Kelleher*, *University of Massachusetts Lowell*, *Lowell, MA*.

5:10 PM **Discussion**

Production Division Symposium: Qualitative Research Methods in Dairy Science

Chair: **Katherine Koralesky, University of British Columbia**

CC 2102A

2:00 PM – 5:30 PM

This session will also be livestreamed. For more information, please see adsa.org/2022vm.

2:00 PM 1158 **Why I embraced qualitative research: The perspective of a dairy scientist.**
D. F. Kelton*, *University of Guelph*, *Guelph, ON, Canada*.

2:25 PM 1159 **Qualitative research approaches, methodologies, and focus areas for studying human values, actions, and interactions in the dairy cattle sector.**
M. Vaarst*, *Aarhus University*, *Aarhus, Denmark*.

2:50 PM 1160 **Veterinary communication and motivational Interviewing: How qualitative methodologies can support and inform effective interventions in dairy science.**
A. M. Bard*[1,5], D. C. J. Main[2], A. M. Haase[3], H. R. Whay[4], and K. K. Reyher[5], [1]*The University of Aberystwyth*, *Wales, UK*, [2]*Royal Agricultural University*, *Gloucestershire, UK*, [3]*Victoria University of Wellington*, *Wellington, New Zealand*, [4]*National University of Ireland Galway*, *Galway, Republic of Ireland*, [5]*University of Bristol Veterinary School*, *Bristol, UK*.

3:10 PM 1161 **Evaluating how interventions work on dairy farms.**
K. E. Koralesky*, K. E. Mills, M. A. G. von Keyserlingk, and D. M. Weary, *University of British Columbia Animal Welfare Program*, *Vancouver, BC, Canada*.

3:30 PM **Break**

4:00 PM 1162 **Using qualitative research methods to inform policy and practice: Perspective of a dairy consultant.**
S. Roche*[1,2], J. Saraceni[1], and D. Renaud[2,1], [1]*ACER Consulting*, *Guelph, ON, Canada*, [2]*University of Guelph*, *Guelph, ON, Canada*.

4:20 PM 1163 **Understanding the human factors affecting disease control on dairy farms.**
P. A. Robinson*, *Harper Adams University*, *Newport, Shropshire, United Kingdom*.

4:40 PM **Break**

4:50 PM 1164 **Experiencing qualitative research: Focus group sessions.**
B. A. Ventura*[1] and L. Morgans[2], [1]*University of Lincoln, School of Life Sciences*, *Lincoln, UK*, [2]*Innovation for Agriculture*, *Kenilworth, United Kingdom*.

Animal Health 2

Chair: **Johan Osorio, Virginia Tech University**

CC 2104A

2:00 PM – 5:30 PM

2:00 PM 1105 **Magnitude of change in prepartum feed intake and its association with transition metabolism and performance.**
M. G. S. Santos*, B. Mion, B. V. Winters, and E. S. Ribeiro, *Department of Animal Biosciences, University of Guelph*, *Guelph, ON, Canada*.

2:15 PM 1106 **Association of β-hydroxybutyrate with time eating and ruminating as determined by an ear-based sensor in transition cows.**
S. A. Hagerty*[1], A. F. Park[2], and P. D. French[1], [1]*PHD R&D*, *Fort Atkinson, WI*, [2]*Cooperative Research Farms*, *Richmond, VA*.

2:30 PM 1107 **Prevalence of subclinical hypocalcemia and hypomagnesemia at calving and 7 days postpartum in grazing Holstein cows with spring parturitions in southern Chile.**
P. Melendez*[1], F. Lopez[2,3], J. Lama[2], and B. Leon[2], [1]*School of Veterinary Medicine, Texas Tech University*, *Amarillo, TX*, [2]*Cooprinsem, Chile*, *Osorno, Chile*, [3]*UACH*, *Valdivia, Chile*.

2:45 PM 1108 **Effect of glycerol supplementation across the transition period on energy balance and inflammation in multiparous dairy cows milked with automated systems.**
B. J. Van Soest*[1], M. N. Pereira[3], T. F. Duffield[2], M. A. Steele[1], and T. J. DeVries[1], [1]*Department of Animal Biosciences, University of Guelph*, *Guelph, ON, Canada*, [2]*Department of Population Medicine, University of Guelph*, *Guelph, ON, Canada*, [3]*Department of Animal Science, Federal University of Lavra*, *Lavras, MG, Brazil*.

3:00 PM 1405 **Associations of parity with health disorders, body condition score, and body weight in dairy cows in different production systems.**
I. Lean*[1,2], S. LeBlanc[3], D. Sheedy[1,2], T. Duffield[3], J. Santos[4], and H. Golder[1,2], [1]*Scibus*, *Camden, NSW, Australia*, [2]*Dairy Science Group, Faculty of Veterinary Science, The University of Sydney*, *Camden, NSW, Australia*, [3]*Department of Population Medicine, ON Veterinary College, University of Guelph*, *Guelph, ON, Canada*, [4]*Department of Animal Sciences, University of Florida*, *Gainesville, FL*.

3:15 PM 1110 **Lipolysis inhibition improves clinical outcomes in the treatment of ketosis in dairy cows: An individually randomized multigroup parallel controlled trial.**
M. Chirivi*, D. Cortes, A. O'Connor, and G. A. Contreras, *Large Animal Clinical Sciences, Michigan State University*, *East Lansing, MI*.

3:30 PM **Break**

4:00 PM 1111 **Economic impact of postpartum clinical disease on cow profitability.**
N. Antonacci*[1], F. C. Ferreira[2], F. S. Lima[2], A. De Vries[3], and E. S. Ribeiro[1], [1]*Department of Animal Biosciences, University of Guelph*, *Guelph, ON, Canada*, [2]*Department of Population Health and Reproduction, University of California-Davis*, *Davis, CA*, [3]*Department of Animal Sciences, University of Florida*, *Gainesville, FL*.

4:15 PM 1416 **The D2Dx immunity test as a measure of immune health in ewes and lambs.**
H Ford*[1], T Zheng[2], M Bionaz[1], Q Huo[3], and D Hasan[1], [1]*Oregon State University*, *Corvallis, OR*, [2]*Nano Discovery Inc*., *Orlando, FL*, [3]*University of Central Florida*, *Orlando, FL*.

4:30 PM 1113 **The association of metritis cure at 5 and 14 days after diagnosis with milk yield, reproductive performance, and culling.**
P. R. Menta*[1], E. B. Oliveira[2], J. G. Prim[3], K. N. Galvao[3,4], F. S. Lima[2], M. A. Ballou[1], N. R. Noyes[5], and V. S. Machado[1], [1]*Department of Veterinary Sciences, Texas Tech University*, *Lubbock, TX*, [2]*Department of Population Health and Reproduction, School of Veterinary Medicine, University of California*, *Davis, CA*, [3]*Department of Large Animal Clinical Sciences, College of Veterinary Medicine, University of Florida*, *Gainesville, FL*, [4]*D. H. Barron Reproductive and Perinatal Biology Research Program, University of Florida*, *Gainesville, FL*, [5]*Department of Veterinary Population Medicine, University of Minnesota*, *Lubbock, TX*.

4:45 PM 1114 **Long-term effects of postpartum uterine health on the metabolome of uterine luminal fluid.**
B. Mion*[1], M. R. Carvalho[1], J. F. W. Spricigo[1], E. Ticiani[1], O. B. Pascottini[2], S. J. LeBlanc[2], F. S. Lima[3], and E. S. Ribeiro[2], [1]*Department of Animal Biosciences, University of Guelph*, *Guelph, ON, Canada*, [2]*Department of Population Medicine, University of Guelph*, *Guelph, ON, Canada*, [3]*Department of Population Health and Reproduction, University of California-Davis*, *Davis, CA*.

5:00 PM 1406 **Associations of parity with survival and blood metabolites in dairy cows in different production systems.**
I. Lean*[1,2], T. Duffield[3], S. LeBlanc[3], J. Santos[4], D. Sheedy[1,2], and H. Golder[1,2], [1]*Scibus*, *Camden, NSW, Australia*, [2]*Dairy Science Group, Faculty of Veterinary Science, The University of Sydney*, *Camden, NSW, Australia*, [3]*Department of Population Medicine, ON Veterinary College, University of Guelph*, *Guelph, ON, Canada*, [4]*Department of Animal Sciences, University of Florida*, *Gainesville, FL*.

5:15 PM 1116 **Effects of a *Bacillus*-based direct-fed microbial on health and production of high-performing lactating dairy cows.**
S. R. Fensterseifer*[1], R. P. Arias[1], C. M. Peter[1], A. Lange[2], and E. Galbraith[2], [1]*United Animal Health Inc*., *Sheridan, IN*, [2]*Microbial Discovery Group*, *Franklin, WI*.

Dairy Foods 1: Cheese and Dairy Products

Chair: **Rodrigo Ibáñez, Center for Dairy Research**

CC 2215B

2:00 PM – 4:45 PM

2:00 PM 3002INV ***ADSA Foundation Scholar Award in Dairy Foods:*** **Pasture-based dairy systems—An Irish perspective of the benefits, opportunities, and challenges for the future.**
Tom O'Callaghan, *University College Cork, Cork, Ireland.*

2:30 PM 1131 **The sensory and structural properties of fresh cheese made from β-casein-reduced milk retentate.**
J. Schaefer[1], G. Horstmann[2], L. Fischer[2], J. Hinrichs[1], and Z. Atamer*[1], [1]*Department of Soft Matter Science and Dairy Technology, Institute of Food Science and Biotechnology, University of Hohenheim*, *Stuttgart, Germany*, [2]*Department of Biotechnology and Enzyme Science, Institute of Food Science and Biotechnology, University of Hohenheim*, *Stuttgart, Germany*.

2:45 PM 1133 **Impact of higher milk pasteurization and curd stretching temperatures on extending the performance shelf life of string cheese.**
M. A. Becher*[1], S. Govindasamy-Lucey[2], J. J. Jaeggi[2], M. E. Johnson[2], and J. A. Lucey[1,2], [1]*University of Wisconsin–Madison*, *Madison, WI*, [2]*Wisconsin Center for Dairy Research*, *Madison, WI*.

3:00 PM 1134 **Consumers' willingness to purchase farmstead milk.**
C. Zaring*, K. Jensen, A. Rihn, M. Morgan, and E. Eckelkamp, *University of Tennessee*, *Knoxville, TN*.

3:15 PM **Break**

3:45 PM 1135 **Identification of bitter peptides in aged cheddar cheese through compilation of literature references and a novel experimental approach.**
R. Kuhfeld*, Z. Atamer, H. Eshpari, and D. Dallas, *Oregon State University*, *Corvallis, OR*.

4:00 PM 1136 **Correlation of various dairy products composition and its tribological characteristics.**
L. Ali* and P. Sharma, *Utah state university*, *Logan, UT*.

4:15 PM 1137 **Effect of galactose-utilizing bacteria on pizza-baking properties of Mozzarella cheese.**
F. Anjali*, D. J. McMahon, T. S. Oberg, and P. Sharma, *Utah State University*, *Logan, UT*.

4:30 PM 1138 **Comparison of thermal and high-pressure processing for high-protein cultured milk beverages stabilized with high methoxy pectin.**
D. Wilbanks*[1], S. Yazdi[2], and J. Lucey[1,3], [1]*University of Wisconsin–Madison*, *Madison, WI*, [2]*Chr. Hansen*, *Hoersholm, Denmark*, [3]*Center for Dairy Research*, *Madison, WI*.

Forages and Pastures 1

Chair: **Kathy Soder, USDA–ARS**

CC 2103A

2:00 PM – 5:00 PM

2:00 PM 1142 **Effect of grazing fall-stockpiled tall fescue, meadow fescue, or orchardgrass on heifer growth and greenhouse gas production.**
K. G. Wells*[1], M. A. Wattiaux[1], D. M. Pizarro[1], J. S. Cavadini[2], and M. S. Akins[1], [1]*Department of Animal and Dairy Sciences, UW-Madison*, *Madison, WI*, [2]*Marshfield Agricultural Research Station*, *Marshfield, WI*.

2:15 PM 1143 **Effects of forage and grain legume-based silages supplemented with faba beans or rapeseed expeller on dietary supply and plasma amino acids in lactating cows.**
S. E. Räisänen*, K. Kuoppala, P. Rissanen, A. Halmemies-Beauchet-Filleau, T. Kokkonen, and A. Vanhatalo, *University of Helsinki*, *Helsinki, Finland*.

2:30 PM 1144 **Comparison of near-infrared reflectance spectrometry and wet chemistry analyses on first-cut legume-grass silages.**
C. Plett*[1], J. C. Plaizier[1], N. McLean[2], C. Lafrenière[3], S. Bittman[4], and K. Ominski[1], [1]*University of Manitoba*, *Winnipeg, Manitoba, Canada*, [2]*Dalhousie University*, *Truro, Nova Scotia, Canada*, [3]*Université du Québec en Abitibi-Témiscamingue*, *Rouyn-Noranda, Québec, Canada*, [4]*Agriculture and Agri-Food Canada*, *Agassiz, BC, Canada*.

2:45 PM 1145 **Effects of cut height and inoculant on whole-plant corn silage fermentative profile.**
F. F. Cardoso*[1], S. E. Kemp[1], R. Schmidt[2], and F. C. Cardoso[1], [1]*Department of Animal Sciences, University of Illinois*, *Urbana, IL*, [2]*Lallemand Animal Nutrition*, *Milwaukee, WI*.

3:00 PM 1146 **Determining and comparing the quality of legume, grass, and legume-grass mix silages on Canadian dairy farms.**
C. Plett*[1], J. C. Plaizier[1], N. McLean[2], C. Lafrenière[3], S. Bittman[4], and K. Ominski[1], [1]*University of Manitoba*, *Winnipeg, Manitoba. Canada*, [2]*Dalhousie University*, *Truro, Nova Scotia, Canada*, [3]*Université du Québec en Abitibi-Témiscamingue*, *Rouyn-Noranda, Québec, Canada*, [4]*Agriculture and Agri-Food Canada*, *Agassiz, BC, Canada*.

3:15 PM 1147 **Effects of fertilization strategy on triticale forage quality and dairy cow performance.**
A. M. Grev*, S. B. Potts, and J. W. Semler, *University of Maryland*, *College Park, MD*.

3:30 PM **Break**

4:00 PM 1148 **Effects of bacterial inoculant containing *Lactobacillus buchneri* and *Lactococcus lactis* on corn silage fermentation and aerobic stability.**
C. A. N. de Guzmán Cerna*[1], K. G. Arriola[1], I. Fernandez-Marenchino[1], K. V. Almeida[2], F. X. Amaro[1], H. Sultana[1], and D. Vyas[1], [1]*University of Florida*, *Gainesville, FL*, [2]*University of New Hampshire*, *Durham, NH*.

4:15 PM 1149 **Lactational performance and enteric gas emission in dairy cows fed an amylase-enabled corn silage.**
S. F. Cueva*, D. E. Wasson, S. E. Räisänen, L. F. Martins, T. Silvestre, and A. N. Hristov, *The Pennsylvania State University*, *University Park, PA*.

4:30 PM 1150 **First-lactation performance of dairy heifers reared on pasture versus in confinement.**
C. H. P. C. Nova*[1], K. F. Kalscheur[2], and G. E. Brink[2], [1]*University of Wisconsin–Madison*, *Madison, WI*, [2]*US Dairy Forage Research Center, USDA-ARS*, *Madison, WI*.

4:45 PM 1151 **Effects of curing extent on red clover hay and silage nutritional value and microbial populations across storage phases.**
D. Z. Ayala*, M. Killerby, G. Oppong, C. Knight, K. Dean, and J. R. Gomez, *University of Maine*, *Orono, ME*.

Ruminant Nutrition 3: Calf Development

Chair: **Duarte Diaz, University of Arizona**

CC 2103B

2:00 PM – 5:30 PM

2:00 PM 1165 **Effects of weaning strategies on health, hematology, and productivity in Holstein dairy calves.**
A Wolfe*[1], P Rezamand[2], B Agustinho[2], D Konetchy[2], and A Laarman[1,2], [1]*University of Alberta*, *Edmonton, Alberta, CA*, [2]*University of Idaho*, *Moscow, ID*.

2:15 PM 1166 **Effect of a phytogenic compound, a functional mineral compound and a monoglyceride product on calf growth and health.**
S. E. Schuling* and D. E. Schimek, *NutriQuest*, *Mason City, IA*.

2:30 PM 1167 **The effect of weather on drinking speed and milk consumption on female dairy calves in an automated milk feeder system.**
M. E. Montes*[1], J. Doucette[2], J. Graham[1], L. F. Brito[1], and J. P. Boerman[1], [1]*Department of Animal Sciences, Purdue University*, *West Lafayette, IN*, [2]*Agriculture Data Services, Purdue University*, *West Lafayette, IN*.

2:45 PM 1168 **Effect of 4 product combinations on calf growth and health from birth to weaning.**
S. E. Schuling* and D. E. Schimek, *NutriQuest*, *Mason City, IA*.

3:00 PM 1169 **Transcriptome and metatranscriptome analysis on the rumen epithelium and liver in young calves with feed-induced acidosis.**
W. Li*[1], A. Larsen[2], and B. Murphy[2], [1]*US Dairy Forage Research Cener*, *Madison, WI*, [2]*Oak Ridge Institute for Science and Education*, *Oak Ridge, TN*.

3:15 PM 1170 **Impact of bovine-derived direct-fed microbials and transition milk on growth and immune development of Holstein dairy calves.**
M. N. Degenshein[1], M. G. Gaenzle[1], M. A. Steele[2], L. L. Guan[1], and A. H. Laarman*[1], [1]*University of Alberta*, *Edmonton, AB, Canada*, [2]*University of Guelph*, *Guelph, AB, Canada*.

3:30 PM **Break**

4:00 PM 1171 **Feeding colostrum and transition milk facilitate digestive tract functionality of dairy calves after a feed restriction and fasting period.**
M. Tortadès*, S. Martí, M. Devant, F. Fàbregas, and M. Terré, *Institut de Recerca i Tecnologia Agroalimentàries*, *Caldes de Montbui, Barcelona, Spain*.

4:15 PM 1172 **Impact of adding lipids sources to milk replacers on rumen microbiome of young bull calves.**
P. P. K. Petersen[1], P. F. Lomar[1], N. C. Pedersen[1], S. S. Abdullah[2], H. H. Hansen[1], R. A. M. Vieira[3], A. L. Alves Neves[1], and E. Vargas-Bello-Pérez*[1], [1]*Department of Veterinary and Animal Sciences, Faculty of Health and Medical Sciences, University of Copenhagen*, *Frederiksberg, Denmark*, [2]*Department of Anatomy and Histology, University of Veterinary and Animal Sciences*, *Lahore, Pakistan*, [3]*Laboratório de Zootecnia, Universidade Estadual do Norte Fluminense, Campos dos Goytacazes*, *Brazil*.

4:30 PM 1173 **Lysophosphatidylcholine administration promotes an immune and febrile response in Holstein heifer calves.**
B. N. Tate*, M. M. Deys, F. G. Oviedo, A. D. Ferguson, Y. Zang, and J. W. McFadden, *Cornell University*, *Ithaca, NY*.

4:45 PM 1174 **Effects of post-day one colostrum supplementation on growth and health of preweaning dairy heifers.**
H. R. McCarthy*[1], A. J. Lopez[1], A. Pineda[1], D. L. Renaud[1], M. Nagorske[2], and M. A. Steele[1], [1]*University of Guelph*, *Guelph, ON, Canada*, [2]*Saskatoon Colostrum Company Ltd*., *Saskatoon, SK, Canada*.

5:00 PM 1175 **Increasing dose of prepartum rumen-protected choline: Effects of in utero exposure on Angus × Holstein beef calves.**
H. T. Holdorf*[1], W. E. Brown[1], S. J. Erb[1], G. J Combs[1], S. J. Henisz[1], M. J. Martin[1], K. E. Ruh[1], K. A. Estes[2], and H. M. White[1], [1]*University of Wisconsin–Madison*, *Madison, WI*, [2]*Balchem Corporation*, *New Hampton, NY*.

5:15 PM 1176 **Transcriptome changes in the caecum and its associated microbial communities in young calves with early inoculation of adult rumen content.**
W. Li[1], A. Larsen*[2], and B. Murphy[2], [1]*US Dairy Forage Research Cener*, *Madison, WI*, [2]*Oak Ridge Institute for Science and Education*, *Oak Ridge, TN*.

Ruminant Nutrition 4: Applied Nutrition 1

Chair: **Agustin Ríus, University of Tennessee**
CC 2103C
2:00 PM – 5:30 PM

2:00 PM 1177 **Effect of adding *Capsicum* spp. extract to high and low efficiency lactating cows' diet on intake, production, and efficiency.**
Y. A. Ben-Meir*[1], F. Salhab[1,2], A. Irits[1,2], D. Espinoza[1,2], and S. J. Mavbjeesh[2], [1]*Department of Ruminant Research, Institute of Animal Research, Agricultural Research Organization - Volcani Center*, *Reashon Lezion, Israel*, [2]*Department of Animal Science, The Robert H Smith Faculty of Agriculture, Food and Environment, The Hebrew University of Jerusalem*, *Rehovot, Israel*.

2:15 PM 1178 **The effects of early post-harvest feeding of α-amylase enhanced corn silage and different starch concentrations on milk production and blood metabolites of Holstein cows.**
K. C. Krogstad* and B. J. Bradford, *Michigan State University*, *East Lansing, MI*.

2:30 PM 1179 **Association between eating rate and residual feed intake differs by time of day in mid-lactation dairy cows.**
W. E. Brown*, L. Cavani, F. Peñagaricano, K. A. Weigel, and H. M. White, *Department of Animal and Dairy Sciences, University of Wisconsin–Madison*, *Madison, WI*.

2:45 PM 1180 **Hepatic metabolome of grazing dairy cows supplemented with a total mixed ration or concentrate.**
M. Garcia-Roche*[1,2], A. L. Astessiano[1], D. Talmon[1], A. Mendoza[3], A. Cassina[2], C. Quijano[2], and M. Carriquiry[1], [1]*Facultad de Agronomía, Universidad de la República*, *Montevideo, Uruguay*, [2]*CEINBIO, Facultad de Medicina, Universidad de la República*, *Montevideo, Uruguay*, [3]*Programa de Producción de Leche, INIA*, *La Estanzuela, Uruguay*.

3:00 PM 1181 **Production effects of extruded soybean meal in comparison with canola meal in lactating dairy cows.**
S. F. Cueva*[1], S. E. Räisänen[1], D. E. Wasson[1], C. F. A. Lage[1,2], T. Silvestre[1], D. M. Kniffen[1], R. A. Fabin[3], and A. N. Hristov[1], [1]*The Pennsylvania State University*, *University Park, PA*, [2]*Cornell Cooperative Extension*, *Ithaca, NY*, [3]*Fabin Bros. Farms*, *Indiana, PA*.

3:15 PM 1182 **Effects of feeding method and frequency on lactational performance and enteric methane emission in dairy cows.**
L. F. Martins*, S. E. Crater, S. F. Cueva, T. Silvestre, N. Stepanchenko, D. E. Wasson, and A. N. Hristov, *The Pennsylvania State University*, *University Park, PA*.

3:30 PM **Break**

4:00 PM 1183 **Effects of feeding nontoxigenic clostridia and *Bacillus* on performance during the prepartum period in Holstein cows.**
F. F. Cardoso*[1], L Garcia[1], J. S. Thompson[2], M. N. Jesus[2], A. H Smith[2], T. G. Rehberger[2], and F. C. Cardoso[2], [1]*University of Illinois Department of Animal Sciences*, *Urbana, IL*, [2]*Arm & Hammer Animal and Food Production*, *Waukesha, WI*.

4:15 PM 1184 **Effects of feeding a *Saccharomyces cerevisiae* fermentation product to Holstein cows during a feed restriction challenge on milk production, plasma biomarkers and immune function.**
D. N. Coleman*[1], M. G. Lopes[1,2], L. A. Ritt[1,3], Y. Liang[1], A. Aboragah[1], E. Trevisi[4], I. Yoon[5], and J. J. Loor[1], [1]*Department of Animal Sciences, University of Illinois*, *Urbana, IL*, [2]*NUPEEC (Núcleo de Pesquisa, Ensino e Extensão em Pecuária), Departamento de Clínicas Veterinária, Programa de Pós-Graduação em Biotecnologia, Universidade Federal de Pelotas*, *Pelotas, RS, Brazil*, [3]*Departamento de Zootecnia Universidade Federal do Rio Grande do Sul*, *Porto Alegre, RS, Brazil*, [4]*Deparment of Animal Science, Food and Nutrition, Università Cattolica del Sacro Cuore*, *Piacenza, Italy*, [5]*Diamond V*, *Cedar Rapids, IA*.

4:30 PM 1185 **Effect of the red seaweed *Chondrus crispus* on nutrient digestibility and iodine metabolism in lactating dairy cows.**
D. C. Reyes*[1], J. P. Sacramento[1], Y. Geng[1], L. H. P. Silva[1,2], B. Twining[3], B. Honisch[3], N. Price[3], and A. F. Brito[1], [1]*University of New Hampshire*, *Durham, NH*, [2]*Western Kentucky University*, *Bowling Green, KY*, [3]*Bigelow Laboratory for Ocean Sciences*, *Boothbay, ME*.

4:45 PM 1186 **Production effects of feeding soybean meal versus canola meal to dairy cows with low versus high residual feed intake.**
J. Kuehnl*[1] and K. Kalscheur[2], [1]*University of Wisconsin–Madison, Department of Animal and Dairy Sciences*, *Madison, WI*, [2]*U.S. Dairy Forage Research Center, USDA-ARS*, *Madison, WI*.

5:00 PM 1187 **A comparison of ionophore sources showed differences in volatile fatty acid changes but equal effects on digestibility in continuous cultures of ruminal microorganisms.**
C. Compton*[1], O. M. Peña[1], C. Velasquez[1], G. J. Lascano[1], G. D. Mechor[2], T. C. Jenkins[1], and M. J. Aguerre[1], [1]*Department of Animal and Veterinary Sciences, Clemson University*, *Clemson, SC*, [2]*Elanco Animal Health*, *Greenfield, IN*.

5:15 PM 1188 **Feeding spent hemp biomass to late-lactating dairy cows: effects on performance, milk production, milk quality, and methane emission.**
A. Irawan*, G. Puerto-Hernandez, C. Pearce, J. N. Eng, M. A. Torres, B. Grismer, S. Ates, J. Cruickshank, J. Ranches, and M. Bionaz, *Oregon State University*, *Corvallis, OR*.

Tuesday, June 21

POSTER PRESENTATIONS

Animal Behavior and Well-Being 2

2151T **Using an automated tail movement sensor device to predict calving time in dairy cow.**
S. G. U. Sedó*, C. B. Winder, J. Morrison, and D. L. Renaud, *University of Guelph*, *Guelph, ON, Canada*.

2152T **Patterns of habituation to early lactation milking in primiparous and multiparous cows.**
D. Kness*[1], J. Velez[2], J. Godoy[2], D. Manriquez[1], T. Grandin[1], and P. Pinedo[1], [1]*Department of Animal Sciences, Colorado State University*, *Fort Collins, CO*, [2]*Aurora Organic Farms*, *Platteville, CO*.

2153T **Withdrawn**

2154T **Validation of an indoor positioning system using ultra-wide band technology in a freestall environment housing dairy cattle.**
A. E. Pape*, J. W. Darrah, R. J. Grant, and S. Y. Morrison, *William H. Miner Agricultural Research Institute*, *Chazy, NY*.

2155T **Evaluating the accuracy of time budgets estimated from an indoor positioning system.**
A. E. Pape*, J. R. Green, R. J. Grant, and S. Y. Morrison, *William H. Miner Agricultural Research Institute*, *Chazy, NY*.

2156T **Interactions of cold stress and social contact in outdoor-housed dairy calves.**
K. J. Reuscher*, R. S. Salter, and J. M. C. Van Os, *Department of Animal and Dairy Sciences, University of Wisconsin–Madison*, *Madison, WI*.

2157T **The effects of heat stress and diet on time budgets of lactating cows housed in tie-stalls.**
A. Boucher*[1], V. Ouellet[1], A. R. Gonzalez[1,2], and D. E. Rico[2], [1]*Universite Laval*, *Quebec, QC, Canada*, [2]*Centre de recherche en sciences animales de Deschambault (CRSAD)*, *Deschambault, QC, Canada*.

2158T **Preference for competing against same- and mixed-parity cows and relationship to feed efficiency.**
F. S. Reyes*, K. A. Weigel, H. M. White, and J. M. C. Van Os, *University of Wisconsin–Madison*, *Madison, WI*.

2159T **Feeding patterns and efficiency in same- and mixed-parity groups.**
F. S. Reyes*, K. A. Weigel, H. M. White, and J. M. C. Van Os, *University of Wisconsin–Madison*, *Madison, WI*.

2160T **Interactive effect of stage of lactation, stocking density, and cow personality on the feeding behavior and production of dairy cows.**
A. J. Schwanke*[1], G. B. Penner[2], R. Bergeron[1], and T. J. DeVries[1], [1]*Department of Animal Biosciences, University of Guelph*, *Guelph, ON, Canada*, [2]*Department of Animal and Poultry Science, University of Saskatchewan*, *Saskatoon, SK, Canada*.

Animal Health 2

2161T **Patterns of Fourier-transform infrared estimated milk constituents in early lactation Holstein cows.**
K. R. Callero*, E. M. Teplitz, D. M. Barbano, C. R. Seely, J. A. Seminara, I. R. Frost, H. A. McCray, R. M. Martinez, A. M. Reid, and J. A. A. McArt, *Cornell University*, *Ithaca, NY*.

2162T **Assessing differences in early lactation milk constituent estimates between Holstein cows of varying health outcomes.**
J. A. A. McArt*, E. M. Teplitz, K. R. Callero, J. A. Seminara, I. R. Frost, H. A. McCray, R. M. Martinez, A. M. Reid, and D. M. Barbano, *Cornell University*, *Ithaca, NY*.

2163T **Use of milk components to assess mammary gland health in the first 22 days postpartum.**
H. K. Peterson*[1], R. M. Pace[2], J. E. Williams[1], M. K. McGuire[2], and M. A. McGuire[1], [1]*Department of Animal, Veterinary, and Food Sciences, University of Idaho*, *Moscow, ID*, [2]*Margaret Ritchie School of Family and Consumer Sciences, University of Idaho*, *Moscow, ID*.

2164T **Association of markers of energy balance and liver health for transition dairy cows on northern New York State farms.**
C. Havekes*[1], A. Kerwin[1], T. DeVries[2], and T. Overton[1], [1]*Cornell University*, *Ithaca, NY*, [2]*University of Guelph*, *Guelph, ON, Canada*.

2165T **Prediction of liver triglyceride accumulation in early lactation dairy cows using blood biomarkers.**
R. S. Pralle*[1,2], H. T. Holdorf[2], R. C. Oliveira[2], S. M. Edwards[2], C. R. Seely[2], S. J. Erb[2], and H. M. White[2], [1]*School of Agriculture, University of Wisconsin-Platteville*, *Platteville, WI*, [2]*Department of Animal and Dairy Sciences, University of Wisconsin–Madison*, *Madison, WI*.

2166T **Impact of oral calcium bolus timing on milk production and health events in early lactation Holstein cows.**
C. R. Seely*[1], C. N. Wilbur[2], K. M. Fang[2], and J. A. A. McArt[1], [1]*Department of Population Medicine and Diagnostic Sciences, College of Veterinary Medicine, Cornell University*, *Ithaca, NY*, [2]*College of Agriculture and Life Sciences, Cornell University*, *Ithaca, NY*.

2167T **Associations of a novel liver health index with health, milk production, and reproductive performance in large dairy herds in the northeastern United States.**
A. L. Kerwin[1], M. M. McCarthy[2], W. S. Burhans[3], D. V. Nydam[4], S. K. Wall[5], K. M. Schoenberg[5], K. L. Perfield[5], and T. R. Overton*[1], [1]*Department of Animal Science, Cornell University*, *Ithaca, NY*, [2]*Micronutrients*, *Indianapolis, IN*, [3]*Dairy-Tech Group*, *South Albany, VT*, [4]*Department of Population Medicine and Diagnostic Sciences, College of Veterinary Medicine, Cornell University*, *Ithaca, NY*, [5]*Elanco US Inc*., *Greenfield, IN*.

2168T **Subclinical hypocalcemia on Dutch dairy farms: Incidence and associated factors.**
J. B. Veneman*[1], N. E. G. C. van Dooren[1], P. Dobbelaar[2], and J. O. Goelema[1], [1]*De Heus Animal Nutrition*, *Ede, the Netherlands*, [2]*Department of Farm Animal Health, Utrecht University*, *Utrecht, the Netherlands*.

2169T **Early lactation changes in body condition score and subsequent incidence of disease.**
P. Pinedo*[1], D. Manriquez[1], P. Melendez[3], C. Hernandez-Gotelli[1], J. Azocar[2], and A. De Vries[4], [1]*Department of Animal Sciences, Colorado State University*, *Fort Collins, CO*, [2]*DeLaval Inc*., *Bannockburn, IL*, [3]*School of Veterinary Medicine, Texas Tech University*, *Amarillo, TX*, [4]*Department of Animal Sciences, University of Florida*, *Gainesville, FL*.

2170T **Associations between clinical metritis and type 1/type 2 immunity in postpartum Holstein dairy cows.**
E. Jimenez*[1], J. Spring[1], Q. Hun[2], C. Y. Tsai[3], H. H. Hung[3], T. Weber[3], P. Rezamand[3], M. Martinez[1], and A. A. Barragan[1], [1]*Department of Veterinary and Biomedical Sciences, Penn State University*, *University Park, PA*, [2]*Department of Chemistry and NanoScience Technology Center, University of Central Florida*, *Orlando, FL*, [3]*Department of Animal, Veterinary, and Food Sciences, University of Idaho*, *Moscow, ID*.

2171T **Comparison of meters to predict somatic cell count.**
L. Jacobsen*, A. Niesen, and H. Rossow, *University of California–Davis*, *Davis, CA*.

2172T **Associations of dry period housing and management practices with early-lactation udder health in automated milking herds.**
C. A. Wagemann-Fluxá*[1], B. J. Van Soest[1], D. F. Kelton[2], and T. J. DeVries[1], [1]*Department of Animal Biosciences, University of Guelph*, *Guelph, ON, Canada*, [2]*Department of Population Medicine, University of Guelph*, *Guelph, ON, Canada*.

2173T **Mediators of calcium homeostasis in cows with differing postparturient calcium dynamics.**
C. R. Seely* and J. A. A. McArt, *Department of Population Medicine and Diagnostic Sciences, College of Veterinary Medicine, Cornell University*, *Ithaca, NY*.

Dairy Foods 2: Chemistry and Dairy Products

1478T **Fabrication of nanofiber film via electrospinning of casein micelle and polyvinyl alcohol.**
W. Wei* and J. Amamcharla, *Department of Animal Sciences and Industry/Food Science Institute, Kansas State University*, *Manhattan, KS.*

2174T **Preliminary studies on tailoring protein interactions to modify functionality of milk protein concentrate.**
K. Dileep*[1], S. Beckman[2], H. Meletharayil[3], and J. K. Amamcharla[1], [1]*Kansas State University*, *Manhattan, KS*, [2]*Midwest Dairy Foods Research Center, Dairy and Food Science Department, South Dakota State University*, *Brookings, SD*, [3]*National Dairy Council*, *Rosemont, IL*.

2175T **Predicting the phase stability of reconstituted UHT milk using vibrational spectroscopic techniques. Phase 1: Proof of capacity of spectroscopic techniques.**
Y. Shao*[1], L. He[2], and H. Zheng[1], [1]*North Carolina State University*, *Raleigh, NC*, [2]*University of Massachusetts Amherst*, *Amherst, MA*.

2176T **Monitoring heat-induced conformational changes and binding between milk fat globule membrane and β-lactoglobulin using quartz crystal microbalance.**
S. Fishel*, J. Ortega-Anaya, H. Huellemeier, and R. Jiménez-Flores, *The Ohio State University*, *Columbus, OH*.

2177T **Whey protein concentrate with improved foam stability via Pickering stabilization.**
A. Kotchabhakdi and B. Vardhanabhuti*, *University of Missouri*, *Columbia, MO*.

2178T **Partial purification of β-galactosidase from *Lactobacillus helveticus* with transglycosylation activity on acid whey.**
S. Ruiz-Ramirez*, I. Garcia-Cano, and R. Jimenez-Flores, *The Ohio State University*, *Columbus, Ohio*.

2179T **Dairy waste protein valorization potential: A comparative investigation into sustainable protein recovery and multifunctional bioactive peptides generation via liquid biphasic flotation and enzymatic assisted extraction models.**
H. Kamal*[1,2], A. Ali[1,2], and C. F. Le[1], [1]*School of Bioscience, Faculty of Science and Engineering, University of Nottingham Malaysia*, *Semeniyh, Selengor, Malaysia*, [2]*Future Food Beacon of Excellence, Faculty of Science, University of Nottingham*, *Loughborough, Nottingham, United Kingdom*.

2180T **The stability of fucoxanthin and its effect on the physicochemical characteristics of goat milk yogurt.**
R. Attaie*, M. Nunez, A. Mora-Gutierrez, and Y. Jung, *Prairie View A&M University*, *Prairie View, TX*.

2181T **Utilization of microencapsulated olive oil powder for the production of functional (MUFA) ice cream.**
C Ashokkumar* and B Murugan, *Department of Food Safety and Quality Assurance, College of Food and Dairy Technology*, *Chennai, Tamilnadu, India*.

2182T **Impact of hyaluronic acid on rheological properties and protein stability of skim milk.**
R. Joshi, A. Aditya*, S. G. Sutariya, and P. Salunke, *Dairy and Food Science Department, South Dakota State University*, *Brookings, SD*.

2183T **Transfer of beta lactam and tetracycline antibiotics from bovine spiked milk to cream, butter, and buttermilk.**
D. E. Gianni*[1], R. Pelaggio[1], E. De Torres[3], F. Rey[1], I. Martinez[1], M. Perez[1], G. S. Veirano[3], and L. Olazabal[1], [1]*Latitud, Fundación LATU*, *Montevideo, Uruguay*, [2]*Laboratorio Tecnologico del Uruguay (LATU)*, *Montevideo, Uruguay*, [3]*Campo experimental Nº2, Facultad de Veterinaria (UdelaR)*, *San José, Uruguay*.

2184T **Withdrawn**

2185T **The Sicilian whey: Utilization of Ricotta whey in the production of value-added artisanal beers.**
C. Pasta[1], M. Caccamo[1], R. Petriglieri[1], A. Difalco[1], G. Farina[1], G. Belvedere[1], G. Marino[1], A. Garavaldi[2], V. Musi[2], and S. D. Alcaine*[3], [1]*CoRFiLaC*, *Ragusa, Italy*, [2]*CRPA*, *Reggio Emilia, Italy*, [3]*Cornell University*, *Ithaca, NY*.

2186T **Similarity of organic and conventional milk from Italian Holstein-Friesian herds.**
C. L. Manuelian[1], V. Vigolo[1], M. Rovai*[2], and M. De Marchi[1], [1]*Dipartimento di Agronomia, Animali, Alimenti, Risorse Naturali e Ambiente (DAFNAE), University of Padova*, *Legnaro, Italy*, [2]*Department of Dairy and Food Science, South Dakota State University*, *Brookings, SD*.

Extension Education 1

2187T **Dairy personnel calving and newborn calf management training: An impactful resource for dairy producers.**
J. Spencer*[1], J. Pineiro[2], M. Berry[1], L. Jenschke[1], and B. Boyd[1], [1]*Texas A&M AgriLife Research and Extension*, *Stephenville, TX*, [2]*Texas A&M AgriLife Research and Extension*, *Amarillo, TX*.

2188T **Assessing heat abatement on 12 Wisconsin dairy facilities.**
K. J. Reuscher*[1], N. B. Cook[2], C. Halbach[3], M. R. Mondaca[4], and J. M. C. Van Os[1], [1]*Department of Animal and Dairy Sciences, University of Wisconsin–Madison*, *Madison, WI*, [2]*School of Veterinary Medicine, University ofWisconsin-Madison*, *Madison, WI*, [3]*The Dairyland Initiative, School of Veterinary Medicine, University of Wisconsin–Madison*, *Madison, WI*, [4]*Honorary Fellow, The Dairyland Initiative, School of Veterinary Medicine, University of Wisconsin–Madison*, *Madison, WI*.

2189T **Veterinarians' opinions on calf housing and feeding management.**
F. Silva*[1], J. Van Os[1], C. Winder[2], M. Akins[1], T. Kohlman[1], T. Ollivett[1], H. Schlesser[1], B. Schley[1], S. Stuttgen[1], and J. Versweyveld[1], [1]*University of Wisconsin–Madison*, *Madison, WI*, [2]*University of Guelph*, *Guelph, ON, Canada*.

Forages and Pastures 2

2190T **Energy expenditure for eating, grazing and walking of dairy cows on different feeding strategies.**
A. Jasinsky[2], D. A. Mattiauda[2], M. Ceriani[2], A. Casal[2], and M. Carriquiry*[1], [1]*Department of Animal Production and Pastures, School of Agronomy, Universidad de la República*, *Montevideo, Uruguay*, [2]*Department of Animal Production and Pastures, M. Cassinoni Experimental Station, School of Agronomy, Universidad de la República*, *Paysandú, Uruguay*.

2191T **Effect of a cocktail silage mix on lactation performance of Holstein dairy cows.**
H. Gumus*, L. F. Ferraretto, and M. S. Akins, *University of Wisconsin–Madison*, *Madison, WI*.

2192T **A natural compound as an additive to improve fermentation and aerobic stability of whole-plant corn silage.**
L. Pereira*[1,2], P. Rezamand[2], B. Agustinho[2], G. Vigne[1], D. Volpi[1], Q. Tavares[1], N. Mello[1], P. Schmidt[1], and M. Zopollatto[1], [1]*Federal University of Parana*, *Curitiba, Paraná, Brazil*, [2]*University of Idaho*, *Moscow, ID*.

2193T **Conversion of benzoxazinoids during ensiling of maize.**
J. J. Gross*[1], K. Schlaeppi[2,3], U. Wyss[4], E. Kramer[5], D. Ramhold[5], P. Mateo[2], C. A. M. Robert[2], and M. Erb[2], [1]*Veterinary Physiology, Vetsuisse Faculty, University of Bern*, *Bern, Switzerland*, [2]*Institute of Plant Sciences, Faculty of Sciences, University of Bern*, *Bern, Switzerland*, [3]*Department of Environmental Sciences, Faculty of Science, University of Basel*, *Basel, Switzerland*, [4]*Agroscope, Ruminant Research Unit*, *Posieux, Switzerland*, [5]*ISF GmbH*, *Pinneberg, Germany*.

2194T **Effect of an improved grazing management system on dairy heifer performance.**
S. B. Potts*[1], A. M. Grev[1], and J. W. Semler[2], [1]*University of Maryland Extension*, *Keedysville, MD*, [2]*University of Maryland Extension*, *Boonsboro, MD*.

2195T **Changes of benzoxazinoids during aerobic deterioration of maize silage.**
J. J. Gross*[1], P. Mateo[2], D. Ramhold[3], E. Kramer[3], C. A. M. Robert[2], and M. Erb[2], [1]*Veterinary Physiology, Vetsuisse Faculty, University of Bern*, *Bern, Switzerland*, [2]*Institute of Plant Sciences, Faculty of Sciences, University of Bern*, *Bern, Switzerland*, [3]*ISF GmbH*, *Pinneberg, Germany*.

2196T **Alfalfa and corn forage quality is related to soil analysis and plant tissue mineral content.**
K. Felton*[3], J. Slosarczyk[3], H. Soldner[3], D. Sawyer[1,2], and J. Goeser[1,2], [1]*Rock River Laboratory Inc.*, *Watertown, WI*, [2]*University of Wisconsin–Madison*, *Madison, WI*, [3]*ALCIVIA*, *Cottage Grove, WI*.

2197T **Effect of ensiling on in vitro dry matter and fiber degradability of sorghum and corn varieties in El Salvador.**
E. E. C. Guillen*[1], M. V. Mendoza[1], K. G. Arriola[2], D. Vyas[2], and J. M. Castro-Montoya[3], [1]*Departamento de Zootecnia, Facultad de Ciencias Agronómicas, Universidad de El Salvador*, *San Salvador, El Salvador*, [2]*Department of Animal Sciences, University of Florida*, *Gainesville, FL*, [3]*Programa de posgrado y educación continua, Facultad de Ciencias Agronómicas, Universidad de El Salvador*, *San Salvador, El Salvador*.

2198T **Yield and nutritional value of 5 sorghum and 5 corn varieties for cattle feeding in El Salvador.**
E. E. C. Guillen*[1,2], M. V. Mendoza[1], E. A. Perez[1], J. C. Angeles[2], and J. M. Castro-Montoya[3], [1]*Departamento de Zootecnia, Facultad de Ciencias Agronómicas, Universidad de El Salvador*, *San Salvador, El Salvador*, [2]*Instituto de Ciencias Agropecuarias, Universidad Autónoma del Estado de Hidalgo*, *Tulancingo, Hidalgo, Mexico*, [3]*Programa de posgrado y educación continua, Facultad de Ciencias Agronómicas, Universidad de El Salvador*, *San Salvador, El Salvador*.

2487T **Effects of curing extent and storage time on dry matter loss, nutritive value, microbial counts, and heating of aerobically exposed red clover silage.**
D. Z. Ayala*, M. Killerby, G. Oppong, C. Knight, K. Dean, and J. R. Gomez, *University of Maine*, *Orono, ME*.

Lactation Biology 1

2199T **Development of a high-throughput screening method to evaluate lipid droplet accumulation in primary bovine mammary epithelial cells.**
M. A. Guesthier*[1,2], T. Kustova[1], P. Piantoni[2], G. Schroeder[2], and S. Burgos[1], [1]*Department of Animal Science, McGill University*, *St-Anne-de-Bellevue, QC Canada*, [2]*Cargill Animal Nutrition and Health, Innovation Campus*, *Elk River, MN*.

2200T **Cellular proliferation in *Staphylococcus aureus*-infected heifer mammary glands that were hormonally stimulated to rapidly grow.**
P. H. Baker*[1], K. M. Enger[1], S. K. Jacobi[2], R. M. Akers[3], and B. D. Enger[1], [1]*The Ohio State University*, *Wooster, OH*, [2]*The Ohio State University*, *Columbus, OH*, [3]*Virginia Polytechnic Institute and State University*, *Blacksburg, VA*.

2201T **Milk yield, components, and lactation persistency improvement due to increased milking frequency during early and mid-lactation in multiparous cows.**
G. Perez-Hernandez*, H. H. Hanling, and B. A. Corl, *Virginia Tech*, *Blacksburg, VA*.

2203T **Mammary gland inflammation and development around dry-off and calving of dairy cows.**
J. Gao*[1], T. N. Marins[1], J. O. S. Calix[1], Z. Qi[2], J. K. Bernard[1], and S. Tao[1], [1]*Department of Animal and Dairy Science, University of Georgia*, *Athens, GA*, [2]*Department of Animal Nutrition and Feed Science, College of Animal Sciences and Technology, Huazhong Agricultural University*, *Wuhan, China*.

2204T **Relationship between glucose infusion and milk protein concentration and yield in dairy cows: A mixed-effects meta-analysis.**
G. C. Reyes*, J. Ellis, M. K. Fox, and J. P. Cant, *Department of Animal Biosciences, University of Guelph*, *Guelph, ON, Canada*.

Physiology and Endocrinology 2

2205T **Association between vitamin A, D, and E status with acute-phase proteins, minerals, energy markers, and immune cells in preweaned dairy calves.**
D. C. Ramos*[1], M. L. Celestino[2], L. Fernandes[2], P. R. Menta[2], S. Jersey[3], V. S. Machado[2], C. D. Nelson[3], and A. Vieira-Neto[1], [1]*Kansas State University*, *Manhattan, KS*, [2]*Texas Tech University*, *Lubbock, TX*, [3]*University of Florida*, *Gainesville, FL*.

2206T **Feeding cobalt sources during late pregnancy to Holstein cows affects muscle abundance of proteins in the mTOR and insulin signaling pathway, and intermediates of one-carbon metabolism in neonatal calves.**
V. Lopreiato*[1], C. Jacomento[2], A. S. Alharthi[3], M. T. Socha[4], and J. J. Loor[5], [1]*Department of Veterinary Sciences, Università degli studi di Messina*, *Messina, Italy*, [2]*Universidad de La Salle*, *Bogota, Colombia*, [3]*Department of Animal Production, College of Food and Agriculture Sciences, King Saud University*, *Riyadh, Saudi Arabia*, [4]*Zinpro Corporation*, *Eden Prairie, MN*, [5]*Department of Animal Sciences and Division of Nutritional Sciences, University of Illinois*, *Urbana, IL*.

2207T **Lipidome profiling of epithelium from the gastrointestinal tract of lactating Holstein cows.**
Q. Jiang*, D. N. Coleman, A. Aboragah, D. Hernandez-Saavedra, and J. J. Loor, *University of Illinois*, *Urbana, IL*.

2208T **Effect of pH and lipopolysaccharide concentration in vitro on tight junction regulators and inflammatory markers.**
B. C. Agustinho*[1], A. E. Mark[2], A. H. Laarman[1,2], D. E. Konetchy[1], and P. Rezamand[1], [1]*Department of Animal, Veterinary and Food Sciences, University of Idaho*, *Moscow, ID*, [2]*Agricultural, Life and Environmental Sciences, University of Alberta*, *Edmonton, AB, Canada*.

2209T **Effect of feed restriction and an immunomodulatory feed additive in performance, immune markers, and gut barrier integrity in wethers.**
M. Garcia*[1], Y. Jiang[2], J. D. Chapman[1], and B. D. Humphrey[1], [1]*Phibro Animal Health Coorporation*, *Teaneck, NJ*, [2]*Kentucky State University*, *Frankfort, KY*.

2210T **The influence of body weight and feed intake on the oral chromium EDTA technique to assess gastrointestinal permeability in dairy cattle.**
J. Opgenorth*, B. M. Goetz, M. A. Abeyta, S. Rodriguez-Jimenez, E. A. Horst, E. J. Mayorga, S. Lei, A. D. Freestone, and L. H. Baumgard, *Iowa State University*, *Ames, IA*.

2211T **The SLICK1 mutation in *PRLR* affects regulation of body temperature and causes small-scale changes in global gene expression in liver.**
F. Sosa*[1], J. E. P Santos[1], D. O. Rae[1], C. C. Larson[2], M. Macchietto[3], J. E. Abrahante[3], T. F. Amaral[1], A. C Denicol[4], T. Sonstegard[5], and P. J Hansen[1], [1]*University of Florida*, *Gainesville, FL*, [2]*University of Florida/Institute of Food and Agricultural Sciences*, *Okeechobee, FL*, [3]*University of Minnesota*, *Minneapolis, MN*, [4]*University of California–Davis*, *Davis, CA*, [5]*Acceligen*, *Eagan, MN*.

2212T **Heat exposure increases digestive tract epithelial barrier permeability.**
J. Fenwick* and B. J. Renquist, *University of Arizona*, *Tucson, AZ*.

2213T **Effect of glucose infusion dose and stage of lactation on urinary glucose excretion in dairy cows.**
V. M. R. Malacco*[1,2], M. R. Savage[1], L. Beckett[1], S. Hilger[1], L. F. Martins[3], R. C. Neves[3], B. Funnell[3], and S. S. Donkin[1], [1]*Dept. of Animal Sciences, Purdue University*, *West Lafayette, IN, US*, [2]*Michigan State University Extension*, *East Lansing, MI, US*, [3]*Department of Veterinary Clinical Sciences, Purdue University*, *West Lafayette, IN, US*.

2214T **Metabolic-endocrine changes during the grazing evening event by dairy cows.**
A. I. Trujillo*, M. Oborsky, and P. Chilibroste, *Facultad de Agronomía, UDELAR, Uruguay*.

Production, Management, and the Environment 2

2215T **Enogen corn hybrids can improve feed efficiency and reduce environmental impact in dairy production.**
T. J. Koehler*[1], J. T. Axtell[1], J. P. Goeser[2,4], M. M. Miller[3], R. D. Shaver[4], and E. D. Watson[1], [1]*Syngenta Seeds LLC*, *Downers Grove, IL*, [2]*Rock River Laboratory Inc.*, *Watertown, WI*, [3]*Sustainable Solutions Corporation*, *Royersford, PA*, [4]*University of Wisconsin*, *Madison, WI*.

2216T **Effects of corn hybrids differing in flavonoid content on rumen fermentation and enteric methane emission in vitro.**
S. F. Cueva*, D. E. Wasson, L. F. Martins, N. Stepanchenko, D. Chatterjee, T. Lesko, C. Surinder, and A. N. Hristov, *The Pennsylvania State University*, *University Park, PA*.

2217T **Effects of total mixed ration moisture content on its temperature stability.**
L. Garcia*, F. F. Cardoso, K. Alexander, and F. C. Cardoso, *University of Illinois at Urbana-Champaign*, *Urbana, IL*.

2218T **Effect of a plant extract-based functional feed additive on dairy cow performance and nitrogen efficiency.**
G. Desrousseaux*[1], S. Palmans[2], D.. Fremaut[3], and J. F. Gabarrou[1], [1]*Laboratoires Phodé*, *Terssac, France*, [2]*PVL*, *Bocholt, Belgium*, [3]*University of Ghent*, *Ghent, Belgium*.

2219T **Effect of supplementation with *Bacillus subtilis* on rumen fermentation and enteric methane production in vitro.**
D. E. Wasson*[1], S. F. Cueva[1], L. Martins[1], S. Räisänen[1], N. Stepenchenko[1], Y. Chen[2], L. W. Rottman[2], and A. N. Hristov[1], [1]*The Pennsylvania State University*, *University Park, PA*, [2]*Locus Fermentation Solutions*, *Solon, OH*.

2220T **Optimizing diets for metabolizable methionine may reduce dairy environmental impact.**
D. Militello*[1,2], N. Draijer[3], L. Thiaucourt[4], and A. Hocini[2], [1]*Department of Agricultural, Forest, and Food Sciences, University of Turin*, *Grugliasco, Turin, Italy*, [2]*Adisseo France S.A.S*, *Antony, France*, [3]*Blonk Consultants*, *Gouda, the Netherlands*, [4]*Animal Nutrition Consultant*, *Molsheim, France*.

2221T **In vitro evaluation of enteric methane mitigation strategies: A meta-analysis.**
L. F. Martins*[1], G. F. S. Congio[2], S. F. Cueva[1], C. F. A. Lage[1,3], M. Ramin[4], T. Silvestre[1], J. Tricarico[5], and A. N. Hristov[1], [1]*The Pennsylvania State University*, *University Park, PA*, [2]*University of São Paulo*, *Piracicaba, SP, Brazil*, [3]*Cornell Cooperative Extension*, *Bath, NY*, [4]*Swedish University of Agricultural Sciences*, *Umeå, Sweden*, [5]*Dairy Management Inc.*, *Des Plaines, IL*.

2222T **Screening of tropical macroalgae for enteric methane mitigation effect in vitro.**
D. E. Wasson*[1], L. F. Martins[1], N. Stepenchenko[1], S. F. Cueva[1], C. F. García[2], R. Radulovich[2], and C. Yarish[3], [1]*The Pennsylvania State University*, *University Park, PA*, [2]*Universidad de Costa Rica*, *San José, San Pedro, Costa Rica*, [3]*The University of Connecticut*, *Stamford, CT*.

2223T **Effect of feeding a body-cooling feed additive (ICE) on body temperature, milk production, milk components and inflammation in lactating dairy cows.**
G. A. Bruni[1], G. O. Sousa[1], L. N. Silva[1], T. C. Santos[1], D. Langwinski[2], M. Luchesi[2], A. H. Souza[2], R. O. Rodrigues*[3], and J. L. M. Vasconcelos[1], [1]*São Paulo State University*, *Botucatu, SP, Brazil*, [2]*Cargill Animal Nutrition*, *Campinas, SP, Brazil*, [3]*Cargill Animal Nutrition*, *Lewisburg, OH*.

2224T **Changes in milk production and estimated income over feed cost of group-housed dairy cows when moved from a high- to a low-production ration.**
A. Bach*[1,2], [1]*Marlex Research and Education*, *Barcelona, Spain*, [2]*Institució Catalana de Recerca i Estudis Avanças (ICREA)*, *Barcelona, Spain*.

2225T **Association between income over feed cost, milk production, and dietary factors in Southern European dairy farms.**
A. Bach*[1,2] and B. Sales[3], [1]*Marlex Research and Education*, *Barcelona, Spain*, [2]*Institució Catalana de Recerca i Estudis Avançats (ICREA)*, *Barcelona, Spain*, [3]*algoMilk*, *Barcelona, Spain*.

Reproduction 2

2226T **Body condition score fluctuations and pregnancy loss in Holstein cows.**
P. Pinedo*[1], D. Manriquez[1], C. Ciarletta[1], J. Azocar[2], and A. De Vries[3], [1]*Department of Animal Sciences, Colorado State University*, *Fort Collins, CO*, [2]*DeLaval Inc.*, *Bannockburn, IL*, [3]*Department of Animal Sciences, University of Florida*, *Gainesville, FL*.

2227T **Impact of early lactation administration of a nonspecific immune stimulant on fertility and health of Holstein cows.**
C. Hernandez-Gotelli*[1], H. Bothe[2], J. Velez[2], S. Else[1], D. Manriquez[1], L. Caixeta[3], and P. Pinedo[1], [1]*Department of Animal Sciences, Colorado State University*, *Fort Collins, CO*, [2]*Aurora Organic Farms*, *Platteville, CO*, [3]*Department of Veterinary Population Medicine, College of Veterinary Medicine, University of Minnesota*, *St Paul*.

2228T **Characterization of semen type allocation in Holstein females in the United States.**
M. R. Lauber*[1], F. Peñagaricano[1], R. H. Fourdraine[2], J. S. Clay[2], and P. M. Fricke[1], [1]*Department of Animal and Dairy Sciences, University of Wisconsin–Madison*, *Madison, WI*, [2]*Dairy Records Management Systems*, *Raleigh, NC*.

2229T **Characterization of semen type allocation in Jersey females in the United States.**
M. R. Lauber*[1], F. Peñagaricano[1], R. H. Fourdraine[2], J. S. Clay[2], and P. M. Fricke[1], [1]*Department of Animal and Dairy Sciences, University of Wisconsin–Madison*, *Madison, WI*, [2]*Dairy Records Management Systems*, *Raleigh, NC*.

2230T **Associations between postpartum health and incidence of early pregnancy loss after first insemination in dairy cows.**
T. C. Bruinjé*[1], E. I. Morrison[1], E. S. Ribeiro[2], D. L. Renaud[1], and S. J. LeBlanc[1], [1]*Department of Population Medicine, University of Guelph*, *Guelph, ON, Canada*, [2]*Department of Animal Biosciences, University of Guelph*, *Guelph, ON, Canada*.

2231T **Associations of postpartum health with luteal function after insemination and endocrine signaling in early pregnancy in dairy cows.**
T. C. Bruinjé*[1], E. I. Morrison[1], E. S. Ribeiro[2], D. L. Renaud[1], and S. J. LeBlanc[1], [1]*Department of Population Medicine, University of Guelph*, *Guelph, ON, Canada*, [2]*Department of Animal Biosciences, University of Guelph*, *Guelph, ON, Canada*.

2232T **Induced endometrial inflammation impacts production and reproduction in dairy cows.**
A. Husnain*, U. Arshad, M. B. Poindexter, R. Zimpel, M. N. Marinho, M. C. Perdomo, P. Fan, K. C. C. Jeong, C. D. Nelson, J. J. Bromfield, and J. E. P. Santos, *University of Florida*, *Gainesville, FL*.

2233T **Uterine microbiome and inflammation at one month postpartum in cows diagnosed as healthy or metritic and treated or not treated with antibiotic at 7 d postpartum.**
M. C. Lucy*, T. J. Evans, J. G. N. Moraes, T. Gull, A. C. Ericsson, M. O. Caldeira, S. E. Poock, and T. E. Spencer, *University of Missouri*, *Columbia, MO*.

2234T **Impact of uterine disease on the reestablishment of uterine glands in early postpartum dairy cows.**
I. Sellmer*, J. G. N. Moraes, M. O. Caldeira, S. E. Poock, T. E. Spencer, and M. C. Lucy, *University of Missouri*, *Columbia, MO*.

2235T **Endometrial epithelial cells from virgin heifers respond differently to lipopolysaccharide compared with d 30 and d 75 postpartum cows.**
M. O. Caldeira*[1], J. G. N. Moraes[1,2], I. Sellmer-Ramos[1], S. E. Poock[1], T. E. Spencer[1], and M. C. Lucy[1], [1]*University of Missouri*, *Columbia, MO*, [2]*Oklahoma State University*, *Stillwater, OK*.

Ruminant Nutrition: General 2

2236T **Effect of 3-nitrooxypropanol alone and in combination with essential oils on rumen methane emissions and milking performance in dairy cows.**
N. Walker*[1], A. Bach[2,3], G. Elcoso[4], M. Escartín[1], A. Karagianni[1], M. Kindermann[1], and L. Tamassia[1], [1]*DSM Nutritional Products*, *Basel, Switzerland*, [2]*Marlex Research and Education*, *Barcelona, Spain*, [3]*nstitució de Recerca i Estudis Avançats (ICREA)*, *Barcelona, Spain*, [4]*Blanca from the Pyrenees*, *Lleida, Spain*.

2237T **Effect of methane inhibitors on in vitro fermentation and CH_4 production using rumen inoculum from cows with high and low methane yield phenotype.**
N. Stepanchenko*[1], D. E. Wasson[1], S. Welchez[1], L. Martins[1], T. Silvestre[1], D. W. Pitta[2], and A. N. Hristov[1], [1]*Pennsylvania State University*, *University Park, PA*, [2]*University Of Pennsylvania, School of Veterinary Medicine*, *New Bolton Center, Kennett Square, PA*.

2238T **Long-term effects of feeding a mixture of essential oils on methane emissions and milking performance of dairy cows.**
A. Bach*[1,2], G. Elcoso[3], M. Escartin[3], K. Spengler[4], and A. Jouve[4], [1]*Marlex Research and Education*, *Barcelona, Spain*, [2]*Institució Catalana de Recerca i Estudis Avançats (ICREA)*, *Barcelona, Spain*, [3]*Blanca from the Pyrenees*, *Hostalets de Tost, Spain*, [4]*Agolin SA*, *Bière, Switzerland*.

2239T **Effect of Rumensin level on milk production efficiency and milk fat in mid-lactation cows fed modern diets.**
S. Kvidera*[1], P. French[2], D. Carlson[1], S. Hagerty[2], J. Mechor[1], P. Jardon[1], K. Dhuyvetter[1], and A. Holloway[1], [1]*Elanco Animal Health*, *Indianapolis, IN*, [2]*PHD R&D*, *Fort Atkinson, WI*.

2240T **Effect of dietary α-amylase supplementation on productive performance of lactating Holstein dairy cows fed a rich-starch diet.**
J. J. Olmos[1], J. Hidalgo[2], D. Mayorga[3], E. Medina*[3], C. S. Cortinhas[4], T. S. Acedo[4], J. D. Orozco[5], M. Franco[5], and O. I. Santana[3], [1]*Departamento de Ciencias Pecuarias y Agrícolas, Centro Universitario de Los Altos de la Universidad de Guadalajara*, *Tepatitlán de Morelos, Jalisco, México*, [2]*Department of Animal and Dairy Science, University of Georgia*, *Athens, GA*, [3]*Escuela Nacional de Lechería Sustentable S de PR de RL*, *San Juan de los Lagos, Jalisco, México*, [4]*DSM Produtos Nutricionais Brasil SA*, *São Paulo, Brazil*, [5]*DSM Nutritional Products México SA de CV*, *El Salto, Jalisco, México*.

2241T **Meta-analysis of the effects of the dietary application of exogenous alpha-amylase preparations on performance, nutrient digestibility, and rumen fermentation of lactating dairy cows.**
A. A. Pech-Cervantes*[1], L. F. Ferrarretto[2], and I. M. Ogunade[3], [1]*Agricultural Research Station, Fort Valley State University*, *Fort Valley, GA*, [2]*Department of Animal and Dairy Sciences, University of Wisconsin*, *Madison, WI*, [3]*Division of Animal and Nutritional Science, West Virginia University*, *Morgantown, WV*.

2242T **Effects of choline chloride on milk yield and composition of transition cows.**
L. R. Royo*[1], M. Puyalto[1], J. H. Sanchez[2], and J. J. Mallo[1], [1]*Norel SA*, *Madrid, Spain*, [2]*Dairy Professionals*, *Bañolas, Spain*.

2243T **Effects of stabilized liquid propionic acid supplementation on production, metabolism, and inflammation in lactating Holstein cows.**
E. A. Horst, C. Sousa*, D. Warmka, and L. Rodriguez, *Innovative Liquids LLC*.

2244T **Effects of dietary stabilized liquid propionic acid on energetic and inflammatory metrics in postpartum dairy cows.**
E. A. Horst*, C. Sousa, T. DeVries, and L. A. Rodriguez, *Innovative Liquids LLC*, *El Dorado Hills, CA*.

2245T **Comparison of zinc sources on increased tissue zinc enrichment with dietary antagonism.**
H. Tucker*, S. Bettis, T. Rode, D. Hancock, and M. Vázquez-Añón, *Novus International*, *St. Charles, MO*.

2246T **Forage-to-concentrate ratio alters ruminal epithelium abundance of proteins involved in nutrient metabolism, insulin signaling, and antioxidant response in Jersey steers.**
L. Thanh*[1,2], A. Aboragah[2], Q. Jiang[2], S. Moisa[3], and J. J. Loor[2], [1]*Can Tho University*, *Ninh Kieu Can Tho, Vietnam*, [2]*University of Illinois*, *Urbana, IL*, [3]*University of Tennessee*, *Knoxville, TN*.

2247T **Prediction of prepartum dry matter intake using linear regression of sensor, blood metabolite, and body size variables in Holstein cows.**
M. J. Martin*, H. T. Holdorf, S. J. Erb, K. A. Weigel, and H. M. White, *University of Wisconsin–Madison*, *Madison, WI*.

2248T **Increasing dose of prepartum rumen-protected choline: Effects on energy and nitrogen metabolism in Holstein dairy cows.**
H. T. Holdorf*[1], K. E. Ruh[1], S. J. Erb[1], S. J. Henisz[1], G. J. Combs[1], T. Bresolin[1], R. E. P. Ferreira[1], W. E. Brown[1], S. M. Edwards[1], J. C. Rule[3], F. P. Zhou[1], M. J. Martin[1], K. E. Estes[2], J. R. R. Dorea[1], H. M. White[1], [1]*University of Wisconsin–Madison*, *Madison, WI*, [2]*Balchem Corporation*, *New Hampton, NY*, [3]*University of Wisconsin-Platteville*, *Platteville, WI*.

2249T **The association between hyperketonemia and blood and rumen parameters in the first 2 weeks postpartum.**
A. D. Ravelo*[1], D. M. Moreira[1], M. Ruch[1], E. Shepley[1], I. J. Salfer[2], and L. S. Caixeta[1], [1]*Department of Veterinary Population Medicine, University of Minnesota*, *Saint Paul, MN*, [2]*Department of Animal Science, University of Minnesota*, *Saint Paul, MN*.

2250T **Partitioning among-animal variance of energy utilization in lactating Jersey cows.**
A. L. Carroll[1], M. L. Spangler[1], D. L. Morris[2], and P. J. Kononoff*[1], [1]*Department of Animal Science, University of Nebraska–Lincoln*, *Lincoln, NE*, [2]*Perdue Agribusiness*, *Salisbury, MD*.

2251T **The effect of supplementing a high-protein corn coproduct on milk production in lactating Jersey cows fed different proportions of corn silage and alfalfa haylage.**
K. Buse*[1], M. Jolly-Breithaupt[2], K. Herrick[2], and P. Kononoff[1], [1]*University of Nebraska–Lincoln*, *Lincoln, NE*, [2]*POET Nutrition*, *Sioux Falls, SD*.

2252T **Relationship between silage attributes and performance of lactating dairy cows: A meta-analysis.**
K. G. Arriola*[1], A. S. Oliveira[2], C. A. N. de Guzman[1], K. V. Almeida[1], I. Fernandez-Marenchino[1], L. P. Marroquin[1], F. X. Amaro[1], L. Mu[1], S. Lee[1], P. Singh[1], G. Hao[1], H. Sultana[1], B. A. Rajo[1], A. T. Adesogan[1], D. Vyas[1], [1]*University of Florida, Department of Animal Sciences*, *Gainesville, FL*, [2]*Universidade Federal de Mato Grosso, Dairy Cattle Research Laboratory*, *Sinop, Mato Grosso, Brazil*.

2253T **Solubility of hydroxy and sulfate trace mineral sources in total mixed ration substrate over 24 hours.**
J. W. Darrah[1], C. S. Ballard*[1], and M. McCarthy[2], [1]*William H. Miner Agricultural Research Institute*, *Chazy, NY*, [2]*Micronutrients USA LLC*, *Indianapolis, IN*.

Ruminant Nutrition: Calves and Heifers 2

2254T **Effects of enriching maternal colostrum with bovine dried colostrum replacer on IgG absorption in newborn male calves.**
A. J. Lopez*[1], H. McCarthy[1], T. T. Yohe[1], J. Echeverry-Munera[1], M. Nagorske[2], D. L. Renaud[3], and M. A. Steele[1], [1]*Department of Animal Biosciences, Animal Science and Nutrition, University of Guelph*, *Guelph, ON, Canada*, [2]*The Saskatoon Colostrum Company Ltd.*, *Saskatoon, Saskatoon, Canada*, [3]*Department of Population Medicine, University of Guelph*, *Guelph, ON, Canada*.

2256T **Performance and health of calves fed milk replacer supplemented with varying levels of lactoferrin from birth to 8 weeks of age.**
E. Dufour*[1], M. Klejeski[2], D. Ziegler[3], B. Ziegler[1], M. Scott[3], A. Golombeski[1], and I. Salfer[4], [1]*Hubbard Feeds*, *Mankato, MN*, [2]*University of Minnesota Southern Research and Outreach Center*, *Waseca, MN*, [3]*Milk Specialties Global*, *Eden Prairie, MN*, [4]*University of Minnesota-Twin Cities*, *St. Paul, MN*.

2257T **Effect of guanidinoacetic acid supplementation on performance of milk-fed calves.**
K. J. Hazlewood*[1], C. A. Zumbaugh[1], C. K. Jones[1], E. M. Atkinson[1], H. L. R. Tingler[1], V. K. Inhuber[2], M. J. Brouk[1], and E. C. Titgemeyer[1], [1]*Department of Animal Sciences and Industry, Kansas State University*, *Manhattan, KS*, [2]*Alzchem Trostberg GmbH*, *Trostberg, Germany*.

2258T **BRIX does not accurately estimate immunoglobulin content in colostrum.**
D. A. Vermeire*[1] and D. A. DeKlyen[2], [1]*Nouriche Nutrition LLC*, *McMurray, PA*, [2]*La Belle Colostrum*, *Phoenix, AZ*.

2259T **Increasing dose of prepartum rumen-protected choline: Effects of in utero exposure on growth and feed efficiency in Holstein dairy calves.**
H. T. Holdorf*[1], S. J. Henisz[1], G. J. Combs[1], W. E. Brown[1], S. J. Erb[1], M. J. Martin[1], K. E. Ruh[1], K. A. Estes[2], and H. M. White[1], [1]*University of Wisconsin–Madison*, *Madison, WI*, [2]*Balchem Corporation*, *New Hampton, NY*.

2260T **Preweaning pair and individual housing effects on subsequent heifer feed efficiency.**
K. A. Riesgraf*, M. S. Akins, J. M. C. Van Os, and K. A. Weigel, *University of Wisconsin–Madison Madison, WI*.

Ruminant Nutrition: Carbohydrates and Lipids 2

2262T **Effect of glycerol supplementation across transition period on feed intake and milking performance in multiparous dairy cows milked with automated systems.**
B. J. Van Soest*[1], M. N. Pereira[3], T. F. Duffield[2], M. A. Steele[1], and T. J. DeVries[1], [1]*Department of Animal Biosciences, University of Guelph*, *Guelph, ON, Canada*, [2]*Department of Population Medicine, University of Guelph*, *Guelph, ON, Canada*, [3]*Department of Animal Science, Federal University of Lavra*, *Lavras, MG, Brazil*.

2263T **Effects of dietary fatty acid supplementation on fat yield and fatty acid profile of milk in dairy cows.**
W. B. Gallardo[1] and I. A. M. A. Teixeira*[1,2], [1]*Departament of Animal Science, Universidade Estadual Paulista*, *Jaboticabal, SP, Brazil*, [2]*Department of Animal, Veterinary, and Food Sciences, University of Idaho*, *Twin Falls, ID*.

2264T **Abomasal infusion of increasing doses of lecithin does not affect nutrient digestibility or production responses in post-peak dairy cows.**
A. M. Burch*[1], J. de Souza[2], and A. L. Lock[1], [1]*Michigan State University*, *East Lansing, MI*, [2]*Perdue AgriBusiness*, *Salisbury, MD*.

2265T **The effect of dietary fat level on mammary arteriovenous fatty acid difference and milk fat yield in Holstein cows.**
A. N. Staffin* and K. J. Harvatine, *Penn State University*, *University Park, PA*.

2266T **Physical effectiveness of corn silage fractions segregated with the Penn State Particle Separator (PSPS) for lactating cows.**
F. A. P. Filho*[1], C. S. Parra[1], J. M. Bragatto[1], S. M. S. da Silva[1], A. Moraes[1], P. J. Rocco[1], L. F. Ferraretto[2], and J. L. P. Daniel[1], [1]*Department of Animal Science, State University of Maringá*, *Maringá, Paraná, Brazil*, [2]*Department of Animal and Dairy Sciences, University of Wisconsin*, *Madison, WI*.

Ruminant Nutrition: Gut Physiology, Fermentation, and Digestion 2

2267T **Effects of calcium-magnesium carbonate and calcium-magnesium hydroxide as supplemental sources of magnesium on ruminal microbiome in continuous culture.**
J. A. Arce-Cordero*[1], T. Liu[1,2], A. Ravelo[1], R. R. Lobo[1], H. F. Monteiro[1], K. C. Jeong[1,2], and A. P. Faciola[1], [1]*Department of Animal Sciences, University of Florida*, *Gainesville, FL*, [2]*Emerging Pathogens Institute, University of Florida*, *Gainesville, FL*.

2268T **Evaluating hindgut buffers under high-starch diet conditions in lactating Holstein cows.**
S. Cronin*[1], M. Smith[1], C. M. K. Bradley[2], V. Daley[2], F. Gadeyne[3], M. Bustos[3], and T. F. Gressley[1], [1]*University of Delaware, Department of Animal and Food Sciences*, *Newark, DE*, [2]*Purina Animal Nutrition, LLC*, *Arden Hills, MN*, [3]*Royal Agrifirm Group*, *Apeldoorn, the Netherlands*.

2269T **The effect of sodium on acetate and butyrate absorption and barrier function of the isolated ruminal epithelia.**
C. A. Bertens* and G. B. Penner, *University of Saskatchewan*, *Saskatoon, SK, Canada*.

2270T **Evaluation of 2 buffer sources on rumen fermentation and pH in continuous culture.**
Y. Roman-Garcia*[1], S. El-Haddad[1], K. Dieho[2], and G. Schroeder[1], [1]*Cargill Animal Nutrition and Health, Innovation Campus*, *Elk River, MN*, [2]*Cargill Animal Nutrition and Health*, *Velddriel, the Netherlands*.

2271T **Characterizing ruminal acidosis risk: A multi-herd, multi-country study.**
H. Golder*[1,2], J. Rehberger[3], A. Smith[3], S. LeBlanc[4], T. Duffield[4], H. Rossow[5], R. Bogdanich[6], L Hernandez[7], E. Block[3], and I. Lean[1,2], [1]*Scibus*, *Camden, NSW, Australia*, [2]*Dairy Science Group, Faculty of Veterinary Science, The University of Sydney*, *Camden, NSW, Australia*, [3]*Arm & Hammer Animal and Food Production*, *Princeton, NJ*, [4]*Department of Population Medicine, ON Veterinary College, University of Guelph*, *Guelph, ON, Canada*, [5]*Veterinary Medicine Teaching and Research Center, School of Veterinary Medicine, University of California–Davis*, *Tulare, CA*, [6]*Cross Street Veterinary Clinic*, *Tulare, CA*, [7]*Department of Animal and Dairy Sciences, University of Wisconsin–Madison*, *Madison, WI*.

2272T **Feeding native rumen microbial supplements increases energy-corrected milk production by Holstein cows.**
A. M. Dickerson*[1], F. Yang[2], H. B. Green[2], M. M. Embree[2], and J. K. Drackley[1], [1]*University of Illinois Urbana-Champaign*, *Urbana, IL*, [2]*Native Microbials*, *San Diego, CA*.

2273T **Dose-response effects of isoleucine on the biosynthesis of branched-chain fatty acids by ruminal microorganisms in vitro.**
L. Matthews*, M. Vedovatto, S. Greenwood, and J. Kraft, *The University of Vermont*, *Burlington, VT*.

2274T **Ileal microbiota profiles during an intestinal barrier challenge in lactating Holstein cows fed a *Saccharomyces cerevisiae* fermentation product.**
Q. Jiang*[1], D. N. Coleman[1], Y. Liang[1], A. Aboragah[1], A. Elolimy[1], M. Vailati-Riboni[2], I. Yoon[2], and J. J. Loor[1], [1]*Department of Animal Sciences, University of Illinois*, *Urbana, IL*, [2]*Diamond V*, *Cedar Rapids, IA*.

2275T **Ileal transcriptome is altered during an intestinal barrier challenge in lactating Holstein cows fed a *Saccharomyces cerevisiae* fermentation product.**
Q. Jiang*[1], D. N. Coleman[1], Y. Liang[1], A. Aboragah[1], V. Palombo[2], M. Vailati-Riboni[3], L. Yoon[3], and J. J. Loor[1], [1]*Department of Animal Sciences, University of Illinois*, *Urbana, IL*, [2]*Università degli Studi del Molise, via De Sanctis snc*, *Campobasso, Italy*, [3]*Diamond V*, *Cedar Rapids, IA*.

Ruminant Nutrition: Protein/Amino Acids 2

2276T **Evaluation of the degradation kinetics of rumen slow-release nitrogen products for dairy cows.**
J. Levesque[1], I. D. Girard[2], D. E. Rico[1], J. E. Ewards[3], and B. Medina*[2], [1]*CRSAD*, *Deschambault, QC, Canada*, [2]*Probiotech International*, *Montreal, QC, Canada*, [3]*Palitatl Feed Additives B.V*, *Velddriel, Netherlands*.

2277T **Effects of feeding rumen-protected lysine prepartum on placental immunometabolic gene expression of Holstein cows.**
A. R. Guadagnin*[1], L. K. Fehlberg[1], B. Thomas[1], Y. Sugimoto[2], I. Shinzato[2], and F. C. Cardoso[1], [1]*University of Illinois*, *Urbana, IL*, [2]*Ajinomoto Co. Inc.*, *Tokyo, Japan*.

2278T **Daily top-dressing of rumen-protected methionine affects the global endometrial epigenome in postpartum dairy cows.**
D. Salilew-Wondim[1], C. Blaschka[2], M. Drillich[3], M. Iwersen[3], D. Suess[3], S. Gebremedhn[1,4], D. Tesfaye[1,4], E. Tholen[1], C. Parys*[5], A. Helmbrecht[5], J. Guyader[5], and M. Hoelker[1,2], [1]*Institute of Animal Sciences, Animal Breeding, University of Bonn*, *Bonn, Germany*, [2]*Department of Animal Science, Biotechnology and Reproduction of farm animals, University of Goettingen*, *Burckhardtweg, Germany*, [3]*Clinical Unit for Herd Health Management, University Clinic for Ruminants, Department for Farm Animals and Veterinary Public Health, University of Veterinary Medicine Vienna*, *Vienna, Austria*, [4]*Department of Biomedical Sciences, Animal Reproduction and Biotechnology Laboratory, Colorado State University*, *Fort Collins, CO*, [5]*Evonik Operations GmbH*, *Rodenbacher Chaussee, Hanau, Germany*.

2279T **Rumen-protected methionine and lysine supplementation improved performances and environmental impact of nitrogen when lowering dietary protein content in dairy farms.**
D. Militello*[1,2], S. Lemosquet[3], Y. Mathieu[4], L. Bahloul[2], D. Andrieu[5], M. Rolland[6], S. Rouverand[7], and G. Trou[8], [1]*Department of Agricultural, Forest, and Food Sciences, University of Turin*, *Grugliasco, Turin, Italy*, [2]*Centre of Expertise and Research in Nutrition, Adisseo France S.A.S*, *Commentry, France*, [3]*PEGASE, INRAE, Institut Agro*, *Saint-Gilles, France*, [4]*Seenovia*, *Nantes, France*, [5]*CCPA*, *Janzé, France*, [6]*Vision Lait*, *Muizon, France*, [7]*Valorial*, *Rennes, France*, [8]*Chambres d'agriculture de Bretagne*, *Rennes Cedex, France*.

2280T **Effects of feeding rumen-protected methionine and calcium salts enriched in omega-3 fatty acids on measures of liver function in periparturient cows.**
T. L. France*, K. S. Juarez-Leon, A. Javaid, M. G. Vogellus, and J. W. McFadden, *Cornell University*, *Ithaca, NY*.

2281T **Measures of amino acids best associated with milk true protein.**
R. A. Patton*[1], E. Mahjoubi[2], A. N. Hristov[3], H. Lapierre[4], C. Parys[5], and J. Guyader[5], [1]*Nittany Dairy Nutrition, Inc.*, *Mifflinburg, PA*, [2]*University of Zanjan*, *Zanjan, Iran*, [3]*The Pennsylvania State University*, *University Park, PA*, [4]*Agriculture and Agri-Foods Canada*, *Sherbrooke Research and Development Centre, QC, Canada*, [5]*Evonik Operations GmbH*, *Hanau, Germany*.

Teaching/Undergraduate and Graduate Education

2282T **Can industry webinars be used as supplemental material in a dairy production management course?**
S. Paudyal*, *Department of Animal Science, Texas A&M University*, *College Station, TX*.

Joint Dairy Foods/Lactation Biology Symposium: Milk—A Full-Spectrum Health Provider!

Chair: **Rohit Kapoor, National Dairy Council**
Sponsor: **National Dairy Council**
CC 2215A
9:30 AM – 12:30 PM
This session will also be livestreamed. For more information, please see adsa.org/2022vm.

9:30 AM		**Welcome**
9:35 AM	1207	**Consumer and commercial landscape on health and wellness and key dairy bioactives.** E. L. Vernon*, *RTI*, *Research Triangle Park, NC*.
10:10 AM	1208	**Consumer perception of dairy foods and immunity.** M. A. Drake* and M. E. Watson, *North Carolina State University*, *Raleigh, NC*.
10:45 AM	1209	**Dairy bioactives and human health.** M. Torres-Gonzalez*, *National Dairy Council*, *Rosemont, IL*.
11:20 AM	1210	**Bioactives in bovine milk: Chemistry, technology, and applications.** T. Lin*[1], G. Meletharayil[2], R. Kapoor[2], and A. Abbaspourrad[1], [1]*Department of Food Science, College of Agriculture and Life Sciences, Cornell University*, *Ithaca, NY*, [2]*National Dairy Council*, *Rosemont, IL*.
11:55 AM		**Discussion**

Growth and Development Symposium: 41st Discover® Conference: Health Management of Calves—From Intrauterine Life to Successful Weaning

Chairs**: Sabine Mann, Cornell University, and Angel Abuelo, Michigan State University**
CC 2102B
9:30 AM – 12:30 PM
This session will also be livestreamed. For more information, please see adsa.org/2022vm.

9:30 AM		**Welcome and overview**
9:45 AM	1216	**Updates on late-gestation impact on fetal development and colostrum production from the 41st Discover Conference.** A. Abuelo*[1] and S. Mann[2], [1]*Department of Large Animal Clinical Sciences, College of Veterinary Medicine, Michigan State University*, *East Lansing, MI*, [2]*Department of Population Medicine and Diagnostic Sciences, College of Veterinary Medicine, Cornell University*, *Ithaca, NY*.
10:15 AM	1217	**New concepts in preweaning and weaning nutrition and management from the 41st Discover Conference.** M. A. Steele*, *Department of Animal Biosciences, ON Agricultural College, University of Guelph*, *Guelph, ON, Canada*.
11:15 AM		**Break**
11:30 AM	1218	**Lessons learned in calf health and welfare from the 41st Discover Conference.** D. L. Renaud*, *University of Guelph*, *Guelph, ON, Canada*.
12:00 PM		**Discussion**

Joint Reproduction/Breeding and Genetics Symposium: Genomics on Reproduction

Chair: **Anna Denicol, University of California, Davis**

CC 2102A

9:30 AM – 12:30 PM

This session will also be livestreamed. For more information, please see adsa.org/2022vm.

9:30 AM		**Welcome**
9:35 AM	1228	**Building a predictor for sire fertility: Advances and challenges.** M. S. Ortega*[1] and K. G. Pohler[2], [1]*University of Missouri*, *Columbia, MO*, [2]*Texas A&M University*, *College Station, TX*.
10:15 AM	1229	**Genomic prediction of daughter pregnancy rate: Contingencies with selection for milk production and responses to estrous synchronization programs.** F. S. Lima*, *Department of Population Health and Reproduction, University of California, Davis*, *Davis, CA*.
10:55 AM	1230	**Genetic controls of estrus behavior and potential impact on reproductive management of dairy cattle.** R. S. Bisinotto*[1], F. Peñagaricano[2], and R. C. Chebel[1,3], [1]*Department of Large Animal Clinical Sciences, University of Florida*, *Gainesville, FL*, [2]*Department of Animal and Dairy Sciences, University of Wisconsin*, *Madison, WI*, [3]*Department of Animal Sciences, University of Florida*, *Gainesville, FL*.
11:35 AM	1231	**Understanding the genomics of pregnancy loss to improve reproductive management.** H. L. Neibergs* and J. N. Kiser, *Washington State University*, *Pullman, WA*.
12:15 PM		**Discussion**

Joint Ruminant Nutrition/Forages and Pastures Symposium: Role of Fiber Analyses and Digestibility in Feed Evaluation and Ration Formulation—Recognizing the Contributions of ADSA Fellow David Mertens

Chair: **Mary Beth Hall, University of Wisconsin**

Sponsor: **Bayer Crop Sciences**

CC 2101

9:30 AM – 12:30 PM

This session will also be livestreamed. For more information, please see adsa.org/2022vm.

9:30 AM		**Welcome**
9:35 AM	1232	**Physical characterization of feeds and development of the physically effective fiber system.** R. J. Grant*, *William H. Miner Agricultural Research Institute*, *Chazy, NY*.
10:10 AM	1233	**Mathematical modeling of fiber kinetics and the digestion and intake of ruminants.** D. Sauvant*[1] and L. O. Ely[2], [1]*INRA-AgroParisTech*, *Paris France*, [2]*University of Georgia*, *Athens, GA USA*.
10:45 AM		**Break**
10:55 AM	1234	**Fiber and in vitro methods, analytical variation, and contributions to feed analysis.** G. Ferreira*[1] and N. Thiex[2], [1]*Virginia Tech*, *Blacksburg, VA*, [2]*Thiex Laboratory Solutions LLC*, *Brookings, SD*.
11:30 AM	1235	**Research and education in the application of NDF for feed evaluation and ration formulation.** D. R. Mertens*, *Mertens Innovation and Research LLC*, *Belleville, WI*.
12:05 PM		**Discussion**

Animal Behavior and Well-Being 1

Chair: **Meagan King, University of Manitoba**

CC 2105

9:30 AM – 12:30 PM

9:30 AM 3000INV ***ADSA Foundation Scholar Award in Dairy Production:*** **The welfare of dairy cows during transition: Current research and future directions.**
Kathryn Proudfoot, *University of Prince Edward Island*.

10:00 AM 1189 **Variability of abnormal repetitive behaviors in dairy cattle.**
I. McDonald-Gilmartin*[1,2], B. Downey[1,2], and C. Tucker[1], [1]*Center for Animal Welfare, Department of Animal Science, University of California*, *Davis, CA*, [2]*Animal Behavior Graduate Group, University of California*, *Davis, CA*.

10:15 AM 1190 **Predicting dairy cow locomotor ability by applying machine learning to kinematic data.**
A. Bradtmueller*[1,4], D. Lebatteux[2], A. A. Boatswain-Jacques[2], G. M. Dallago[1], E. Shepley[3], A. B. Diallo[2], and E. Vasseur[1], [1]*McGill University*, *Sainte-Anne-de-Bellevue, QC, Canada*, [2]*Université du Québec à Montréal*, *Montréal, QC, Canada*, [3]*University of Minnesota*, *St. Paul, MN*, [4]*University of Kentucky*, *Lexington, KY*.

10:30 AM 1191 **Decision tree analysis to evaluate risks associated with lameness on dairy farms with automated milking systems.**
L. Davis*[1], K. Deb[2], J. Siegford[2], and A. Ali[1], [1]*Clemson University*, *Clemson, SC*, [2]*Michigan State University*, *East Lansing, MI*.

10:45 AM 1192 **Lying behavior of dairy calves in alternative rearing systems.**
B. Gonçalves da Costa*, K. Sharpe, M. Endres, and B. Heins, *University of Minnesota*, *Minneapolis, MN*.

11:00 AM 1193 **The effect of stocking density on cow comfort measures in Jersey dairy cows.**
K. M. Luchterhand[1], K. Anderson[2,3], E. Shepley[4], B. Boyum[2], G. Cramer[4], W. Knauer[4], and L. Caixeta*[4], [1]*Novus International Inc.*, *St. Charles, MO*, [2]*Riverview LLP*, *Morris, MN*, [3]*University of Wisconsin*, *Madison, WI*, [4]*University of Minnesota*, *St. Paul, MN*.

11:15 AM 1194 **Effect of stocking density on lameness and milk yield of Jersey cows.**
K. M. Luchterhand*[1], K. Anderson[2,3], E. Shepley[4], B. Boyum[2], G. Cramer[4], W. Knauer[4], and L. Caixeta[4], [1]*Novus International Inc.*, *St. Charles, MO*, [2]*Riverview LLP*, *Morris, MN*, [3]*University of Wisconsin*, *Madison, WI*, [4]*University of Minnesota*, *St. Paul, MN*.

11:30 AM 1195 **Promoting farm advisor engagement and action toward the improvement of dairy cattle lameness.**
E. M. Wynands[1], S. M. Roche[2], G. Cramer[1], and B. A Ventura*[3], [1]*University of Minnesota, Department of Veterinary Population Medicine*, *Saint Paul, MN*, [2]*ACER Consulting*, *Guelph, ON, Canada*, [3]*University of Lincoln, School of Life Sciences*, *Lincoln, UK*.

11:45 AM 1196 **Understanding Canadian dairy farmers' perspectives on outdoor access for dairy cows using an online questionnaire.**
A. M. C. Smid*, M. Jarbeau, V. Boone, S. Sinclair, and H. W. Barkema, *University of Calgary*, *Calgary, Alberta, Canada*.

12:00 PM 1197 **Assessment of lameness management on organic dairy farms in the United States.**
C. Krebill*[1], J. Shearer[1], H. M. Scott[2], H. Bothe[3], S. Umase[3], I. Sanabria[3], R. Rodriguez[3], R. Rodriguez[3], and P. Plummer[1], [1]*Iowa State University Veterinary Diagnostic and Production Animal Medicine*, *Ames, IA*, [2]*Texas A and M University Veterinary Pathobiology*, *College Station, TX*, [3]*Organic Dairy Farm*, *Colorado*.

12:15 PM 1198 **Current state of animal welfare in Puerto Rico's dairy farms according to F.A.R.M. observational evaluations.**
M. Ruiz-Ramos*, C. R. Perdomo-García, C. I. Rivera-Camacho, and G. Ortiz-Colón, *University of Puerto Rico*, *Mayagüez, PR, Puerto Rico*.

Dairy Foods 2: Chemistry and Processing

Chair: **Haotian Zheng, North Carolina State University**

CC 2215B

9:30 AM – 11:15 AM

9:30 AM 1199 **The resilience of milk sphingomyelin and cholesterol complexation to in vitro digestion.**
P. Tai*[1,2], A. Clulow[3], R. Hannaford[4], H. Singh[1], M. Golding[1,2], and D. W. Everett[1,4], [1]*Riddet Institute*, *Palmerston North, New Zealand*, [2]*Massey University*, *Palmerston North, New Zealand*, [3]*Australian Nuclear Science and Technology Organization*, *Melbourne, Victoria, Australia*, [4]*AgResearch*, *Palmerston North, New Zealand*.

9:45 AM 1200 **Effect of varying pH on the cold gelling behavior of highly concentrated micellar casein concentrate (HC-MCC).**
N. Pougher* and P. Sharma, *Utah State University*, *Logan, UT*.

10:00 AM 1201 **Impact of protein source on the oscillatory thermorheometry of high-protein ice cream.**
M. Enteshari[1] and S. Martinez-Monteagudo*[2], [1]*South Dakota State University*, [2]*New Mexico State University*.

10:15 AM 1202 **Modeling creep-recovery curves of high-protein ice cream mix.**
H. Ranaweera[1], P. Krishnan[1], and S. Martinez-Monteagudo*[2], [1]*South Dakota State University*, [2]*New Mexico State University*.

10:30 AM 1203 **Fat content and processing of shelf stable milk—Which factors do influence the frothing properties?**
D. Hummel* and J. Hinrichs, *Department of Soft Matter Science and Dairy Technology (150e), Institute of Food Science and Biotechnology, University of Hohenheim*, *Stuttgart, Germany*.

10:45 AM 1204 **Development and evaluation of spray-dried fibrillated model milk protein concentrate.**
G. Rathod*[1], R. Kapoor[2], and J. Amamcharla[1], [1]*Kansas State Univerisity*, *Manhattan, KS*, [2]*Dairy Management Inc.*, *Rosemont, IL*.

11:00 AM 1205 **Electrostatic spray drying: A novel approach to low temperature drying of dairy ingredients.**
B. Zisu and A. K. M. Masum*, *Spraying Systems, Fluid Air*, *Truganina, Victoria, Australia*.

Extension Education 1

Chair: **Gustavo Schuenemann, The Ohio State University**

CC 2104A

9:30 AM – 10:45 AM

9:30 AM 1211 **Management practices and major concerns of small ruminant producers in the Appalachian region surrounding Cumberland Gap, Tennessee.**
J. Roberson*[1], T. Mittleider[2], and P. Gibbons[3], [1]*Long Island University*, *Brookville, NY*, [2]*Lincoln Memorial University*, *Harrogate, TN*, [3]*Texas Tech University*, *Lubbock, TX*.

9:45 AM 1212 **Multipronged COVID-19 support to the food industry, based on iterative "office hours," represents a good model for continuous food safety assistance.**
A. Trmcic*[1], E. M. Demmings[2], S. D. Alcaine[1], E. A. Bihn[2], O. I. Padilla-Zakour[2], R. W. Worobo[1], A. Zuber-Gianforte[1], R. D. Ralyea[1], R. Petran[3], K. Kniel[4], and M. Wiedmann[1], [1]*Cornell University*, *Ithaca, NY*, [2]*Cornell University*, *Geneva, NY*, [3]*The Acheson Group and Ruth Petran Consulting, LLC*, *Eagan, MN*, [4]*University of Delaware*, *Newark, DE*.

10:00 AM 1213 **Regional farm tours showcase alternative manure management practices.**
D. Meyer*[1], J. M. Heguy[2], R. A. Black[3], and D. D. Mullinax[4], [1]*University of California-Davis*, *Davis, CA*, [2]*University of California Ag and Natural Resouces*, *Modesto, CA*, [3]*University of California Ag and Natural Resources*, *Santa Rosa, CA*, [4]*California Dairy Research Foundation*, *Davis, CA*.

10:15 AM 1214 **Veterinarians' disbudding practices and perceptions.**
F. Silva*[1], J. Van Os[1], C. Winder[2], M. Akins[1], T. Kohlman[1], T. Ollivett[1], H. Schlesser[1], B. Schley[1], S. Stuttgen[1], and J. Versweyveld[1], [1]*University of Wisconsin–Madison*, *Madison, WI*, [2]*University of Guelph*, *Guelph, Toronto, Canada*.

10:30 AM 1215 **Assessment of safety practices and COVID-19 vaccination in English- and Spanish-speaking personnel in dairy farms in Pennsylvania.**
M. Martinez*[1], E. Ortiz[1], E. Jimenez[1], V. Villena[2], K. Sexsmith[3], and A. A. Barragan[1], [1]*Department of Veterinary and Biomedical Sciences, Penn State University*, *University Park, PA*, [2]*W. P. Carey Supply Chain Management, Arizona State University*, *Tempe, AZ*, [3]*Department of Agricultural Economics, Sociology and Education, Penn State University*, *University Park, PA*.

Joint Physiology and Endocrinology/Animal Health Oral Presentations 1

Chair: **Angel Abuelo, Michigan State University**

CC 2103C

9:30 AM – 12:00 PM

9:30 AM 1219 **Comparing production, metabolic, and inflammatory responses to an endotoxin challenge in early versus mid-lactation dairy cows.**
J. Opgenorth*, E. J. Mayorga, M. A. Abeyta, B. M. Goetz, S. Rodriguez-Jimenez, A. D. Freestone, and L. H. Baumgard, *Iowa State University*, *Ames, IA*.

9:45 AM 1220 **Calcium metabolism following LPS challenge in early postpartum cows maintained at eucalcemia.**
T. L. Chandler*, T. A. Westhoff, P. A. LaPierre, T. R. Overton, and S. Mann, *Cornell University*, *Ithaca, NY*.

10:00 AM 1221 **Assessment of systemic inflammation following oral calcium supplementation in postpartum dairy cows—A randomized controlled trial.**
R. C. Serrenho*, E. Morrison, T. C. Bruinje, and S. J. LeBlanc, *Population Medicine, University of Guelph, Guelph*, *Guelph, ON, Canada*.

10:15 AM 1222 **Exploring the interaction between lipid mediators, inflammation, and microbiota composition in dairy cows under heat stress.**
A. Ruiz-Gonzalez[1,2], N. Flammand[3,4], R. Petri[4], J. Ronholm[5], P. Y. Chouinard[1], R Gervais[1], V. Di Marzo[3,7], and D. E. Rico*[2], [1]*Departement of animal science, Université Laval*, *Quebec, QC, Canada*, [2]*CRSAD*, *Deschambault, QC, Canada*, [3]*Institut universitaire de cardiologie et de pneumologie de Québec (IUCPQ)*, *Quebec, QC, Canada*, [4]*Canada Excellence Research Chair on the Microbiome-Endocannabinoidome Axis in Metabolic Health (CERC-MEND)*, *Quebec, QC, Canada*, [5]*Agriculture and Agrifood Canada*, *Sherbrooke, QC, Canada*, [6]*Faculty of Agricultural and Environmental Sciences, McGill University*, *Ste-Anne de Bellevue, QC, Canada*, [7]*Institut sur la Nutrition et les Aliments Fonctionnels, Centre NUTRISS, École de Nutrition, Faculté des Sciences de L'agriculture et de L'alimentation*, *Quebec, QC, Canada*.

10:30 AM 1223 **Rumen-protected methionine supplementation during subclinical mastitis challenge benefit dairy cow inflammation and immune cell mTOR pathway.**
A. Paz[1], T. C. Michelotti*[1,2], M. Suazo[1,3], J. Bonilla[1], M. Bulnes[1], D. Luchini[4], E. Trevisi[5], M. Rovai[1], and J. S. Osorio[1], [1]*Dairy and Food Science Department, South Dakota State University*, *Brookings, SD*, [2]*Department of Veterinary Sciences, Texas Tech University*, *Lubbock, TX*, [3]*Department of Animal Science, University of Minnesota*, *Twin Cities, MN*, [4]*Adisseo*, *Alpharetta, GA*, [5]*Department of Animal Sciences, Food and Nutrition, Università Cattolica del Sacro Cuore*, *Piacenza, Italy*.

10:45 AM 1224 **Rumen-protected methionine supplementation improves oxidative status and lactation performance during a subclinical mastitis challenge in lactating dairy cows.**
A. Paz*[1], T. C. Michelotti[1,2], M. Suazo[1,3], J. Bonilla[1], M. Bulnes[1], A. Minuti[5], D. Luchini[4], E. Trevisi[5], M. Rovai[1], and J. S. Osorio[1], [1]*Dairy and Food Science Department, South Dakota State University*, *Brookings, SD*, [2]*Department of Veterinary Sciences, Texas Tech University*, *Lubbock, TX*, [3]*Department of Animal Science, University of Minnesota*, *Twin Cities, MN*, [4]*Adisseo*, *Alpharetta, GA*, [5]*Department of Animal Science, Food and Nutrition, Università Cattolica del Sacro Cuore*, *Piacenza, Italy*.

11:00 AM 1225 **Effects of dietary rumen-protected choline supplementation during an intramammary lipopolysaccharide challenge in periparturient dairy cattle.**
T. H. Swartz*[1], B. J. Bradford[1], L. K. Mamedova[1], and K. A. Estes[2], [1]*Michigan State University*, *East Lansing, MI*, [2]*Balchem Corporation*, *New Hampton, NY*.

11:15 AM 1226 **Associations between maternal parity and metabolism of heifers during the transition to first lactation.**
B. Van Winters*, B. Mion, and E. Ribeiro, *University of Guelph*, *Guelph, ON, Canada*.

11:30 AM 1227 **Effect of a commercial feed additive on buffalo immune response during the transition period.**
P. De Palo*[1], M. G. Liuzzi[2], T. Latronico[2], A. Maggiolino[1], M. F. Sgarro[1], and E. Casalino[1], [1]*Department of Veterinary Medicine, University of Bari A. Moro, Valenzano (BA), Italy*, [2]*Department of Bioscience, Biotechnology and Biopharmaceutics, University of Bari A. Moro, Bari, Italy*.

11:45 AM 1429 **Feeding spent hemp biomass to late-lactating dairy cows does not affect the immune system but has a minor effect on metabolism and inflammation.**
A. Irawan*[1], F. R. Hunter[1], S. Busato[1,2], S. Ates[1], J. Cruickshank[1], J. Ranches[1], E. Trevisi[3], and M. Bionaz[1], [1]*Oregon State University, Corvallis, OR*, [2]*North Carolina State University, Raleigh, NC*, [3]*Università Cattolica del Sacro Cuore, Piacenza, Italy*.

Ruminant Nutrition 5: Protein/Amino Acids

Chair: **Maris McCarthy, Micronutrients**
CC 2103A
9:30 AM – 12:30 PM

9:30 AM 1236 **Production effects of reducing dietary crude protein with differing rumen-degradable or undegradable protein concentrations in Holstein or Jersey cows.**
G. I. Zanton*, *USDA-Agricultural Research Service, US Dairy Forage Research Center, Madison, WI*.

9:45 AM 1237 **Effects of NexPro on milk production, milk composition, and milk fatty acid profile of early lactation dairy cows.**
M. L. Jolly-Breithaupt*[1], D. A. Balk[1], K. J. Herrick[1], S. A. Hagerty[2], and P. D. French[2], [1]*POET Bioproducts, Sioux Falls, SD*, [2]*PHD R&D LLC, Fort Atkinson, WI*.

10:00 AM 1238 **Effects of dietary crude protein level and feeding pattern on milk production.**
M. G. Erickson*[1], G. I. Zanton[2], and M. A. Wattiaux[1], [1]*Department of Animal and Dairy Sciences, University of Wisconsin–Madison, Madison, WI*, [2]*USDA Agricultural Research Service, US Dairy Forage Research Center, Madison, WI*.

10:15 AM 1239 **Effects of reducing dietary protein and supplementation with starch or rumen-protected methionine on urinary-N excretion, digestibility and performance of dairy cows fed red clover silage-based diets.**
M. R. Chowdhury, R. G. Wilkinson, and L. A. Sinclair*, *Harper Adams University*.

10:30 AM 1240 **Whole-body protein and glucose metabolism in cows fed diets with varying amino acid supply under heat stress.**
A. Ruiz-Gonzalez[1,2], Y. H. Leung[3], A. Celemin[2], A. Kenez[3], P. Y. Chouinard[1], R. Gervais[1], D. R. Ouellet[4], H. Lapierre[4], and D. E. Rico*[2], [1]*Department of Animal Science, Université Laval, Quebec, QC, Canada*, [2]*CRSAD, Deschambault QC, Canada*, [3]*Department of Infectious Diseases and Public Health, City University of Hong Kong, Hong kong*, [4]*Sherbrooke R&D Centre/Agriculture and Agri-Food Canada, Sherbrooke, QC, Canada*.

10:45 AM 1241 **Lactational performance of dairy cows receiving supplemental His: A meta-analysis.**
S. E. Räisänen*[1,2], H. Lapierre[3], and A. N. Hristov[1], [1]*The Pennsylvania State University, University Park, PA*, [2]*University of Helsinki, Helsinki, Finland*, [3]*Agriculture and AgiFood Canada, Sherbrooke, QC*.

11:00 AM 1242 **Evaluation of glucose and amino acid disposition in response to glucose, amino acid, GIP and GLP-1 infusions in early and late lactation dairy cows.**
G. C. Reyes*[1], M. K. Fox[1], B. Li[1], G. Z. Wang[1], M. Wells[1], P. Kedzierski[1], L. E. Wright[2], and J. P. Cant[1], [1]*Centre for Nutrition Modelling, Department of Animal Biosciences, University of Guelph, ON, Canada*, [2]*Dairy Research and Innovation Centre, Office of VP Research, University of Guelph, ON, Canada*.

11:15 AM 1243 **Energy source and amino acids additively stimulate milk fat production but interact on the regulation of milk protein synthesis.**
K. E. Ruh*[1], L. A. C. Ribeiro[1], A Negreiro[1], V. L. Pszczolkowski[1], D. N. Coleman[2], and S. I. A. Apelo[1], [1]*University of Wisconsin–Madison, Madison, WI*, [2]*Adisseo, Paris, France*.

11:30 AM 1244 **Effects of feeding rumen-protected methionine and calcium salts enriched in omega-3 fatty acids on lactation in periparturient dairy cows.**
T. L. France*, K. S. Juarez-Leon, A. Javaid, M. G. Vogellus, and J. W. McFadden, *Cornell University, Ithaca, NY*.

11:45 AM 1245 **Bioavailability of rumen-protected histidine, lysine and methionine assessed using the fecal free amino acid method.**
S. E. Räisänen*[1,2], D. E. Wasson[1], S. F. Cueva[1], T. Silvestre[1], M. Miura[3], and A. N. Hristov[1], [1]*The Pennsylvania State University*, *University Park, PA*, [2]*University of Helsinki*, *Helsinki, Finland*, [3]*Ajinomoto Co. Inc.*, *Kawasaki, Japan*.

12:00 PM 1246 **Supplementation of novel rumen-protected methionine product moderately increased methionine bioavailability and altered body composition compared to negative control.**
A. T. Richards*[1], J. R. Knapp[2], P. Summer[3], Y. Ohta[3], and J. P. Boerman[1], [1]*Department of Animal Sciences, Purdue University*, *West Lafayette, IN*, [2]*Fox Hollow Consulting LLC*, *South Vienna, OH*, [3]*Ajinomoto Health and Nutrition North America*, *Itasca, IL*.

12:15 PM 1247 **The effect of rumen-protected lysine and methionine on milk yield, and solids in grazing Holstein cows with spring parturitions in southern Chile.**
P. Melendez*[1], J. Moller[2], A. Arevalo[2], and P. Pinedo[3], [1]*School of Veterinary Medicine, Texas Tech University*, *Amarillo, TX*, [2]*Fundo Los Laureles*, *Osorno, Chile*, [3]*Colorado State University*, *Fort Collins, CO*.

Teaching/Undergraduate and Graduate Education Symposium and Workshop: The Promises and Perils of Engaging Students in Motivating, Active, and Blended Learning Classrooms

Chair: **Tracy Burnett, University of Guelph**
CC 2204
11:30 AM – 3:00 PM

11:30 AM **Introduction to the Symposium and Workshop**
T Burnett

11:35 AM 1248 **Educational psychology methods to advance teaching scholarship and improve student learning in dairy science.**
M. G. Erickson* and M. A. Wattiaux, *Department of Animal and Dairy Sciences, University of Wisconsin–Madison*, *Madison, WI*.

11:55 AM 1249 **Navigating experiential learning during Covid-19: Integrating remote learning in UNH CREAM.**
B. Conroy*, *University of New Hampshire*.

12:15 PM 1250 **Experiences and strategies to keep students engaged in a fast-changing learning environment.**
A. Faciola*, *University of Florida*, *Gainesville, FL*.

12:35 PM 1251 **Engaging students in large-enrollment classes.**
C. C. Williams*, *Louisiana State University*, *Baton Rouge, LA*.

12:55 PM **Panel discussion**

1:15 PM **Break**

1:30 PM **Workshop facilitators:** Caitlin Foley, *SUNY, Cobleskill*; Jillian Bohlen, *University of Georgia*, and Sylvia Kehoe, *University of Wisconsin-River Falls*.

ARPAS Symposium: Artificial Intelligence and Machine Learning in Dairy Production Systems

Chair: **Heidi Rossow, University of California, Davis**

CC 2102B

2:00 PM – 5:30 PM

This session will also be livestreamed. For more information, please see adsa.org/2022vm.

2:00 PM		**Welcome**
2:10 PM	1252	**Artificial intelligence for livestock systems.** J. R. R. Dorea*, *Department of Animal and Dairy Sciences, University of Wisconsin–Madison*, *Madison, WI*.
2:50 PM	1253	**Examples and opportunities for artificial intelligence on the dairy farm.** A. De Vries*[1], N. Bliznyuk[1], and P. Pinedo[2], [1]*University of Florida*, *Gainesville, FL*, [2]*Colorado State University*, *Fort Collins, CO*.
3:30 PM		**Break**
3:45 PM	1254	**Livestock Informatics toolkit: Visualizing complex behavioral patterns across multiple PLF sensors using unsupervised machine learning.** C .McVey*[1], F. Hsieh[2], D. Manriquez[3], P. Pinedo[3], and K. Horback[1], [1]*Department of Animal Science, University of California-Davis*, *Davis, CA*, [2]*Department of Statistics, University of California-Davis*, *Davis, CA*, [3]*Department of Animal Science, Colorado State University*, *Fort Collins, CO*.
4:25 PM		**Break**
4:35 PM	1255	**Computer vision and machine learning for phenotyping.** J. Steibel*, *Michigan State University*, *East Lansing, MI*.
5:15 PM		**Discussion**

Dairy Foods Symposium: Digital Tools for Dairy

Chair: **Samuel Alcaine, Cornell University**

CC 2215A

2:00 PM – 5:30 PM

This session will also be livestreamed. For more information, please see adsa.org/2022vm.

2:00 PM		**Welcome**
2:05 PM	1263	**Digital applications in the dairy industry: Milking data, not cows.** S. Bakalis*, F. van der Berg, and K. M. Sørensen, *Department of Food Science, University of Copenhagen*, *Copenhagen, Denmark*.
2:35 PM	1264	**Digital innovations for the dairy industry.** N. O'Shea*, Y. Pu, and M. Fenelon, *Teagasc, Teagasc Food Research Centre*, *Moorepark, Fermoy, Cork, Ireland*.
3:05 PM	1265	**Digital tools for fluid milk spoilage prediction and shelf-life extension.** S. I. Murphy*, *Cornell University*, *Ithaca, NY*.
3:35 PM		**Break**
4:00 PM	1266	**Digital process twin tools for dairy plants.** W. Yu[1], D. I. Wilson[2], and B. R. Young*[1], [1]*The University of Auckland*, *Auckland, New Zealand*, [2]*Auckland University of Technology*, *Auckland, New Zealand*.

4:30 PM 1267 **Food Safety 4.0: Digital tools for food safety and new approaches to confidential and protected digital data sharing.**
M. Wiedmann*, *Cornell University*, *Ithaca, NY*.

5:00 PM **Discussion**

Dairy Foods Symposium: United States of Snacking—Is Snack Time Changing the Way America Eats?

Chair: **Hari Meletharayil, National Dairy Council**
Sponsor: **National Dairy Council**
CC 2215C
2:00 PM – 5:30 PM
This session will also be livestreamed. For more information, please see adsa.org/2022vm.

2:00 PM **Welcome**

2:05 PM 1268 **Understanding the link between eating occasions and health outcomes in Americans who "snack."**
J. M. Hess*, *Grand Forks Human Nutrition Research Center, USDA-ARS*, *Grand Forks, ND*.

2:40 PM 1269 **Cheese snacking: Innovations and trends.**
K. Alexander*, *Dairy Management Inc*.

3:15 PM **Break**

3:45 PM 1270 **Innovations in manufacturing technologies for producing cheese snacks.**
J. A. Lucey*, *University of Wisconsin–Madison*, *Madison, Wisconsin*.

4:20 PM 1271 **Microwave vacuum drying: A novel technology for cheese snacks manufacturing.**
C. I. Moraru*, *Cornell University*, *Ithaca, NY*.

4:55 PM **Discussion**

Joint Physiology and Endocrinology/Animal Health Symposium: Determinants and Consequences of Systemic Inflammation During the Dairy Cow Transition Period

Chair: **Sabine Mann, Cornell University**
Sponsors: **Elanco Animal Health, Provimi North America**
CC 2102A
2:00 PM – 5:30 PM
This session will also be livestreamed. For more information, please see adsa.org/2022vm.

2:00 PM **Welcome**

2:05 PM 3004INV **Inflammation in the transition cow – contributions of Dr. Lorraine Sordillo.**
(Organized by Pedram Rezamand).

2:50 PM 1280 **Relationship between calcium dynamics and inflammatory status.**
R. C. Neves*, *Purdue University, College of Veterinary Medicine*, *West Lafayette, IN*.

3:35 PM **Break**

4:00 PM 1281 **Relationship of inflammation and immune activation, uterine diseases, and reproductive success.**
S. J. LeBlanc*, *University of Guelph*, *Guelph, ON, Canada*.

4:45 PM **Discussion**

Ruminant Nutrition Symposium: Integrating the Control of Energy Intake and Partitioning into Ration Formulation—Recognition of the Contributions of ADSA Fellow Mike Allen

Chair: **Mike VandeHaar, Michigan State University**
Sponsors: **Evonik, Elanco Animal Health, Milk Specialties Global**
CC 2101
2:00 PM – 5:30 PM
This session will also be livestreamed. For more information, please see adsa.org/2022vm.

2:00 PM **Welcome**

2:05 PM 1301 **Effects of carbohydrate digestion on feed intake and fuel supply.**
M. Oba*[1] and K. Kammes-Main[2], [1]*University of Alberta*, *Edmonton, AB, Canada*, [2]*Michigan State University*, *East Lansing, MI*.

2:40 PM 1302 **Fueling appetite: Nutrient metabolism and the control of feed intake.**
B. J. Bradford*[1], R. I. Albornoz[2], and K. M. Kennedy[3], [1]*Michigan State University*, *East Lansing, MI*, [2]*Agriculture Victoria Research*, *Ellinbank, VIC, Australia*, [3]*Research Institute for Farm Animal Biology*, *Dummerstorf, MV, Germany*.

3:15 PM 1303 **The impact of absorbed nutrients on energy partitioning throughout lactation.**
P. Piantoni*[1] and M. VandeHaar[2], [1]*Cargill Animal Nutrition and Health*, *Elk River, MN*, [2]*Michigan State University*, *East Lansing, MI*.

3:50 PM **Break**

4:05 PM 1304 **Integrating the control of energy intake and partitioning into ration formulation.**
M. S. Allen*, *Michigan State University*, *East Lansing, MI*.

4:45 PM **Discussion**

Breeding and Genetics 1: Improving Genetic Evaluations

Chair: **Natascha Vukasinoc, Zoetis**
CC 2103B
2:00 PM – 5:30 PM

2:00 PM 1256 **Computing strategies for national dairy cattle evaluations.**
M. Bermann*[1], A. Cesarani[2], D. Lourenco[1], and I. Misztal[1], [1]*The University of Georgia*, *Athens, GA*, [2]*Università degli Studi di Sassari*, *Sassari, Italy*.

2:15 PM 1257 **Impact of blending the genomic relationship matrix with different levels of pedigree relationships or the identity matrix on genetic evaluations.**
M. K. Hollifield*, M. Bermann, D. Lourenco, and I. Misztal, *Department of Animal and Dairy Science, University of Georgia*, *Athens, GA*.

2:30 PM 1258 **Genetic change of maturity curve by selection on early performance records of a longitudinal trait in a simulated dairy population.**
Y. Masuda*, *Rakuno Gakuen University*, *Ebetsu, Hokkaido, Japan*.

2:45 PM 1259 **Indicators of udder health as predictors of subsequent lactation performance.**
S. Jewell*, H. Norman, and K. Parker Gaddis, *Council on Dairy Cattle Breeding*, *Bowie, MD*.

3:00 PM 1260 **Genomic prediction of fetal loss in US Holstein cattle.**
A. Sigdel*[1], R. S. Bisinotto[2], and F. Peñagaricano[1], [1]*University of Wisconsin–Madison*, *Madison, WI*, [2]*University of Florida*, *Gainesville, FL*.

3:15 PM 1261 **Genetic analysis of estrus expression in dairy cows.**
J. Chinchilla-Vargas*[1], H. A. Pacheco[1], R. C. Chebel[2], K. A. Weigel[1], and F. Peñagaricano[1], [1]*University of Wisconsin–Madison*, *Madison, WI*, [2]*University of Florida*, *Gainesville, FL*.

3:30 PM **Break**

4:00 PM 1262 **Estimating genetic parameters for somatic cell score considering heat load in Canadian Holstein cattle.**
I. Campos*[1], C. Baes[1,2], and F. Schenkel[1], [1]*University of Guelph*, *Guelph, ON, Canada*, [2]*University of Bern*, *Bern, Switzerland*.

4:15 PM **Discussion**

Lactation Biology 1

Chairs**: Sha Tao, University of Georgia, and Adam Geiger, Zinpro**
CC 2103C
2:00 PM – 4:00 PM

2:00 PM 1272 **Cistern and alveolar capacity of udder halves subjected to increased milking frequency at 2 stages of lactation.**
G. Perez-Hernandez*, H. H. Hanling, and B. A. Corl, *Virginia Tech*, *Blacksburg, VA*.

2:15 PM 1273 **Impact of decreased nutrient density at dry-off on performance and metabolism.**
L. Cattaneo*, V. Lopreiato, F. Piccioli-Cappelli, G. Lovotti, E. Trevisi, and A. Minuti, *Department of Animal Sciences, Food and Nutrition, Università Cattolica del Sacro Cuore*, *Piacenza, Italy*.

2:30 PM 1274 **Intramammary 5-hydroxy-L-tryptophan infusions prior to dry-off enhances mammary gland involution and redevelopment.**
S. L. Field*, A. F. Hoerl, B. Dado-Senn, B. D. Davidson, L. L. Hernandez, and J. Laporta, *Department of Animal and Dairy Sciences, University of Wisconsin–Madison*, *Madison, WI*.

2:45 PM 1275 **Influence of transition diet starch content on colostrum and transition milk sialic acid profile in Holstein dairy cattle.**
A. Fischer-Tlustos*[1], J. Haisan[2], W. Shi[2], K. Narayana[3], C. Tomiyama[3], S. Bakker[3], J. Cant[1], M. Oba[2], W. Zandberg[3], and M. Steele[1], [1]*University of Guelph*, *Guelph, ON, Canada*, [2]*University of Alberta*, *Edmonton, AB, Canada*, [3]*University of British Columbia*, *Kelowna, BC, Canada*.

3:00 PM 1276 **The nutritional induction of episodic hyperketonemia in dairy cows: A randomized controlled trial.**
A. Ruiz-González[1], M. Ramírez-Mella[2,3], D. E. Rico[3], and J. E. Rico*[4], [1]*Université Laval*, *Quebec, QC, Canada*, [2]*COLPOS*, *Campus Campeche, Campeche, Mexico*, [3]*CRSAD*, *Deschambault, QC, Canada*, [4]*University of Maryland*, *College Park, MD*.

3:15 PM 1277 **Abomasally infused fish oil partially alleviates hyperthermia and modulates insulin responsiveness in dairy cows under heat stress.**
A. Ruiz-Gonzalez[1,2], M. Ramirez-Mella[3], P. Y. Chouinard[1], R. Gervais[1], J. E. Rico[4], and D. E. Rico*[2], [1]*Department of animal science, Université Laval*, *Université Laval, Québec, QC, Canada*, [2]*CRSAD*, *Deschambault, QC, Canada*, [3]*COLPOS*, *Campus Campeche, Mexico*, [4]*Department of Animal and Avian Sciences, University of Maryland*, *College Park, MD*.

3:30 PM 1278 **A combination of chicory-plantain silage and Se-yeast have a minimal effect on blood biomarkers during intramammary infection in lactating ewes.**
H. Ford*[1], M. Bionaz[1], S. Ates[1], and E. Trevisi[2], [1]*Oregon State University*, *Corvallis, OR*, [2]*Universitá Cattolica del Sacro Cuore*, *Piacenza, Italy*.

3:45 PM 1279 **Phenotyping udder and mammary gland of dairy cows using computer vision systems.**
T. Bresolin*, A. Wick-Lambert, R. Ferreira, A. Vang, D. Oliveira, G. Rosa, L. Hernandez, and J. Dorea, *University of Wisconsin–Madison*, *Madison, WI*.

Production, Management, and the Environment 2

Chair: **Fabio Lima, University of California, Davis**
CC 2105
2:00 PM – 5:30 PM

2:00 PM 1282 **Association of herd ketosis prevalence with transition management practices and herd productivity on Canadian dairy farms: A retrospective cross-sectional study.**
R. C. Serrenho*[1], C. Church[2], D. McGee[2], and T. Duffield[1], [1]*Population Medicine, University of Guelph, Guelph*, *Guelph, ON, Canada*, [2]*Elanco Animal Health*, *Greenfield, IN*.

2:15 PM 1283 **Integrating animal-level data for early detection of subclinical ketosis in dairy cows using machine learning algorithms.**
R. E. P. Ferreira*, T. Bresolin, H. T. Holdorf, H. M. White, and J. R. R. Dorea, *University of Wisconsin–Madison*, *Madison, WI*.

2:30 PM 1284 **Causal inference of vaccination effects with a mastitis J-5 bacterin on the productive performance of dairy cows: A propensity score study.**
M. A. Sánchez-Castro*, N. Vukasinovic, T. L. Passafaro, D. González-Peña, S. A. Salmon, V. Moulin, D. Asper, and J. D. Nkrumah, *Zoetis Genetics*, *Kalamazoo, MI*.

2:45 PM 1285 **Prenatal hyperthermia affects ovarian morphology and anti-Mullerian hormone concentrations of pre-weaned heifers.**
B. D. Davidson*[1], A. D. Beard[1], A. Garcia-Guerra[2], G. E. Dahl[3], M. C. Wiltbank[1], and J. Laporta[1], [1]*Department of Animal and Dairy Sciences, University of Wisconsin–Madison*, *Madison, WI*, [2]*Department of Animal Sciences, The Ohio State University*, *Columbus, OH*, [3]*Department of Animal Sciences, University of Florida*, *Gainesville, FL*.

3:00 PM 1286 **Late-gestation heat stress alters placental DNA methylation in dairy cows.**
L. Casarotto*[1], L. Liu[2], F. Penagaricano[2], J. Laporta[2], and G. E. Dahl[1], [1]*University of Florida*, *Gainesville, FL*, [2]*University of Wisconsin–Madison*, *Madison, WI*.

3:15 PM 1287 **Blood metabolite profiles of dairy cows and their female calves suffering from direct or intrauterine heat stress.**
K. Halli*[1], K. Bruegemann[1], I. Cohrs[2], C. Koch[2], and S. König[1], [1]*Justus-Liebig University*, *Giessen, Germany*, [2]*Research Station Hofgut Neumuehle*, *Muenchweiler an der Alsenz, Germany*.

3:30 PM **Break**

4:00 PM 1288 **Heat stress detection and prevention in Midwestern outdoor hutch-housed dairy calves.**
B. Dado-Senn*[1], V. Ouellet[2], V. Lantigua[3], J. Van Os[1], J. Dorea[1], and J. Laporta[1], [1]*Department of Animal and Dairy Sciences, University of Wisconsin–Madison*, *Madison, WI*, [2]*Department of Animal Sciences, Universite Laval*, *Québec City, QC, Canada*, [3]*Department of Animal Sciences, University of Florida*, *Gainesville, FL*.

4:15 PM 1289 **Effects of wildfire smoke $PM_{2.5}$ on preweaned Holstein dairy calves.**
A. Pace*, P. Rezamand, and A. L. Skibiel, *University of Idaho*, *Moscow, ID*.

4:30 PM 1290 **Physiological and production responses of lactating dairy cows to wildfire particulates.**
A. L. Skibiel*, A. Anderson, and P. Rezamand, *University of Idaho*, *Moscow, ID*.

4:45 PM 1291 **Management factors associated with milk yield in dry lot facilities.**
K. M. Luchterhand*, *Novus International Inc.*, *St. Charles, MO*.

5:00 PM 1292 **Analysis of Jersey versus Holstein breed profitability on a Michigan dairy.**
L. Olthof*[1], B. Bradford[1], J. Domecq[1], and M. Western[2], [1]*Michigan State University*, *East Lansing, MI*, [2]*Vita Plus Corporation*, *Madison, WI*.

5:15 PM 1293 **Effect of dam parity on early milk production.**
K. C. Dhuyvetter*, D. McGee, and D. L. Prentice, *Elanco Animal Health*, *Greenfield, IN*.

Reproduction 1

Chair: **Alvaro Garcia Guerra, The Ohio State University**
CC 2104A
2:00 PM – 4:15 PM

2:00 PM 1294 **Redefining metritis in dairy cows based on health and performance associated with vaginal discharge score.**
C. C. Figueiredo*[1], V. R. Merenda[2], E. B. de Oliveira[3], R. C. Chebel[1], K. N. Galvão[1], and R. S. Bisinotto[1], [1]*University of Florida*, *Gainesville, FL*, [2]*North Carolina State University*, *Raleigh, NC*, [3]*University of California*, *Davis, CA*.

2:15 PM 1295 **Induced endometrial inflammation compromises conceptus development and growth.**
A. Husnain*, U. Arshad, M. B. Poindexter, R. Zimpel, E. Schmitt, M. C. Perdomo, M. N. Marinho, K. C. C. Jeong, J. J. Bromfield, and J. E. P. Santos, *University of Florida*, *Gainesville, FL*.

2:30 PM 1296 **Effect of intrauterine interferon-tau on endometrial transcriptome and its association with subsequent fertility in cyclic dairy heifers.**
G. Madureira*, B. Mion, B. Winters, C. Dorp, N. Antonacci, G. Lu, J. Li, and E. Ribeiro, *Department of Animal Biosciences, University of Guelph*, *Guelph, ON, Canada*.

2:45 PM 1297 **Effect of intrauterine interferon-tau on uterine metabolome and its association with subsequent fertility in dairy heifers.**
G. Madureira*, B. Winters, B. Mion, C. Dorp, N. Antonacci, G. Lu, J. Li, and E. Ribeiro, *Department of Animal Biosciences, University of Guelph*, *Guelph, ON, Canada*.

3:00 PM 1298 **Effects of source of supplementary trace minerals on reproductive biology and performance in dairy cows.**
B. Mion*[1], G. Madureira[1], B. Van Winters[1], J. F. W. Spricigo[1], M. Steele[1], J. LaMarre[2], S. J. LeBlanc[3], and E. S. Ribeiro[1], [1]*Department of Animal Biosciences, University of Guelph*, *Guelph, ON, Canada*, [2]*Department of Biomedical Sciences, University of Guelph*, *Guelph, ON, Canada*, [3]*Department of Population Medicine, University of Guelph*, *Guelph, ON, Canada*.

3:15 PM **Break**

3:45 PM 1299 **Cow and environment factors associated with estrus characteristics.**
A. Mirzaei*[1], T. D. Gonzalez[1], and R. C. Chebel[1,2], [1]*Department of Large Animal Clinical Sciences, University of Florida*, *Gainesville, FL*, [2]*Department of Animal Sciences, University of Florida*, *Gainesville, FL*.

4:00 PM 1300 **Effect of delaying induction of ovulation and timed AI on expression of estrus and first-service reproductive outcomes of lactating dairy cows.**
A. L. Laplacette*[1], C. Rial[1], D. Duhastchek[1], M. L. Stangaferro[2], M. J. Thomas[2], and J. O. Giordano[1], [1]*Department of Animal Science, Cornell University*, *Ithaca, NY*, [2]*Dairy Health and Management Services*, *Lowville, NY*.

Ruminant Nutrition 6: Applied Nutrition 2

Chair: **Duarte Diaz, University of Arizona**
CC 2103A
2:00 PM – 5:30 PM

2:00 PM 1305 **Energy utilization in Jersey cows fed TMR or partial TMR plus forage canola.**
L. H. P. Silva[1,2], D. C. Reyes[1], J. P. Sacramento[1], Y. Geng[3], M. Ghelichkhan[1], S. L. Dillard[4], K. J. Soder[5], and A. F. Brito*[1], [1]*University of New Hampshire*, *Durham, NH*, [2]*Western Kentucky University*, *Bowling Green, KY*, [3]*Chinese Academy of Agricultural Sciences*, *Beijing, China*, [4]*Auburn University*, *Auburn, AL*, [5]*USDA-Agricultural Research Service, Pasture Systems and Watershed Management Research Unit*, *University Park, PA*.

2:15 PM 1306 **Effects of botanical preparations on lactational performance and enteric methane emission in dairy cows.**
L. F. Martins*[1], S. E. Crater[1], S. F. Cueva[1], T. Silvestre[1], N. Stepanchenko[1], D. E. Wasson[1], E. Wall[2], and A. N. Hristov[1], [1]*The Pennsylvania State University*, *University Park, PA*, [2]*AVT Natural North America*, *Santa Clara, CA*.

2:30 PM 1307 **Offering free choice hay to fresh cows did not affect intake, milk production, or plasma metabolite concentrations.**
L. E. Engelking* and M. Oba, *University of Alberta*, *Edmonton, AB, Canada*.

2:45 PM 1308 **Effect of alfalfa- or red clover-grass mixtures on dietary energy utilization in lactating dairy cows.**
M. Lange[1], L. H. P. Silva[2,4], K. J. Soder[3], M. A. Zambom[1], and A. F. Brito*[4], [1]*Universidade Estadual do Oeste do Paraná*, *Marechal Cândido Rondon, PR, Brazil*, [2]*Western Kentucky University*, *Bowling Green, KY*, [3]*USDA-Agricultural Research Service, Pasture Systems and Watershed Management Research Unit*, *University Park, PA*, [4]*University of New Hampshire*, *Durham, NH*.

3:00 PM 1309 **Association of dry matter intake, milk production at early lactation, and endometrial cytology during the transition period in Holstein cows.**
A. R. Guadagnin* and F. C. Cardoso, *University of Illinois*, *Urbana, IL*.

3:15 PM 1310 **Changes in plasma and milk choline metabolite concentrations in response to the provision of various rumen-protected choline prototypes in lactating cows.**
T. L. France*, W. A. Myers, J. Javaid, and J. W. McFadden, *Cornell University*, *Ithaca, NY*.

3:30 PM **Break**

4:00 PM 1311 **Effect of transition diet energy and protein content on colostrum, transition milk and mature milk composition and immunoglobulin G concentrations in Holstein dairy cattle.**
A. Fischer-Tlustos*[1], V. S. Fernandez[2], D. Seymour[2], J. Cant[1], and M. Steele[1], [1]*University of Guelph*, *Guelph, ON, Canada*, [2]*Trouw Nutrition Research and Development*, *Amersfoort, the Netherlands*.

4:15 PM 1312 **Predicting intake of lactating dairy cows using activity and digestion measures collected via ear tag accelerometers.**
J. M. Prestegaard-Wilson*[1,2], L. M. Campos[1], and M. D. Hanigan[1], [1]*Virginia Polytechnic Institute and State University*, *Blacksburg, VA*, [2]*Select Sires Inc*., *Plain City, OH*.

4:30 PM 1313 **Transfer of cannabinoids in milk from spent hemp biomass fed to dairy cows.**
A. Irawan*[1], D. G. Nosal[2], G. Puerto-Hernandez[1], S. Ates[1], and M. Bionaz[1], [1]*Oregon State University*, *Corvallis, OR*, [2]*Voynich Biosciences*, *Corvallis, OR*.

4:45 PM 1314 **Mycotoxin contamination trends in US corn silage 2018–2021.**
P. N. Gott*[1], E. F. Schwandt[1], L. Zheng[1], U. Hofstetter-Schähs[2], and A. W. Levy[1], [1]*DSM Nutritional Products*, *Parsippany, NJ*, [2]*DSM Austria GmbH*, *Getzersdorf, Lower Austria, Austria*.

5:00 PM 1315 **Occurrence of mycotoxins in 2021 US corn and corn by-product feed ingredients.**
E. Schwandt*[1], P. Gott[1], L. Zheng[1], U Hofstetter[2], and A Levy[1], [1]*DSM Nutritional Products*, *Parsippany, NJ*, [2]*DSM Austria GmbH*, *Getzersdorf, Austria*.

5:15 PM 1316 **Supplementation of probiotics and inorganic selenium increase nutritional value of milk of dairy cows.**
L. G. C. Oliveira[1], G. G. Mozart[2], A. G. Estefan[2,4], M. Aronovich[2], L. F. Ferraretto[3], and L. A. M. Keller*[1], [1]*Universidade Federal Fluminense*, *Niterói, RJ, Brazil*, [2]*Phileo by Lesaffre*, *Campinas, SP, Brazil*, [3]*University of Wisconsin*, *Madison, WI*, [4]*Phileo by Lesaffre*, *Toluca, México*.

Wednesday, June 22

POSTER PRESENTATIONS

Animal Health 3

2283W **Survey of *Clostridia* levels in dairy cows and feed across the United States.**
V. G. Bretl*, J. S. Thompson, A. H. Smith, and T. G. Rehberger, *Arm & Hammer Animal and Food Production*, *Waukesha, WI*.

2284W **Association of prepartum body condition scores with lying time, health, milk yield, and reproductive performance of lactating Holstein cows.**
G. M. Schuenemann*[1], J. M. Piñeiro[2], and B. T. Menichetti[3], [1]*Department of Veterinary Preventive Medicine, The Ohio State University*, *Columbus, OH*, [2]*Department of Animal Science, Texas A&M AgriLife Extension*, *Amarillo, TX*, [3]*Inter-Ag Nutrition Services*, *South Solon, OH*.

2285W **Endotoxin activates lipolysis through TLR4 signaling in bovine adipocytes.**
M. Chirivi* and G. A. Contreras, *Large Animal Clinical Sciences, Michigan State University*, *East Lansing, MI*.

2286W **Chromium and palmitic acid supplementation modulate adipose tissue insulin sensitivity in periparturient dairy cows.**
M. Chirivi*[1], U. Abou-Rjeileh[1,1], J. Parales-Giron[2], A. L. Lock[2], and G. A. Contreras[1], [1]*Large Animal Clinical Sciences, Michigan State University*, *East Lansing, MI*, [2]*Department of Animal Science, Michigan State University*, *East Lansing, MI*.

2287W **The effect of diet on *Treponema* survival in ruminal cultures.**
J. A. Huntington*[1], N. J. Evans[2], A. M. Mackenzie[1], S. Clegg[2], and S. D. Carter[2], [1]*Harper Adams University*, *Newport, Shropshire, United Kingdom*, [2]*University of Liverpool*, *Liverpool, Merseyside, United Kingdom*.

2288W **Effect of supplementation with *Saccharomyces cerevisiae* fermentation product on udder health and milk yield after intramammary challenge with *S. uberis*.**
Q. K. Kolar*[1], K. C. Krogstad[1], Z. Rodriguez[2], V. Mavangira[2], T. H. Swartz[1], I. Yoon[3], B. J. Bradford[1], and P. L. Ruegg[2], [1]*Department of Animal Science, Michigan State University*, *East Lansing, MI*, [2]*Department of Large Animal Clinical Sciences, Michigan State University*, *East Lansing, MI*, [3]*Diamond V*, *Cedar Rapids, IA*.

2289W **Serum pregnancy-associated glycoprotein during late gestation in dairy cows: Risk factors and associations with postpartum health.**
T. C. Bruinjé*[1], E.I Morrison[1], E. S. Ribeiro[2], D. L. Renaud[1], and S. J. LeBlanc[1], [1]*Department of Population Medicine, University of Guelph*, *Guelph, ON, Canada*, [2]*Department of Animal Biosciences, University of Guelph*, *Guelph, ON, Canada*.

2290W **Disease in one lactation is associated with greater incidence of the same disease in the subsequent lactation in dairy cows.**
L. B. Rangel*[1], C. K. Mak[2], J. E. P. Santos[2], K. N. Galvão[2], and A. Vieira-Neto[1], [1]*Kansas State University*, *Manhattan, KS*, [2]*University of Florida*, *Gainesville, FL*.

2291W **Microbial virulence genes in rectal swab samples are correlated with environmental, metabolic, and gut health stressors in US dairy cows.**
A. M. Lange*[1], E. A. Galbraith[1], R. P. Arias[2], S. R. Fensterseifer[2], S. Son[1], and M. R. King[1], [1]*Microbial Discovery Group*, *Franklin, WI*, [2]*United Animal Health Inc.*, *Sheridan, IN*.

2292W **Survey of *Salmonella* populations from dairy farms across the United States.**
M. N. de Jesus*, J. S. Thompson, J. M. Rehberger, A. H. Smith, and T. G. Rehberger, *Arm & Hammer Animal and Food Production*, *Waukesha, WI*.

2293W **Association between metabolomic profile of uterine luminal fluid at late diestrus and incidence of postpartum nonuterine clinical diseases.**
B. Mion*[1], M. R. Carvalho[1], J. F. W. Spricigo[1], E. Ticiani[1], O. B. Pascottini[2], S. J. LeBlanc[2], F. S. Lima[3], and E. S. Ribeiro[1], [1]*Department of Animal Biosciences, University of Guelph*, *ON, Canada*, [2]*Department of Population Medicine, University of Guelph*, *ON, Canada*, [3]*Department of Population Health and Reproduction, University of California–Davis*, *Davis, CA*.

2294W **Immunomodulatory product supplementation on performance, blood metabolites, and immune response in mid-lactation dairy cows.**
T. C. Michelotti*[1,2], N. A. Carpinelli[1,3], R. Mohan[1,4], E. Trevisi[5], B. D. Humphrey[6], J. D. Chapman[6], and J. S. Osorio[1], [1]*Dairy and Food Science Department, South Dakota State University*, *Brookings, SD*, [2]*Department of Veterinary Sciences, Texas Tech University*, *Lubbock, TX*, [3]*Nutricorp*, *Araras, SP, Brazil*, [4]*Kerala Veterinary and Animal Sciences University*, *Kelara, India*, [5]*Department of Animal Sciences, Food and Nutrition, Università Cattolica del Sacro Cuore*, *Piacenza, Italy*, [6]*Phibro Animal Health*, *Teaneck, NJ*.

2295W **Characterization of clinical mastitis according to herd size, somatic cell count, and production system in Brazilian Southern herds.**
L. L. Damasceno[1,2], S. T. Guerra[2], C. D. Neufeldt[2], E. M. Ribas[2], H. P. Janssen[2], M. K. Ortiz[2], M. V. Santos[3], and R. Almeida*[1], [1]*Universidade Federal do Paraná*, *Curitiba, PR, Brazil*, [2]*Negócios Leite, Castrolanda Cooperativa Agroindustrial*, *Castro, PR, Brazil*, [3]*Universidade de São Paulo*, *Pirassununga, SP, Brazil*.

2296W **Changes in uterine metabolome associated with metritis development and cure in lactating Holstein cows.**
E. B. de Oliveira*[1,2], J. V. M. Pereira[2,3], D. R. Williams[1,2], H. F. Monteiro[1], P. Menta[4], V. S. Machado[4], and F. S. Lima[1], [1]*Department of Population Health and Reproduction, School of Veterinary Medicine, University of California, Davis*, *Davis, CA*, [2]*Veterinary Medicine Teaching Research Center*, *Tulare, CA*, [3]*Federal University of Viçosa*, *MG, Brazil*, [4]*Department of Veterinary Sciences, Texas Tech University*, *Lubbock, TX*.

Dairy Foods 3: Cheese and Processing

2297W **Gas production by *Paucilactobacillus wasatchensis* WDCO4 is increased in Cheddar cheese containing sodium gluconate.**
D. McMahon[2], K. Sorensen*[1], M. Domek[1], T. Oberg[2], and C. Oberg[1], [1]*Weber State University*, *Ogden, UT*, [2]*Utah State University*, *Logan, UT*.

2298W **Efficacy of bacteriophage biocontrol of *Escherichia coli* in soft and hard raw milk cheese during production and storage.**
S. Kandil*[1,2], J. Powles[1], K. Farag[1], and L. McIntyre[1], [1]*Harper Adams University*, *Newport, Shropshire, United Kingdom*, [2]*Alexandria University*, *Alexandria, Egypt*.

2299W **Effect of dietary palmitic acid supplementation and milking frequency on cheese-making properties of milk.**
M. Blouin*[1,2], M. Landry[1,2], C. Vaubaillon[3], É. Paquet[1], P. Y. Chouinard[1,2], R. Gervais[1,2], G. Brisson[1,2], and J. Chamberland[1,2], [1]*Université Laval*, *Quebec, Canada*, [2]*STELA Dairy Research Center, Institute on Nutrition and Functional Foods (INAF)*, *Quebec, Canada*, [3]*Institut Agro Rennes-Angers*, *Rennes, France*.

2300W ***Escherichia coli* and *Listeria monocytogenes* populations are stable in saturated brines at refrigeration for up to 14 days.**
B. Riesgaard*, R. S. Moriarty, and J. Waite-Cusic, *Oregon State University*, *Corvallis, OR*.

2301W **Using milk permeate powder to create lactose-6-phosphate as a substitute for disodium phosphate in the manufacture of process cheese.**
K. A. Alsaleem*[1,2] and L. E. Metzger[1], [1]*Dairy and Food Science Department, South Dakota State University*, *Brookings, SD*, [2]*Department of Food Science and Human Nutrition, College of Agriculture and Veterinary Medicine, Qassim University*, *Buraydah, Saudi Arabia*.

2302W **A preliminary study on the production of lab-scale Cheddar cheese with the addition of a dairy based peptide fraction: Changes in composition, peptide profile and inhibition of angiotensin-converting enzyme 2.**
B. V. Iesalnieks*[1], R. A. Ibáñez[2], B. W. Bolling[1], and J. A. Lucey[1,2], [1]*Department of Food Science, University of Wisconsin–Madison*, *Madison, WI*, [2]*Center for Dairy Research, University of Wisconsin–Madison*, *Madison, WI*.

2303W **Effect of ultrasound and emulsifying salts on the functional properties of processed cheese.**
K. A. Alsaleem*[1,2], A. R. A. Hammam[1], and L. E. Metzger[1], [1]*Dairy and Food Science Department, South Dakota State University*, *Brookings, SD*, [2]*Department of Food Science and Human Nutrition, College of Agriculture and Veterinary Medicine, Qassim University*, *Buraydah, Saudi Arabia*.

2304W **Effect of milk protein fractionation on sensory quality of a hard goat milk cheese.**
B. Bjørgan*[1], S. Skeie[1], P. Varela[2], and A. G. Johansen[3,1], [1]*Faculty of Chemistry, Biotechnology and Food Science, Norwegian University of Life Sciences*, *Ås, Norway*, [2]*Sensory, Consumer Sciences and Innovation, Nofima As*, *Nofima Ås, Norway*, [3]*TINE SA*, *Oslo, Norway*.

2305W **Feeding concentrates with different protein sources to high-yielding Norwegian Red cows: Effect on cheese-making efficiency.**
M. A. Olsen*, S. A. Ferneborg, and S. Skeie, *Norwegian University of Life Sciences*, *Ås, Viken, Norway*.

2306W **Manufacture of clean-label process cheese products using culture-based acid curd and micellar casein concentrate.**
A. R. A. Hammam*[1], R. Kapoor[2], and L. E. Metzger[1], [1]*Dairy and Food Science Department, South Dakota State University*, *Brookings, SD*, [2]*National Dairy Council*, *Rosemont, IL*.

2307W **Characteristics of Mozzarella cheese substitute manufactured with no emulsifying salts using culture-based acid curd and micellar casein concentrate.**
A. R. A. Hammam* and L. E. Metzger, *Dairy and Food Science Department, South Dakota State University*, *Brookings, SD*.

2308W **Manufacture of a novel cultured micellar casein concentrate ingredient for dairy food applications.**
A. R. A. Hammam*[1], R. Kapoor[2], and L. E. Metzger[1], [1]*Dairy and Food Science Department, South Dakota State University*, *Brookings, SD*, [2]*National Dairy Council*, *Rosemont, IL*.

2309W **Reduction in the antigenicity of beta-lactoglobulin in whole milk powder via supercritical CO_2 treatment.**
R. Venkatram*, I. García-Cano, and R. Jiménez-Flores, *The Ohio State University*, *Columbus, OH*.

2310W **Process development for the manufacture of nonfat dry milk with whey proteins as fibrils.**
G. Rathod*[1], S. Beckman[2], and J. Amamcharla[1], [1]*Kansas State Univerisity*, *Manhattan, KS*, [2]*Midwest Dairy Foods Research Center, South Dakota State University*, *Brookings, SD*.

Growth and Development 1

2312W **The effect of a blend of rumen-protected B vitamins on the performance of calves during the weaning period.**
R. Roszkos[1,2], O. AlZahal*[3], and D. Bouchut[4], [1]*Hungarian University of Agriculture and Life Sciences*, *Gödöllo*, [2]*ADEXGO Ltd*., *Balatonfüred, Hungary*, [3]*AlZahal Innovation and Nutrition*, *Kitchener, ON, Canada*, [4]*Jefo Nutrition*, *St-Hyacinthe, QC, Canada*.

2313W **The effects of probiotic supplementation on pre and post wean Holstein dairy calf performance.**
L. Widmer*[1], E. Meissner[2], D. Ledgerwood[3], D. Vagnoni[2], and H. Rossow[1], [1]*University of California, Davis*, *Davis, CA*, [2]*California Polytechnic University, San Luis Obispo*, *San Luis Obispo*, [3]*Chr. Hansen*, *Milwaukee, WI*.

2314W **Re-evaluating calf passive immunity status: What is the maximum sampling age for IgG guidelines?**
M. C. Cantor*[1], H. McCarthy[2], A. J. Lopez[2], A. P. Baide[2], M. A. Steele[2], and D. L. Renaud[1], [1]*University of Guelph, Department of Population Medicine*, *Guelph, ON, Canada*, [2]*University of Guelph, Department of Animal Biosciences*, *Guelph, Canada*.

2315W **Effects of in utero choline exposure on growth and metabolism in weaned Angus × Holstein calves.**
W. E. Brown*, H. T. Holdorf, S. J. Johnson, and H. M. White, *Department of Animal and Dairy Sciences, University of Wisconsin–Madison*, *Madison, WI*.

Physiology and Endocrinology 3

2316W **Relationship between resumption of ovarian cyclicity, and nutritional and inflammatory blood biomarkers in lactating dairy cows.**
A. Bilton-Smith[1], D. Konetchy[1], J. Dalton[2], W. Price[1], and A. Ahmadzadeh*[1], [1]*University of Idaho*, *Moscow, ID*, [2]*University of Idaho*, *Caldwell, ID*.

2317W **Correlation between the IGF-1 concentration in plasma and preovulatory follicles of Holstein Friesian cows under farm conditions.**
C. Schiffers*[1], H. Grothmann[2], A. Kassens[2], K. Mense[2], L. Sommer[1], M. Sommer[3], and M. Schmicke[1], [1]*Martin-Luther University Halle-Wittenberg, Faculty of Natural Sciences III, Institute of Agricultural and Nutritional Sciences, Animal Health Management*, *Halle, Germany*, [2]*Masterrind GmbH*, *Verden, Germany*, [3]*Agrargenossenschaft Helmsdorf eG*, *Gerbstedt, Germany*.

2318W **Exploratory study of the effect of recombinant bovine interleukin-8 treatment in multiparous cows on uterine microbiome.**
J. Silva*[1], L. Siqueira[1], M. Zinicola[2], M. Rodrigues[1,3], and R. Bicalho[1,3], [1]*Cornell University*, *Ithaca, NY*, [2]*Zoetis Animal Health*, *Kalamazoo, MI*, [3]*Fera Diagnostics and Biologicals*, *College Station, TX*.

2319W **Association of anti-Mullerian hormone with genomic prediction of daughter pregnancy rate, ovulation, and pregnancy per AI in lactating dairy cows.**
S. Salman*[1], A. J. Conley[1], R. S. Bisinotto[2], E. S. Ribeiro[3], A. Kumar[4], and F. S. Lima[1], [1]*Department of Population Health and Reproduction, School of Veterinary Medicine, University of California, Davis*, *Davis, CA*, [2]*Deprtment of Large Animal Clinical Sciences*, *Gainesville, FL*, [3]*Department of Animal Biosciences, University of Guelph*, *Guelph, ON, Canada*, [4]*Ansh Laboratories*, *Webster, TX*.

2320W **Association of plasma inhibins A and B with genomic prediction of daughter pregnancy rate, ovulation, and pregnancy per AI in lactating dairy cows.**
S. Salman*[1], A. J. Conley[1], A. Kumar[2], and F. S. Lima[1], [1]*Department of Population Health and Reproduction, School of Veterinary Medicine, University of California, Davis*, *Davis, CA*, [2]*Ansh Laboratories*, *Webster, TX*.

2321W **Hormone profiles at parturition in dairy cows.**
P. L. J. Monteiro*, W. S. Frizzarini, E. M. Cabrera, J. P. N. Andrade, S. G. Schoenfeld, L. L. Hernandez, and M. C. Wiltbank, *Department of Animal and Dairy Sciences, University of Wisconsin–Madison*, *Madison, WI*.

2322W **Whole-blood transcriptomic signature during early lactation of Holstein cows fed an immunomodulatory feed additive.**
M. Garcia*, J. D. Chapman, and B. D. Humphrey, *Phibro Animal Health Coorporation*, *Teaneck, NJ*.

2323W **Effects of 3 different prepartum diets on dry matter intake, beta-hydroxybutyrate, and mineral concentrations in multiparous Holstein cows.**
W. Frizzarini*[1], J. Diniz[2], A. Vang[1], P. Monteiro[1], and L. Hernandez[1], [1]*University of Wisconsin*, *Madison, WI*, [2]*Federal University of Minas Gerais*, *Belo Horizonte, MG, Brazil*.

2324W **Systemic inflammation after intramammary lipopolysaccharide challenge alters gene expression and milk composition in noninflamed mammary glands.**
E. M. Shangraw* and T. B. McFadden, *University of Missouri*, *Columbia, MO*.

1425W **Reducing endocannabinoid system activation by omega-3 fatty acids supplementation affects the proteome and phosphoproteome of insulin-stimulated adipose tissue in peripartum dairy cows.**
G. Kra[1,2], J. R. Daddam[1], U. Moallem[1], H. Kamer[1], R. Kocvarová[3], A. Nemirovski[3], G. A. C. Contreras[4], J. Tam[3], and M. Zachut*[1], [1]*Department of Ruminant Science, Institute of Animal Sciences, Agriculture research Organization, Volcani Center*, *Rishon Lezion, Israel*, [2]*Faculty of Agriculture, the Hebrew University in Jerusalem*, *Rehovot, Israel*, [3]*Obesity and Metabolism Laboratory, The Institute for Drug Research, School of Pharmacy, Faculty of Medicine, The Hebrew University of Jerusalem*, *Jerusalem, Israel*, [4]*Department of Large Animal Clinical Sciences, College of Veterinary Medicine, Michigan State University*, *East Lansing, MI*.

Production, Management, and the Environment 3

2325W **Adoption of automatic milk systems by Brazilian dairy farms.**
L. G. R. Pereira*[1,3], R. R. Silvi[2], C. A. V. Paiva[1], T. R. Tomich[1], M. M. Campos[1], F. S. Machado[1], and J. R. R. Dórea[3], [1]*Brazilian Agricultural Reseach Corporation - Embrapa Dairy Cattle*, *Juiz de Fora, MG, Brazil*, [2]*Universidade Estadual de Santa Cruz*, *Ilhéus, Ba, Brazil*, [3]*University of Wisconsin–Madison*, *Madison, WI*.

2326W **Do unbalanced databases affect the prediction of grazing behavior in cattle?**
L. H. Silva*, C. M. L. Silva, E. G. Maziero, and M. A. C. Danes, *University of Lavras*, *MG, Brazil*.

2327W **Evaluation of a selective dry-cow therapy on a New Mexico dairy farm.**
J. A. Garcia-Buitrago*[1], J. M. Piñeiro[2], R. Hagevoort[1], and J. Spencer[2], [1]*New Mexico State University*, *Clovis, NM*, [2]*Texas A&M AgriLife Research and Extension Center*, *College Station, TX*.

2328W **Factors influencing the electrical resistance of dairy cattle and drinking water.**
R. Norell*, A. Ahmadzadeh, and W. Sandberg, *University of Idaho*, *Moscow, ID*.

2329W **Anaplasmosis prediction using microchip with a thermal sensor or clinical rectal thermometer.**
G. M. Souza[1], M. A. C. Danés[1], V. A. Teixeira[2], T. Bresolin[3], T. R. Tomich[4], J. P. P. Rodrigues[5], S. G. Coelho[2], J. E. F. Filho[2], M. M. Campos[4], L. G. R. Pereira*[4,3], and J. R. R. Dórea[3], [1]*Universidade Federal de Lavras*, *MG, Brazil*, [2]*Universidade Federal de Minas Gerais*, *Belo Horizonte, MG, Brazil*, [3]*University of Wisconsin–Madison*, *Madison*, [4]*Brazilian Agricultural Research Corporation - Embrapa*, *Juiz de Fora, MG, Brazil*, [5]*Universidade Federal Rural do Rio de Janeiro*, *Seropédica, RJ, Brazil*.

2330W **Effects of heat abatement during the preweaning on postweaning and first-lactation performances.**
A. B. Montevecchio*[1] and R. C. Chebel[1,2], [1]*Department of Large Animal Clinical Sciences, University of Florida*, *Gainesville, FL*, [2]*Department of Animal Sciences, University of Florida*, *Gainesville, FL*.

2331W **Monitoring heat stress behavior in dairy calves through computer vision systems.**
A. Negreiro*, T. Bresolin, R. Ferreira, B. Dado-Senn, J. Laporta, J. Van Os, and J. R. R. Dórea, *University of Wisconsin*, *Madison, WI*.

2332W **Effect of episodic heat stress on reticular temperature and pH on dairy farms with varying heat abatement systems in northern New York.**
A. Pape, C. S. Ballard*, and R. J. Grant, *William H. Miner Agricultural Research Institute*, *Chazy, NY*.

2333W **Behavioral responses of lactating dairy cows challenged with intramammary lipopolysaccharide infusion with or without evaporative cooling.**
T. N. Marins*[1], R. M. Orellana Rivas[1], Y-C. Chen[1], V. Lacerda[1], Z. Wang[2], H. Liu[2], J. K. Bernard[1], and S. Tao[1], [1]*Department of Animal and Dairy Science, University of Georgia*, *Athens, GA*, [2]*College of Animal Sciences, Zhejiang University*, *Hangzhou, China*.

2334W **Direct effects of heat stress on hepatic mitochondrial function in lactating dairy cattle.**
A. S. Marquez-Acevedo*, P. Villamediana, C. C. Josefson, R. J. Collier, and A. L. Skibiel, *University of Idaho*, *Moscow, ID*.

Ruminant Nutrition: General 3

2335W **Effects of 2 rumen-protected choline sources during transition period on Holstein dairy cow performance.**
V. Sáinz de la Maza-Escolà*[1], E. Trevisi[2], E. Grilli[1,3], and F. Piccioli-Cappelli[2], [1]*Department of Veterinary Medical Sciences, University of Bologna*, *Italy*, [2]*Department of Animal Sciences, Food and Nutrition, Faculty of Agriculture, Food and Environmental Science, Università Cattolica del Sacro Cuore*, *Piacenza, Italy*, [3]*Vetagro S.p.A*, *Reggio Emilia, Italy*.

2336W **Effect of prepartum dietary cation-anion difference (DCAD) strategy and level of dietary calcium on peripartum performance of multiparous Holstein cows.**
G. Graef*[1], A. Kerwin[1], L. Ferro[1], S. Ordaz-Puga[1], C. Ryan[1], T. Westhoff[1], D. Barbano[1], K. Glosson[2], K. Zanzalari[2], J. Chapman[2], and T. Overton[1], [1]*Cornell University*, *Ithaca, NY*, [2]*Phibro Animal Health Corporation*, *Teaneck, NJ*.

2337W **Effect of supplementing diets of dairy cows with essential oils on rumen fermentation profile in vivo and milk yield and composition: A meta-analysis.**
S. Calsamiglia[1], G. Fernandez-Turren[2], M. E. Rodriguez-Prado*[1], and L. Castillejos[1], [1]*SNIBA, Universitat Autonoma de Barcelona*, *Bellaterra, Spain*, [2]*Universidad de la Republica*, *Montevideo, Uruguay*.

2338W **Evaluation of macromineral meters to detect dietary cation-anion difference concentration in a total mixed ration.**
S. R. Poldervaart* and H. A. Rossow, *University of California–Davis*, *Davis, CA*.

2339W **Effects of prepartum energy intake on blood variables reflecting inflammation in dairy cows.**
M. M. Efil*[1], N. A. Janovick[1], E. Trevisi[2], G. Bertoni[2], and J. K. Drackley[1], [1]*University of Illinois Urbana-Champaign*, *Urbana, IL*, [2]*Università Cattolica del Sacro Cuore*, *Piacenza, Italy*.

2340W **Evaluating effects of dietary stabilized liquid propionic acid on milk production, energetics, and inflammation in postpartum dairy cows.**
E. A. Horst*, C. Sousa, and L. A. Rodriguez, *Innovative Liquids LLC*, *El Dorado Hills, CA*.

2341W **Effects of increasing stabilized liquid propionic acid inclusion on production, energetics, and health in lactating dairy cows.**
E. A. Horst, C. Sousa*, J. Haringa, and L. Rodriguez, *Innovative Liquids LLC*, *El Dorado Hills, CA*.

2342W **Effects of *Bacillus subtilis* and *Bacillus licheniformis* on lactation performance of adult lactating dairy cattle.**
A. D. Corpus*[1], L. P. Bielamowicz[1], B. W. Jones[1,2], and W. B. Smith[1,3], [1]*Tarleton State University*, *Stephenville, TX*, [2]*Texas A&M Agrilife Research*, *Stephenville, TX*, [3]*Auburn University*, *Auburn, AL*.

2343W **Forage-to-concentrate ratio alters the ruminal metabolome and microbiome in Jersey steers.**
L. Thanh*[1,2], Q. Jiang[2], A. Elolimy[3], S. Moisa[4], and J. J. Loor[2], [1]*Can Tho University*, *Ninh Kieu, Vietnam*, [2]*University of Illinois*, *Urbana, IL*, [3]*National Research Center*, *Giza, Egypt*, [4]*University of Tennessee*, *Knoxville, TN*.

2344W **In vitro adsorption efficiency of mycotoxins by different mycotoxin adsorbents.**
V. Akay*[1] and T. Akay[2], [1]*Global Nutritech Biotechnology LLC*, *Richmond, VA*, [2]*Uludag University*, *Gorukle, Bursa, Turkey*.

2345W **Testing palatability of alfalfa hay of different relative feed value compared to brome hay in lactating Jersey cows.**
K. Buse*, A. Carroll, and P. Kononoff, *University of Nebraska–Lincoln*, *Lincoln, NE*.

2346W **Examining feed preference of pellets used in automated milking systems (AMS).**
A. L. Carroll[1], K. K. Buse[1], J. D. Stypinski[1], C. J. R. Jenkins[1,2], and P. J. Kononoff*[1], [1]*Department of Animal Science, University of Nebraska–Lincoln*, *Lincoln, NE*, [2]*Standard Nutrition Company*, *Omaha, NE*.

2347W **Preliminary models to predict dry matter intake of lactating Jersey cows.**
K. V. Almeida*[1], D. C. Reyes[1], E. A. Cruz[1], M. A. Rahman[1], A. L. Konopka[1], P. J. Kononoff[2], and A. F. Brito[1], [1]*University of New Hampshire*, *Durham, NH*, [2]*University of University of Nebraska–Lincoln*, *Lincoln, NE*.

2348W **Modified tools for placement of abomasal infusion lines in cattle.**
L. R. Rebelo* and C. Lee, *Department of Animal Sciences, The Ohio State University*, *Wooster, OH*.

Ruminant Nutrition: Calves and Heifers 3

1081W **Effect of whole cottonseed inclusion to the calf starter on performance, metabolic profile, and rumination behavior of Holstein dairy calves.**
V. Lopreiato*[1], M. Repetto[2], G. Lovotti[2], A. Minuti[2], and E. Trevisi[2], [1]*Department of Veterinary Sciences, Università degli Studi di Messina*, *Messina, Italy*, [2]*Department of Animal Sciences, Food and Nutrition, Università Cattolica del Sacro Cuore*, *Piacenza, Italy*.

2349W **Sodium butyrate improves duodenal development even in calves with neonatal diarrhea.**
M. S. Nicola*[1], M. N. Corrêa[1], A. L. Kalb[1], A.A. Barbosa[1], J. A. A. Rincon[2], R. G. Mondadori[1], E. R. Komninou[1], L. A. X. Cruz[1], V. R. Rabassa[1], B. S. Velasquez[1], E. N. Dellagostin[1], A. W. S. Martins[1], F. Lopes[3], W. Quinteiro[3], E. G. Xavier[4,1], [1]*Universidade Federal de Pelotas*, *Rio Grande do Sul, Brazil*, [2]*Universidad de La Salle*, *Yopal, Casanare, Colombia*, [3]*Adisseo Brasil Nutrição Animal*, *São Paulo, São Paulo, Brazil*, [4]*Granjas 4 Irmãos S. A. Agropecuário, Industria e Comércio*, *Rio Grande, Rio Grande do Sul, Brazil*.

2350W **A polyphenol additive increased gain and economics of Holstein bull calves challenged with oxidative stress.**
J. Kaufman*[1], F. Mueller[1], Y. Ma[2], and I. Girard[3], [1]*Kalmbach Feeds Inc.*, *Upper Sandusky, OH*, [2]*Hanley International LLC*, *Belmont, MA*, [3]*Probiotech International Inc.*, *St-Hyacinthe, QC, Canada*.

2352W **Effects of a *Megasphaera elsdenii* oral probiotic capsule on foregut pH and development of crossbred Holstein × Angus calves.**
G. Mazon* and J. H. C. Costa, *University of Kentucky*, *Lexington, KY*.

2353W **Assessing intestinal barrier function of weaned calves using serum lactulose to mannitol ratio.**
H. K. J. P. Wickramasinghe*, N. Stepanchenko, M. J. Oconitrillo, B. M. Goetz, M. A. Abeyta, L. H. Baumgard, and J. A. D. R. N. Appuhamy, *Department of Animal Science, Iowa State University*, *Ames, IA*.

2354W **Effects of *Lactobacillus* and *Bacillus* species supplementation on performance and health of pre-ruminant calves through weaning.**
S. T. Quanz*[1], K. A. Habib[1], K. J. S. Smith[1], T. Rehberger[2], A. J. Tarpoff[1], J. S. Thompson[2], C. S. Jones[1], L. K. Mamedova[3], W. E. Boomer[2], S. E. Gragg[1], and B. J. Bradford[3], [1]*Kansas State University*, *Manhattan, KS*, [2]*Church and Dwight*, *Waukesha, WI*, [3]*Michigan State University*, *East Lansing, MI*.

2355W **Impact of season on birth weight, growth, and average daily gain of conventionally raised Holstein heifers in the Midwestern United States.**
K. N. Brost* and J. K. Drackley, *University of Illinois*, *Urbana, IL*.

2356W **Effect of a therapeutic diet on growth performance in foot and mouth disease (FMD)-infected Holstein Friesian crossbred calves.**
A. Somagond*[1,2], B. H. M. Patel[1], A. K. Pattanaik[3], M. Hosamani[1], A. Sanyal[1], Q. Jiang[2], and J. J. Loor[2], [1]*ICAR-Indian Veterinary Research Institute*, *Bengaluru, Karnataka, India*, [2]*University of Illinois*, *Urbana, IL*, [3]*ICAR-Indian Veterinary Research Institute*, *Bareilly, Uttar Pradesh, India*.

Ruminant Nutrition: Carbohydrates and Lipids 3

2357W **Effect of feeding whole cottonseed on nutrient digestion and fecal flow of intact seeds in dairy cows.**
Y. Adeniji*[1], R. Pierce[1], T. Wedegaertner[2], R. Goodall[2], and K. Harvatine[1], [1]*Penn State University*, *University Park, PA*, [2]*Cotton Inc.*, *Cary, NC*.

2358W **A meta-regression evaluating the effect of increasing dietary whole cottonseed on nutrient digestibility and production responses of lactating dairy cows.**
J. M. dos Santos Neto*, A. M. Burch, and A. L. Lock, *Michigan State University*, *East Lansing, MI*.

2359W **Rumen-protected choline (RPC) influences hepatic metabolism during induction of fatty liver.**
U. Arshad*, A. Husnain, M. B. Poindexter, R. Zimpel, M. C. Perdomo, and J. E. P. Santos, *University of Florida*, *Gainesville, FL*.

2360W **Altering the ratio of palmitic and stearic acids in supplemental fatty acid blends impacts digestibility responses of mid-lactation dairy cows.**
A. M. Burch*, M. E. Kloboves, and A. L. Lock, *Michigan State University*, *East Lansing, MI*.

2361W **Evaluating factors affecting accuracy of neutral detergent fiber estimates for effluent samples from dual-flow continuous culture fermenters.**
M. L. Miller*, K. E. Mitchell, and B. A. Wenner, *The Ohio State University*, *Columbus, OH*.

2362W **Effect of dietary palmitic acid supplementation and milking frequency on milk production and composition in early lactation dairy cows.**
M. Landry*[1,2], F. Huot[1,2], R. Lessard[3], Y. Lebeuf[1,2], J. Chamberland[1,2], G. Brisson[1,2], D. E. Santschi[4], É. Paquet[1], D. E. Rico[5], P. Y. Chouinard[1,2], and R. Gervais[1,2], [1]*Université Laval*, *Quebec, Canada*, [2]*Centre de recherche en sciences et technologie du lait*, *Quebec, Canada*, [3]*Université de Sherbrooke*, *Quebec, Canada*, [4]*Lactanet*, *Quebec, Canada*, [5]*Centre de recherche en sciences animales de Deschambault*, *Quebec, Canada*.

Ruminant Nutrition: Gut Physiology, Fermentation, and Digestion 3

2363W **Effects of *Bacillus subtilis* PB6 supplementation on acute-phase proteins and gastrointestinal tract permeability in transition dairy cows.**
B. M. Goetz*[1], E. J. Mayorga[1], M. A. Abeyta[1], S. Rodriguez-Jimenez[1], J. Opgenorth[1], A. Freestone[1], G. M. Jakes[1], C. E. Moore[2], D. J. Dickson[2], J. E. Hergenreder[2], and L. H. Baumgard[1], [1]*Iowa State University*, *Ames, IA*, [2]*Kemin Industries Inc.*, *Des Moines, IA*.

2364W **Effects of guanidinoacetic acid in dairy or beef microbial conditions on rumen microbial fermentation and nutrient flow from a continuous culture system.**
R. Temmar*[1], M. E. Rodríguez-Prado[1], A. Kihal[1], V. K. Inhuber[2], and S. Calsamiglia[1], [1]*Animal Nutrition and Welfare Service (SNiBA), Universitat Autònoma de Barcelona*, *Barcelona, Spain*, [2]*Alzchem Trostberg GmbH Dr*, *Trostberg, Germany*.

2365W **In vivo supplementation with *Saccharomyces cerevisiae* fermentation product enhances in vitro gas production from NDF fraction of forages.**
S. Somes, P. Score, Y. Roman-Garcia*, and G. Schroeder, *Cargill Animal Nutrition and Health, Innovation Campus*, *Elk River, MN*.

2366W **Effects of a novel direct-fed microbial feed additive on performance of lactating Holstein dairy cows.**
L. N. Ferro*[1], A. L. Kerwin[1], C. M. Ryan[1], G. M. Graef[1], T. M. Nelson[1], H. Green[2], F. Yang[2], M. Embree[2], D. M. Barbano[1], and T. R. Overton[1], [1]*Cornell University*, *Ithaca, NY*, [2]*Native Microbials Inc.*, *San Diego, CA*.

2367W **Essential oils manipulated rumen fermentation in lactating dairy cows.**
A. Van De Kerchhove[1], A. Delaquis[2], T. Steen[3], F. Mueller[4], and A. Park*[5], [1]*Federated Co-Op Limited*, *Saskatoon, SK, CA*, [2]*Sollio Agriculture*, *Montréal, Quebec, CA*, [3]*Tennessee Farmers Cooperative*, *La Vergne, TN*, [4]*Kalmbach Feeds, Inc.*, *Upper Sandusky, OH*, [5]*Cooperative Research Farms*, *Richmond, VA*.

2368W **Effects of exogenous amylolytic or cellulolytic enzymes inclusion on in vitro fermentation of lactating dairy cow diets in a dual-flow continuous culture system.**
J. R. Vinyard*[1], A. Ravelo[2,1], E. Sarmikasoglou[1], H. F. Monteiro[3,1], J. A. Arce-Cordero[1], M. L. Johnson[1], B. C. Agustinho[4,1], R. R. Lobo[1], M. G. Yungmann[1], A. H. R. Winter[1], L. M. Gilbertson[1], M. P.L Soltis[5,1], K. D. Klanderman[6], L. F. Ferraretto[7], A. P. Faciola[1], [1]*University of Florida*, *Gainesville, FL*, [2]*University of Minnesota*, *St. Paul, MN*, [3]*University of California–Davis*, *Davis, CA*, [4]*University of Idaho*, *Moscow, ID*, [5]*University of Tennessee*, *Knoxville, TN*, [6]*Adisseo USA Inc.*, *Alpharetta, GA*, [7]*University of Wisconsin–Madison*, *Madison, WI*.

2369W **In vitro evaluation of the effects of high-protein duckweed on ruminal fermentation.**
N. Stepanchenko*, D. E. Wasson, S. Welchez, L. Martins, R. A. Brennan, and A. N. Hristov, *Pennsylvania State University*, *State College, PA*.

2370W **Effect of a high-shear dry extruded shaped corn on milk production and components in dairy cattle.**
Y. Adeniji*, R. Bomberger, and K. Harvatine, *Department of Animal Science, The Pennsylvania State University*, *University Park, PA*.

2371W **Effect of corn hybrid on in vitro starch digestibility at silage maturities I: Kernels.**
N. Schlau*[1], D. R. Mertens[2], and D. Taysom[1], [1]*Dairyland Laboratories, Inc.*, *Arcadia, WI*, [2]*Mertens Innovation and Research*, *Belleville, WI*.

2372W **Effect of corn hybrid on in vitro starch digestibility at silage maturities II: Whole-plant corn.**
N. Schlau*[1], D. R. Mertens[2], and D. Taysom[1], [1]*Dairyland Laboratories Inc.*, *Arcadia, WI*, [2]*Mertens Innovation and Research*, *Belleville, WI*.

2373W **Effects of cashew nut shell extract and monensin on in vitro ruminal fermentation, methane production and ruminal microbial community.**
E. Sarmikasoglou*[1], P. Sumadong[1,2], S. Halima[1], X. Ma[1], K. Arriola[1], Z. Yuting[1], K.C. C. Jeong[1], D. Vyas[1], C. Hikita[3], T. Watanabe[3], and A. Faciola[1], [1]*University of Florida*, *Gainesville, FL*, [2]*Khon Kaen University*, *Khon Kaen, Thailand*, [3]*Idemitsu Kosan Co., Ltd.*, *Tokyo, Japan*.

2374W **Milk yield and microbial community composition changes in response to a rumen-native direct-fed microbial.**
C. Marotz*, A. Washburne, F. Yang, B. Anderson, J. Lefler, and M. Embree, *Native Microbials*, *San Diego, CA*.

2528W **Effects of α-amylase enhanced corn silage on silage fermentation and total-tract nutrient digestibility early post-harvest when fed with different starch concentrations to lactating dairy cows.** K. C. Krogstad* and B. J. Bradford, *Michigan State University, East Lansing, MI.*

Ruminant Nutrition: Protein/Amino Acids 3

2375W **Effects of Leu, Met, and hyperinsulinemic clamp on plasma concentration and mammary extraction of amino acids.**
V. Pszczolkowski*[1], H. Hu[1], J. Zhang[3,1], M. Connelly[1], A. Munsterman[2,1], and S. A. Apelo[1], [1]*UW-Madison*, *Madison, WI*, [2]*Michigan State University*, *East Lansing, MI*, [3]*Northwest A&F University*, *Yangling, Shaanxi, China*.

2376W **Linking amino acids to milk fat synthesis.**
Y. C. T. Taguti*[1,2], A. C. Hruby[2], M. D. Hanigan[2], and I. A. M. A. Teixeira[1], [1]*Universidade Estadual Paulista Julio de Mesquita Filho - UNESP*, *Jaboticabal, SP, Brazil*, [2]*Virginia Tech*, *Blacksburg, VA*.

2377W **Metabolomic profiling reveals marked effects of ethyl-cellulose rumen-protected methionine on skeletal muscle during the periparturient period in dairy cows.**
L. Thanh*[1,2], A. Aboragah[2], F. Batistel[3], A. Elolimy[4], C. Parys[5], J. Guyader[5], and J. J. Loor[2], [1]*Can Tho University*, *Ninh Kieu Can Tho, Vietnam*, [2]*University of Illinois*, *Urbana, IL*, [3]*University of Florida*, *Gainesville, FL*, [4]*National Research Center*, *Giza, Egypt*, [5]*Evonik Operations GmbH*, *Hanau-Wolfgang, Essen, Germany*.

2378W **Effects of dietary crude protein level and feeding pattern on nitrogen balance and nutrient digestibility.**
M. G. Erickson*[1], G. I. Zanton[2], and M. A. Wattiaux[1], [1]*Department of Animal and Dairy Sciences, University of Wisconsin–Madison*, *Madison, WI*, [2]*USDA Agricultural Research Service, US Dairy Forage Research Center*, *Madison, WI*.

2379W **Meta-regression analyses of the relationship between plasma concentrations and duodenal flows of amino acids in dairy cows.**
R. A. Patton*[1], E. Mahjoubi[2], A. N. Hristov[3], H. Lapierre[4], C. Parys[5], and J. Guyader[5], [1]*Nittany Dairy Nutrition, Inc.*, *Mifflinburg, PA*, [2]*University of Zanjan*, *Zanjan, Iran*, [3]*The Pennsylvania State University*, *University Park, PA*, [4]*Agriculture and Agri-Food Canada*, *Sherbrooke Research and Development Centre, QC, Canada*, [5]*Evonik Operations GmbH*, *Hanau, Germany*.

Small Ruminant Posters 1

2380W **Assesment of nutrient digestibility and ruminal protozoa count in lambs fed babassu oil associated with sunflower oil.**
G. K. S. M. Vilela[1], H. N. Parente[1], M. R. Santos*[1], K. S. Rocha[1], A. A. Rodrigues[1], S. S. Reis[1], I. A. L. Cunha[1], F. N. S. Santos[1], A. B. M. Lima[1], R. M. Oliveira[1], G. M. Oliveira[1], and M. O. M. Parente[2], [1]*Federal University of Maranhão*, *Chapadinha, MA, Brazil*, [2]*Federal University of piauí*, *Teresina, Piauí, Brazil*.

2381W **Biohydrogenation patterns in digestive contents of lambs fed greasy babassu by-product.**
M. O. M. Parente[2,1], M. R. Santos*[1], G. O. Santos[1], E. A. Sousa[1], N. A. F. Machado[1], V. L. F. Santos[2], F. C. S. Sousa[1], A. F. Perazzo[1,2], A. B. M. Lima[1], G. M. Oliveira[1], D. O. Maia[1], and H. N. Parente[1], [1]*Federal University of Maranhão*, *Chapadinha, MA, Brazil*, [2]*Federal University of Piauí*, *Teresina, Piauí, Brazil*.

Riddet Institute and AgResearch International Partnership Program Symposium

Chair: **David Everett, Riddet Institute and AgResearch**

CC 2215A

9:00 AM – 5:00 PM

9:00 AM		**Welcome**
9:30 AM	1366	**Protection or colonization: The role of the milk fat globule on intestinal development.** C. Thum*[1,2] and D. Everett[1,2], [1]*AgResearch Limited*, [2]*Riddet Institute, Massey University*.
10:00 AM	1367	**Designing milk protein structures for optimal functionality and nutrition.** H. Singh*, *Riddet Institute, Massey University*, *Palmerston North, New Zealand*.
10:30 AM		**Break**
11:00 AM	1368	**Structural nutrition: Why dairy foods are more than the sum of nutrients.** D. W. Everett*[1,2], [1]*AgResearch*, *Palmerston North, New Zealand*, [2]*Riddet Institute*, *Palmerston North, New Zealand*.
11:30 AM	1369	**Structural dynamics of cow and non-cow milks during in vitro and in vivo gastric digestion.** D. Roy*[1], A. Ye[1], P. Moughan[1], C. Montoya[2,1], S. Li[1], A. Dave[1], N. Stroebinger[1], S. Hodgkinson[1], and H. Singh[1], [1]*Riddet Institute, Massey University*, *Palmerston North, New Zealand*, [2]*Food Nutrition and Health Team, Grasslands Research Centre, AgResearch Ltd*., *Palmerston North, New Zealand*.
12:00 PM		**Lunch break**
1:00 PM	1370	**Modulating the delivery of bioactive compounds through dairy matrix design.** A. Acevedo-Fani*[1], H. J Qazi[1], S. M Loveday[2,1], A. Ye[1], and H. Singh[1], [1]*Riddet Institute, Massey University*, *Palmerston North, New Zealand*, [2]*Food and Bio-based Products Group, AgResearch Ltd*., *Palmerston North, New Zealand*.
1:30 PM	1371	**A metabolomics analysis of interspecies and seasonal trends in ruminant milks: The molecular difference between bovine, caprine and ovine milks.** K Fraser*[1,2], D Cabrera[1], and N Roy[2,4], [1]*Food Nutrition and Health Team, AgResearch*, *Palmerston North, New Zealand*, [2]*Riddet Institute*, *Palmerston North, New Zealand*, [3]*High-Value Nutrition National Science Challenge*, *New Zealand*, [4]*Liggins Institute, The University of Auckland*, *Auckland, New Zealand*.
2:00 PM	1372	**Impact of processing on the digestibility of milk.** A. Ye*, *Riddet Institute, Massey University*, *Palmerston North, New Zealand*.
2:30 PM		**Break**
3:00 PM	1373	**Sheep, goat, and cow milks and yogurts: From physical and structural properties to in vitro gastrointestinal digestion and generated peptide profiles.** H. Nguyen, J. Gathercole*, S. Afsar, J. Dalziel, and L. Day, *AgResearch*, *Palmerston North, New Zealand*.
3:30 PM	1374	**Advances in designing dynamic in vitro systems to study gastric digestion of foods.** R. P. Singh*, *University of California*, *Davis, CA*.
4:00 PM		**Discussion**

Breeding and Genetics Platform Session: Breeding for Sustainability and Environmental Efficiency

Chair: **Luiz Brito, Purdue University**

CC 2102B

9:30 AM – 12:00 PM

This session will also be livestreamed. For more information, please see adsa.org/2022vm.

9:30 AM 1329 **International collaboration to improve sustainability and resilience in dairy: Current and future studies.**
C. F. Baes*[1,2], G. Kistemaker[3], R. Baldwin[5], A. Butty[4], J. Burchard[5], O. González-Recio[6], J. Lassen[7], M. VandeHaar[8], D. Segelke[9], R. Tempelman[8], K. Weigel[10], J. Koltes[11], F. Miglior[1,3], RDGP Consortium Partners1[1], FARR Consortium Partners8[8], [1]*University of Guelph*, *Guelph, ON, Canada*, [2]*Universität Bern*, *Bern, BE, Switzerland*, [3]*Lactanet*, *Guelph, ON, Canada*, [4]*Qualitas AG*, *Zug, ZG, Switzerland*, [5]*CDCB*, *Bowie, MD*, [6]*INIA-Madrid*, *Madrid, MD, Spain*, [7]*Aarhus University*, *Aarhus, Denmark*, [8]*Michigan State University*, *East Lansing, MI*, [9]*VIT*, *Verden, NS, Germany*, [10]*University of Wisconsin–Madison*, *Madison, WI*, [11]*Iowa State University*, *Ames, IA*.

10:00 AM 1330 **Accuracy of genomic predictions including or excluding foreign data in reference populations.**
R. R. Mota*[1] and P. M. VanRaden[2], [1]*Council on Dairy Cattle Breeding (CDCB)*, *Bowie, MD*, [2]*Animal Genommics and Improvement Laboratory, ARS, USDA*, *Beltsville, MD*.

10:15 AM 1331 **Daily body weight of cows compared to estimates of body weight.**
B. Shonka-Martin, H. Templeton, A. Sewalem, L. Chang, J. Nani, R. Starkenburg, and M. McClure*, *ABS-Global*, *Deforest, WI*.

10:30 AM 1332 **Estimates of genetic parameters for feeding behavior traits and its association with feed efficiency in Holstein cows.**
L. Cavani*[1], W. E. Brown[1], K. L. Parker Gaddis[2], R. J. Tempelman[3], M. J. VandeHaar[3], H. M. White[1], F. Peñagaricano[1], and K. A. Weigel[1], [1]*Department of Animal and Dairy Sciences, University of Wisconsin*, *Madison, WI*, [2]*Council on Dairy Cattle Breeding*, *Bowie, MD*, [3]*Department of Animal Science, Michigan State University*, *East Lansing, MI*.

10:45 AM 1333 **Genetic analysis of leukosis in Canadian Holstein cows.**
R. Bongers*[1], K. Houlahan[1], F. Miglior[1,2], H. Oliveira[2], F. S. Schenkel[1], and C. F. Baes[1,3], [1]*Centre for Genetic Improvement of Livestock, Department of Animal Biosciences, University of Guelph*, *Guelph, ON, Canada*, [2]*Lactanet*, *Guelph, ON, Canada*, [3]*Institute of Genetics, Vetsuisse Faculty, University of Bern*, *Bern, Switzerland*.

11:00 AM 1334 **Genetic parameter estimation of heat tolerance in the US Holstein and Jersey breeds.**
T. M. McWhorter*[1,2], M. Sargolzaei[2], C. G. Sattler[2], M. D. Utt[2], I. Misztal[1], S. Tsuruta[1], and D. Lourenco[1], [1]*Department of Animal and Dairy Science, University of Georgia*, *Athens, GA*, [2]*Select Sires Inc.*, *Plain City, OH*.

11:15 AM 1335 **Evaluation of heat tolerance in dairy cattle using test-day production records and NASA POWER meteorological data.**
P. L. Rockett*[1], I. Campos[1], C. F. Baes[1,2], F. Miglior[1,3], D. Tulpan[1], and F. Schenkel[1], [1]*Centre for Genetic Improvement of Livestock, University of Guelph*, *Guelph, ON, Canada*, [2]*Institute of Genetics, University of Bern*, *Bern, Switzerland*, [3]*Lactanet Canada*, *Guelph, ON, Canada*.

11:30 AM **Discussion**

Joint ADSA Midwest Branch/Forages and Pastures Symposium: Grazing to Improve Profitability of Midwest Dairy Farms

Chair: **Bradley Heins, University of Minnesota**

CC 2104B

9:30 AM – 12:30 PM

This session will also be livestreamed. For more information, please see adsa.org/2022vm.

9:30 AM **Introduction**

9:40 AM 1336 **Precision technologies to improve dairy grazing systems.**
J. Heins*, K. T. Sharpe, and G. M. Pereira, *University of Minnesota*, *Morris, MN*.

10:25 AM 1337 **Mitigation strategies for reducing enteric methane emissions in grazing dairy systems.**
K. J. Soder*[1] and A. F. Brito[2], [1]*USDA-ARS*, *University Park, PA*, [2]*University of New Hampshire*, *Durham, NH*.

11:10 AM 1338 **Once-a-day milking in dairy grazing systems.**
N. Lopez-Villalobos*[1], J. M. D. R. Jayawardana[1,2], L. R. McNaughton[3], and R. E. Hickson[1], [1]*School of Agriculture and Environment, Massey University*, *Palmerston North, New Zealand*, [2]*Department of Animal Science, Faculty of Animal Science and Export Agriculture, Uva Wellassa University*, *Badulla, Sri Lanka*, [3]*Livestock Improvement Corporation*, *Hamilton, New Zealand*.

11:55 AM **Discussion with speaker panel**
Brad Heins

Growth and Development Symposium: Metabolic Derangements in Calves During the Preweaning Period

Chair: **Anne Laarman, University of Alberta**

CC 2102A

9:30 AM – 5:00 PM

This session will also be livestreamed. For more information, please see adsa.org/2022vm.

9:30 AM **Welcome**

9:35 AM 1339 **The role of gut microbiome in metabolic health of pre-weaned calves.**
L. L. Guan*, *University of Alberta, Department of Agricultural, Food and Nutritional Science*, *Edmonton, Alberta, Canada*.

10:20 AM 1340 **Prophylactic feeding of neomycin to Holstein calves alters bile acid metabolism, increases intestinal permeability and results in changes in adipose and liver tissue gene expression.**
L. R. Cangiano*[1], G. A. Contreras[2], M. Chiviri[2], L. N. Buss[1], I. R. Ipharraguerre[3], and M. A. Steele[1], [1]*Department of Animal Biosciences, Animal Science and Nutrition, University of Guelph*, *Guelph ON, Canada*, [2]*Department of Large Animal Clinical Sciences, Michigan State University*, *East Lansing, MI*, [3]*Institute of Human Nutrition and Food Science, University of Kiel*, *Kiel, Germany*.

10:35 AM **Discussion**

10:50 AM 1341 **Impacts of nutrition precalving on neonatal calf health.**
J. F. Mee*, *Teagasc, Animal and Bioscience Department, Moorepark Research Centre*, *Fermoy, Co. Cork, Ireland*.

11:35 AM 1342 **Effects of milk allowance and calf starter starch content on gut health and function in male Holstein calves.**
M. N. Bennett[1], K. Moline[1], T. T. Yohe[2], T. S. Dennis[3], J. C. Costa[4], M. A. Steele[2], and A. H. Laarman*[1], [1]*University of Alberta*, *Edmonton, AB, Canada*, [2]*University of Guelph*, *Guelph, ON, Canada*, [3]*Provimi - NA*, *Lewisburg, OH*, [4]*University of Kentucky*, *Lexington, KY*.

11:50 AM **Discussion**

12:05 PM **Lunch break**

2:05 PM 1343 **Microbiota: What monogastrics can teach us.**
E. Santin*, *Jefo Nutrition Inc.*, *Saint Hyacinthe, Québec, Canada*.

2:50 PM 1344 ***Saccharomyces cerevisiae boulardii* affects intestinal microbiota colonization in neonatal dairy calves.**
L. R. Cangiano*[1], C. Villot[4], R. Gruninger[2], N. Malmuthuge[2], L. L. Guan[3], and M. A. Steele[1], [1]*Department of Animal Biosciences, Animal Science and Nutrition, University of Guelph*, *Guelph, ON, Canada*, [2]*Lethbridge Research and Development Centre, Agriculture and Agri-Food Canada*, *Lethbridge, AB, Canada*, [3]*Department of Agricultural, Food and Nutritional Science, University of Alberta*, *Edmonton, AB, Canada*, [4]*Lallemand Animal Nutrition*, *Blagnac, France*.

3:05 PM **Discussion**

3:20 PM **Break**

3:50 PM 1345 **Effects of a live yeast supplementation on Holstein calf performance and health.**
S. J. Davies*[1], G. Esposito[2], C. Villot[3], E. Chevaux[3], and E. Raffrenato[1], [1]*Stellenbosch University*, *Stellenbosch, WC, South Africa*, [2]*Università di Parma*, *Parma, Italy*, [3]*Lallemand*, *Blagnac, France*.

4:05 PM 1346 **Evaluating neonatal calf diarrhea case definitions: A scoping review.**
D. Wilson*[1], C. Winder[1], G. Habing[2], and D. Renaud[1], [1]*University of Guelph*, *Guelph, ON, Canada*, [2]*The Ohio State University*, *Columbus, Ohio*.

4:20 PM **Roundtable with invited speakers and the Growth and Development Committee**

Ruminant Nutrition Symposium: *Nutrient Requirements of Dairy Cattle*, 8th Revised Edition

Chairs: **Joe McFadden, Cornell University (morning), and James Tully, Pine Creek Nutrition Service Inc. (afternoon)**
Sponsors: **Ajinomoto, Evonik, Provimi North America**
CC 2101
9:30 AM – 4:30 PM
This session will also be livestreamed. For more information, please see adsa.org/2022vm.

9:30 AM **Welcome**

9:35 AM 1375 **The NASEM process.**
R. Erdman*[1] and W. Weiss[2], [1]*University of Maryland*, *College Park, MD*, [2]*Ohio State University*, *Wooster, OH*.

9:45 AM 1376 **Assembling the feed library for the NASEM *Nutrient Requirements of Dairy Cattle*, 8th Edition.**
P. J. Kononoff*[1] and W. P. Weiss[2], [1]*University of Nebraska-Lincoln*, *Lincoln, NE*, [2]*The Ohio State University*, *Columbus, OH*.

10:05 AM 1377 **Major changes in feed energy values and energy requirements in the 2021 NASEM *Nutrient Requirements of Dairy Cattle.***
M. J. VandeHaar*[1] and W. P. Weiss[2], [1]*Michigan State University*, *East Lansing, MI*, [2]*The Ohio State University*, *Wooster, OH*.

10:30 AM 1378 **Major changes in protein and amino acid supply and recommendations.**
J. L. Firkins*[1], M. D. Hanigan[2], and H. Lapierre[3], [1]*The Ohio State University*, *Columbus, OH*, [2]*Virginia Tech*, *Blacksburg, VA*, [3]*Agriculture and Agri-Food Canada*, *Sherbrooke, QC, Canada*.

11:30 AM 1379 **Predicting milk protein production.**
M. D. Hanigan*[1], H. Lapierre[2], R. Martineau[2], and J. L. Firkins[3], [1]*Virginia Tech*, *Blacksburg, VA*, [2]*Agriculture and Agri-Food Canada*, *Sherbrooke, QC, Canada*, [3]*The Ohio State University*, *Columbus, OH*.

12:00 PM 1380 **Major changes in mineral and vitamin supply and requirements.**
W. P. Weiss*[1] and R. A. Erdman[2], [1]*Ohio Ag Research and Development Center*, *Wooster, OH*, [2]*University of Maryland*, *College Park, MD*.

12:30 PM **Break**

2:00 PM 1381 **Major changes in calf and heifer requirements.**
J. K. Drackley*[1] and M. J. VandeHaar[2], [1]*University of Illinois Urbana-Champaign*, *Urbana, IL*, [2]*Michigan State University*, *East Lansing, MI*.

3:00 PM 1382 **Applying the NASEM model to lactating cows.**
P. S. Yoder*, D. L. Morris, and J. de Souza, *Perdue AgriBusiness*, *Salisbury, MD*.

3:45 PM 1383 **Moving forward—Missing data the committee wished it had.**
M. D. Hanigan*, *Virginia Tech*, *Blacksburg, VA*.

4:05 PM 1384 **Moving forward—Improving the report process.**
R. Erdman*[1] and W. Weiss[2], [1]*University of Maryland*, *College Park, MD*, [2]*Ohio State University*, *Wooster, OH*.

4:20 PM **Discussion**

Animal Behavior and Well-Being 2

Chair: **Barbara Jones, Tarleton State**
CC 2103C
9:30 AM – 12:30 PM

9:30 AM 1317 **How can the dairy industry benefit from cattle cognition research?**
C. Nawroth[1] and M. V. Rørvang*[2,3], [1]*Research Institute for Farm Animal Biology (FBN), Institute of Behavioural Physiology*, *Dummerstorf, Germany*, [2]*Swedish University of Agricultural Sciences, Dept. Biosystems and Technology*, *Lomma, Sweden*, [3]*Swedish University of Agricultural Sciences. Dept Animal Environment and Health*, *Skara, Sweden*.

9:45 AM 1318 **Effects of positive reinforcement training dairy heifers.**
J. Heinsius*, J. Lomb, J. Lee, M. A. G. von Keyserlingk, and D. M. Weary, *University of British Columbia*, *Vancouver, BC, Canada*.

10:00 AM 1319 **An innovative approach to analyzing behavior in an automated calf feeding system using social network analysis.**
M. E. Montes*[1], J. Doucette[2], and J. P. Boerman[1], [1]*Department of Animal Sciences, Purdue University*, *West Lafayette, IN*, [2]*Agriculture Data Services, Purdue University*, *West Lafayette, IN*.

10:15 AM 1320 **Wound healing and sensitivity following caustic paste disbudding in dairy calves.**
A. M. Drwencke*[1], S. J. J. Adcock[2], and C. B. Tucker[1], [1]*University of California, Davis*, *Davis, CA*, [2]*University of Wisconsin, Madison*, *Madison, WI*.

10:30 AM 1321 **Response to novel TMR in dairy calves is affected by prior experience.**
B. C. Downey*[1], C. R. Morrow[1,2], and C. B. Tucker[1], [1]*Center for Animal Welfare, Department of Animal Science, University of California, Davis*, *Davis, CA*, [2]*School of Veterinary Medicine, University of California, Davis*, *Davis, CA*.

10:45 AM 1322 **Social housing affects immune development of dairy calves.**
T. L. Wells*[1], E. E. Lindner[1], J. G. Bonney[1], G. M Pighetti[2], E. K. Miller-Cushon[1], and C. D. Nelson[1], [1]*University of Florida*, *Gainesville, FL*, [2]*University of Tennessee*, *Knoxville, TN*.

11:00 AM 1323 **Effects of social housing on dairy calf social preferences.**
E. E. Lindner*, K. N. Gingerich, K. C. Burke, S. B. Doyle, and E. K. Miller-Cushon, *University of Florida*, *Gainesville, FL*.

11:15 AM 1324 **Effects of multimodal pain relief on stress in disbudded dairy calves under organic management.**
M. Bacon*[1,2], M. Endres[1], and B. Heins[2], [1]*Department of Animal Science, University of Minnesota*, *St. Paul, MN*, [2]*West Central Research and Outreach Center, University of Minnesota*, *Morris, MN*.

11:30 AM 1325 **Feeding behaviors that lead to changes in feed intake across the transition period.**
P. D. French*[1], S. A. Hagerty[1], and J. D. Chapman[2], [1]*PHD R&D*, *Fort Atkinson, WI*, [2]*Phibro Animal Health Corporation*, *Teaneck, NJ*.

11:45 AM 1326 **Effects of willow bark (*Salix*) on pain and stress in recently disbudded organic dairy calves.**
M. Bacon*[1,2], M. Endres[1], and B. Heins[2], [1]*Department of Animal Science, University of Minnesota*, *St. Paul, MN*, [2]*West Central Research and Outreach Center, University of Minnesota*, *Morris, MN*.

12:00 PM 1327 **Does an acidogenic bolus at dry-off alter rumination and activity behavior in the first 2 weeks after administration?**
C. C. Florentino*[1], E. Shepley[1], M. Ruch[1], D. Moreira[1], S. M. Godden[1], G. Cramer[1], W. Knauer[1], L. Tikofsky[2], and L. Caixeta[1], [1]*University of Minnesota*, *Saint Paul, MN*, [2]*Boehringer Ingelheim Animal Health USA Inc.*, *Duluth, GA*.

12:15 PM 1328 **Daily variation and annual seasonality in cow's ruminating, eating, and resting behavior according to parity.**
T. C. Marques*[1,2], F. S. Lima[1], and F. C. Ferreira[1,3], [1]*Department of Population Health and Reproduction, School of Veterinary Medicine, University of California, Davis*, *Davis, CA*, [2]*Federal Institute of Goias*, *Rio Verde, GO, Brazil*, [3]*Veterinary Medicine Teaching and Research Center*, *Tulare, CA*.

Production, Management, and the Environment 3

Chair: **Gail Carpenter, Iowa State University**

CC 2104A

9:30 AM – 12:15 PM

9:30 AM 1347 **Leveraging computer vision systems to better understand feeding behavior patterns in dairy cows.**
A. Negreiro*, T. Bresolin, R. Ferreira, S. I. Arriola Apelo, and J. R. R. Dórea, *University of Wisconsin*, *Madison, WI*.

9:45 AM 1348 **Using computer vision for animal identification in dairy barns using isometric view images.**
J. C. F. Silva*, J. R. R. Dorea, and R. E. P. Ferreira, *University of Wisconsin–Madison*, *Madison, WI*.

10:00 AM 1349 **Using computer vision and mixed reality to detect compliance with standard milking procedures in real time.**
R. E. P. Ferreira*, J. C. F. Silva, and J. R. R. Dorea, *University of Wisconsin–Madison*, *Madison, WI*.

10:15 AM 1350 **An information theoretic approach to quantifying resiliency in residual milk yield records.**
C. McVey*[1], F. Hsieh[2], D. Manriquez[3], P. Pinedo[3], and K. Horback[1], [1]*Department of Animal Science, University of California-Davis*, *Davis, CA*, [2]*Department of Statistics, University of California-Davis*, *Davis, CA*, [3]*Department of Animal Science, Colorado State University*, *Fort Collins, CO*.

10:30 AM 1351 **Data mining of milk mid-infrared spectra in search for potential biomarkers to assess transition success.**
M. Bahadi*[1,2], D. Warner[1], R. Lacroix[1], R. Moore[1], R. Cue[2], and D. E. Santschi[1], [1]*Lactanet*, *Sainte-Anne-de-Bellevue, QC, Canada*, [2]*Department of Animal Science, McGill University*, *Sainte-Anne-de-Bellevue, QC, Canada*.

10:45 AM 1352 **Evaluation of post-breeding walking activity data as an indicator of abortion occurrence in dairy farming systems.**
C. J. Chen* and G. Ferreira, *Virginia Tech*, *Blacksburg, VA*.

11:00 AM 1353 **Using statistical inferences for risk assessment of spontaneous metritis cure in non-antibiotic-treated dairy cows.**
E. B. de Oliveira*[1,2], F. C. Ferreira[1,2], D. R. Williams[1,2], K. N. Galvao[3], R. V. Pereira[1], and F. S. Lima[1], [1]*Department of Population Health and Reproduction, School of Veterinary Medicine, University of California, Davis*, *Davis, CA*, [2]*Veterinary Medicine Teaching Research Center*, *Tulare, CA*, [3]*Department of Large Animal Clinical Sciences, University of Florida*, *Gainesville, FL*, [4]*Department of Veterinary Sciences, Texas Tech University*, *Lubbock, TX*.

11:15 AM 1354 **Use of an NPV model to estimate the value of additional selective replacement of dairy cattle during first lactation.**
M. Overton*[1] and S. Eicker[2], [1]*Zoetis*, *Parsippany, New Jersey*, [2]*VAS*, *Tulare, California*.

11:30 AM 1355 **Animal life cycle submodule in the Ruminant Farms Systems (RuFaS) model: A sensitivity analysis to evaluate heifer reproductive protocols.**
Y. Gong*[1], M. Li[1], M. A. Sotirova[2], K. F. Reed[2], and V. E. Cabrera[1], [1]*University of Wisconsin–Madison*, *Madison, WI*, [2]*Cornell University*, *Ithaca, NY*.

11:45 AM 1356 **Stability of dairy herd performance: Toward a better understanding of it as a key element for assessing resilience and building sustainable livestock systems.**
A. Ben Abdelkrim, D. E. Santschi*, D. M. Lefebvre, and R. Lacroix, *Lactanet, Lactanet*, *Sainte-Anne-de-Bellevue, QC, Canada*.

12:00 PM 1357 **Effects of increased longevity of dairy cows on milk composition and technological properties.**
M. Johansson*[1], Å. Lundg[1], S. Agenäs[2], and M. Lindberg[2], [1]*Department of Molecular Sciences, Swedish University of Agricultural Sciences*, *Uppsala, Sweden*, [2]*Department of Animal Nutrition and Management, Swedish University of Agricultural Sciences*, *Uppsala, Sweden*.

Reproduction 2

Chair: **Luciano Caixeta, University of Minnesota**

CC 2103B

9:30 AM – 11:30 AM

9:30 AM 1358 **Effect of elevating LH action using low doses of hCG on double ovulation, follicle dynamics, and circulating FSH in lactating dairy cows.**
V. E. Gomez-León*[1,2], A. D. Beard[2], O. J. Ginther[2], and M. C. Wiltbank[2], [1]*Kansas State University*, *Manhattan, KS*, [2]*University of Wisconsin–Madison*, *Madison, WI*.

9:45 AM 1359 **Developing a synchronization program using only GnRH and $PGF_{2\alpha}$ for dairy heifers.**
I. M. R. Leão*[1], E. Anta-Galvan[1], M. S. El Azzi[1,2], T. Valdes-Arciniega[1], F. P. J. da Silva Junior[1], and J. P. N. Martins[1], [1]*Department of Medical Sciences, School of Veterinary Medicine, University of Wisconsin–Madison*, *Madison, WI*, [2]*Faculdade de Zootecnia e Medicina Veterinária, Universidade Federal de Lavras*, *Lavras, MG, Brazil*.

10:00 AM 1360 **High dose of gonadorelin hydrochloride at the first GnRH of the breeding-Ovsynch increases pregnancy per AI in randomized controlled multi herd study in lactating dairy cows.**
F. S. Lima*[1], R. G. S. Bruno[2], R. M. Cleale[2], F. T. Silvestre[2], G. Pena[2], T. H. Short[2], R. Martinez[1], and D. B. Melo[1], [1]*Department of Population Health and Reproduction, School of Veterinary Medicine, University of California, Davis*, *Davis, CA*, [2]*Zoetis Inc.*, *Parsippany, NJ*.

10:15 AM 1361 **Association of progesterone and ovulation in Holstein cows receiving a high dose of gonadorelin hydrochloride at the first GnRH of the breeding-Ovsynch.**
S. Salman*[1], R. Martinez[1], R. G. S. Bruno[2], R. M. Cleale[2], G. H. Choi[2], K. A. Conner[1], and F. S. Lima[1], [1]*Department of Population Health and Reproduction, School of Veterinary Medicine, University of California, Davis*, *Davis, CA*, [2]*Zoetis Inc.*, *Parsippany, NJ*.

10:30 AM 1362 **Fertility programs for lactating dairy cows: A novel Presynch+TAI program (ESALQ-Synch) produces similar reproductive outcomes as Double-Ovsynch.**
C. E. C. Consentini*[1,2], T. B. Abadia[3], J. P. A. Galindez[2], A. L. M. Lopes[2], Y. A. M. Pazini[2], P. P. C. Ferro[2], N. V. Faria[2], T. C. Pereira[3], F. Machado[3], D. Ferreira[3], M. Duarte[3], E. Campos[3], L. F. Melo[4], M. C. Wiltbank[1], R. Sartori[2], [1]*Department of Animal and Dairy Sciences, University of Wisconsin–Madison*, *Madison, WI*, [2]*Department of Animal Sciences, University of São Paulo*, *Piracicaba, SP, Brazil*, [3]*Céu Azul Farm*, *Silvânia, GO, Brazil*, [4]*Rehagro*, *Lavras, MG, Brazil*, [5]*School of Veterinary and Animal Sciences, Federal University of Goiás*, *Goiânia, GO, Brazil*.

10:45 AM 1363 **Fertility of Jersey cows inseminated with sexed Jersey or conventional beef semen and submitted to a Double-Ovsynch protocol and timed artificial insemination versus artificial insemination after synchronization of estrus.**
M. R. Lauber*, P. D. Carvalho, and P. M. Fricke, *Department of Animal and Dairy Sciences, University of Wisconsin–Madison*, *Madison, WI*.

11:00 AM 1364 **Lactating cows inseminated following estrus have greater early pregnancy losses compared to the fertility program Double-Ovsynch.**
T. Minela*, A. Santos, and J. R. Pursley, *Michigan State University*, *East Lansing, MI*.

11:15 AM 1365 **Late embryo mortality in Holstein cows inseminated with Holstein and Limousin bulls.**
P. Melendez*[1,3], P. Pinedo[2], J. Gibbons[1], and H. Naikare[3], [1]*School of Veterinary Medicine, Texas Tech University*, *Amarillo TX*, [2]*Colorado State University*, *Fort Collins CO*, [3]*University of Georgia*, *Tifton GA*.

Ruminant Nutrition 7: Digestion and Fermentation 1

Chair: **Maris McCarthy, Micronutrients Inc.**

CC 2103A

9:30 AM – 12:30 PM

9:30 AM 1385 **A multi-species direct-fed microbial supplement alters the milk lipidome of dairy cows.**
G. Taiwo*[1], A. Oyebade[2], M. Idowu[1], A. Pech-Cervantes[3], D. Vyas[2], and I. Ogunade[1], [1]*Division of Animal and Nutritional Sciences, West Virginia University*, *Morgantown WV*, [2]*Department of Animal Sciences, Institute of Food and Agricultural Sciences, University of Florida*, *Gainesville, FL*, [3]*College of Agricultural, Family Sciences, and Technology, Fort Valley State University*, *Fort Valley, GA*.

9:45 AM 1386 **Effects of abomasally infused rumen fluid from corn-challenged donor cows on production, metabolism, and inflammatory biomarkers in naïve recipient cows.**
M. A. Abeyta*[1], B. M. Goetz[1], E. J. Mayorga[1], S. Rodriguez-Jimenez[1], J. Opgenorth[1], A. D. Freestone[1], J. M. Lourenco[2], T. R. Callaway[2], and L. H. Baumgard[1], [1]*Department of Animal Science, Iowa State University*, *Ames, IA*, [2]*Department of Animal and Dairy Science, University of Georgia*, *Athens, GA*.

10:00 AM 1387 **Supplementation of branched-chain volatile fatty acid increased bacterial branched-chain amino acid synthesis in dual-flow cultures varying in forage and polyunsaturated fatty acid concentrations.**
K. E. Mitchell*[1], B. A. Wenner[1], C. Lee[2], D. H. Kleinschmit[3], M. T. Socha[3], and J. L. Firkins[1], [1]*Department of Animal Sciences, The Ohio State University*, *Columbus, OH*, [2]*Department of Animal Sciences, The Ohio State University*, *Wooster, OH*, [3]*Zinpro Corporation*, *Eden Prairie, MN*.

10:15 AM 1388 **Effects of ruminal lipopolysaccharides on growth and fermentation end products of pure cultured bacteria.**
E. Sarmikasoglou*[1], J. Ferrell[2], J. Vinyard[1], M. Flythe[2], A. Tuanyok[1], and A. Faciola[1], [1]*University of Florida*, *Gainesville, FL*, [2]*United States Department of Agriculture, Agricultural Research Service*, *Lexington, KY*.

10:30 AM 1389 **Rumen microbiome contributions to dry matter intake modulation in lactating dairy cows.**
H. F. Monteiro*[1], R. S. Bisinotto[2], C. C. Figueiredo[2], J. E. P. Santos[3], F. Penagaricano[4], E. S. Ribeiro[5], F. Schenkel[5], M. Marcondes[6], B. C. Weimer[1], and F. S. Lima[1], [1]*Department of Population Health and Reproduction, School of Veterinary Medicine, University of California, Davis*, *Davis, CA*, [2]*Department of Large Animal Clinical Sciences, University of Florida*, *Gainesville, FL*, [3]*Department of Animal Sciences, University of Florida*, *Gainesville, FL*, [4]*Department of Animal and Dairy Sciences, University of Wisconsin*, *Madison, WI*, [5]*Department of Animal Biosciences, University of Guelph*, *Guelph, ON, Canada*, [6]*Department of Animal Sciences, University of Washington*, *Pullman, WA*.

10:45 AM 1390 **Impact of calcium gluconate feeding on growth performance, ruminal and intestinal microbial activity and morphology in a growing steer model.**
E. E. Rowland[1], O. Y. Koyun*[1], J. M. Lourenco[1], T. D. Pringle[1], A. M. Stelzleni[1], F. L. Fluharty[1], R. L. Stewart[1], M. McCarthy[2], S. Fry[2], K. E. Griswold[2], and T. R. Callaway[1], [1]*Department of Animal and Dairy Science, University of Georgia*, *Athens, GA*, [2]*Micronutrients Inc.*, *Indianapolis, IN*.

11:00 AM 1391 **Impact of a high-concentrate diet on fecal proteome of lactating dairy cows.**
N. Reisinger*[1], A. Stauder[2,3], J. Faas[1], and Q. Zebeli[2,3], [1]*BIOMIN Research Center*, *Tulln, Austria*, [2]*Institute of Animal Nutrition and Functional Plant Compounds, Department for Farm Animals and Veterinary Public Health, University of Veterinary Medicine Vienna*, *Vienna, Austria*, [3]*Christian Doppler Laboratory for Innovative Gut Health Concepts of Livestock*, *Vienna, Austria*.

11:15 AM 1392 **Effects of *Bacillus subtilis* PB6 supplementation on metabolism and production parameters in transition dairy cows.**
B. M. Goetz*[1], E. J. Mayorga[1], M. A. Abeyta[1], S. Rodriguez-Jimenez[1], J. Opgenorth[1], A. Freestone[1], G. M. Jakes[1], C. E. Moore[2], D. J. Dickson[2], J. E. Hergenreder[2], and L. H. Baumgard[1], [1]*Iowa State University*, *Ames, IA*, [2]*Kemin Industries Inc.*, *Des Moines, IA*.

11:30 AM 1393 **Effect of hydrogenated fat-embedded calcium gluconate on lactation performance in commercial settings.**
M. V. Sanz-Fernández*, D. J. Seymour, J. B. Daniel, J. Doelman, and J. Martín-Tereso, *Trouw Nutrition RandD*, *Amersfoort, the Netherlands*.

11:45 AM 1394 **Differences in composition and dynamics of rumen microbial cultures fed 2 different monensin sources.**
G. Plata[1], D. Susanti*[1], G. D. Mechor[1], C. Compton[2], O. M. Peña[2], C. Velasquez[2], G. Lascano[2], T. C. Jenkins[2], and M. J. Aguerre[2], [1]*Elanco Animal Health*, *Greenfield, IN*, [2]*Department of Animal and Veterinary Sciences, Clemson University*, *Clemson, SC*.

12:00 PM 1395 **Effects of feeding 3-nitrooxypropanol in combination with varying concentrate-to-forage proportions on methane emission, rumen fermentation and structure of ruminal microbiota of periparturient dairy cows.**
M. Schilde*[1,3], D. von Soosten[1], F. Billenkamp[1], D. Höper[2], S. Bühler[1], L. Hüther[1], J. Frahm[1], S. Kersten[1], U. Meyer[1], A. Zeyner[3], and S. Dänicke[1], [1]*Friedrich-Loeffler-Institut (FLI), Federal Research Institute for Animal Health, Institute of Animal Nutrition*, *Braunschweig, Germany*, [2]*Friedrich-Loeffler-Institut (FLI), Federal Research Institute for Animal Health, Institute of Diagnostic Virology*, *Greifswald - Insel Riems, Germany*, [3]*Martin Luther University Halle-Wittenberg, Institute of Agricultural and Nutritional Sciences*, *Halle (Saale), Germany*.

12:15 PM 1396 **Effects on rumen pH and feed intake of a dietary concentrate challenge in cows fed rations containing pH modulators with different neutralizing capacity.**
M. Baudon*[1], A. Bach[2,3], G. Elcoso[4], and A. Courillon[1], [1]*Timab Magnesium*, *Dinard, France*, [2]*Marlex Recerca i Educació*, *Barcelona, Spain*, [3]*nstitució de Recerca i Estudis Avançats (ICREA)*, *Barcelona, Spain*, [4]*Blanca from the Pyrenees*, *Hostalets de Tost, Spain*.

Small Ruminant 1

Chair: **Benjamin Wenner, The Ohio State University**

CC 2215B

10:00 AM – 11:15 AM

10:00 AM 1397 **Feeding chicory silage to transition ewes has a minimal effect on blood metabolic parameters but a strong effect on blood micromineral levels.**
H. Ford*[1], M. Bionaz[1], S. Ates[1], E. Trevisi[2], and D. Hasan[1], [1]*Oregon State University*, *Corvallis, OR*, [2]*Universitá Cattolica del Sacro Cuore*, *Piacenza, Italy*.

10:15 AM 1398 **Bee pollen in Alpine goat kids' performance, health status, and intestinal microbiome.**
V. Fumo[1], G. Moscovio[2], S. Minieri[2], C. Viti[3], R. Pastorelli[4], M. Daghio[3], F. Mannelli[3], A. Buccioni[3], F. Coppola[2], L. Casini[2], A. Felicioli[2], and G. Invernizzi*[1], [1]*Department of Veterinary Medicine and Animal Sciences, University of Milan*, *Lodi, Italy*, [2]*Dipartimento di Scienze Veterinarie, University of Pisa*, *Pisa, Italy*, [3]*Dipartimento di Scienze e Tecnologie Agrarie Alimentari Ambientali e Forestali, University of Florence*, *Florence, Italy*, [4]*CREA Research Centre for Agriculture and Environment*, *Florence, Italy*.

10:30 AM 1399 **Partial litter loss in the last trimester of multifetal sheep pregnancy is affected by litter size and male ratio.**
T. Alon*[1,2], A. Rosov[1], L. Lifshitz[1], and U. Moallem[1], [1]*Department of ruminants Science, Volcani Center*, *Rishon LeZion, Israel*, [2]*Department of Animal Science, the Hebrew University of Jerusalem*, *Rehovot, Israel*.

10:45 AM 1400 **The nutritional value and metabolic energy of green fodder for ruminants in vivo.**
S. J. Sameer*[1], K. Haj[1], C. Sabastian[1], P. Wagali[1], L. Kopty[1], H. Tagari[1], and Y. A. Ben-Meir[2], [1]*The Robert H. Smith Faculty of Agriculture, Food, and Environment. The Hebrew University of Jerusalem*, *Rehovot, Israel*, [2]*Agriculture Research Organization, Volcani Center*, *Reshon leTzion, Israel*.

11:00 AM 1401 **Individual variation in responses to a nutritional challenge in goats.**
M. Gindri*, N. Friggens, and L. Puillet, *Université Paris-Saclay, INRAE, AgroParisTech, UMR Modélisation Systémique Appliquée aux Ruminants*, *Paris, France*.

ADSA Southern Branch Symposium: On-Farm Labor

Chair: **Barbara Jones, Tarleton State**

CC 2104B

2:00 PM – 5:00 PM

This session will also be livestreamed. For more information, please see adsa.org/2022vm.

2:00 PM 1402 **Skills required for personnel in charge of robotic milking systems.**
F. Soriano*, *APN Dairy, LLC*.

2:30 PM 1403 **Transitioning to robots: Our experience with labor.**
M. Rodgers*, *Hillcrest Farms Inc*., *Dearing, GA*.

3:00 PM 1404 **Labor impacts economics of robotic milking.**
J. Salfer*[2] and M. Endres[1], [1]*University of Minnesota*, *St. Paul, MN*, [2]*University of Minnesota*, *St. Cloud, MN*.

3:30 PM **Break**

4:00 PM **Southern Branch Business Meeting**

Joint ADSA Production, Management, and the Environment/EAAP Exchange Symposium: Harnessing Cow Efficiency and Technical Innovation for a Climate-Caring Dairy Sector

Chairs: **Gail Carpenter, Iowa State University, and Albert De Vries, University of Florida**

Sponsor: **EAAP**

CC 2215C

2:00 PM – 5:30 PM

This session will also be livestreamed. For more information, please see adsa.org/2022vm.

2:00 PM		**Welcome**
2:05 PM	1418	**Challenges and solutions for climate care dairy farming from a system's perspective.** P. W. G. G. Koerkamp*[1], P. J. Galama[2], and A. Kuipers[2], [1]*Wageningen University, Farm Technology Group*, *Wageningen, the Netherlands*, [2]*Wageningen Livestock Research, Livestock and Environment*, *Wageningen, the Netherlands*.
2:35 PM	1419	**Modeling the environmental impact of enhanced production efficiency.** J. A. Dillon*, *Department of Animal Sciences, Colorado State University*, *Fort Collins, CO*.
3:05 PM	1420	**Potential of reducing cow methane emissions from a breeding perspective.** S. König*, *Institute of Animal Breeding and Genetics, University of Giessen*, *Giessen Germany*.
3:35 PM		**Break**
4:00 PM	1421	**Fuel economy: Managing nutrition to drive a sustainable dairy industry.** A. J. Carpenter*[1] and B. A. Wenner[2], [1]*Iowa State University*, *Ames, IA*, [2]*The Ohio State University*, *Columbus, OH*.
4:30 PM	1422	**Longevity impact on sustainability and welfare.** S. Eicker*[1], D. Nydam[2], and M. Overton[3], [1]*Valley Ag Software*, *King Ferry, NY*, [2]*Cornell University*, *Ithaca, NY*, [3]*Zoetis Animal Health*, *Parsippany, NJ*.
4:45 PM		**Discussion**

Reproduction Symposium: Advances and Applications of Assisted Reproductive Technologies in Dairy Cattle Breeding and Management

Chair: **Luciano Caixeta, University of Minnesota**

CC 2102B

2:00 PM – 5:30 PM

This session will also be livestreamed. For more information, please see adsa.org/2022vm.

2:00 PM		**Welcome**
2:05 PM	1430	**Value of improving dairy cattle reproduction in the era of sexed and beef semen.** A. De Vries*, *University of Florida*, *Gainesville, FL*.
2:45 PM	1431	**Applied use of embryo technologies in dairy cattle.** R. Sartori*[1], N. P. Folchini[1], D. Demétrio[2], and P. S. Baruselli[3], [1]*Department of Animal Sciences, University of São Paulo*, *Piracicaba, São Paulo, Brazil*, [2]*RuAnn Genetics*, *Riverdale, CA*, [3]*Department of Animal Reproduction, University of São Paulo*, *São Paulo, São Paulo, Brazil*.
3:25 PM		**Break**
3:50 PM	1432	**Dam and sire effects on early embryo survival.** P Lonergan*, *University College Dublin*, *Dublin, Ireland*.

4:30 PM 1433 **Emerging reproduction technologies.**
A. L. Van Eenennaam*, *University of California*, *Davis, CA*.

5:10 PM **Discussion**

Animal Health 3

Chair: **Angie Rowson, Vaxxinova**
CC 2103B
2:00 PM – 5:15 PM

2:00 PM 1115 **Case studies of hyperketonemia and its association with reproduction in grazing dairy cows.**
S. J. Hendriks*[1], J. R. Roche[2,3], J. A. A. McArt[4], T. M. Grala[3], S.-A. Turner[5,3], C. R. Burke[3], B. K. Sherlock[3], and C. V. C. Phyn[3], [1]*Massey University*, *Palmerston North, New Zealand*, [2]*University of Auckland*, *Auckland, New Zealand*, [3]*DairyNZ Ltd*., *Hamilton, New Zealand*, [4]*Cornell University*, *Ithaca, NY*, [5]*Dairy Goat Co-operative*, *Hamilton, New Zealand*.

2:15 PM 1109 **Oral administration of monopropylene glycol to treat hyperketonemia in grazing dairy cows.**
S. J. Hendriks*[1], J. R. Roche[2,3], J. A. A. McArt[4], T. M. Grala[3], S.-A. Turner[5,3], C. R. Burke[3], B. Kuhn-Sherlock[3], and C. V. C. Phyn[3], [1]*Massey University*, *Palmerston North, New Zealand*, [2]*University of Auckland*, *Auckland, New Zealand*, [3]*DairyNZ Ltd*., *Hamilton, New Zealand*, [4]*Cornell University*, *Ithaca, New York*, [5]*Dairy Goat Co-operative*, *Hamilton, New Zealand*.

2:30 PM 1407 **Assessment of the association between single somatic cell count measurement, milk culture and selective dry cow therapy algorithms.**
F. P. Mosca*[1], C. C. Florentino[1], J. Miranda[1], C. Rial[2], A. L. Laplacette[2], A. Masic[3], M. Borchers[3], D. Aspers[3], and L. Caixeta[1], [1]*Department of Veterinary Population Medicine, University of Minnesota*, *Saint Paul, MN*, [2]*Cornell University, Department of Animal Science*, *Ithaca, NY*, [3]*Zoetis Inc., Veterinary Medicine Research and Development*, *Kalamazoo, MI*.

2:45 PM 1408 **Evaluation of the performance of an intra-reticuloruminal remote sensor for the prediction of clinical mastitis in dairy cows challenged with *Streptococcus uberis*.**
Z. Rodriguez*[1], Q. Kolar[2], K. Krogstad[2], I. Yoon[3], B. Bradford[2], and P. Ruegg[1], [1]*Department of Large Animal Clinical Sciences, College of Veterinary Medicine, Michigan State University*, *East Lansing, MI*, [2]*Department of Animal Science, Michigan State University*, *East Lansing, MI*, [3]*DiamondV*, *Cedar Rapids, IA*.

3:00 PM 1409 **Sodium lignosulfonate antibacterial effects against environmental mastitis pathogens across various levels of bedding cleanliness in vitro.**
G. Oppong*[1], J. Romero[1], M. Killerby[1], Z. Ma[2], and D. Zamudio[1], [1]*University of Maine*, *Orono, ME*, [2]*Mount Desert Island Biological Laboratory*, *Bar Harbor, ME*.

3:15 PM 1410 **Evaluation of recombinant bovine interleukin-8 (rbIL-8) as a treatment for chronic intramammary infection in dairy cows.**
P. M. G. Peixoto*[1], G. Podico[1], L. L. Cunha[1], W. M. Coelho Jr.[2], L. B. Ribeiro[1], I. F. Canisso[1], and F. S. Lima[2], [1]*Department of Veterinary Clinical Medicine, University of Illinois*, *Urbana, IL*, [2]*Department of Population Health and Reproduction, School of Veterinary Medicine, University of California, Davis*, *Davis, CA*.

3:30 PM **Break**

4:15 PM 1413 **Evaluating the effects of USDA organic approved topical treatments on white line disease.**
C. Krebill*[1], J. Shearer[1], H. Scott[2], H. Bothe[3], S. Umase[3], I. Sanabria[3], R. Rodriguez[3], R. Rodriguez[3], and P. Plummer[1], [1]*Veterinary Diagnostic and Production Animal Medicine, Iowa State University*, *Ames, IA*, [2]*Veterinary Pathobiology, Texas A&M University*, *College Station, TX*, [3]*Organic Dairy Cattle Farm*, *Colorado*.

4:30 PM 1414 **Investigation of possible bovine leukemia virus transmission pathways within herds through analysis of genomic and epidemiological data.**
B. M. Nyokabi*[1], T. Lenskaia[2], V. K. Singh[2], S. K. Mor[2], D. C. Schroeder[2], and S. J. Wells[2], [1]*University of Minnesota*, *Minneapolis, MN*, [2]*University of Minnesota Department of Veterinary Population Medicine*, *St Paul, MN*.

4:45 PM 1415 **Regional survey of *Clostridium* populations across the United States.**
J. S. Thompson*, J. M. Rehberger, M. N. de Jesus, V. G. Bretl, S. R. Paszkiewicz, F. R. Mazza, L. J. Wardecke, A. H. Smith, and T. G. Rehberger, *Arm and Hammer*, *Waukesha, WI*.

5:00 PM 1417 **Cause of death by age group in dairy cattle necropsied in Utah and the Western United States**
D. J. Wilson*[1], T. J. Baldwin[1], A. Vanwettere[1], E. J. Kelly[1], R. Stott[1], M. Clayton[1], and M. Mainenti[2], [1]*Utah State University*, *Logan, UT*, [2]*Iowa State University*, *Ames, IA*.

Physiology and Endocrinology 1

Chair: **Clarissa Strieder–Barboza, Texas Tech University**
CC 2103C
2:00 PM – 3:15 PM

2:00 PM 1423 **Single-nuclei transcriptomic analysis reveals depot-specific cellular heterogeneity in adipose tissue of dairy cows.**
T. C. Michelotti*[1], B. Kisby[3], M. Fokar[4], C. Crasto[4,5], I. Ponomarev[3], and C. Strieder-Barboza[1,2], [1]*Department of Veterinary Sciences, Davis College of Agricultural Sciences and Natural Resources, Texas Tech University*, *Lubbock, TX*, [2]*School of Veterinary Medicine, Texas Tech University*, *Amarillo, TX*, [3]*Department of Pharmacology and Neuroscience, Texas Tech University Health Science Center*, *Lubbock, TX*, [4]*Center for Biotechnology and Genomics, Texas Tech University*, *Lubbock, TX*, [5]*Department of Computer Science, Whitacre College of Engineering, Texas Tech University*, *Lubbock, TX*.

2:15 PM 1424 **Reducing endocannabinoid system activation by supplementing omega-3 fatty acids affects insulin sensitivity and inflammation in adipose tissue of peripartum dairy cows.**
G. Kra[1,2], J. R. Daddam[1], U. Moallem[1], H. Kamer[1], R. Kocvarová[3], A. Nemirovski[3], G. A. C. Andres[4], J. Tam[3], and M. Zachut*[1], [1]*Department of Ruminant Science, Institute of Animal Sciences, Agriculture research Organization, Volcani Center*, *Rishon Lezion, Israel*, [2]*Faculty of Agriculture, the Hebrew University in Jerusalem*, *Rehovot, Israel*, [3]*Obesity and Metabolism Laboratory, The Institute for Drug Research, School of Pharmacy, Faculty of Medicine, The Hebrew University of Jerusalem*, *Jerusalem, Israel*, [4]*Department of Large Animal Clinical Sciences, College of Veterinary Medicine, Michigan State University*, *East Lansing, MI*.

2:30 PM 1426 **Response of hepatic gluconeogenic flux and transcriptome to circadian rhythm disruption.**
L. M. Beckett*, S. S. Donkin, and T. Casey, *Purdue University*, *West Lafayette, IN*.

2:45 PM 1427 **Diurnal variation of melatonin in rumen and its influence on ruminal microbes in lactating cows.**
J. Pei*, *Yangzhou University*, *Yangzhou, Jiangsu, China*.

3:00 PM 1428 **Hepatic mRNA expression of genes involved in oxidative phosphorylation and TCA cycling of divergent feed efficient dairy cows.**
K. M. Kennedy* and B. Kuhla, *Research Institute for Farm Animal Biology*, *Dummerstorf, Germany*.

Ruminant Nutrition 8: Digestion and Fermentation 2

Chair: **Duarte Diaz, University of Arizona**
CC 2103A
2:00 PM – 5:30 PM

2:00 PM 1434 **Cellular energy status and tight junction protein abundance of calf intestinal epithelial cells in response to extracellular glutamine.**
H. K. J. P. Wickramasinghe*[1], R. Burns[1], S. C. Pearce[2], D. A. Koltes[1], R. S. Kaushik[3], D. C. Beitz[1], and J. A. D. R. N. Appuhamy[1], [1]*Department of Animal Science, Iowa State University*, *Ames, IA*, [2]*The National Laboratory for Agriculture and The Environment, Agricultural Research Service, U.S. Department of Agriculture*, *Ames, IA*, [3]*Department of Biology and Microbiology, South Dakota State University*, *Brookings, SD*.

2:15 PM 1435 **Effects of heat stress conditions and dietary organic acid and pure botanical supplementation on milk production in Holstein cows.**
A. B. P. Fontoura*[1], A. Javaid[1], V. Sáinz de la Maza-Escolà[1,2], M. G. Vogellus[1], I. R. Frost[1], R. M. Martinez[1], N. S. Salandy[1,3], S. L. Fubini[1], E. Grilli[2], and J. W. McFadden[1], [1]*Cornell University*, *Ithaca, NY*, [2]*Università di Bologna*, *Bologna, Italy*, [3]*Tuskegee University*, *Tuskegee, AL*.

2:30 PM 1436 **Effects of zinc-hydroxychloride on gastrointestinal permeability and systemic inflammation in heat-stressed dairy cows.**
S. Rodriguez-Jimenez*[1], E. J. Mayorga[1], M. A. Abeyta[1], B. M. Goetz[1], J. Opgenorth[1], A. D. Freestone[1], V. L. N. Brandao[2], and L. H. Baumgard[1], [1]*Department of Animal Science, Iowa State University*, *Ames, IA*, [2]*Micronutrients USA LLC*, *Indianapolis, IN*.

2:45 PM 1437 **Effects of heat stress on inflammation and intestinal integrity in dairy calves.**
Z. Yu*, J. M. Cantet, and A. G. Ríus, *Department of Animal Science, University of Tennessee Institute of Agriculture*, *Knoxville, TN*.

3:00 PM 1438 **Effects of supplementing native rumen microbes on milk production of mid-lactation dairy cows.**
K. Goldsmith*[1], J. Liesman[1], J. Lefler[2], and M. VandeHaar[1], [1]*Michigan State University*, *East Lansing, MI*, [2]*Native Microbials, Inc*., *San Diego, CA*.

3:15 PM 1439 **Rumen endomicrobials improve lactation when supplemented during the periparturient period and mid-lactation in Holstein dairy cows.**
M. Bulnes*[1], G Mendizabal[1], J. Bonilla[1], M Suazo[1,3], T. C. Michelotti[1,2], A. Paz[1], G. Begalli[1,4], A. F. Souza[1,4], J. Lefler[5], C. Marotz[5], M. E. Uddin[1], and J. Osorio[1], [1]*South Dakota State University*, *Brookings, SD*, [2]*University of Minnesota*, *Twin Cities, MN*, [3]*Texas Tech University*, *Lubbock, TX*, [4]*University of Lavras*, *Lavras, MG, Brazil*, [5]*Native Microbials Inc*., *San Diego, CA*.

3:30 PM **Break**

4:00 PM 1440 **Effects of heat stress conditions and dietary organic acid and pure botanical supplementation on gastrointestinal permeability and plasma trimethylamine *N*-oxide concentrations in lactating cows.**
A. B. P. Fontoura*[1], A. Javaid[1], V. Sáinz de la Maza-Escolà[1,2], N. S. Salandy[1,3], S. L. Fubini[1], E. Grilli[2], and J. W. McFadden[1], [1]*Cornell University*, *Ithaca, NY*, [2]*Università di Bologna*, *Bologna, Italy*, [3]*Tuskegee University*, *Tuskegee, AL*.

4:15 PM 1441 **Effects of dietary betaine supplementation and partial rumen content transplantation on clinical signs of hyperthermia and milk production in heat-stressed Holstein cows.**
A. Javaid*[1], A. R. Gonzalez[2], J. W. McFadden[1], and D. E. Rico[3], [1]*Cornell University*, *Ithaca, NY*, [2]*Université Laval*, *Québec, QC, Canada*, [3]*CRSAD*, *Deschambault, QC, Canada*.

4:30 PM 1442 **Evaluating methane mitigation by organic-certified feed additives within continuous culture.**
B. A. Wenner*[1], K. E. Mitchell[1], G. Praisler[1], S. Kienzle[1], J. S. Velez[2], and P. S. Yoder[3], [1]*The Ohio State University, Department of Animal Sciences*, *Columbus, OH*, [2]*Aurora Organic Dairy*, *Boulder, CO*, [3]*Perdue AgriBusiness*, *Salisbury, MD*.

4:45 PM 1443 **New biochemical pathway for forming propionate during fermentation in rumen bacteria.**
B. Zhang*, C. Lingga, H. De Groot, and T. Hackmann, *University of California–Davis*, *Davis, CA*.

5:00 PM 1444 **Characterizing ruminal microbiome contribution to residual feed intake and milk production efficiency in a large cohort of lactating dairy cows.**
H. F. Monteiro*[1], R. S. Bisinotto[2], C. C. Figueiredo[2], J. E. P. Santos[3], F. Penagaricano[4], E. S. Ribeiro[5], F. Schenkel[5], M. Marcondes[6], B. C. Weimer[1], and F. S. Lima[1], [1]*Department of Population Health and Reproduction, School of Veterinary Medicine, University of California, Davis*, *Davis, CA*, [2]*Department of Large Animal Clinical Sciences, University of Florida*, *Gainesville, FL*, [3]*Department of Animal Sciences, University of Florida*, *Gainesville, FL*, [4]*Department of Dairy Sciences, University of Wisconsin*, *Madison, WI*, [5]*Department of Animal Biosciences, University of Guelph*, *Guelph, ON, Canada*, [6]*Department of Animal Sciences, University of Washington*, *Pullman, WA*.

5:15 PM 1445 **In sacco and in vitro evaluation of *Moringa oleifera* seed for rumen degradation in dairy cows.**
H. M. Ji*, M. Lin, D. J. Tan, K. P. Wang, Q. B. Ma, K. Zhan, and X. H. Chen, *Yangzhou City, Jiangsu Prov, China*.

Virtual Programming with No Live Q&A Available On Demand

POSTER PRESENTATIONS

Animal Behavior and Well-Being

This session will be available on demand. For more information, please see adsa.org/2022vm.

2411V **Association of calving-related events and metritis with behavior in postpartum cows.**
J. M. Piñeiro*[1], G. M. Schuenemann[2], and B. T. Menichetti[3], [1]*Department of Animal Science, Texas A&M AgriLife Extension, Amarillo, Texas*, [2]*Department of Veterinary Preventive Medicine, The Ohio State University, Columbus, OH*, [3]*Inter-Ag Nutrition Services, South Solon, OH.*

2412V **Estimation of upper and lower THI critical threshold affecting milk production traits in Italian water buffaloes (*Bubalus bubalis*).**
A. Maggiolino*[1], N. Bartolomeo[2], A. Tondo[3], A Salzano[4], G. Neglia[4], V. Landi[1], and P. De Palo[1], [1]*Department of Veterinary Medicine, University of Bari A. Moro, Bari, Italy*, [2]*Department of Biomedical Science and Human Oncology, University of Bari A. Moro, Bari, Italy*, [3]*Italian Breeders Association, Rome, Italy*, [4]*Department of Veterinary Medicine and Animal Production, UniUniversity of Naples Federico II, Naples, Italy.*

2413V **Validation of a collar-based sensor for feeding and resting behavior of lactating dairy cows.**
K. A. Dijkinga*[1], M. V. F. Barros[1], L. F. C. Garrido[1], J. H. C. Costa[2], and R. R. Daros[1], [1]*Programa de Pós-graduação em Ciência Animal, Escola de Medicina e Ciências da Vida, Pontifícia Universidade Católica do Paraná, Curitiba, Paraná, Brazil*, [2]*Department of Animal and Food Sciences, University of Kentucky, Lexington, KY.*

Animal Health

This session will be available on demand. For more information, please see adsa.org/2022vm.

1032V **Association between transfer of passive immunity and health disorders in commingled dairy calves raised for veal or other purposes: A systematic review and meta-analysis.**
A. Mohamed*[1,2], D. Francoz[1,3], J. Berman[1], S. Dufour[3,4], and S. Buczinski[1,3], [1]*Département des sciences cliniques, Faculté de médecine vétérinaire, Université de Montréal, Saint Hyacinthe, Québec, Canada*, [2]*Department of Animal Medicine, Faculty of Veterinary Medicine, Zagazig University, Zagazig, Sharkia, Egypt*, [3]*Regroupement Op+Lait, Saint Hyacinthe, Québec, Canada*, [4]*Département de Pathologie et Microbiologie, Faculté de Médecine Vétérinaire, Université de Montréal, Saint Hyacinthe, Québec, Canada*.

2415V **Cryptosprodiosis treatments in naturally infected dairy calves.**
E. Miqueo[1,2], L. Fazzio[3], G. Mattioli[3], D. Moore[1,2], and A. Relling*[4], [1]*Universidad Nacional de Mar del Plata, Balcarce, Buenos Aires Argentina*, [2]*Consejo Nacional de Investigaciones Científicas y Técnicas, Balcarce, Buenos Aires Argentina*, [3]*Universidad Nacional de La Plata, La Plata, Buenos Aires Argentina*, [4]*The Ohio State University, Wooster, OH.*

2416V **15-F_{2t}-Isoprostane favors an anti-inflammatory macrophage phenotype during endotoxin challenge.**
A. Putman* and G. A. Contreras, *Michigan State University, East Lansing, MI.*

2417V **Exogenous galectins activate innate and adaptive immune response gene expression in cow blood.**
M. Worku* and H. Ismail, *North Carolina A&T State University, Greensboro, NC.*

2418V **The effects of administration of acetylsalicylic acid to dairy cows after calving on milk yield and health performance.**
J. M. Piñeiro*[1], A. A. Barragan[2], E. Jimenez[2], J. A. Spencer[1], J. A. Garcia-Buitrago[3], and R. Hagevoort[3], [1]*Department of Animal Science, Texas A&M AgriLife Extension, College Station, TX*, [2]*Department of Veterinary and Biomedical Sciences, Penn State University, University Park, PA*, [3]*Department of Animal and Ranch Sciences, New Mexico State University, Clovis, NM.*

Breeding and Genetics

This session will be available on demand. For more information, please see adsa.org/2022vm.

2422V **Improved, expanded, and automated ancestor discovery.**
D. J. Null*[1], G. R. Wiggans[2], E. O.O Ogwo[1], and P. M. VanRaden[1], [1]*USDA, Agricultural Research Service, Animal Genomics and Improvement Laboratory, Beltsville, MD*, [2]*Council on Dairy Cattle Breeding, Bowie, MD*.

2423V **Deep sequencing of Murciano-Granadina goats for variant detection and insights into potential loss-of-function variants.**
K. Wang*[1,2], M. G. Luigi-Sierra[1], A. Martínez[3], J. V. Delgado[3], J. F. Álvarez[3], A Noce[1], M. Wang[1], J. Jordana[4], and M. Amills[1,4], [1]*Centre de Recerca Agrigenòmica (CRAG), Campus Universitat Autònoma de Barcelona, Bellaterra, Spain*, [2]*College of Animal Science and Technology, Northwest A&F University, Yangling, Shaanxi, China*, [3]*Departamento de Genética, Universidad de Córdoba, Córdoba, Spain*, [4]*Departament de Ciència Animal i dels Aliments Universitat Autònoma de Barcelona, Bellaterra, Spain*.

2424V **Identification of goat mammary gland long noncoding RNAs and characterization of their expression in lactating and dry individuals.**
M. Wang*[1], M. G. Luigi-Sierra[1], A. Noce[1], A. Martínez[2], J. V. Delgado[2], J. Fernández-Álvarez[2], A. A. K. Salama[3], X. Such[3], J. Jordana[3], and M. Amills[1,3], [1]*Centre de Recerca Agrigenòmica (CRAG), Campus Universitat Autònoma de Barcelona, Bellaterra, Spain*, [2]*Departamento de Genética,Universidad de Córdoba, Córdoba, Spain*, [3]*Departament de Ciència Animal i dels Aliments, Universitat Autònoma de Barcelona, Bellaterra, Spain*.

2425V **Indirect predictions based on SNP effects from single-step GBLUP for Holstein dairy cattle.**
G. Vargas*, N. Vukasinovic, C. Przybyla, J. D. Nkrumah, and D. González-Peña, *Zoetis Inc., Kalamazoo, MI*.

2467V **Genetic parameters of milk mid-infrared spectra-based methane predictions and their relationships with production traits in Walloon dairy cattle.**
H. Atashi[1,2], A. Vanlierde[3], S. Vanderick[1], H. Wilmot[1,4], H. Soyeurt[1], and N. Gengler*[1], [1]*ULiège-GxABT, Gembloux, Belgium*, [2]*Shiraz University, Shiraz, Iran*, [3]*Walloon Agricultural Research Center, Gembloux, Belgium*, [4]*National Fund for Scientific Research, Brussels Belgium*.

Dairy Foods

This session will be available on demand. For more information, please see adsa.org/2022vm.

2426V **Determination of volatile compound in milks with different thermal treatments by gas chromatography–ion migration spectrometry.**
N. Li*[1,2], Y. D. Zhang[1,2], G. X. Huang[1,2], N. Zheng[1,2], and J. Q. Wang[1,2], [1]*State Key Laboratory of Animal Nutrition, Institute of Animal Sciences, Chinese Academy of Agricultural Sciences, Beijing, China*, [2]*Key Laboratory of Quality and Safety Control for Milk and Dairy Products of Ministry of Agriculture and Rural Affairs, Institute of Animal Sciences, Chinese Academy of Agricultural Sciences, Beijing, China*.

2427V **Lactoferrin alleviated aflatoxin M1-induced apoptosis in intestinal NCM 460 cells through the autophagy pathway.**
H. Y. Wu*[1,2], Y. N. Gao[1,2], S. L. Li[1,2], X. Y. Bao[1,2], J. Q. Wang[1,2], and N. Zheng[1,2], [1]*State Key Laboratory of Animal Nutrition, Institute of Animal Sciences, Chinese Academy of Agricultural Sciences, Beijing, China*, [2]*Key Laboratory of Quality and Safety Control for Milk and Dairy Products of Ministry of Agriculture and Rural Affairs, Institute of Animal Sciences, Chinese Academy of Agricultural Sciences, Beijing, China*.

2428V **Impact of pH and storage conditions on the formation of biogenic amines and CO_2 in a Cheddar cheese model system.**
I. Panguripan[1], R. A. Ibáñez*[2], K. Houck[2], S. Govindasamy-Lucey[2], M. E. Johnson[2], and J. A. Lucey[1,2], [1]*Department of Food Science, University of Wisconsin–Madison, Madison, WI*, [2]*Center for Dairy Research, University of Wisconsin–Madison, Madison, WI*.

2429V **Ex vivo and in vitro studies revealed underlying mechanisms of immature intestinal inflammatory responses caused by aflatoxin M1 together with ochratoxin A.**
Z. W. Wang[1,2], Y. N. Gao*[1,2], S. N. Huang[1,2], and N. Zheng[1,2], [1]*State Key Laboratory of Animal Nutrition, Institute of Animal Sciences, Chinese Academy of Agricultural Sciences, Beijing, China*, [2]*Key Laboratory of Quality and Safety Control for Milk and Dairy Products of Ministry of Agriculture and Rural Affairs, Institute of Animal Sciences, Chinese Academy of Agricultural Sciences, Beijing, China*.

2430V **Compositional and physical characteristics of high-protein ice cream made using milk protein concentrate.**
D. G. Kamel*[1], M. A. Ahmed[2], A. F. A. Ahmed[2], and A. R. A. Hammam[1,3], [1]*Dairy Science Department, Assiut University, Assiut, Egypt*, [2]*Dairy Science Department, Faculty of Agriculture, Al-Azhar University, Assiut, Egypt*, [3]*Dairy and Food Science Department, South Dakota State University, Brookings, SD*.

2431V **2'-Fucosyllactose ameliorates inflammatory bowel disease by modulating gut microbiota and promoting MUC2 expression.**
Q. Yao*[1,3], L. Fan[1], N. Zheng[1], C. Blecker[2], V. Delcenserie[3], H. Li[1], and J. Wang[1], [1]*State Key Laboratory of Animal Nutrition, Institute of Animal Sciences, Chinese Academy of Agricultural Sciences, Beijing, China*, [2]*Gembloux Agro-Bio Tech, University of Liège, Gembloux, Belgium*, [3]*Department of Food Science, Faculty of Veterinary Medicine, University of Liège, Liège, Belgium*.

2432V **Establishment of optimized fermentation parameters to convert dairy waste streams into value-added products via aerobic fermentation by *Brettanomyces claussenii*.**
K. G. Jencarelli*, M. R. Lawton, and S. D. Alcaine, *Cornell University, Ithaca, NY*.

2433V **The impact of heat process and dipotassium phosphate on the aqueous phase around casein micelles in milk protein beverage.**
J. Pranata*[1], H. Hoyt[2], D. M. Barbano[1], and M. A. Drake[2], [1]*Department of Food Science, Cornell University, Ithaca, NY*, [2]*North Carolina State University, Raleigh, NC*.

2311V **Preliminary study on effect of pasteurization with a batch method commonly used for small-scale productions of Ragusano donkey milk on alkaline phosphatase activity and lysozyme contents.**
V. M. Marino*, S. La Terra, and I. Schadt, *Consorzio per la Ricerca nel Settore della Filiera Lattiero-Casearia e dell'Agroalimentare, Ragusa, Italy*.

Forages and Pastures

This session will be available on demand. For more information, please see adsa.org/2022vm.

2434V **The nutritional value of alfalfa hay at different particle size as determined by in vitro gas production methods.**
W. Tang*[1,2], Y. Zhang[1,2], S. Zhao[1,2], N. Zheng[1,2], and J. Wang[1,2], [1]*State Key Laboratory of Animal Nutrition, Institute of Animal Sciences, Chinese Academy of Agricultural Sciences, Beijing, China*, [2]*Key Laboratory of Quality and Safety Control for Milk and Dairy Products of Ministry of Agriculture and Rural Affairs, Institute of Animal Sciences, Chinese Academy of Agricultural Sciences, Beijing, China*.

Lactation Biology

This session will be available on demand. For more information, please see adsa.org/2022vm.

2202V **Effects of stage of lactation and period of production of *Ragusano* donkeys in Sicily on milk yield and composition, including lysozyme contents.**
I. Schadt, S. La Terra*, C. Guardiano, G. Marino, and V. M. Marino, *Consorzio per la Ricerca nel Settore della Filiera Lattiero-Casearia e dell'Agroalimentare, Ragusa, Italy*.

2435V **The effects of arginine on gene expression in bovine mammary and longissimus dorsi tissues.**
M. K. Fox*[1], J. J. M. Kim[1], B. Li[1], D. R. Ouellet[2], H. Lapierre[2], and J. P. Cant[1], [1]*Department of Animal Biosciences, University of Guelph, Guelph, ON, Canada*, [2]*Sherbrooke Research and Development Centre, Agriculture and Agri-Food Canada, Sherbrooke, QC, Canada*.

Physiology and Endocrinology

This session will be available on demand. For more information, please see adsa.org/2022vm.

2436V **Multi-omics revealed an additive cytotoxicity effect in the intestinal NCM460 cells induced by aflatoxin B1 and aflatoxin M1.**
X. Yang*[1,2], Y. N. Gao[1,2], J. Q. Wang[1,2], and N. Zheng[1,2], [1]*State Key Laboratory of Animal Nutrition, Institute of Animal Sciences, Chinese Academy of Agricultural Sciences, Beijing, China*, [2]*Key Laboratory of Quality and Safety Control for Milk and Dairy Products of Ministry of Agriculture and Rural Affairs, Institute of Animal Sciences, Chinese Academy of Agricultural Sciences, Beijing, China*.

2437V **Profiles of nutrient signaling, protein turnover, and one-carbon metabolism-related proteins and intermediate metabolites in tissues from Holstein fetuses at mid-gestation.**
A. Aboragah*[1], D. Coleman[1], and J. Loor[1], [1]*University of Illinois, Urbana, IL*, [2]*King Saudi University, Riyadh, Saudi Arabia*.

2438V **Abundance of genes associated with nutrient signaling, protein turnover, and one-carbon metabolism in tissues from Holstein fetuses at mid-gestation.**
A. Aboragah*[1,2], L. P. Thanh[1,3], D. Coleman[1], and J. Loor[1], [1]*University of Illinois, Urbana, IL*, [2]*King Saudi University, Riyadh, Saudi Arabia*, [3]*Can Tho University, Can Tho, Vietnam*.

2439V **Antioxidant mechanisms in ruminal epithelium respond to feed restriction.**
M. C. Galvao*[1,2], A. Aboragah[2], Q. Jiang[2], N. Wichasit[2,3], L. P. Thanh[4], J. C. McCann[2], and J. J. Loor[2], [1]*Universidade Federal de Lavras, Lavras, Minas Gerais, Brazil*, [2]*University of Illinois, Urbana-Champaign, IL*, [3]*Naresuan University, Phitsanulok, Thailand*, [4]*Can Tho University, Can Tho, Vietnam*.

Production, Management, and the Environment

This session will be available on demand. For more information, please see adsa.org/2022vm.

2440V **Prolonged milking interval in an automated milking system reduced milk yield and quality in dairy cows.**
K. Kim*, J. Lee, K. K. T. N. Ranaweera, and M. Baik, *Department of Agricultural Biotechnology, College of Agriculture and Life Sciences, Seoul National University, Seoul, Republic of Korea*.

2441V **Methane and carbon dioxide production of dairy heifers fed Kernza Intermediate wheatgrass straw mixed with alfalfa haylage and corn silage.**
D. M. Pizarro*[1], M. S. Akins[1], V. D. Picasso[2], and M. A. Wattiaux[1], [1]*Department of Animal and Dairy Sciences, University of Wisconsin–Madison, Madison, WI*, [2]*Department of Agronomy, University of Wisconsin–Madison, Madison, WI*.

2442V **Withdrawn.**

2443V **Association between calving serum macro and trace mineral concentrations and milk yield at first monthly test in multiparous Jersey cows.**
A. Valldecabres*[1,2] and N. Silva del Río[2,3], [1]*Teagasc, Animal and Grassland Research and Innovation Center, Moorepark, Fermoy, Cork, Ireland*, [2]*School of Veterinary Medicine, Department of Population Health and Reproduction, University of California–Davis, Davis, CA*, [3]*Veterinary Medicine Teaching and Research Center, Tulare, CA*.

Ruminant Nutrition

This session will be available on demand. For more information, please see adsa.org/2022vm.

2255V **Performance of dairy calves fed whole milk with total solids corrected according to 2 approaches.**
A. M. Cezar, A. P. Silva, C. R Tomaluski, A. F. Toledo, M. D. Silva, G. F. Virgínio Jr, S. C. S. Souza, R. Y. L. Ricci, and C. M. M. Bittar*, *Department of Animal Sciences, Luiz de Queiroz College of Agriculture, University of Sao Paulo, Piracicaba, Sao Paulo, Brazil*.

2261V **Effects of inclusion of whole-plant flint corn silage in the diet of dairy calves.**
A. F. Toledo*, A. P. Silva, S. C. Dondé, A. M. Cezar, C. R. Tomaluski, A. C. O. Ribeiro, M. G. Coelho, M. D. Silva, I. M. Nascimento, and C. M. M. Bittar, *Department of Animal Sciences, Luiz de Queiroz College of Agriculture (ESALQ), University of Sao Paulo, Piracicaba, Sao Paulo, Brazil*.

2351V **Effect of maternal or formulated transition milk on the health and performance of dairy calves.**
A. P. Silva, A. M. Cezar, A. F. Toledo, R. Y. L. Ricci, R. S. Budoya, S. C. Donde, M. G. Coelho, A. C. Ribeiro, C. R. Tomaluski, and C. M. M. Bittar*, *Dept. of Animal Sciences, Luiz de Queiroz College of Agriculture (ESALQ), University of Sao Paulo, Piracicaba, Sao Paulo, Brazil*.

2444V **Comparison of a new protein source (carinata meal) with canola meal on the basis of ruminal fermentation, degradation and intestinal digestion in dairy cows.**
A. Ismael*, B. Refat, and P. Yu, *Department of Animal and Poultry Science, College of Agricultural and Bioresources, University of Saskatchewan, Saskatoon, Canada*.

2445V **Using vibrational molecular spectral feature as a fast tool to evaluate and predict nutrient utilization and availability of chickpeas in dairy cows.**
L. Cerma* and P. Yu, *Department of Animal and Poultry Science, College of Agricultural and Bioresources, University of Saskatchewan, Saskatoon, Canada*.

2446V **Dietary flaxseed supplements alter C18 fatty acid profile in milk.**
M. Q. Chen*[1,2], G. X. Huang[1,2], F. E. Wang[1,2], Y. D. Zhang[1,2], N. Zheng[1,2], and J. Q. Wang[1,2], [1]*State Key Laboratory of Animal Nutrition, Institute of Animal Sciences, Chinese Academy of Agricultural Sciences*, *Beijing, China*, [2]*Key Laboratory of Quality and Safety Control for Milk and Dairy Products of Ministry of Agriculture and Rural Affairs, Institute of Animal Sciences, Chinese Academy of Agricultural Sciences*, *Beijing, China*.

2447V **Effect of high versus low red clover-grass mixture on energy utilization in lactating dairy cows.**
J. P. Sacramento*[1,2], L. H. P. Silva[3], D. C. Reyes[1], Y. Geng[1], and A. F. Brito[1], [1]*University of New Hampshire*, *Durham, NH*, [2]*Federal University of São João del Rei*, *São João del Rei, MG, Brazil*, [3]*Western Kentucky University*, *Bowling Green, KY*.

2448V **Inclusion of flavor enhancers to a starter feed increased feed intake and live weight gain of newborn Holstein calves.**
S. X. Ji[1], X. B. Liu[1], M. L. He[2], W. Z. Yang*[3], and Y. Z. Shen[1], [1]*College of Animal Science and Technology, Hebei Agricultural University*, *Baoding, China*, [2]*Lucta (Guangzhou) Flavours Co. Ltd*., *Guangzhou, China*, [3]*Agriculture and Agri-Food Canada*, *Lethbridge, AB, Canada*.

2449V **Supplementing vegetable oils to heifers alters expression of genes involved in hepatic lipid metabolism.**
N. C. Gonçalves*[1,8], J. G. Laguna[2], T. F. Silva[2,3], E. O. S. Saliba[4], G. R. Moreira[5], T. F. Moreira[6], R. M. Meneses[6], G. S. S. C. Barbosa[7], C. I. A. Queiroz[7], P. H. P. Küster[6], G. P. Peruzzo[8], V. A. C. Azevedo[2], and A. M. Macedo[1], [1]*Laboratório de Genética Bioquímica, LGB, Universidade Federal de Minas Gerais, UFMG*, *Belo Horizonte, Minas Gerais, Brazil*, [2]*Laboratório de Genética Celular e Molecular, LGCM, Universidade Federal de Minas Gerais, UFMG*, *Belo Horizonte, Minas Gerais, Brazil*, [3]*l'Institut Agro Rennes-Angers, INRAE*, *Rennes, Bretagne, France*, [4]*Laboratório de Nutrição Animal, Universidade Federal de Minas Gerais, UFMG*, *Belo Horizonte, Minas Gerais, Brazil*, [5]*Departamento de Estatística e Informática, Universidade Federal Rural de Pernambuco, UFRPE*, *Recife, Pernambuco, Brazil*, [6]*Departamento de Ciência Animal, Universidade Federal de Minas Gerais, UFMG*, *Belo Horizonte, Minas Gerais, Brazil*, [7]*Universidade Federal de Viçosa, UFV, Campus Florestal*, *Florestal, Minas Gerais, Brazil*, [8]*Escola Superior São Francisco de Assis, ESFA*, *Santa Teresa, Espírito Santo, Brazil*.

2450V **The effect of virginiamycin on lactating dairy cow's performance during heat stress in Mexico.**
M. A. Gorocica-Buenfil*[1], A. Lara-Gonzalez[1], and L. O. Tedeschi[2], [1]*Phibro Animal Health*, *Guadalajara, Jalisco, Mexico*, [2]*Texas A&M University*, *College Station, TX*.

2451V **Effects of 2 levels of dietary trace minerals on ruminal fermentation, total-tract digestibility, trace mineral excretion and lactation performance in Holstein cows.**
C. Marchand*[1,2], I. Royer[3], R. Gervais[2], C. L. Benchaar[1], F. Hassanat[3], and M. Duplessis[1], [1]*Agriculture and Agri-Food Canada*, *Sherbrooke, QC, Canada*, [2]*Université Laval, Département des sciences animales*, *Québec, QC, Canada*, [3]*Agriculture and Agri-Food Canada*, *Québec, QC, Canada*.

2452V **Meta-analysis on the efficacy of different mycotoxin binders to reduce aflatoxin M1 in milk after aflatoxin B1 challenge in dairy cows.**
A. Kihal*, M. Rodríguez-Prado, and S. Calsamiglia, *Animal Nutrition and Welfare Service, Universitat Autonoma de Barcelona*, *Barcelona, Spain*.

2453V **Bioavailability of 2 different rumen-protected choline products for dairy cattle measured with the area under the curve method.**
A. Kihal*, M. Rodríguez-Prado, C. Marques, and S. Calsamiglia, *Animal Nutrition and Welfare Service, Universitat Autonoma de Barcelona*, *Barcelona, Spain*.

2454V **Increasing dietary starch affects fecal pH and particle size: their potential for assessing the risk of ruminal acidosis in dairy cows.**
E. Castillo-Lopez*, B. Khorrami, S. Ricci, R. Rivera-Chacon, and Q. Zebeli, *University of Veterinary Medicine Vienna*, *Vienna, Austria*.

2455V **Elucidating SARA: Fecal microbiota as diagnostic tool for subacute ruminal acidosis.**
C. Pacífico, R. Rivera-Chacón, S. Ricci, R. M. Petri, Q. Zebeli, and E. Castillo-Lopez*, *University of Veterinary Medicine Vienna*, *Vienna Austria*.

2456V **Effect of dietary CP concentrations and rumen-protected lysine supplementation on production, N utilization and ruminal fermentation in lactating cows.**
H. Wu*, X. S. Wei, J. P. Zhu, and C. Wang, *College of Animal Science and Technology and College of Veterinary Medicine, Zhejiang A&F University*, *Hangzhou, Zhejiang, China*.

Small Ruminant

This session will be available on demand. For more information, please see adsa.org/2022vm.

2457V **Freely accessed whey for growing Murciano-Granadina goats.**
A. Nikkhah*, M. Y. Salehi, and B. H. Darabi, *Ferdows Pars Holding Co., Tehran, Iran.*

2458V **Dietary fatty acids alter milk fat concentration and milk fatty acid profile in dairy goats.**
W. B. Gallardo*[1] and I. A. M. A. Teixeira[1,2], [1]*Departament of Animal Science - UNESP, Estadual Paulista, Jaboticabal, SP, Brazil,* [2]*Department of Animal, Veterinary, and Food Sciences, University of Idaho, Twin Falls, ID.*

2459V **Crossbreeding Balouchi sheep with Romanov.**
A. Nikkhah* and A. Rezagholivand, *Ferdows Pars Holding Co., Tehran, Iran.*

2460V **Physical form of concentrate for lactating Murciano-Granadina dairy goats.**
A. Nikkhah*, M. H. Khabbazan, and H. Amanlou, *Ferdows Pars Holding Co., Tehran, Iran.*

2461V **Effect of waterer color and frequency of cleaning on sheep water intake.**
H. Jermolowicz* and B. A. Wenner, *Department of Animal Sciences, The Ohio State University, Columbus, OH.*

2462V **Effects of different supplementary strategies of live *Saccharomyces cerevisiae* on rumen fermentation, blood metabolites, and growth performance in young dairy goats.**
J. Zhang[1], Y. Yang[1], X. Lei[1], Y. Li[2], Y. Cao*[1], and J. Yao[1], [1]*College of Animal Science and Technology, Northwest A&F University, Yangling, Shaanxi, China*, [2]*Fuping County Animal Husbandry Development Center, Fuping, Shaanxi, China.*

ORAL PRESENTATIONS

Animal Health

This session will be available on demand. For more information, please see adsa.org/2022vm.

1029V **Association among maternal late-gestation lipid mobilization and the offspring's health and performance through the first lactation: A cohort study in a dairy herd.**
A. Velasquez-Munoz*, E. J. Schuurmans, J. Brester, K. Starken, and A. Abuelo, *Department of Large Animal Clinical Sciences, College of Veterinary Medicine, Michigan State University, East Lansing, MI*.

1411V **Evaluating factors affecting recovery of *Mannheimia haemolytica* and *Pasteurella multocida*.**
A. Garzon, A. Hoyos-Jaramillo*, S. Hustad, B. A. Byrne, H. M. Fritz, and R. Pereira, *University of California, Davis, Davis, CA*.

1412V **An evaluation of early intervention protocols based on camera-based autonomous mobility score trends.**
G. Cramer*[1], E. Shepley[1], N. O'Boyle[2], R. McMillan[2], and A. Askew[2], [1]*University of Minnesota, St. Paul, MN*, [2]*CattleEye Ltd., Belfast, United Kingdom*.

1471V **Potential regulatory role of hypoxia in dairy cows with different lactation persistency.**
Z. Hu*, J. Cai, J. Liu, and D. Wang, *Institute of Dairy Science, College of Animal Sciences, Zhejiang University, Hangzhou, China*.

1472V **Evaluating the effect of a water supplement on dairy cow feed intake, water intake, and milk production parameters during summer.**
A. S. Bassett*[1], L. J. Spicer[2], E. R. Maylem[2], D. Kelley[1], L. Guo[1], A. Foote[2], M. Klotz[3], and G. R. Holyoak[1], [1]*Department of Veterinary Clinical Sciences, Oklahoma State University, Stillwater, OK*, [2]*Department of Animal and Food Sciences, Oklahoma State University, Stillwater, OK*, [3]*Aurora Pharmaceutical LLC, Northfield, MN*.

1474V **Possibilities of predicting self-cure and treatment success of cows with metritis using farm-collected data, hemogram, and peripartum behavioral changes.**
J. Prim*[1], A. Mirzaei[1], T. Gonzalez[1], P. Menta[2], V. Machado[2], R. Chebel[1], and K. Galvão[1], [1]*University of Florida, Gainesville, FL*, [2]*Texas Tech University, Lubbock, TX*.

Breeding and Genetics

This session will be available on demand. For more information, please see adsa.org/2022vm.

1475V **Current state of inbreeding, genetic diversity, and selection history in all major breeds of US dairy cattle.**
E. A. Lozada-Soto*[1], C. Maltecca[1], J. B. Cole[2], P. M. VanRaden[3], and F. Tiezzi[4], [1]*Department of Animal Science, North Carolina State University, Raleigh, NC*, [2]*URUS Group LP, Madison, WI*, [3]*Animal Genomics and Improvement Laboratory, Henry A. Wallace Beltsville Agricultural Research Service, USDA, Beltsville, MD*, [4]*Department of Agriculture, Food, Environment and Forestry (DAGRI), University of Florence, Florence, Italy*.

1476V **FoxO1 controls lipolysis via directly binding to adipose triglyceride lipase promoter in dairy goat mammary epithelial cells.**
Q. He* and J. Luo, *Northwest A&F University, Yangling, Shaanxi, China*.

Dairy Foods

This session will be available on demand. For more information, please see adsa.org/2022vm.

1132V **Effect of cooking temperature on alkaline phosphatase in the production of raw-milk Pecorino cheese.**
G. Licitra*[1,2], V. M. Marino[1], G. Belvedere[1], G. Mangione[2], A. Difalco[1], R. Petriglieri[1], and M. Caccamo[1], [1]*CoRFiLaC, Ragusa, Italy*, [2]*University of Catania, Catania, Italy*.

1206V **Microwave vacuum drying of cream: A novel process for the manufacturing of dehydrated shelf stable cream.**
J. Dumpler* and C. I. Moraru, *Department of Food Science, Cornell University, Ithaca, NY*.

1477V **Effect of dairy bedding on microbial safety of milk.**
H. M. Wu*[1,2], L. Meng[1,2], N. Zheng[1,2], and J. Q. Wang[1,2], [1]*State Key Laboratory of Animal Nutrition, Institute of Animal Sciences, Chinese Academy of Agricultural Sciences, Beijing, China*, [2]*Key Laboratory of Quality and Safety Control for Milk and Dairy Products of Ministry of Agriculture and Rural Affairs, Institute of Animal Sciences, Chinese Academy of Agricultural Sciences, Beijing, China*.

1479V **Comparison of stainless steel surfaces (weldments, polished, and native) for supporting spore-former biofilms.**
T. Almalki*[1,2] and S. Anand[1,2], [1]*Midwest Dairy Food Research Center, Minneapolis, MN,* [2]*Dairy and Food Science Department, South Dakota State University, Brooking, SD*.

Lactation Biology

This session will be available on demand. For more information, please see adsa.org/2022vm.

1480V **Effect of casein expression by circadian clock gene *Period2* in the mammary gland.**
L. Hu and Y. Wang*, *Yangzhou University, Yangzhou, Jiangsu, China*.

Physiology and Endocrinology

This session will be available on demand. For more information, please see adsa.org/2022vm.

1481V **Cell atlas revealed nutrients absorption and metabolism patterns at single-cell resolution in dairy cows.**
J. Wu, S. Zhu*, J.-X. Liu, and H.-Z. Sun, *Institute of Dairy Science, College of Animal Sciences, Zhejiang University, Hangzhou, China*.

Production, Management, and the Environment

This session will be available on demand. For more information, please see adsa.org/2022vm.

1482V **Association between milking and cow parameters and intramammary infections at dry-off in automatic milking systems.**
J. Ongom*, E. Okello, K. McFarlan, and F. Ferreira, *Veterinary Medicine Teaching and Research Center, Department of Population Health and Reproduction. School of Veterinary Medicine. University of California-Davis, Tulare, CA*.

1483V **Descriptive characteristics of dairy cows culling patterns in China large dairy farms.**
J. Wang*, M. Li, S. Liu, and Z. Cao, *State Key Laboratory of Animal Nutrition, College of Animal Science and Technology, China Agricultural University, Beijing, China*.

1484V **A survey of Ontario dairy cattle producers' management practices and perspectives on cull cows.**
J. Marshall*[1], T. Duffield[1,5], D. Haley[2,5], L. Levison[2], D. Kelton[1,5], C. Miltenburg[1,3], and S. Roche[1,4], [1]*Department of Population Medicine, University of Guelph*, [2]*Campbell Centre for the Study of Animal Welfare, University of Guelph*, [3]*ON Ministry of Agriculture, Food and Rural Affairs*, [4]*ACER Consulting*, [5]*Dairy at Guelph, University of Guelph, Guelph*.

1485V **A survey of practices and attitudes around cull cow management by bovine veterinarians in Ontario.**
J. Marshall*[1], T. Duffield[1,5], D. Haley[1,2], L. Levison[2], D. Kelton[1,5], C. Miltenburg[1,3], and S. Roche[1,4], [1]*Department of Population Medicine, University of Guelph, Guelph, ON, Canada*, [2]*Campbell Centre for the Study of Animal Welfare, University of Guelph, Guelph, ON, Canada*, [3]*ON Ministry of Agriculture, Food and Rural Affairs, Elora, ON, Canada*, [4]*ACER Consulting Limited, Guelph, ON, Canada*, [5]*Dairy at Guelph, University of Guelph, Guelph, ON, Canada*.

1486V **Influence of parity order on milk somatic cell count and composition in compost barn system.**
K. F. Nogara[1], M. Busanello[2], Q. Tavares[1], L. M. Pereira*[1], F. M. C. Vieira[3], and M. Zopollatto[1], [1]*Department of Animal Science, Federal University of Parana, Curitiba, Parana, Brazil*, [2]*Department of Animal Science, College of Agriculture "Luiz de Queiroz"/University of São Paulo - ESALQ/USP, Piracicaba, Sao Paulo, Brazil*, [3]*Biometeorology study Group (GEBIOMET), Federal University of Technology-Parana, Dois Vizinhos, Parana, Brazil*.

1487V **Liver transcriptomics of sensitive and heat tolerant dairy sheep phenotypes.**
S. González-Luna*[1,2], B. Chaalia[1], X. Such[1], G. Caja[1], M. Ramon[3], M. J. Carabaño[4], and A. A. K. Salama[1], [1]*Group of Research in Ruminants (G2R), Universitat Autònoma de Barcelona, Bellaterra, Barcelona, Spain*, [2]*F.E.S. Cuautitlán, Universidad Nacional Autónoma de México, Cuautitlán Izcalli, Mexico*, [3]*I.R.I.A.F., C.E.R.S.Y.R.A, Valdepeñas, Spain*, [4]*Instituto Nacional de Investigación y Tecnología Agraria y Alimentaria, Madrid, Spain*.

Ruminant Nutrition

This session will be available on demand. For more information, please see adsa.org/2022vm.

1488V **Effects of acetate on genes related to lipogenesis in bovine subcutaneous adipose tissue via the GPR41.**
M. Jiang*, K. Zhan, Y. Huang, Q. Yan, Z. Cheng, Z. Meng, G. Zhao, and T. Yang, *Institute of Animal Culture Collection and Application, College of Animal Science and Technology, Yangzhou University, Yangzhou, Jiangsu, China.*

1489V **Rumen metabolome of samples collected using an oro-esophageal probe, and particulate, liquid, and combined liquid and particulate fractions collected using rumen fistula in Holstein dairy cows.**
L. L. Cunha*[1], H. F. Monteiro[2], and F. S. Lima[2], [1]*Department of Veterinary Clinical Medicine, University of Illinois, Urbana, IL,* [2]*Department of Population Health and Reproduction, School of Veterinary Medicine, University of California–Davis, Davis, CA.*

Small Ruminant

This session will be available on demand. For more information, please see adsa.org/2022vm.

1490V **Identification and comparison of bacterial profile and exosomal microRNAs in goat colostrum and milk.**
T. Ma*[1], Z. Meng[2], M. Ghaffari[3], Q. Diao[1], Y. Tu[1], and Q. Zhao[2], [1]*Institute of Feed Research, Chinese Academy of Agricultural Sciences, Beijing, China,* [2]*Inner Mongolia Academy of Agriculture and Animal Husbandry Sciences, Hohhot, China,* [3]*Institute of Animal Science, University of Bonn, Bonn, Germany.*

1491V **Effect of equine chorionic gonadotropin on reproduction during low-breeding season in Beetal goats.**
B. Sharif*[1], M. Hassan[2], U. Arshad[3,1], M. Z. Tahir[1], E. Ahmad[4], M. I. R. Khan[1], M. Shahzad[5], I. Mohsin[1], and A. Rehman[1], [1]*University of Veterinary and Animal Sciences, Lahore, Punjab, Pakistan,* [2]*College of Veterinary and Animal Sciences, Jhang, Punjab, Pakistan,* [3]*University of Florida, Gainesville, Florida,* [4]*Bahauddin Zakariya University, Multan, Punjab, Pakistan,* [5]*Nuclear Institute for Agriculture and Biology, Faisalabad, Punjab, Pakistan.*

Reproduction

This session will be available on demand. For more information, please see adsa.org/2022vm.

1535V **Effect of nerve growth factor-β administered at AI for lactating dairy cows bred after a timed insemination protocol.**
A. M. Hubner*[1], I. F. Canisso[1], P. M. G. Peixoto[1], W. M. Coelho Jr.[2], L. L. Cunha[1], L. B. Ribeiro[1], and F. S. Lima[2], [1]*Department of Veterinary Clinical Medicine, University of Illinois, Urbana, IL,* [2]*Department of Population Health and Reproduction, School of Veterinary Medicine, University of California–Davis, Davis, CA.*

Friday, June 24
Virtual Presentations with Live Q&A

Virtual: Animal Health 1

11:00 AM – 11:30 AM

This session will be livestreamed. For more information, please see adsa.org/2022vm.

1473V **A randomized non-inferiority study evaluating the efficacy of 2 commercially available teat sealants in dairy cows.**
M. P. Buckley[2], J. Bayne[4,1], G. S. Silva[1], T. Tomazi[5], B. E. Miller[5], S. Godden[3], and P. J. Gorden*[1], [1]*Department of Veterinary Diagnostic and Production Animal Medicine, College of Veterinary Medicine, Iowa State University, Ames, IA*, [2]*Department of Veterinary Microbiology and Preventative Medicine, College of Veterinary Medicine, Iowa State University, Ames, IA*, [3]*Department of Veterinary Population Medicine, University of Minnesota, St. Paul*, [4]*College of Veterinary Medicine, Auburn University, Auburn, AL*, [5]*Dairy Technical Services, Merck Animal Health, Madison, NJ*.

1494V **Passive immunity and colostrum management practices on Shaanxi dairy farms in China.**
Z. Liu*[1], H. Li[1], H. Yang[1], Y. Ma[1], L. Xie[1], D. Renaud[2], and Q. Dong[1], [1]*College of Veterinary Medicine, Northwest A&F University, Yangling, Shaanxi, China*, [2]*Department of Population Medicine, ON Veterinary College, University of Guelph, Guelph, ON, Canada*.

1495V **The effects of foster cow rearing on dairy calf health.**
O. F. D. Bolton*, G. L. Charlton, and E. C. L. Bleach, *Department of Animal Health, Behaviour and Welfare, Harper Adams University, Newport, Shropshire, UK*.

2419V **Effects of supplementation with rumen buffers on metabolic parameters of Holstein dairy cows.**
L. V. Vieira*[1], M. F. B. Savela[1], N. M. Rahal[1], A. A. Barbosa[1], D. R. Saraiva[1], R. M. Rosa[1], D. Langwinski[2], A. H. Souza[2], L. H. Kütter[1], R. Silveira[1], M. B. Medeiros[1], R. M. Soares[1], C. C. Brauner[1], E. R. Komninou[1], M. N. Corrêa[1], [1]*Federal University of Pelotas (UFPel), Center of Research, Teaching and Extension in Animal Science (NUPEEC), Pelotas, Rio Grande do Sul, Brazil*, [2]*Cargill Animal Health and Nutrition, Campinas, São Paulo, Brazil*.

2464V **Assessment of the effects of prepartum anti-inflammatory therapies on type 1/type 2 immunity ratio using a rapid blood test.**
E. Jimenez[1], Q. Huo[2], J. Spring[1], M. Martinez[1], E. Hovingh[1], J. Lawhead[3], and A. A. Barragan*[1], [1]*Department of Veterinary and Biomedical Sciences, Penn State University, University Park, PA*, [2]*Department of Chemistry and NanoScience Technology Center, University of Central Florida, FL*, [3]*Millerstown Veterinary Associates, Millerstown, PA*.

2465V **Dry matter intake, milk yield, and feed efficiency of Holstein cows supplemented with 2 different ruminal buffers.**
M. F. B. Savela*[1], L. V. Vieira[1], N. M. Rahal[1], J. G. Fischer[1], A. C. Franco[1], L. R. L. Silva[1], L. S. Lopes[1], V. S. Pereira[1], A. P. P. Timm[1], E. R. Komninou[1], A. A. Barbosa[1], D Langwinski[2], A. H. Souza[2], C. C. Brauner[1], M. N. Corrêa[1], [1]*Federal University of Pelotas (UFPel), Center of Research Teaching and Extension in Animal Science (NUPEEC), Pelotas, Rio Grande do Sul, Brazil*, [2]*Cargill Animal Health and Nutrition, Campinas, São Paulo, Brazil*.

Virtual: Dairy Foods 1

11:00 AM – 11:30 AM

This session will be livestreamed. For more information, please see adsa.org/2022vm.

1503V **Impact of milk-type on the probiotic survivability and bioactive properties of the bioaccessible fraction after in vitro digestion by INFOGEST2.0.**
M. Ayyash*, *United Arab Emirates University, Al Ain, United Arab Emirates*.

1507V **Differences in the microbiome composition of fresh and cured goat cheese. .**
M. G. Luigi-Sierra*[1], D. Guan[2], Y. Ramayo-Caldas[3], and M. Amills[1,4], [1]*Centre de Recerca Agrigenòmica (CRAG), Bellaterra, Catalonia, Spain*, [2]*University of California-Davis, Davis, California*, [3]*Institute for Research and Technology in Food and Agriculture (IRTA), Caldes de Montbui, Catalonia, Spain*, [4]*Universitat Autònoma de Barcelona (UAB), Bellaterra, Catalonia, Spain*.

1508V **Evaluating the suitability of milk fat matrix as a potential carrier for viable probiotics. .**
K. Gaba*[1,2] and S. Anand[1,2], [1]*Midwest Dairy Foods Research Center, Minneapolis, MN*, [2]*Dairy and Food Science Department, South Dakota State University, Brookings, SD*.

1509V **Effect of biodiversity of cell-envelope proteinase genotype on peptidomics and functionality of whey of *Lactobacillus helveticus*.**
X. Liu*, Y. Jiang, J. Zhao, H. Zhang, and W. Chen, *School of Food Science and Technology, Jiangnan University, Wuxi, Jiangsu, China*.

1510V **Potential probiotics and postbiotics characteristics including immunomodulatory effects of lactic acid bacteria isolated from traditional yogurt-like products.**
M. T. A. Ruknuddin* and M. Ayyash, *United Arab Emirates University, Al Ain, Abu Dhabi, United Arab Emirates*.

Virtual: Ruminant Nutrition 1

11:00 AM – 11:30 AM

This session will be livestreamed. For more information, please see adsa.org/2022vm.

1544V **Different sources of biochar had no effect on in vitro rumen fermentation and methane production.**
F. Hassanat*[1], C. Côrtes[2], S. Claveau[2], R. Pilote[2], and C. Benchaar[3], [1]*Agriculture and Agri-Food Canada, Québec, QC, Canada*, [2]*Agrinova, Alma, QC, Canada*, [3]*Agriculture and Agri-Food Canada, Sherbrooke, QC, Canada*.

2508V **Autolyzed or live yeast supplementation on performance of dairy cows.**
A. C. de Freitas[1], N. T. S. Grigoletto[1], P. C. Vittorazzi Junior[1], M. Bugoni[1], J. N. Ribeiro[1], C. V. de Almeida[1], N. P. Martins[1], O. P. Sbaralho[1], C. S. Cortinhas[2], T. S. Acedo[2], and F. P. Rennó*[1], [1]*University of São Paulo, Pirassununga, São Paulo, Brazil*, [2]*DSM Produtos Nutricionais Brasil S.A, São Paulo, SP, Brazil*.

2509V **Effect of filter bags and washout water temperature on dry matter recovery of pure starch and dry ground corn.**
C. Heinzen Jr.*[1], M. S. Souza[2,1], R. D. Shaver[1], and L. F. Ferraretto[1], [1]*University of Wisconsin, Madison, WI*, [2]*Universidade Federal Rural da Amazônia, Belém, PA, Brazil*.

2517V **Hepatic transcriptome analysis in heat-stressed mid-lactation dairy cows fed *Lonicera japonica* extract.**
D. Gao*[1] and P. Sun[2], [1]*College of Animal Science and Technology, China Agricultural University, Beijing, China*, [2]*Institute of Animal Science, Chinese Academy of Agricultural Sciences, Beijing, China*.

2520V **Using Fourier-transform infrared spectroscopy to predict urinary allantoin and creatinine from urine and milk samples.**
L. A. C. Ribeiro*, T. Bresolin, S. I. A. Apelo, and J. R. R. Dorea, *University of Wisconsin–Madison, Madison, WI*.

2523V **The effect of posttreatment curing times of a fungal enzyme cocktail on in vitro NDF digestibility.**
J. H. C. van Zyl, Z. Skippers, and C. W. Cruywagen*, *Stellenbosch University, Stellenbosch, South Africa*.

Virtual: Animal Health/Animal Behavior and Well-Being 2

11:30 AM – 12:00 PM

This session will be livestreamed. For more information, please see adsa.org/2022vm.

1492V **Comparing different types of reward for assessing behavioral flexibility of weaned dairy heifers in a T-maze. .**
J. Bonney* and E. K. Miller-Cushon, *University of Florida, Gainesville, FL*.

1493V **Effect of winter and summer conditions on lying time of transition dairy cows in a temperate region. .**
D. Cartes*[1], R. Held-Montaldo[1], and P. Sepúlveda-Varas[2], [1]*Escuela de Graduados, Facultad de Ciencias Veterinarias, Universidad Austral de Chile, Valdivia, Chile*, [2]*Instituto de Ciencias Clínicas Veterinarias, Universidad Austral de Chile, Valdivia, Chile*.

2414V **Characterizing behavioral metrics of preweaned paired-housed dairy calves.**
J. M. Piñeiro[1], S. Paudyal[1], B. Newcomer[2], B. W. Jones[3], G. M. Schuenemann[4], D. Duhatschek*[5], and E. Kim[1], [1]*Department of Animal Science, Texas A&M University, College Station, TX*, [2]*Large Animal Clinical Sciences Department, Texas A&M University, Canyon, TX*, [3]*Department of Animal Science, Tarleton State University, Stephenville, TX*, [4]*Department of Veterinary Preventive Medicine, The Ohio State University, Columbus, OH*, [5]*Department of Animal Science, Cornell University, Ithaca, NY*.

2420V **Defining clinical diagnosis and treatment of puerperal metritis in dairy cows: A scoping review.**
A. Garzon*[1], G. Habing[2], F. Lima[1], N. Silva-del-Rio[1,3], F. Samah[1], and R. Pereira[1], [1]*Department of Population Health and Reproduction, School of Veterinary Medicine, University of California, Davis*, *Davis, CA*, [2]*Department of Veterinary Preventive Medicine, Ohio State University*, *Columbus, OH*, [3]*Veterinary Medicine Teaching and Research Center, University of California, Davis*, *Tulare, CA*.

2421V **Evaluation of antimicrobial resistance and risk factors for recovery of intrauterine *Escherichia coli* from cows with metritis on California dairy farms.**
C. Basbas[1], A. Garzon*[1], N. Silva-del-Rio[1,4], B. Byrne[2], B. Karle[3], S. Aly[1,4], J. Champagne[4], D. Williams[4], F. Lima[1], V. Machado[5], and R. Pereira[1], [1]*Department of Population Health and Reproduction, School of Veterinary Medicine, University of California, Davis*, *Davis, CA*, [2]*Department of Pathology, Microbiology and Immunology, School of Veterinary Medicine, University of California, Davis*, *Davis, CA*, [3]*Cooperative Extension, Division of Agriculture and Natural Resources, University of California*, *Orland, CA*, [4]*Veterinary Medicine Teaching and Research Center, School of Veterinary Medicine, University of California, Davis*, *Tulare, CA*, [5]*Department of Veterinary Sciences, College of Agricultural Sciences and Natural Resources, Texas Tech University*, *Lubbock, TX*.

2463V **Minimum inhibitory and bactericidal concentrations of technical lignins against environmental bacteria causing mastitis in lactating dairy cattle.**
G. Oppong*[1], J. Romero[1], Z. Ma[2], K. Jeong[3], and M. Killerby[1], [1]*University of Maine*, *Orono, ME*, [2]*Mount Desert Island Biological Laboratory*, *Bar Harbor, ME*, [3]*University of Florida*, *Gainesville, FL*.

Virtual: Dairy Foods 2

11:30 AM – 12:00 PM

This session will be livestreamed. For more information, please see adsa.org/2022vm.

1504V **Physico-chemical, microbiological and sensory characteristics of concentrated yogurt (Labneh) made from goat milk with added pomegranate peel extract. .**
M. Serhan*, A. Aoun, M. el Deghel, and C. Serhan, *University of Balamand*, *Deir el Balamand, Tripoli, Lebanon*.

1511V **Effect of pulsed electric field processing on emulsion stability with milk protein concentrates. .**
S. Raghunath* and K. Mallikarjunan, *University of Minnesota - Twin Cities*, *Saint Paul, MN*.

1512V **Sampling variability influences the microbiological evaluations in dairy processing. .**
R. Kalita*[1,2], S. Anand[1,2], G. Djira[3], and S. Beckman[2], [1]*Midwest Dairy Foods Research Center*, *Minneapolis, MN*, [2]*Dairy and Food Science Department, South Dakota State University*, *Brookings, SD*, [3]*Department of Mathematics and Statistics, South Dakota State University*, *Brookings, SD*.

1513V **Effects of temperature and high solid loadings on flow behaviors of reconstituted dried whey. .**
A. Parhi* and P. Sharma, *Utah State University*, *Logan, UT*.

1514V **Effect of bulk nanobubbles during ultrafiltration on membrane performance. .**
K. S. Babu* and J. K. Amamcharla, *Kansas State University*, *Manhattan, Kansas*.

Virtual: Ruminant Nutrition 2

11:30 AM – 12:00 PM

This session will be livestreamed. For more information, please see adsa.org/2022vm.

2503V **The effects of rumen-protected *Capsicum* oleoresin on performance of transition cows.**
N. T. S. Grigoletto[1], C. S. Takiya[1], M. Bugoni[1], R. G. Chesini[1], P. C. Vittorazzi Jr[1], F. M. dos Santos[1], A. C. de Freitas[1], G. Gomes da Silva[1], J. N. Ribeiro[1], G. Acetoze[2], L. Soares[3], and F. P. Rennó*[1], [1]*University of São Paulo*, *Pirassununga, São Paulo, Brazil*, [2]*Archer Daniels Midland*, *Decatur, IL*, [3]*Pancosma LATAM South*, *Valinhos, São Paulo, Brazil*.

2504V **Effects of dietary capsaicin on performance of dairy cows.**
N. T. S. Grigoletto, C. S. Takiya, M. Bugoni, R. G. Chesini, P. C. Vittorazzi Jr., L. V. B. de Alcantara, A. C. de Freitas, G. Gomes da Silva, D. J. C. Vieira, and F. P. Rennó*, *University of São Paulo*, *Pirassununga, São Paulo, Brazil*.

2505V **Effects of dietary capsaicin on ruminal fermentation of dairy cows.**
N. T. S. Grigoletto, C. S. Takiya, M. Bugoni, R. G. Chesini, P. C. Vittorazzi Jr., A. C. de Freitas, G. Gomes da Silva, N. P. Martins, O. P. Sbaralho, and F. P. Rennó*, *University of São Paulo*, *Pirassununga, São Paulo, Brazil*.

2506V **Effects of capsaicin supplementation on apparent digestibility and physiological parameters of lactating cows during the summer.**
P. C. Vittorazzi Jr., G. Gomes da Silva, N. T. S. Grigoletto, A. T. Nunes, R. G. Chesini, M. Bugoni, L. V. B. de Alcantara, F. M. dos Santos, C. V. de Almeida, and F. P. Rennó*, *University of São Paulo, Pirassununga, São Paulo, Brazil*.

2516V **Evaluation of a rumen-protected B vitamin blend in 3 Upper Midwest dairy farms using robotic feeding and milking equipment.**
E. Evans*[1], C. Gwyn[2], O. AlZahal[3], and E. Fontaine[2], [1]*E +E Technical Advisory Services, Bowmanville, ON, Canada*, [2]*Jefo Nutrition, St. Hyacinthe, Quebec, Canada*, [3]*AlZahal Innovation and Nutrition, Kitchener, ON, Canada*.

2518V **Microencapsulation of antioxidants to improve availability for ruminants.**
S. Benaben[2], D. Bouchut[2], O. AlZahal[3], E. Fontaine[2], and E. Evans*[1], [1]*E +E Technical Advisory Services, Bowmanville, ON, Canada*, [2]*Jefo Nutrition, St. Hyacinthe, Quebec, Canada*, [3]*AlZahal Innovation and Nutrition, Kitchener, ON, Canada*.

Virtual: Physiology and Endocrinology/Reproduction 1

12:00 PM – 12:30 PM

This session will be livestreamed. For more information, please see adsa.org/2022vm.

1524V **In vitro production of neutrophils extracellular traps is affected by the lactational stage of dairy cows. .**
L. Xie[1], O. B. Pascottini[2,3], J. Zhi[1], H. Yang[1], G. Opsomer[2], and Q. Dong*[1], [1]*College of Veterinary Medicine, Northwest A&F University, Yangling, Shaanxi, China*, [2]*Department of Reproduction, Obstetrics and Herd Health, Faculty of Veterinary Medicine, Ghent University, Merelbeke, Belgium*, [3]*Veterinary Physiology and Biochemistry, Department of Veterinary Sciences, University of Antwerp, Wilrijk, Belgium*.

1525V **Serum calcium concentrations, vitamin D metabolites, uterine health, and milk production of cows treated with cholecalciferol prepartum. .**
P. L. Venjakob*[1], R. Staufenbiel[2], W. Heuwieser[1], S. Borchardt[1], G. I. Stangl[3], F. Hirche[3], S. U. Kononov[4], and M. R. Wilkens[4], [1]*Clinic for Animal Reproduction, Freie Universität Berlin, Berlin, Germany*, [2]*Ruminant Clinic, Freie Universität Berlin, Berlin, Germany*, [3]*Institute of Agricultural and Nutritional Sciences, Martin-Luther-University Halle-Wittenberg, Halle/Saale, Germany*, [4]*Institute of Animal Nutrition, Nutrition Diseases and Dietetics, Leipzig University, Leipzig, Germany*.

1526V **Oxygenated lipids correlate with inflammatory status in dairy cows that develop postpartum health disorders. .**
V. Mavangira*[1], J. Brester[1], L. Neuder[1], B. Norby[1], A. Abuelo[1], and L. Wisnieski[2], [1]*Michigan State University, East Lansing, MI*, [2]*Lincoln Memorial University, Harrogate, TN*.

1532V **Association of increased physical activity and subsequent fertility of dairy cows receiving first service based on spontaneous estrus detected by an activity monitor or following a protocol for timed artificial insemination. .**
S. Borchardt*[1], J.-L. Plenio[2], and C. M. Tippenhauer[1], [1]*Clinic of Animal Reproduction, Berlin, Germany*, [2]*Institute for Veterinary Epidemiology and Biostatistics, Berlin, Germany*.

1533V **Effect of reproductive programs that prioritized timed AI or AI at detected estrus on cash flow of cows of different genetic merit for fertility. .**
E. M. Sitko*[1], M. M. Pérez[1], G. E. Granados[1], F. A. Di Croce[2], D. J. Weigel[2], A. M. McNeel[2], and J. O. Giordano[1], [1]*Cornell University, Ithaca, NY*, [2]*Zoetis, Kalamazoo, MI*.

1534V **Selective reproductive management for Holstein cows using digital technology. .**
T. D. Gonzalez*[1], A. Mirzaei[1], A. B. Montevecchio[1], S. Casaro[1], V. R. Merenda[2], J. G. Prim[1], K. N. Galvao[1], R. S. Bisinotto[1], and R. C. Chebel[1], [1]*University of Florida, Gainesville, FL*, [2]*North Carolina State University, Raleigh, NC*.

2496V **The analysis of the ubiquitylomeic responses to *Streptococcus agalactiae* infection in bovine mammary gland epithelial cells.**
J. Tong*, X. Ji, and L. Jiang, *Beijing University of Agriculture, Beijing, China*.

Virtual: Dairy Foods 3

12:00 PM – 12:30 PM

This session will be livestreamed. For more information, please see adsa.org/2022vm.

1505V **Effect of *Bifidobacterium breve* on chemical, microbiological and sensory properties of acidophilus milk.**
H. N. T. Mohamed*, A. M. Hamdy, D. G. Kamel, D. M. Osman, and A. I. Hassan, *Dairy Science Department, Faculty of Agriculture, Assiut University, Assiut, Egypt.*

1506V **Heat-stable liposomes from milk fat globule membrane phospholipids for pH-triggered delivery of hydrophilic and lipophilic bioactives.**
A. Jash* and S. Rizvi, *Cornell University, Ithaca, NY.*

2471V **The tolerance of *Lactobacillus reuteri* and process optimization of probiotic fermented milk.**
S. Cheng, Y. Zhang, C. Man, and Y. Jiang*, *Key Laboratory of Dairy Science, Ministry of Education, Department of Food Science, Northeast Agricultural University, Harbin, Heilongjiang, China.*

2473V **Physicochemical, microbiological and sensory characteristics of yogurt as affected by ingredients that help treat leaky gut.**
R. Aleman*[1,2], D. Olson[1], and K. Aryana[1,2], [1]*Louisiana State University Agriculture Center, Baton Rouge, LA*, [2]*Louisiana State University, Baton Rouge, LA.*

2474V **Effects of carao (*Cassia grandis* L.) on physicochemical and microbiological characteristics of yogurt.**
L. Medina[1], R. Aleman*[1,2], R. Cedillos[1,2], K. Aryana[1,2], D. Olson[1], J. Marcia[3], and C. Boeneke[1,2], [1]*Louisiana State University Agricultural Center, Baton Rouge, LA*, [2]*Louisiana State University, Baton Rouge, LA*, [3]*Universidad Nacional de Agricultura, Olancho, Honduras.*

Virtual: Ruminant Nutrition 3

12:00 PM – 12:30 PM

This session will be livestreamed. For more information, please see adsa.org/2022vm.

1537V **Comparison of hemp meal and canola meal as protein supplements for lactating dairy cows.**
F. Addo*, K. Ominski, C. Yang, and J. C. Plaizier, *University of Manitoba, Winnipeg, MB, Canada.*

1545V **Review of the efficacy of different mycotoxin binders to adsorb mycotoxins in vitro.**
A. Kihal*, M. Rodríguez-Prado, and S. Calsamiglia, *Animal Nutrition and Welfare Service, Universitat Autonoma de Barcelona, Barcelona, Spain.*

2502V **Influence of phytogenic feed additives on performance of dairy cows.**
C. S. Takiya[1], V. C. Ribeiro[1], C. V. de Almeida[1], M. Bugoni[1], P. C. Vittorazzi Jr.[1], R. G. Chesini[1], N. T. S. Grigoletto[1], A. C. de Freitas[1], D. J. C. Vieira[1], A. H. de Souza[2], D. Langwinski[2], and F. P. Rennó*[1], [1]*University of São Paulo, Pirassununga, São Paulo, Brazil*, [2]*Cargill Animal Nutrition and Health, Campinas, São Paulo, Brazil.*

2507V **Effects of partially replacing soybean meal with heat-treated soybean meal or corn dried distillers grains with soluble on N utilization and purine derivatives excretion.**
R. G. Chesini, C. S. Takiya, P. C. Vittorazzi Junior, G. Gomes da Silva, N. T. S. Grigoletto, A. T. Nunes, D. J. C. Vieira, O. P. Sbaralho, M. Bugoni, A. C. de Freitas, and F. P. Rennó*, *University of São Paulo, Pirassununga, São Paulo, Brazil.*

2513V **Supplementing biotin alters rumen odd- and branched-chain fatty acids synthesis in vitro.**
T. F. Zhan, L. Ma, and D. P. Bu*, *Institute of Animal Science, Chinese Academy of Agricultural Sciences, Beijing, China.*

2519V **Effect of glucose oxidase on the quality of whole-plant corn silage by in vitro.**
H. Zhao[1,2], Y. Chen[1], J. Wang[2], D. Bu*[1], and L. Zhao[1], [1]*Institute of Animal Sciences, Chinese Academy of Agricultural Sciences, Beijing China*, [2]*Henan University of Science and Technology, Luoyang China.*

Virtual: Production, Management, and the Environment 1

12:30 PM – 1:00 PM

This session will be livestreamed. For more information, please see adsa.org/2022vm.

1531V **Crossing Holstein with beef breeds to improve feedlot performance, carcass characteristics and economic profits.**
A. Nikkhah* and A. Rezagholivand, *Ferdows Pars Holding Co., Tehran, Iran.*

2497V **Effects of heat stress on blood metabolites and milk quality in lactating Holstein and Jersey cows.**
A. B. Blanton[1], J. G. Carter*[1], and M. W. Hollis[2], [1]*Middle Tennessee State University, Murfreesboro, TN*, [2]*Purdue University, Princeton, IN.*

2498V **Peanut skin as a fed ingredient in dairy cow diets: Effect on milk yield, composition and antioxidant activity.**
L. M. Luque*[1], F. M. Masía[1,2], M. B. Pedraza[1], and M. Larrauri[1,2], [1]*Facultad de Ciencias Agropecuarias, Universidad Nacional de Córdoba, Córdoba, Córdoba, Argentina*, [2]*Consejo Nacional de Investigaciones Científicas y Técnicas, Buenos Aires, Argentina.*

2499V **Annual rhythm of milk fat and protein concentration in Brazil.**
J. P. A. Rezende*[1], P. F. Machado[2], and M. A. C. Danes[1], [1]*University of Lavras, Lavras, MG, Brazil*, [2]*Instituto Clinica do Leite, Piracicaba, SP, Brazil.*

2500V **Individual milk fat and protein concentration as a nutritional tool.**
J. P. A. Rezende*[1], P. F. Machado[2], and M. A. C. Danes[1], [1]*University of Lavras, Lavras, MG, Brazil*, [2]*Instituto Clinica do Leite, Piracicaba, SP, Brazil.*

2501V **Production, reproduction, metabolism, and health of heat-stressed purebred versus crossbred Holstein cows.**
A. Nikkhah* and A. Rezagholivand, *Ferdows Pars Holding Co., Tehran, Iran.*

Virtual: Dairy Foods 4

12:30 PM – 1:00 PM

This session will be livestreamed. For more information, please see adsa.org/2022vm.

2472V **Incorporating conjugated whey protein hydrolysate-based encapsulant in fat-rich matrix improves structure-function interactions.**
K. Gaba*[1,2] and S. Anand[1,2], [1]*Midwest Dairy Foods Research Center, Minneapolis, MN*, [2]*Dairy and Food Science Department, South Dakota State University, Brookings, SD.*

2481V **Influence of sampling variability on the accuracy of standard plate counts of whey samples.**
R. Kalita*[1,2], S. Anand[1,2], and G. Djira[3], [1]*Midwest Dairy Foods Research Center, Minneapolis, MN*, [2]*Dairy and Food Science Department, South Dakota State University, Brookings, SD*, [3]*Department of Mathematics and Statistics, South Dakota State University, Brookings, SD.*

2482V **Preliminary studies on the influence of sodium hexametaphosphate chain length on the physiochemical properties of high protein dispersions.**
B. Zaitoun* and J. Amamcharla, *Kansas State University, Manhattan, KS.*

2483V **Evaluation of biofilm formation and the cleaning efficacy of the milk sampling ports.**
R. Kalita*[1,2] and S. Anand[1,2], [1]*Midwest Dairy Foods Research Center, Minneapolis, MN*, [2]*Dairy and Food Science Department, South Dakota State University, Brookings, SD.*

2484V **Acetic acid fermentation as an alternative for upcycling Greek-style yogurt whey.**
V. K. R. Flores*, T. A. DeMarsh, P. A. Gibney, and S. D. Alcaine, *Cornell University, Ithaca, NY.*

Virtual: Ruminant Nutrition 4

12:30 PM – 1:00 PM

This session will be livestreamed. For more information, please see adsa.org/2022vm.

1536V **Effects of supplementing of rumen-protected folic acid to dairy cows during the periconception period on production and pregnancy efficiency.**
S. A. Elsaadawy[1], Z. Wu[1], and D. Bu*[1,2], [1]*State Key Laboratory of Animal Nutrition, Institute of Animal Science, Chinese Academy of Agricultural Sciences*, *Beijing, China*, [2]*Joint Laboratory on Integrated Crop-Tree-Livestock Systems of the Chinese Academy of Agricultural Sciences(CAAS), Ethiopian Institute of Agricultural Research (EIAR) and World Agroforestry Centre (ICRAF)*, *Beijing, China*.

1538V **Sodium butyrate supplementation affects the gastrointestinal microbiota of dairy calves before weaning.**
Y. Yang[1,2], L. Ma[1], W. Liu[1], and D. Bu*[1], [1]*Institute of Animal Sciences, Chinese Academy of Agricultural Sciences*, *Beijing, China*, [2]*School of Agriculture and Food Science, University College Dublin*, *Belfield, Dublin, Ireland*.

1539V **Risk factors associated with the occurrence of diarrhea in pre-weaned calves at a commercial dairy farm in China.**
Z. Liu[1], H. Yang[1], D. Renaud[2], L. Xie[1], Y. Ma[1], and Q. Dong*[1], [1]*College of Veterinary Medicine, Northwest A&F University*, *Yangling, Shaanxi, China*, [2]*Department of Population Medicine, ON Veterinary College, University of Guelph*, *Guelph, ON, Canada*.

2510V **Effect of sodium butyrate, phytogenic compounds or egg yolk antibodies supplementation in milk replacer on growth performance of dairy calves.**
P. Gorka*[1], J. Milik[2], W. Budzinski[3], M. Przybylo[1], J. Kanski[1], T. Jankowiak[4], and K. Budzinska[2], [1]*University of Agriculture in Krakow*, *Krakow, Poland*, [2]*University of Sciences and Technology in Bydgoszcz*, *Bydgoszcz, Poland*, [3]*Polmas S.A*, *Bydgoszcz, Poland*, [4]*Vetbovis*, *Zydowo, Poland*.

2511V **Effect of phytogenic compounds, egg yolk antibodies or their combination supplementation in milk replacer on growth performance of dairy calves.**
P. Gorka*[1], J. Milik[2], W. Budzinski[3], M. Przybylo[1], J. Kanski[1], T. Jankowiak[4], and K. Budzinska[2], [1]*University of Agriculture in Krakow*, *Krakow, Poland*, [2]*University of Sciences and Technology in Bydgoszcz*, *Bydgoszcz, Poland*, [3]*Polmas S.A*, *Bydgoszcz, Poland*, [4]*Vetbovis*, *Zydowo, Poland*.

2512V **Use of Top Vita P in the occurrence of diseases in Dutch breed calves.**
R. S. Teixeira*[1], A. A. Barbosa[1], L. Marins[1], K. C. Freitas[1], M. B. Medeiros[1], L. R. L. Silva[1], G. F. S. Souza[1], E. G. Xavier[1], V. R. Rabassa[1], C. M. Real[2], M. Real[2], M. Furtado[3], and M. N. Corrêa[1], [1]*Universidade Federal de Pelotas*, [2]*Real H Saúde e Nutrição Animal*, [3]*Instituto Federal Catarinense-Campus Araquari*.

Virtual: Production, Management, and the Environment/ Growth and Development/Extension Education 2

1:00 PM – 1:30 PM

This session will be livestreamed. For more information, please see adsa.org/2022vm.

1515V **Assessment of human resources practices for English-speaking and Spanish-speaking personnel in dairy farms in Pennsylvania.**
M. Martinez[1], E. Ortiz[1], E. Jimenez[1], V. Villena[2], K. Sexsmith[3], and A. A. Barragan*[1], [1]*Department of Veterinary and Biomedical Sciences, Penn State University*, *University Park, Pennsylvania*, [2]*W.P. Carey Supply Chain Management, Arizona State University*, *Tempe, Arizona*, [3]*Department of Agricultural Economics, Sociology and Education, Penn State University*, *University Park, Pennsylvania*.

1527V **HIF-1α is involved in the heat stress response of high-yielding dairy cows.**
X. Zhang*, Z. Hu, J. Cai, D. Wang, and J. Liu, *Institute of Dairy Science, Zhejiang University*, *Hangzhou, Zhejiang, China*.

1528V **Effects of short and long heat stress on liver and mammary gland metabolism and production performance in lactating goats. .**
L. B. Xu*, M. Lv, J. Zeng, J. Mei, and H. Y. Liu, *College of Animal Sciences, Zhejiang University*, *Hangzhou, China*.

1529V **Comparative analysis of the adipose and skeletal muscle transcriptomes in lactating dairy cows under heat stress.**
Z. T. Guo, S. T. Gao, L. Ma, and D. P. Bu*, *Institute of Animal Sciences, Chinese Academy of Agricultural Sciences*, *Beijing, China*.

1530V **An assessment of latent tuberculosis infection and tuberculosis knowledge among US dairy workers.**
A. Rodriguez*[1], D. Douphrate[1], and R. Hagevoort[2], [1]*University of Texas Health Science Center at Houston School of Public Health, San Antonio, TX*, [2]*New Mexico State University, Las Cruces, NM*.

2493V **Paromomycin sulfate as metaphylactic treatment for *Cryptosporidium* spp. control in neonatal calves, comparing 2 rearing systems.**
S. Vázquez-Flores*[1], C. Segura[2], C. Barberi[2], F. Sánchez[2], and O. Galicia[2], [1]*Dairy Consultant, San Miguel de Allende, Guanajuato, México*, [2]*Huvepharma de México, Guadalajara, Jalisco, México*.

Virtual: Dairy Foods 5

1:00 PM – 1:30 PM

This session will be livestreamed. For more information, please see adsa.org/2022vm.

2475V **Acid tolerance, bile tolerance, growth of yogurt stater culture *Streptococcus thermophilus* and *Lactobacillus bulgaricus* as influenced by ingredients that help treat leaky gut.**
R. Aleman*[1,2], D. Olson[1], and K. Aryana[1,2], [1]*Louisiana State University Agriculture Center, Baton Rouge, LA*, [2]*Louisiana State University, Baton Rouge, LA*.

2476V **Optimization of fusion and cell wall regeneration of *Lactobacillus acidophilus* protoplasts.**
R. Page*[1,2] and K. Aryana[1,2], [1]*Louisiana State University Agriculture Center, Baton Rouge, LA*, [2]*Louisiana State University, Baton Rouge, LA*.

2477V **Influence of background microflora on the prevalence of *Listeria monocytogenes* in dairy plants.**
B. Chowdhury*[1,2], S. Minj[1,2], S. Anand[1,2], and B. Kraus[3], [1]*Midwest Dairy Foods Research Center, Minneapolis, MN*, [2]*Dairy and Food Science Department, South Dakota State University, Brookings, SD*, [3]*Wells Enterprises Inc., Le Mars, IA*.

2478V **Partial purification of an antimicrobial peptide produced by *Bacillus subtilis* isolate of membrane biofilm origin.**
S. Jha*[1,2] and S. Anand[1,2], [1]*Midwest Dairy Foods Research Center, Minneapolis, MN*, [2]*Dairy and Food Science Department, South Dakota State University, Brookings, SD*.

2479V **Comparing Nanopore and MiSeq sequencing for genetic determinants of persistent *Listeria* in the dairy processing environment.**
B. Chowdhury*[1,2], S. Minj[1,2], S. Anand[1,2], J. L. Gonzalez Hernandez[3], and B. Kraus[4], [1]*Midwest Dairy Foods Research Center, Minneapolis, MN*, [2]*Dairy and Food Science Department, South Dakota State University, Brookings, SD*, [3]*Young Brothers Seed Technology Lab, South Dakota State University, Brookings, SD*, [4]*Wells Enterprises Inc., Le Mars, IA*.

2480V **Influence of Carao (*Cassia grandis)* on the acid and bile tolerances of *Streptococcus thermophilus* ST-M5 and *Lactobacillus bulgaricus* LB-12.**
D. Paz[2], R. Aleman*[1,2], R. Cedillos[1,2], K. Aryana[1,2], D. Olson[1], J. Marcia[3], and C. Boeneke[1,2], [1]*Louisiana State University Agricultural Center, Baton Rouge, LA*, [2]*Louisiana State University, Baton Rouge, LA*, [3]*Universidad Nacional de Agricultura, Olancho, Honduras*.

Virtual: Ruminant Nutrition 5

1:00 PM – 1:30 PM

This session will be livestreamed. For more information, please see adsa.org/2022vm.

1540V **Effects of choline on gene expression in dairy cow hepatocytes treated with nonesterified fatty acids.**
Z. Liu[1], H. Wang[1], L. Wang[1,2], X. Chen[2], J. Wang[1], J. Yao[1], and Y. Cao*[1,2], [1]*Northwest A&F University, Yangling, Shaanxi, China*, [2]*Harvard Medical School, Boston, MA*.

1541V **Fibrous coproducts of corn and citrus as forage and concentrate sources for dairy cows.**
W. R. Silva*[1], F. R. Carvalho[1], R. B. Silva[2], R. A. N. Pereira[3], T. J. DeVries[4], and M. N. Pereira[1], [1]*Universidade Federal de Lavras, Lavras, Brazil*, [2]*Better Nature Research Center, Lavras, Brazil*, [3]*Empresa de Pesquisa Agropecuaria de Minas Gerais, Lavras, Brazil*, [4]*University of Guelph, Guelph, Canada*.

1542V **Increasing amount of a palmitic acid in the diet increases milk fat yield, milk energy output, and butter oil texture in dairy cows.**
A. Relling*[1], M. Chrusciel[2], N. Porter[1], J. DeSouza[3], and R. Jimenez-Flores[2], [1]*The Ohio State University, Wooster, OH*, [2]*The Ohio State University, Columbus, OH*, [3]*Purdue AgriBusiness, Salisbury, MD*.

1543V **Effect of lipid source supplementation on production responses and butter oil texture in dairy cows.**
A. Relling*[1], M. Chrusciel[2], J. de Souza[3], and R. Jimenez-Flores[2], [1]*The Ohio State University, Wooster, OH*, [2]*The Ohio State University, Columbus, OH*, [3]*Purdue AgriBusiness, Salisbury, MD*.

2514V **Effect of grinding size and incubation time on in vitro starch digestibility.**
C. Heinzen Jr.* and L. F. Ferraretto, *University of Wisconsin, Madison, WI*.

2515V **Effects of saturated fatty acids with lysophospholipids on production in lactating dairy cows.**
N. Porter*, K. Clark, L. Rebelo, J. Copelin, and C. Lee, *The Ohio State University, Wooster, OH*.

Virtual: Breeding and Genetics 1

1:30 PM – 2:00 PM

This session will be livestreamed. For more information, please see adsa.org/2022vm.

1496V **Functional annotation of regulatory elements in cattle genome during rumen development.**
G. Liu*, *Animal Genomics and Improvement Laboratory, Henry A. Wallace Beltsville Agricultural Research Center, Agricultural Research Service, USDA, Beltsville, MD*.

1497V **Innovative consortium building allowing the creation of common models for milk mid-infrared spectra-based predictions.**
N. Gengler*[1], F. Dehareng[2], H. Soyeurt[1], C. Grelet[2], and A. Vanlierde[2], [1]*ULiège-GxABT, Gembloux, Belgium*, [2]*Walloon Agricultural Research Center, Gembloux, Belgium*.

1498V **Flexible testing and use of milk-only records.**
P. M. VanRaden*[1], G. C. Fok[1], L. R. Bacheller[2], G. B. Jansen[2], and J. A. Carrillo[2], [1]*USDA Animal Genmics and Improvement Lab, Beltsville, MD*, [2]*Council on Dairy Cattle Breeding, Bowie, MD*.

1499V **Phenotypic and genotypic impact of milk components and bodyweight composite on dry matter intake.**
S. Toghiani*[1], P. M. VanRaden[1], K. L. Gaddis[3], M. J. VandeHaar[2], and R. J. Tempelman[2], [1]*Animal Genomics and Improvement Laboratory, USDA-ARS, Beltsville, MD*, [2]*Michigan State University, East Lansing, MI*, [3]*Council on Dairy Cattle Breeding, Bowie, MD*.

1500V **Variance parameter estimation for age at puberty phenotypes under 2 levels of phenotype censorship.**
M. Stephen*[1,4], S. Meier[1], M. Price[1], J. E. Pryce[2,3], C. Burke[1], C. Phyn[1], and D. Garrick[4], [1]*DairyNZ, Hamilton, Waikato, New Zealand*, [2]*Agriculture Victoria Research, Bundoora, Victoria, Australia*, [3]*School of Applied Systems Biology, La Trobe University, Bundoora, Victoria, Australia*, [4]*AL Rae Centre for Genetics and Breeding - Massey University, Hamilton, Waikato, New Zealand*.

1501V **The increasing popularity of embryo transfer has implications for US dairy cattle fertility evaluations.**
A. M. Miles*, J. L. Hutchison, and P. M. VanRaden, *Animal Genomics and Improvement Laboratory, USDA, Agricultural Research Service, Beltsville, MD*.

Virtual: Ruminant Nutrition 6

1:30 PM – 2:00 PM

This session will be livestreamed. For more information, please see adsa.org/2022vm.

1546V **Effect of rumen neutralizers on lactation performance, digestibility, chewing, and rumen pH of dairy cows in late lactation. .**
L. C. Resende*[1], C. D. S. Oliveira[1], L. N. Oliveira[1], E. R. M. Ortega[1], C. C. Oliveira[1], R. B. Silva[2], R. A. N. Pereira[3], C. E. Oltramari[4], T. J. DeVries[5], and M. N. Pereira[1], [1]*Universidade Federal de Lavras, Lavras, Brazil*, [2]*Better Nature Research Center, Lavras, Brazil*, [3]*Empresa de Pesquisa Agropecuaria de Minas Gerais, Lavras, Brazil*, [4]*Timac Agro, Porto Alegre, Brazil*, [5]*University of Guelph, Guelph, Canada*.

1547V **Response of dairy cows to rumen neutralizers during an induction of ruminal acidosis.**
L. C. Resende*[1], C. D. S. Oliveira[1], L. N. Oliveira[1], E. R. M. Ortega[1], C. C. Oliveira[1], R. B. Silva[2], R. A. N. Pereira[3], C. E. Oltramari[4], T. J. DeVries[5], and M. N. Pereira[1], [1]*Universidade Federal de Lavras, Lavras, Brazil*, [2]*Better Nature Research Center, Lavras, Brazil*, [3]*Empresa de Pesquisa Agropecuaria de Minas Gerais, Lavras, Brazil*, [4]*Timac Agro, Porto Alegre, Brazil*, [5]*University of Guelph, Guelph, Canada*.

1548V **Effect of different cottonseed types on rumen fermentation and microbial community composition.**
N. Bagheri[1], F. Hentz*[2], and F. Batistel[2], [1]*Utah State University, Logan, UT*, [2]*University of Florida, Gainesville, FL*.

2521V **Feeding amylolytic and proteolytic exogenous enzymes: Effects on ruminal fermentation of dairy cows.**
M. Bugoni[1], C. S. Takiya[1], P. C. Vittorazzi Junior[1], N. T. S. Grigoletto[1], G. Gomes da Silva[1], R. G. Chesini[1], L. V. B. de Alcantara[1], T. Durman[2], and F. P. Rennó*[1], [1]*University of São Paulo, Pirassununga, São Paulo, Brazil*, [2]*Alltech Brazil, Maringá, Paraná, Brazil*.

2522V **Feeding amylolytic and proteolytic exogenous enzymes: Effects on nutrient digestibility, milk yield and composition of dairy cows.**
M. Bugoni[1], C. S. Takiya[1], P. C. Vittorazzi Junior[1], N. T. S. Grigoletto[1], G. Gomes da Silva[1], R. G. Chesini[1], F. M. dos Santos[1], L. F. Costa e Silva[2], and F. P. Rennó*[1], [1]*University of São Paulo, Pirassununga, São Paulo, Brazil*, [2]*Alltech Brazil, Maringá, Paraná, Brazil*.

2524V **Palmitic acid supply and rumen unsaturated fatty acid load on rumen fermentation in a continuous culture system.**
F. Hentz*[1], L. Padilla[2], and F. Batistel[1], [1]*University of Florida, Gainesville, FL*, [2]*Utah State University, Logan, UT*.

Virtual: Breeding and Genetics 2

2:00 PM – 2:30 PM

This session will be livestreamed. For more information, please see adsa.org/2022vm.

1502V **Signatures of selection in Cholistani and Sahiwal cattle breeds of Pakistan.**
H. Mustafa*[1], H. Kaul[1], G. Bilal[2], K. Farooq[3], I. Mohsin[1], K. Jong-Joo[4], and T. Sonstegard[5], [1]*University of Veterinary and Animal Sciences, Lahore, Pakistan*, [2]*PMAS-Arid Agriculture University Rawalpindi, Pakistan*, [3]*Research Center for Conservation of Indigenous Breeds (RCCIB), Jhang, Pakistan*, [4]*Yeungnam University Gyeongsan, Gyeongbuk, Republic of Korea*, [5]*Recombinetics, Minnesota*.

2466V **Comparison of 2 methods of genomic epistasis relationship matrices using daughter pregnancy rate in US Holstein cattle.**
Z. Liang*, D. Prakapenka, and Y. Da, *Department of Animal Science, University of Minnesota, Saint Paul, MN*.

2468V **Genotype by climate zone interactions for fertility, somatic cell score, and production in Iranian Holsteins.**
F. Atrian-Afiani*[1], S. Joezy[2], and J. Jensen[3], [1]*Aarhus University, Aarhus, Denmark*, [2]*Shahr-e-Qods Branch, Islamic Azad University, Qods, Tehran Province, Iran*, [3]*Aarhus University, Aarhus, Denmark*.

2469V **ATAC-Seq analysis to assess chromatin accessibility in lactating and non-lactating goats.**
A. Noce*[1], M. G. Luigi-Sierra[1], A. Martínez[2], M. Wang[1], J. V. Delgado[2], J. Fernández-Álvarez[2], A. A. K. Salama[3], X. Such[3], J. Jordana[3], and M. Amills[1,3], [1]*Centre de Recerca Agrigenòmica (CRAG), Campus Universitat Autònoma de Barcelona,Bellaterra 08193, Spain*, [2]*Departamento de Genética,Universidad de Córdoba, Córdoba 14071, Spain*, [3]*Departament de Ciència Animal i dels Aliments, Universitat Autònoma de Barcelona, Bellaterra 08193, Spain*.

2470V **Variable levels of African introgression in Murciano-Granadina goats.**
E. Petretto*[1,2], M. G. Luigi-Sierra[1], G. M. Vacca[2], A. Martínez[3], J. V. Delgado[3], J. F. Álvarez[3], A. Castelló[1,4], M. Pazzola[2], J. Jordana[4], M. L. Dettori[2], and M. Amills[1,4], [1]*Centre de Recerca Agrigenòmica (CRAG), Campus Universitat Autònoma de Barcelona, Bellaterra, Spain*, [2]*Department of Veterinary Medicine, University of Sassari, Sassari, Italy*, [3]*Departamento de Genética, Universidad de Córdoba, Córdoba, Spain*, [4]*Departament de Ciència Animal i dels Aliments, Universitat Autònoma de Barcelona, Bellaterra, Spain*.

Virtual: Ruminant Nutrition 7

2:00 PM – 2:30 PM

This session will be livestreamed. For more information, please see adsa.org/2022vm.

1549V **Supplementation of low dosages of condensed tannins to dairy cows.**
L. N. Oliveira[1], M. A. N. Pereira[2], C. D. S. Oliveira[1], C. C. Oliveira[1], R. B. Silva[2], R. A. N. Pereira[3], M. A. C. Danés[1], T. J. DeVries[4], and M. N. Pereira*[1], [1]*Universidade Federal de Lavras, Lavras, Brazil*, [2]*Better Nature Research Center, Lavras, Brazil*, [3]*Empresa de Pesquisa Agropecuaria de Minas Gerais, Lavras, Brazil*, [4]*University of Guelph, Guelph, Canada*.

1550V **Dietary protein supply and nitrogen use efficiency of dairy herds located in the Parmigiano-Reggiano cheese production area.**
M. Simoni*, R. Pitino, G. Esposito, T. Danese, M. Renzi, and F. Righi, *University of Parma, Department of Veterinary Science, Parma, Italy*.

1551V **Amino acid profiles of hay-based diets in the Parmigiano-Reggiano cheese production area and the relationship with nitrogen use efficiency.**
F. Righi*[1], M. Simoni[1], S. Cutroneo[2], B. Prandi[2], T. Tedeschi[2], R. Pitino[1], T. DANESE[1], S. Sforza[2], and M. van Amburgh[3], [1]*University of Parma, Department of Veterinary Science, Parma, Italy*, [2]*University of Parma, Food and Drug Department, Parma, Italy*, [3]*Cornell University, Department of Animal Science, Ithaca, NY.*

2525V **Effect of lysine and methionine on mRNA expression of transcription factors by primary bovine mammary epithelial cells.**
B. Li*[1], C. Reyes[1], J. Kim[1], A. Edick[2], M. Fox[1], S. Ahmady[1], J. Doelman[3], S. Burgos[2], and J. Cant[1], [1]*University of Guelph, Guelph, ON, Canada*, [2]*McGill University, Montreal, Quebec, Canada*, [3]*Trouw Nutrition, Amersfoort, the Netherlands.*

2526V **Effects of leucine on rumen microbial community structure during in vitro ruminal fermentation.**
L. Sun[1], T. Brenna[2], L. Ma[1], Z. Wu[1], J. Xu[3], and D. Bu*[1,4], [1]*State Key Laboratory of Animal Nutrition, Institute of Animal Science, Chinese Academy of Agricultural Sciences, Beijing, China*, [2]*Dell Pediatric Research Institute and the Depts of Nutrition and of Chemistry, University of Texas at Austin, Austin, TX*, [3]*Key Laboratory of Economic Plants and Biotechnology, Kunming Institute of Botany, Chinese Academy of Sciences, Kunming, China*, [4]*CAASICRAF Joint Lab on Agroforestry and Sustainable Animal Husbandry, World Agroforestry Centre, East and Central Asia, Beijing, China*, [5]*Hunan CoInnovation Center of Animal Production Safety, CICAPS, Hunan, China.*

2527V **Protected soybean meal and somatotropin supplementation to warm-season grazing dairy cows in mid-lactation.**
M. França*[1], I. P. Telles[1], N. C. Gonçalves[1], B. P. B. Mendes[1], L. Perazzoli[1], A. Hauser[1], A. L. Scheid[1], R. de Almeida[2], A. Vanderlinde[3], A. M. Pedroso[3], I. P. O. Gomes[1], and A. T. Neto[1], [1]*Dep. Produção Animal e Alimentos, Centro de Ciências Agroveterinárias, Universidade do Estado de Santa Catarina, Lages, Santa Catarina, Brazil*, [2]*Universidade Federal do Paraná, Curitiba, Paraná, Brazil*, [3]*Dairy Specialist - Cargill Animal Nutrition, Campinas, São Paulo, Brazil.*

Virtual: Forages and Pastures 1

2:30 PM – 3:00 PM

This session will be livestreamed. For more information, please see adsa.org/2022vm.

1516V **Effect of cutting height, microbial inoculation, and storage length on fermentation profile and nutrient composition of whole-plant corn silage.**
E. C. Diepersloot*, C. Heinzen Jr., B. A. Saylor, and L. F. Ferraretto, *Department of Animal and Dairy Sciences, University of Wisconsin–Madison, Madison, WI.*

1517V **Effects of lower-lignin alfalfa on intake, digestibility, and productivity of lactating Holstein cows.**
M. Ibraheem*[1], K. A. Cassida[1], P. J. Kononoff[2], D. Min[3], K. Jagadish[3], and B. J. Bradford[1], [1]*Michigan State University, East Lansing, MI*, [2]*University of Nebraska, Lincoln, NE*, [3]*Kansas State University, Manhattan, KS.*

1518V **Red clover addition to improve the energy to protein balance of alfalfa-based forage mixtures.**
F. Hassanat*[1], G. Tremblay[1], P. Sequin[2], M. Theriault[1], X. Godin[2], S. Bittman[3], D. Hunt[3], J. Hakl[4], G. Belanger[1], M. N. Thivierge[1], A. Bertrand[1], and A. Claessens[1], [1]*Agriculture and Agri-Food Canada, Québec, QC, Canada*, [2]*McGill University, Sainte-Anne-de-Bellevue, QC, Canada*, [3]*Agriculture and Agri-Food Canada, Agassiz, BC, Canada*, [4]*Czech University of Life Sciences, Prague, Czech Republic.*

1519V **Impact of silage quality and fermentation profile on dairy herd performance.**
H. M. Bong[1], M. Leduc*[2], R. Lacroix[3], D. E. Santschi[3], and K. M. Wade[1], [1]*McGill University, Montreal, QC, Canada*, [2]*Mon Système Fourrager, Montreal, QC, Canada*, [3]*Lactanet, Sainte-Anne-de-Bellevue, QC, Canada.*

2485V **Effect of microbial inoculation and storage length on the fermentation profile and nutrient composition of high-moisture corn ensiled at 2 different dry matter concentrations.**
B. A. Saylor, E. C. Diepersloot*, C. Heinzen Jr., and L. F. Ferraretto, *Department of Animal and Dairy Sciences, University of Wisconsin–Madison, Madison, WI.*

2488V **The effects of increased sorghum berry size on berry processing score and starch digestibility.**
J. M. Piñeiro*[1], J. Bell[1], L. F. Ferraretto[2], D. Druetto[3], J. Goeser[4], E. Coons[4], and A. Hart[1], [1]*Texas A&M AgriLife Extension, Amarillo, TX*, [2]*Department of Animal and Dairy Sciences, University of Wisconsin, Madison, WI*, [3]*Richardson Seeds Ltd., TX, Vega, TX*, [4]*Rock River Laboratory, Inc., Watertown, WI.*

Virtual: Forages and Pastures 2

3:00 PM – 3:30 PM

This session will be livestreamed. For more information, please see adsa.org/2022vm.

2486V **Seasonal variations of the microbiota of corn and alfalfa-grass silage on commercial dairy farms.**
J. Huffman*[1], P. Drouin[2], and G. LaPointe[1], [1]*University of Guelph, Guelph, ON, Canada*, [2]*Lallemand Inc., Montreal, QC, Canada*.

2489V **Innovative microbial inoculants as silage additives in difficult to ensile forage.**
H. Gonda[1], I. Nikodinoska[2], and C. Moran*[3], [1]*Swedish University of Agricultural Sciences, Uppsala, Sweden*, [2]*Alltech European Headquarters, Dunboyne, Co. Meath, Ireland*, [3]*Alltech SARL, Vire, France*.

2490V **Efficacy of innovative inoculants on the silage aerobic stability: A short screening study.**
E. Wambacq[1], I. Nikodinoska[2], G. Haesaert[1], and C. Moran*[3], [1]*Research Centre AgroFoodNature, School of Bioscience and Industrial Technology, University of Applied Sciences and Arts, Ghent, Ghent, Belgium*, [2]*Alltech European Headquarters, Dunboyne, Co. Meath, Ireland*, [3]*Alltech SARL, Vire, Normandie, France*.

2491V **Effect of lactic acid bacteria on silage quality prepared with 2 different forage crops.**
J. Apajalahti[1], O. Siikanen[1], I. Nikodinoska[2], and C. Moran*[3], [1]*Alimetrics Group Ltd., Espoo, Finland*, [2]*Alltech European Headquarters, Dunboyne, Co. Meath, Ireland*, [3]*Alltech SARL, Vire, Normandie, France*.

2492V **Effectiveness of 6 lactic acid bacteria as silage inoculants for aerobic stability improvement.**
F. Ferrero[1], I. Nikodinoska[2], C. Moran*[3], E. Tabacco[1], and G. Borreani[1], [1]*Department of Agriculture, Forest and Food Sciences (DISAFA), University of Turin, Grugliasco, Italy*, [2]*Alltech European Headquarters, Dunboyne, Co. Meath, Ireland*, [3]*Alltech SARL, Vire, Normandie, France*.

Virtual: Lactation Biology 1

3:30 PM – 4:00 PM

This session will be livestreamed. For more information, please see adsa.org/2022vm.

1520V **Knockout of stearoyl-CoA desaturase 1 decreased milk fat and unsaturated fatty acid contents of the goat model generated by CRISPR/Cas9.**
H. Tian* and J. Luo, *College of Animal Science and Technology, Northwest A&F University, Yangling, Shaanxi, China*.

1521V **Metabolomics profiling of blood and milk from dairy cow with different residual feed intake.**
Y. Y. Xie*[1,2], H. Z. Sun[2], D. M. Wang[2], and J. X. Liu[2], [1]*New Hope Dairy Farming Co., Ltd., Chengdu, Sichuan, China*, [2]*Institute of Dairy Science, College of Animal Sciences, Zhejiang University, Hangzhou, Zhejiang, China*.

1522V **Genome-wide profiling of histone H3K9 acetylation in docosahexaenoic acid treated goat mammary epithelium cells.**
J. Wu and J. Luo*, *College of Animal Science and Technology, Northwest A&F University, Yangling, Shaanxi, China*.

1523V **Reactive oxygen species is associated with the cell apoptosis in the involution of the mammary gland in dairy goats.**
C. Wu*, J. Liu, and H. Shi, *Institute of Dairy Science College of Animal Science, Zhejiang University, Hangzhou, China*.

2494V **TMT-based quantitative proteomic characterization of the effects of artemisinin on bovine mammary epithelial cells.**
J. Tong*, C. Pan, and L. Jiang, *Beijing University of Agriculture, Beijing, China*.

2495V **Matrine-chitosan hydrogels for treating subclinical bovine mastitis by intramammary infusion—Effect on milk microbiome and metabolites.**
H. Zhang*, J. Tong, and L. Jiang, *Beijing University of Agriculture, Beijing, China*.

Author Index

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