June 2004 — No. 330

Bulletin

THE AMERICAN PEONY SOCIETY

The Impossible Dream — A Hybridizer's Quest
A Dutch View of the Cutflower Market
Bloom Date Project

APS Publications

As an educational service, APS makes available the following publications for sale:

- THE AMERICAN HYBRID PEONY — 130 herbaceous hybrids and 32 species photos in full color. All named with biographical data. Kessenich and Hollingsworth. Hardcover, 208 pages. $25.00 postpaid.

- THE AMERICAN TREE PEONY — 63 full color photos, detailed history. Featuring the hybridizing efforts of Saunders, Gratwick, Daphnis, Reath, Domoto, Hollingsworth and Anderson. Kessenich with photos by Klehm and Reath. Softcover, 40 pages. $25.00 postpaid.

- THE BEST OF 75 YEARS; 1904–1979 — Culture, history, exhibitions, ratings, nomenclature and propagation techniques all excerpted from APS Bulletins since 1904. Historical articles by Saunders, Auten, Peyton, Wister and Gayle along with the contemporary writings of Krekler, Wild, Hollingsworth, Lienau, Karrels and many others. Kessenich. Softcover, 232 pages, 2nd printing. $15.00 postpaid.

- HANDBOOK OF THE PEONY — Herbaceous and tree peony culture. Peony types and propagation, successful root dividing and grafting, proper planting, how to fertilize, disease control and growing exhibition blooms. Softcover, 100 pages, 8th Edition. $5.00 postpaid.

Please type or clearly print your book order along with your name and mailing address. Send orders with check or money order (payable to APS) to:

Tim Stanek
APS PUBLICATIONS
23329 Ellington Avenue
Glenwood, IA 51537

THE AMERICAN PEONY SOCIETY'S QUARTERLY PUBLICATION

Bulletin

June 2004 – No. 330

Tomorrow is a new day; begin it well. — Emerson

On the cover: IMPOSSIBLE DREAM (Don Smith, 2004)

APS

Board of Directors

Steve Johnson, President

Peter Waltz, Vice President

Roy Klehm, Treasurer

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Administrative

CONTACT INFORMATION

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MEMBERSHIP / BULLETIN

All interested persons are invited to join the American Peony Society and participate in the organization's activities. Dues are paid for January 1–December 31 of any year. The following memberships are offered for US and Canadian residents: Individual $10.00 per year or $25.00 for 3 years. Family memberships $15.00 per year or $35.00 for 3 years. Other annual memberships: Commercial or Contributing $25.00, Sustaining $50.00, Supporting $100.00, Patron $250.00. Lifetime memberships are available for $300.00. All other countries: Annual $20.00 or Triennial $55.00. A subscription to *The APS Bulletin* is included with each membership. Your gardening friends will appreciate gift memberships. Upon request we will send a complimentary gift card in your name. Please note that an application for membership is available on page 125.

2004 DEADLINES FOR BULLETIN COPY & ADVERTISING

March issue – January 20 (release date, February 20)
June issue – April 20 (release date, May 20)
September issue – July 20 (release date, August 20)
December issue – October 20 (release date, November 20)
The APS Bulletin welcomes unsolicited contributions of proposals, manuscripts and photos.

THE AMERICAN PEONY SOCIETY IS A NONPROFIT MEMBERSHIP ORGANIZATION. THE SOCIETY IS ORGANIZED EXCLUSIVELY FOR EDUCATIONAL AND SCIENTIFIC PURPOSES; TO INCREASE THE GENERAL INTEREST IN THE CULTIVATION AND USE OF THE PEONY; TO IMPROVE THE STANDARD OF EXCELLENCE OF THE FLOWER; TO IMPROVE THE METHODS OF ITS CULTIVATION AND METHODS OF PLACING IT UPON THE MARKET; TO INCREASE ITS USE AS A DECORATIVE FLOWER; TO BRING ABOUT A MORE THOROUGH UNDERSTANDING BETWEEN THOSE INTERESTED IN ITS CULTURE; TO PROPERLY SUPERVISE THE NOMENCLATURE OF THE DIFFERENT VARIETIES AND KINDS OF PEONIES; TO STIMULATE THE GROWING AND INTRODUCTION OF IMPROVED SEEDLINGS AND CROSSES OF SUCH FLOWER.

Administrative

REGISTRAR
Art Hartman – APS Registrar, 22809 French Road, Matttawan, MI 49071. Phone/Fax: (269) 668-3217.

SEED PROGRAM
Harvey Buchite – APS Seed Distribution Director, 813 Elm Street, Anoka, MN 55303.

PUBLICATION SALES
Tim Stanek – APS Publications, 23329 Ellington Avenue, Glenwood, IA 51537. E-mail: Tjstanek@aol.com.

2004 EXHIBITION
Don Hollingsworth, Chairman – 28747 290th Street, Maryville, MO 64468. Phone (660) 562-3010; fax (660) 582-8688; E-mail hpeonies@asde.net.

WEBSITE
www.americanpeonysociety.org; Peter Waltz, Webmaster.

2004 CLASSIFIED ADVERTISING RATES
$.20 per word, minimum 20 words—anything set off by spaces is considered a word. Hyphens count as spaces. All classified ads in standard type.

2004 DISPLAY ADVERTISING RATES
New rates effective March 1, 2004.
1/4 page – each ad $15.00
1/2 page – each ad $25.00
Full page – each ad $35.00
Deduct a 10% discount on prepaid standing ads running for four consecutive issues.

President's Message

For me witnessing the annual bud to bloom cycle of a collection of peonies is the apex, the very crowning moment of spring. Poised, hypnotic buds swaying in the breeze fill the air with anticipation and excitement. Beauty fills the landscape canvas with an explosion of colors; bold reds, pastels and creamy whites. Blooming peonies are living proof that heaven is a place called Earth...

Please come join your fellow APS members at this year's annual Show and Convention as we gather to celebrate the Society's one hundred and first year. There are sure to be new varieties to admire and relish, informative seminars, a lovely garden tour and the opportunity to purchase choice plants at auction. A memorial remembrance will be held for our departed colleague and tireless APS contributor, Greta Kessenich.

As my term as President comes to an end, I wish to take this opportunity to thank all those who have lent their support and contributions. Do remember, you are the Society. I look forward to seeing you at the show and hope that you will continue to spread the many joys of growing peonies to others. Long live the Society!

Until then,

Steve Johnson
President, American Peony Society

The real voyage of discovery
consists not in seeking new landscapes
but in having new eyes. – Marcel Proust

2003 Board of Directors Meeting

Submitted for publication by Kent Crossley
Acting Recording Secretary — St. Paul, Minnesota

The American Peony Society Board of Directors met in Chaska, Minnesota on June 15th at 8am. The meeting at the Best Western Suites was called to order and chaired by President Steve Johnson.

Directors present: Steve Johnson, Don Hollingsworth, Peter Waltz, Hans Hanson, Leila Bradfield, Kent Crossley, Bill Countryman, Scott Reath, John Elsley, Roy Klehm and Tim Stanek.

Minutes of the 2002 Board Meeting were reviewed and some issues of importance were discussed:

- Financial Audit–Need for an audit of the finances of the Society was again discussed. A decision was made not to push forward with an audit. Steve Johnson reported that he had seen bank statements and was certain that there were no reasons for concerns regarding the Society's funds. Peter Waltz requested that he be reimbursed for the cost of the Saunders Medals.
- Greta Kessenich has informed Steve Johnson that she wants to serve for the duration of his presidency and retire at the end of that time.
- The dues increase (from $ 7.50 to $ 10.00), which was initiated with the 2003 annual dues, was unanimously approved by the board.
- Allocations of responsibility for assuming Mrs. Kessenich's roles were reviewed.

President's Report Steve Johnson thanked board members for help with this year's show. The location of the 2004 Annual Meeting and Show was discussed. Steve Johnson indicated that he preferred new locations rather than returning to sites we have used in the past. After considerable discussion, the Board unanimously approved the decision to hold the meeting at the Kingwood Center in Mansfield, Ohio. Don Hollingsworth, Tim Stanek and Peter Waltz agreed to assume responsibility for the show. The date will

be selected after Don Hollingsworth talks with the staff at Kingwood. Likely dates will be June 11–13. We discussed other possible locations for subsequent years. There was considerable interest in holding a show in New England.

Gold Medal BARTZELLA, CORAL SUNSET, RED GRACE and HEPHESTOS were nominated for the Gold Medal of the society. CORAL SUNSET was selected as the 2004 Gold Medal peony.

APS Website Review Peter Waltz noted two significant issues: the first is a need for someone to respond on a timely basis to e-mail inquiries. The other was the need to develop a list of growers that can be linked on the website. Don Hollingsworth agreed to work on the inventory of growers for the website.

Greta Kessenich Update Steve Johnson praised Greta for her continuing outstanding work for the Society. He stated that no one else had done as much for the Society in the past year as had Greta.

Registration Peter Waltz showed the Board of Directors a sample of a database containing the names, descriptions, and hybridizers or introducers of peonies. He described the international rules that govern our registration of peonies. These rules vary by time: 1) for those plants introduced in all of the years prior to the first code book in1959; 2) for a period from 1959 to 1995; 3) for those cultivars introduced after the publication of the 1995 International Code of Nomenclature for Cultivated Plants. Peter Waltz wants to list all peony cultivars that are documented in APS publications.

Show Review We discussed the positives and negatives of this year's show. We talked about the potential problems if it had rained. Steve Johnson discussed the auction and how the system might be improved in the future.

Saunders Medals The die for these medals was made in 1968 and given to Peter Waltz by Chris Laning. Each medal contains 1 troy ounce of silver. The die is of a type no longer widely used. Peter Waltz expressed concern about how to obtain new medals. The Board unanimously approved his request to explore and report back concerning the cost of minting additional medals.

Board Members We discussed the present board membership. It was unanimously agreed that Floyd Kimball, Joe Glocka and Chris Laning be made Directors Emeritus and be listed as such in *The APS Bulletin*.

Adjournment The meeting was adjourned at 10:00 am.

American Peony Society Convention

101st Annual Meeting & 99th National Exhibition

Getting There—Mansfield is located on US Highway 30, approximately midway between Cleveland and Columbus, west of Interstate 71 Highway.

➢To Kingwood Center, from US-30, about eight miles west of I-71 exit at Trimble Road, go south to Park Avenue, then east a short distance to the Kingwood Center entrance—there is a parking lot accessed from Trimble Road.
➢Approaching from the south on I-71, exit at State Route 13 and continue northward to intersect Park Avenue in downtown Mansfield, then west about 1.5 miles to Kingwood Center.
➢For unloading at Kingwood Center exhibition area, the service gate at the East Side Street is closest to the work area. Otherwise, use the Trimble Road parking lot.
➢No air passenger schedules go directly to Mansfield—fly into Cleve- land or Columbus, car rentals available.

Convention Hotel—Comfort Inn, 500 North Trimble Road, Mansfield, OH 44906, just south of the US-30 exit to Trimble Road. Phone (419) 529-1000 or (800) 919-9189. The APS convention rate for doubles (1-4 people) and kings (1-2 people) is $65.95, plus tax (currently 13.2%). The room charge includes free deluxe breakfast buffet each morning. Each room has coffeemaker, ironing board and hair dryer. Other hotel amenities include indoor pool, sauna and spa. Mention the American Peony Society convention when placing reservations. A block of rooms will be held for us until the end of May, after which the rate holds, on as-available basis.

Book Sales—APS Book Sales and some back issues of the Bulletin will be available for purchase in Kingwood Center. There will also be an opportunity to purchase new and renewal memberships and check your membership and mailing information.

In the same area, local and regional peony societies are encouraged to display information about their organizations and their activities. The sale of memberships, books and similar materials will also be permitted. Please contact the Show Chairman for table reservations and/or more information. Cost is $10.00 per table.

American Peony Society Convention

101st Annual Meeting & 99th National Exhibition

SCHEDULE OF EVENTS

Friday, June 11
8:00 am Kingwood Center opens.

1:00 pm Exhibit Hall and Workshop area available for preparation. Exhibit containers and water service available. Additional exhibition schedules will be available.

Saturday, June 12
7:00 — 11:30 am Set up and enter exhibits, Meeting Hall.

8:00 am Registration of members and visitors opens.

Book sales and display of service projects and activities of local and regional societies.

11:30 am Meeting Hall closes for judging of entries; workers only until the judging is complete.

1:30 pm Exhibition opens to the public.

2:30 pm Educational seminar, Kingwood Hall, lower level meeting room. Peter Waltz will give an illustrated lecture on his breeding program.

2:30 pm Kingwood Center Gardens Tour led by Bill Collins.

3:45 pm The late Mrs. Greta Kessenich will be remembered at an informal memorial service. Please join Greta's friends and relatives at the gazebo in the gardens at Kingwood Center.

6:00 — 6:45 pm Banquet and meeting room open for dinner seating, beverage service available, Damon's Restaurant, adjacent to hotel.

American Peony Society Convention

101st Annual Meeting & 99th National Exhibition

SCHEDULE OF EVENTS— continued

8:00 pm Program by Don Smith on his research and breeding results within the Itoh Hybrids Group.

Annual Membership Business Meeting: announcements, committee reports, election of directors, etc.

Auction of plants and other donated items.

Sunday, June 13
7:30 am Board of Directors meeting, Kingwood Center Gate House

10:00 am — 5:00 pm Exhibition is open to the public.

Banquet & Meeting Room Location—Damon's Restaurant, Clubhouse Room, 490 Trimble Road, adjacent to the Comfort Inn.

Banquet Sign-up—Advance reservations must be made by Thursday, June 10, to be sure of a seat. Tickets are $29.00, each, which covers cost of meal, gratuity and miscellaneous program expenses. Late reservations may be paid at the Convention, on space available basis.

Specify choice of dinner entrees with your reservations—Damon's Barbecued Ribs, Prime Rib, Grilled Chicken Breast, Jumbo Breaded Shrimp or Ten-Ounce Sirloin, all choices served with coffee or soft drink and a chocolate cake dessert.

Make payment by check or money order (payable to Don Hollingsworth). Send reservations and payment to Don Hollingsworth, Chairman - 28747 290th Street, Maryville, MO 64468.

Questions: Phone (660) 562 3010; fax (660) 582 8688; e-mail hpeonies@asde.net.

American Peony Society Convention

101st Annual Meeting & 99th National Exhibition

ADDENDUM TO 2004 EXHIBITION SCHEDULE

Division VII. Artistic Design Classes

THEME: PEONIES IN THE GARDEN

Class 1 AT THE POND — design featuring peonies and water.

Class 2 THE WOODED GLEN — naturalistic design using weathered wood and/or rocks.

Class 3 THE JAPANESE GARDEN — design in the oriental manner.

Class 4 KINGWOOD — mass design using an urn.

Class 5 GARDEN PARTY — table design in a basket.

Class 6 GARDEN WEDDING — wedding design using white peonies.

Class 7 FORMAL GARDEN — design featuring peonies and a piece of sculpture.

Class 8 SYMMETRICAL DESIGN — design using two containers.

ARTISTIC DESIGN RULES

1. All artistic exhibits must be made by the exhibitor.
2. An exhibitor may make only one entry per class; however, he or she may enter as many classes as desired.
3. Peonies must be used in all designs. Peonies need not be grown by the exhibitor. Other plant material may be used in all classes.
4. Accessories and/or bases may be used in all classes.
5. No artificial flowers or foliages are permitted.
6. Entries must be placed from 8 am to 5 pm, Friday, June 11, and from 7 to 11:30 am, Saturday, June 12, in the Kingwood Meeting Hall.
7. While the show management will exercise due caution in safeguarding exhibits, it cannot assume responsibility for injury or loss.
8. Personally owned properties must be claimed immediately after the show closes at 5 pm on Sunday, June 13.
9. Qualified judges will be used in the Artistic Division, and the decisions are final.

Question

Last edition's featured question.....Last summer I noticed leaf blotch in some cultivars I grow. However, the varieties had all something in common: they all had *officinalis*-blood in their veins. Varieties like CAROL, RED CHARM, BUCKEYE BELLE and *Paeonia tenuifolia* RUBRA PLENA. All had brownish purple colouring on their leaves. It was getting worse during advancing of summer. I suspect it concerns a certain fungus that affects the leaves, causing an excessive anthocyanin production in the plant resulting in the leaf blotch. I don't expect any real reduction in growth; I've seen it before and no bad results then. This year it was very extreme, probably due to the very hot summer we experienced here in Holland. Does anybody know any specifics of this phenomenon, and why does this just occur in the hybrids with *officinalis* as one of the parents?

Ruud Warmerdam – The Netherlands

Please send your questions to *The APS Bulletin* — address on page 57 or cjschroer@kc.rr.com.

& Answer

I'm sure many responders to this question will explain away the "leaf blotch" as a genetically programmed early ripening of the foliage. It is the plant's evolutionary response to its environment during the "creation" of the species. This "fault" doe not affect next year's growth, nor is it likely to be prevented by changes in culture—extra watering, fungicides, etc. (Older long-time growers of lactifloras found little favor with the new hybrid varieties for this reason.) First generation hybrids of *P. officinalis* will inherit this trait, but selective breeding over several generations may eliminate it.

This has certainly happened with OLE FAITHFUL see (Peonies; History of Peonies and Their Originations, p. 117). It is four generations removed from *officinalis* and, in my garden, when the foliage of surrounding herbaceous cultivars (including Lactifloras) is turning black in mid to late fall, OLE FAITHFUL (Glasscock-Falk, 1964) is an oasis of green. It also blooms very late, as late as any lactiflora. It won the APS Gold Medal in 1997. OLE FAITHFUL is reluctant to set seed because its extreme doubleness fosters undersize carpels. Stress it for a year and the next season will see less doubling and well-formed carpels that readily set seed by other tetraploid pollens.

Bill Seidl — Manitowoc, Wisconsin

Bloom Date Project

Michael Denny — Enniskillen, Ontario, Canada

For the last several years a number of peony enthusiasts have been collecting data on the bloom date of a variety of cultivars. My role has been to encourage participation and to organize the data. Currently we have information on about 750 different cultivars and almost 5,400 observations.

Our hope is that the data will provide a useful guide to the time of bloom of a large number of cultivars. Ultimately, it might become the standard reference for nurseries and for those writing books about peonies. This would help reduce the confusion in the current literature, which often gives quite different information about the blooming period for the same cultivar.

There is a long history of APS interest in this issue. My original interest in the topic came from an article reprinted in The Best of Seventy-Five Years (American Peony Society) pp. 191-192; ["First Date of Bloom for 200 Varieties;" APS *Bulletin* 218, June 1976]. Rev. Floyd Miller collected the dates of first bloom for 200 cultivars for 13 years. This data is the foundation for the current project.

Reiner Jakubowski has provided other information about the efforts of the APS and its members to collect bloom data. There were several bloom date projects published over the years, of which the following are some examples. In the March 1930, APS *Bulletin*, Mr. A. B. Cady of Waverly, New York, published a list of bloom dates for about 60 cultivars over six years. There was an unfinished APS bloom date project in the 1970s. Three issues of the 1978 APS *Bulletin* mention the project which had collected data from 137 respondents in 34 States and seven other countries. We do not know what happened to the collected data. Finally, Krekler collected data on the bloom dates of most of the 1,300 varieties he grew at his nursery,

but unfortunately this data is lost. He was the first to promote combining all peonies into one unified flowering period scheme ("Time to Change;" APS *Bulletin* 157, June 1960).

The current project will complete the process of creating a bloom date database. We welcome your participation—my contact information is given at the end of the article. The process is simple. Pick plants that are mature, healthy and growing in relatively full sun. Be sure that you know the identity of the cultivar. Record the calendar date when the plant has its first bloom. At the end of the season, send the list by mail or e-mail to the address given below.

The project has a website: *www.bloomdate.paeonia.com*. At the site, you can see all the available data and download data tables if you wish. The data is freely available. There are also articles, which explain the details of the project and try to promote the growing of peonies over a long six or seven week season. Each year, the data is updated.

We welcome all new participants and thank all of our current data gatherers. We need new data to improve the usefulness of the results. If you have questions or have data to send, I can be contacted by e-mail: mdenny@attglobal.net or by mail: Michael Denny, 1893 Concession Road 7, RR #1, Enniskillen, Ontario, Canada, L0B 1J0.

Thank you to *Horticulture* magazine (June 2004) and *The Avant Gardener* (May 2004) for their support of APS.

2004 Local and Regional Events

CANADIAN PEONY SOCIETY
www.peony.ca
Mary Pratte (613) 746-6070 or gmpratte@sympatico.ca.

June 19 & 20. Annual Show — Rideau Hall, Ottawa. Saturday 7:00 - 10:30 am Placement of blooms by exhibitors; 10:30 am - 12:30 pm Judging; 2:00 - 6:00 pm Show open to public; 5:00 - 6:00 pm Annual General Meeting; Sunday 10:00 am - 4:00 pm Show open to public.

Speaker Series — Ballroom at Rideau Hall and will be 45 minutes in length, unless otherwise stated. Open to the public; tickets are not required. Seating will be on a first come basis. Whether you are an avid peony collector or someone who would like to learn the basics of growing peonies, come and join us! Saturday 2:00 pm Answers to All Your Peony Questions (English and French) Ed Lawrence (Outside directly in front of Rideau Hall); 3:00 pm Discovering Herbaceous Peonies (French) Claude Quirion; 4:00 pm Rediscovering the Peonies of Métis (English) Mary Pratte and Alexander Reford; Sunday 10:30 am How to Choose and Grow Great Peonies (English) Lindsay D'Aoust; 11:30 am The Importance of Growing Canadian (English) Reiner Jakubowski; 12:30 pm Rediscovering the Peonies of Métis (French) Mary Pratte and Alexander Reford; 1:30 pm New Peonies Via Deliberate Effort (English) (90 Minutes) Don Hollingsworth.

August 7. Tree Peony Grafting Seminar — Royal Botanical Gardens (Rooms 3 & 4), Hamilton, ON, 10 am until noon. Bring your own scions if possible. Current season's growth is easier to work with, but older woody growth has been shown to work well, too. Try for a couple of buds per piece of stem, or bring a longer stem and trim to suit at the session. Trim off the leaves. We will try to have enough herbaceous nurse roots. Items you should bring include single edged razor blades (hardware store paint department), small piece of wood to serve as a cutting board, ¼-inch wide elastic bands, tags to label grafts and pen and paper to take notes.

2004 Local & Regional Events

HEARTLAND PEONY SOCIETY (Greater Kansas City)

www.peonies.org

Louanna Simmons (913) 432-5305 or grnstuff@kc.rr.com.

April 28 & May 1-2 & 4. Linda Hall Library Garden Tours — Open to the public: 4 pm - 6 pm on April 28; Noon - 2pm on May 1; Noon - 2 pm on May 2; 4 pm - 6 pm on May 4. 10 am - Noon on May 1 for members only; refreshments.

May 16. Garden Tour - Open gardens for membership only. Visit four members' gardens in Overland Park, Stilwell and Leawood, Kansas; Noon - 4 pm. Addresses and maps available in the spring newsletter.

August 14. Tree Peony Grafting Workshop — Loose Park Garden Center (Rose Room), Kansas City, Missouri; 9 am - Noon. Participants will get hands on experience in the technique of grafting tree peonies. Any plants you graft will be yours to take home. $20 fee for supplies.

October 2. Annual Potluck Dinner, Meeting and Plant Auction — Joe and Claudia Schroer's home in Gladstone, Missouri. Date and agenda for Peony Day to be announced.

MAINE PEONY SOCIETY

Ken Liberty (207) 945-9726 or keliberty@aol.com.

June 19. Garden Tour — Bangor, Maine, 10 am - 3 pm.

MINNESOTA PEONY SOCIETY

Harvey Buchite (763) 754-8090 or info@ricecreekgardens.com.

June 19 & 20. Peony Show — Rice Creek Gardens (seven miles north of Highway 694 on the west side of Highway 65). Exhibitors can bring blooms to set up for display on Friday, June 18, from 3:00-8:00 pm and Saturday 8:00-10:00 am. The show is open to the public from Noon-5:00 pm on Saturday and 10:00 am-5:00 pm on Sunday. A number of members indicated an interest in learning how to judge peonies and we will meet at 9:00 am on Saturday, June 19 for orientation, instruction and appointing teams. Please bring your notes from the MPS Newsletter about what a judge is looking for when selecting for ribbons and awards. We will have some members available who have judged other

flower classes, County and State Fair flower exhibits to lead the judging teams. All interested members are welcome to join in!

PACIFIC NORTHWEST PEONY SOCIETY

www.pnwpeony.org

Carol Adelman (503) 393-6185 or carol@peonyparadise.com.

May 22. Bloom season bus trip from the Portland area to acquaint gardeners with the array of peonies available locally. The peony-lovers bus tour will provide a rare opportunity to experience the widest varieties of peonies imaginable! Visit four Willamette Valley peony specialty nurseries. A box lunch is included in the $20 fee.

June 8–9 & 12–13. Flower Shows — Classical Chinese Garden in Portland on June 8 and 9 and at the Oregon Garden on June 12 and 13. These are non-competitive shows to present the public with the wide range of flower colors and types available in peonies. Society members will be present to answer gardener's questions. On Sunday, June 13 there will be a flower arranging demonstration by Jack Richards, AIFD at the Oregon Garden Education Building.

PRAIRIE PEONY SOCIETY (Regina, Saskatchewan)

Brian Porter (306) 586-9598 or BPorter@agr.gov.sk.ca.

Our society held its annual meeting on March 11. Brian Porter was re-elected as President, and Gladys Sykes was re-elected as Treasurer and Membership Chairperson. Susan McKay filled the Secretary position.

June 24-26. Annual Show —Victoria Square Mall, and a tour of the perennial flower beds on the grounds of the Legislature Building and one member's private garden.

A plant sale is scheduled for September. We continue to publish our newsletter with educational articles for those members located in other parts of the prairies. We are also excited about the prospect of hosting the Canadian Peony Society Show again in 2005, and although CPS has not formally selected a site as yet, we don't anticipate invitations from others in Western Canada for that year.

APS Popularity Poll

Editor's note: In the March issue of The APS Bulletin this feature could have been called "What was I thinking?" Thank you to the readers who pointed out my gaffe. Please note the revised instructions for casting ballots. — Claudia Schroer

Name your top 10 favorite peonies as seen in your garden and/or other gardens, within your regional district, in 2004. Please categorize each of the peonies as (H)erbaceous, (T)ree or (I)toh/Intersectional. Registered peonies only.

Family (Household) annual and triennial memberships may cast two (2) ballots. All others are entitled to one ballot.

Send your ballots by e-mail: cjschroer@kc.rr.com, or to APS, Popularity Poll, 713 White Oak Lane, Gladstone, MO 64116-4607. Be sure to include your name and postal mailing address on the ballot, so that your membership can be verified. All ballots must be received by August 1, 2004. Votes will be tallied overall and by the nine APS districts listed opposite.

If your bloom season is at a time not covered by this poll, please write a short synopsis of your bloom season to be published in the *Opinions & Observations* section.

Popularity Poll results will be reported in the September 2004 edition of *The APS Bulletin*.

You cannot do a kindness too soon,
for you never know how soon
it will be too late.— Ralph Waldo Emerson

Regional Districts

District 1. Maine, New Hampshire, Vermont, Massachusetts, Rhode Island and Connecticut.
District 2. New York, New Jersey, Pennsylvania and Delaware.
District 3. Maryland, West Virginia, District of Columbia, Virginia, Kentucky, Tennessee, North Carolina, South Carolina, Georgia, Florida, Alabama and Mississippi.
District 4. Michigan, Ohio and Indiana.
District 5. Illinois and Wisconsin.
District 6. Minnesota, Iowa, North Dakota, South Dakota, Nebraska, Montana and Wyoming.
District 7. Missouri, Kansas, Colorado, Oklahoma, Texas, Arkansas, Louisiana and New Mexico
District 8. Washington, Oregon, California, Idaho, Utah, Nevada and Arizona.
District 9. Canada, Alaska and all other areas not embraced in other districts.

Important information about your membersip on page 123.

Seed Distribution Program Update

Harvey Buchite, Director
Blaine, Minnesota

We have had a great number of requests for almost every type of seed listed. And, we still have a good selection available for planting this season. Please include a reasonable number of substitutes with your request so we can fill your order with the seeds that you prefer. Please refer to the listing in *The APS Bulletin* No. 329 for available seeds, fee and address.

Think about letting a few seeds develop this season to share with the Seed Distribution Program. It is most helpful if the seed parent and other information is listed—such as, if they are from hybrids or tree peonies with the color and type of bloom (single, Japanese, double, etc.). If received by November, we can get a new listing in the spring issue of *The APS Bulletin* and most seed distributed in time for spring or summer planting. The recipients have been so happy to receive the seed from our generous donors. Thank you all!

PEONY SPROUTS

Elizabeth Babb — Yarmouth, Maine

Maine seems to have a later spring than anywhere else in the lower 48 states! When midwestern growers are reporting stalks several inches high, I'm just beginning to look for buds in newly unfrozen earth. "Did my precious *Paeonia Mlokosewitschii* survive this gruesome winter with several weeks below 0° F and only an inch or so of snow cover?"

I'm glad to report that "*Mloko*" did survive, and so did the little seedlings I trucked across the country to Maine last spring after retiring from life in Seattle, some 3,600 miles away. Out of the 100 herbaceous seedlings I inspected in early April, only three did not show a lively bud. Another pleasant surprise was to see good buds on three little micro-cultured "seedlings" that went into the ground last fall, intersectional hybrids. Shadier parts of the garden were still frozen.

Growing these seedlings has been quite a learning experience. Many past and present members have commented on the long growing cycle to get to bloom from a new seedling. Yet the results of my experiment with six-month cycles (three months to grow above ground, then three months of root growth and dormancy) seem to be doing well. As with new root divisions, the amount of root mass seems more critical than age. In this, their second calendar spring, I'm seeing some fairly robust buds.

The micro-culture techniques used to create intersectional "seedlings" also seems validated by my experience thus far. I'm led to wonder if it isn't time to push our knowledge boundaries once again. If we could understand more precisely how peonies function, could we overcome some of our current perceived limitations? Exactly what can bring on a satisfactory dormancy? Is cold the only way? How do temperature move-

ments affect peonies? Do peonies actually feed via their foliage after their blooms fall? When should a peony be fertilized for best growth?

Yes, I know we have answers in earlier writings. But now we could possibly form more accurate opinions from research conducted to more rigorous standards and with better tools—AND using peonies as the subject of research. The Pacific NW Peony Society this spring invited a grower from New Zealand to tell of his experiences in the southern hemisphere. One feature that stood out was his constant reference to the value of research sponsored there by the growers, so they could use time and resources better. The speaker, Tim McKergow of Janefield Peonies, quoted a variety of studies, including one finding that no starches were conveyed from peony leaves to roots after flower petals fell away.

Similarly, by the time lactiflora petals fall, the ground is often dry, making it unlikely that tender feeder roots are functioning. So, will root feeding really occur? Suppose home gardeners water their peonies to keep foliage fresh and green, or use landscape paper and wood chips to keep the soil underneath evenly moist. Will this change anything? Will root feeding occur in the months after bloom but before Labor Day? As a starting point, we might compile and assess our present knowledge of peony "facts." Are our common beliefs really supported by specific measurements, or are they just broad guesses from what we can see with the naked eye? Have we inadvertently adopted conclusions based on research with other plants—which in fact may not be true for peonies?

Several university-based peonyphiles who contribute to the Yahoo peony group (groups.yahoo.com/group/peony) have suggested the possibility of offering research grants to interested graduate students for peony-related projects. Beside our direct benefit of more accurate knowledge, the activity itself might awake an interest in peony culture in that classroom

that could carry over into the students' future employment. Peonies might gain life-long friends and advocates.

WHAT SAY, ANYONE?

Should the APS consider this kind of support a useful activity? It is national in benefit, rather than local. Should projects be geared to peony culture at home vs. large growers? Or can we assume that anything that benefits professional growers will ultimately benefit the home-grower, as well? Perhaps a special fund could be set up to receive donations from interested members—and a yearly application process for grants?

Send your ideas and responses to: Peony Sprouts; The APS Bulletin—713 White Oak Lane, Gladstone, MO 64116-4607 USA.

2004 Convention Notes

APS Publications — and some back issues of *The APS Bulletin* will be available for purchase in Kingwood Center. There will also be an opportunity to purchase new and renewal APS memberships.

Local and regional — peony societies are encouraged to display information about their organizations and their activities. The sale of memberships, books and similar materials will also be permitted. Cost is $10.00 per table. For table reservations and/or more information, contact Don Hollingsworth, Exhibition Chairman — 28747 290th Street, Maryville, MO 64468. Phone (660) 562-3010; fax (660) 582-8688; hpeonies@asde.net.

Creative thinking may mean simply the realization that there's no particular virtue in doing things the way they always have been done. — Rudolf Flesch

Congratulations!

Recently, one of our APS Board of Directors, Bill Countryman, received a much-deserved honor for his work as an educator and naturalist. In recognition of his service and accomplishments, Norwich University has conferred on him an honorary degree of Doctor of Science.

Mr. Countryman served on the faculty of Norwich University from 1943 through 1974. He became a Full Professor in 1961 and served as Chair of the Biology Department from 1961 *to* 1969. He left Norwich University in 1974 to pursue a second career in environmental consulting. He founded and still runs his company, Wm. D. Countryman Environmental Assessment and Planning. Formally trained in areas of zoology and botany, Professor Countryman has become an expert on New England's flora and fauna.

Beyond Norwich University, Mr. Countryman is recognized as a leading naturalist and an expert on aquatic plants. He has performed ecological studies and assessments throughout New England and has published numerous scientific articles. For his work with endangered species, the U.S. Fish and Wildlife Service honored Mr. Countryman with its Service Citizen's' Award in 1979. He was elected a Fellow of the Vermont Academy of Arts and Sciences in 1988; is a Certified Fisheries Scientist of the American Fisheries Society since 1971; was a member of the Vermont Environmental Board, 1975-1977 and a member of Vermont Water Sources Board, 1983-1989. The central theme throughout his work is concern for protecting natural environments.

The American Peony Society has benefited from Bill's retirement hobby, Countryman's Peony Farm on Winch Hill in Northfield, Vermont. Thank you, Bill, for your service and support of the American Peony Society and congratulations Dr. Countryman!

Important Information about your Membership on Page 123

The Impossible Dream

Donald Smith — West Newton, Massachusetts

INTRODUCTION & HISTORICAL PERSPECTIVE

Around these parts (Massachusetts and New England), when someone mentions "the impossible dream," they are usually referring to the Red Sox "miracle" season of 1967, when the Red Sox made it to the World Series. Though the Sox were not victorious that year, just getting to the World Series was enough to fulfill the "dream" for many loyal Red Sox fans. Elsewhere, however, reference to The Impossible Dream would likely conjure up the melody from the famous song by the same name from the Broadway show, *Man of La Mancha*.

In the peony world, however, "the impossible dream" has long been used in reference to the cross between the herbaceous and the tree peony types. It has been the dream of peony lovers and hybridizers alike to create the "perfect" peony by combining the best characteristics of these two distinct and beautiful groups of beloved peonies. Professor A. P. Saunders (1869–1953), America's most famous and successful peony breeder considered this cross to be virtually impossible and may have been the first to coin the phrase "the impossible dream." Although he had succeeded at crossing "just about everything" to "everything else" in the peony world, he assigned top place among the failures to the attempt to cross the tree peonies with the herbaceous types. Scores of others had also tried and failed with this cross over the past several hundred years.

Eventually, after centuries of failure and disappointment, the seemingly impossible happened. A Japanese nurseryman, Toichi Itoh, successfully crossed a double yellow tree peony with a white herbaceous variety, producing several herbaceous plants with large, bright yellow, semi-double flowers and thus creating a totally "new race" of hybrid peonies, now known as intersectional or Itoh hybrids. The discovery of this extraordi-

nary achievement was made by Louis Smirnow during one of his many trips to Japan and he later brought the remarkable story to the attention of the world in 1967 (*The APS Bulletin*; No. 184, March 1967). This article was also reprinted in The Best of 75 Years (American Peony Society; 1979, p. 52).

From the original article—

"It is now my great privilege to announce the almost unbelievable discovery of seven new full double herbaceous peonies—large flowered, true yellow doubles. The full story is as follows: In 1948, Mr. Toichi Itoh, a famous hybridizer, decided to use tree peony pollen on a white herbaceous. He was aware of the peculiarity of the chromosome count of ALICE HARDING tree peony (called KINKO in Japan) and felt such a cross should be successful. Because of the lateness of the season in Tokyo, he sent his assistant, Shigao-Oshida, who was his son-in-law, to Niigata Prefecture for the pollen. The cross was made in twelve hundred plants, using pollen of ALICE HARDING on a white semi-double herbaceous NANCE KAKODEN. Only 36 fertile seeds were had from this crossing. Nine of the seedlings were almost tree peony in appearance and the others were more herbaceous. The seedlings had buds in 1956 for the first time but the buds died immature. In the same year, Mr. Itoh died and his assistant was left with the care and development of the plants. In 1963, these plants bloomed for the first time and the flowers were really exciting. They were yellow, pure and bright; the stems were perfectly upright. The foliage is almost tree-peony like in appearance and the stems die down each winter. These hybrids are heavy feeders and do very well when fed properly. Six have been selected worthy of introduction, of these, only four are available for immediate introduction, the other two at least a year or two later. We now have a very few of each of the four."

"When we visited Japan this fall, we prevailed upon Mrs. Itoh to let us have exclusive handling of these peonies and we are fortunate to be given exclusive control."

"We are now in the process of arranging the patenting of each of these, along with another yellow, described later. First offering will be made in 1967, if we can obtain a few of each variety, otherwise-a year later."

"The names of the four yellows are YELLOW HEAVEN, YELLOW DREAM, YELLOW CROWN and YELLOW EMPEROR."

Almost lost in this stunning announcement was the second part of this remarkable discovery, which appeared in the next paragraph.

"It is almost universally believed that tree peonies cannot be crossed with herbaceous. This has been tried many times, without success. Mr. Itoh, astute and determined, continued his experiment with tree peony pollen on a white herbaceous. The pollen of a pink tree peony was used. The cross was made in 1949 and several varieties will be available for future introduction. Two varieties are now in our garden and will be available in 1967. They are called PINK HEAVEN and PINK PURITY. The former, we are informed, has flowers 12 inches across full double, no stamens showing, bright pink with deeper pink towards the center, free blooming quality. The latter is almost as large and both plants grow 36 inches tall, strong stems."

Together, these remarkable discoveries appeared to end the long quest for the "impossible dream." Surely, the color photos of the four Itoh "yellows" and the two "pinks" that appeared in the Smirnow catalog were more than sufficient evidence that the search was, indeed, finally over. (See *Paeonia*; Vol. 30, No. 2, p. 3-4.)

Unfortunately, some of the euphoria surrounding these discoveries was relatively short-lived, for it soon became known that half of this newly found treasure was lost. Sadly, this second group of extraordinary intersectional hybrids had apparently been lost to the peony world even before any of these remarkable plants had been distributed to the public. This sad news was reported for the first time in 1972 when the following announcement appeared in an article by Louis Smirnow in *The APS Bulletin* (No. 203, September 1972) and also reprinted in The Best of 75 Years (American Peony Society; 1979, p. 57).

"It has come to my attention that someone stated that the "Itoh hybrids" which we introduced in this country were confined only to a cross between a Lutea hybrid (ALICE HARDING) and a white semi-double her-

baceous. Actually, crosses were also successfully made between a Japanese tree peony KAGURI JISHI and the herbaceous white KAKODEN. The result was several varieties of large pink doubles, two of which we have named PINK SYMPHONY and PINK HARMONY. The entire group is lost to commerce, however, because a large Japanese railroad company took over the entire property on which these pinks grew and destroyed the whole planting."

With the reported loss of these remarkable plants, a central piece of the "impossible dream" was missing and the search to retrieve it was underway once again. To make matters worse, some of the facts surrounding this important announcement were rather vague and inconsistent. For example, there was no further mention of the two plants that were said to have been in the Smirnow garden on Long Island. As a result of these issues, many became skeptical as to whether these new hybrids ever really existed. Others, however, were extremely hopeful that these hybrids could be quickly re-created now that the secret was finally out, and initially, there were numerous attempts made to duplicate these remarkable hybrids. As time passed, and no new hybrids of this type were reported, hope rapidly began to fade. In time, many hybridizers simply gave up in frustration and concluded that this particular cross was indeed the real "impossible dream." Eventually, however, there were two reports of success with this cross (several plants produced by Leroy (Roy) Pehrson and Peter (Chris) Laning) and hope was once again renewed, but these too resulted in disappointment when the flowers from these plants turned out to be incomplete and unattractive. From that point on, the "impossible dream" seemed even more impossible than ever.

In marked contrast, during this same period, several hybridizers, including myself, were having good success in re-creating Itoh type yellow intersectional hybrids using the pollen from many different lutea hybrid tree peonies on various herbaceous varieties. This experience only served to re-enforce the growing perception that those "other" intersectionals prob-

ably never really existed in the first place. To the present day, this seems to remain the majority view.

A REMARKABLE BREEDING MILESTONE

Now, more than 35 years after the original announcement by Louis Smirnow, it is my great pleasure and privilege to announce that the quest for the "impossible dream" has finally come to an end. On June 11, 2003, a remarkable new intersectional hybrid peony bloomed for the first time in my garden. This plant originated from a cross between STOLEN HEAVEN (Smirnow, 1964), a white semi-double Japanese tree peony, and a pink, single herbaceous (lactiflora) variety, known as MARTHA W. I had been waiting six long years for this plant to bloom and I am very happy to report that it was well worth the wait.

For weeks, I had been staring at the ten large buds sitting atop the very tall and straight stems of this plant wondering what they would finally reveal. Would they resemble the beautiful flowers in the photographs published in the Smirnow catalog more than 35 years ago or would they be just another cruel disappointment such as those experienced by the late Leroy (Roy) Pehrson? More likely, the flowers would turn out to be singles with good petals and I would be forced to wait at least another year to see if they would become more double in their second year of bloom, as is the case with so many of the first year intersectionals. As the buds continued to grow even larger, one thing was becoming quite obvious: whatever these flowers would turn out to be, they would certainly be very large. But, would they be double and beautiful as well? As each day slowly passed, my excitement and anticipation continued to grow exponentially.

Then, as I approached my garden from a distance on the morning of June 11, 2003 it became clear that this was the day I would finally get my answer. My heart began to race in an-

continued on page 93

A Dutch View of the Peony Cutflower Market

Paionia — Lutjebroek, The Netherlands

FLOWER AUCTION — JOSHUA SCHOLTEN

It all started 15 years ago when we decided to take a new path with our family business: we could choose between continuing to grow tons of tulip bulbs or invest money in the more exclusive peony. Finally we decided to focus on the business of peony growing.

We started off with regular varieties such as SHIRLEY TEMPLE, SARAH BERNHARDT and KARL ROSENFIELD. After having grown those varieties for a few years, we decided to specialize in the more exclusive peonies. The variety of peonies solely depends on individual preference. One of the decisive factors was that we wanted to grow the customer's favorite peonies, as well. Thus it is not merely our own preference with regards to the flower's characteristics (colour, double-ness, fragrance, etc.), but the price we get per stem counts, too.

Most peonies are taken to the flower auctions. The price that buyers pay depends on the mechanism of supply and demand. In short, the peony's characteristics and the prices paid at the auction are the two basic elements for a peony variety to be successful or to fail. Our company tries to enrich the flower market with new and exclusive varieties of top quality peonies. In our opinion, overproduction of peony cutflowers will harm the outstanding name of the peony. Promoting new peony varieties is not as easy as it may seem. To start off one has to listen to the market: "I like the fragrance of that yellow one!" "Have you seen those dark red anemone-type ones?" "I wish I could have a bunch of orange peonies in a vase at my home." One has to do one's homework thoroughly, before a decision is made to try and grow new varieties.

The three golden rules are: 1) PREPARATION, 2) PREPARATION and 3) PREPARATION.

Another very important issue is the infrastructure of the cutflower trade. The way of coping with that is to be a professional in every respect.

A few years ago our friends, Denis Wilson and Judy Perry, visited us from Australia. They made a trip to our peony gardens and to one of the world's largest flower auctions called, "Flora Holland." The following is an excerpt from a letter (dated June 13, 2002) with their impressions of the visit. We feel that this excerpt offers some insight of the cutflower industry in our area.

Dear Joshua: We went to the Flora Holland in Rijnsburg and we were given a guided tour, even though I was first told that it was not possible and that we would have to go to the bigger auction-house closer to the airport. So it all ended well. We saw the whole system in operation and we were allowed to walk around the floor where all the electric trolleys were rumbling around to the purchaser's sorting and packing rooms. We also watched through the glass at the actual auction room. That was all pretty mysterious to us, how the buyers keep track of which lots are coming up on which "clock." I could see that they had advance notice of the next 3 or 4 "lots" on one clock, but keeping track of the entire traffic of flowers across all 5 clocks looked bewildering to us. Anyway, thank you for telling us where to go and how to find the place, etc. I would never have had the courage to just "roll up" at the door and ask for admission otherwise. It is such an amazing operation and so professionally organized. Having been with you and your family the evening before, to see the flowers being sent off to market and then being able to see the next stage of the process the next morning, watching flowers such as yours being sold and dispatched, was fascinating. We did not see any names or codes that looked familiar as being your flowers in particular—but of course there are so many!!! But our visit to your farm and then the auction the next morning really was the highlight of our trip. More generally, we both loved the trip to The Netherlands and I was really interested that the countryside looked so healthy. I was concerned that with so much agriculture in such a small area, the insect life, etc. might be being poisoned off. But I saw more water birds (geese, duck, etc.) on the fields near your property than I saw in the rest of my entire trip. Also, the people were very friendly and helpful, which made travelling as tourists in The Netherlands a very pleasant experience. — Denis

FLORISTS — JEREMY SCHOLTEN

Although a lot of companies emphasize the ever-growing ways of selling a product, we at Paionia believe that our spearhead remains the ongoing battle for the renewal of the peony market. Therefore, we are looking forward to the Dutch Peony Show, June 1–4 in Lisse. This event will enable us to see what is new and what is going on in the peony cutflower market. By enhancing the product itself through introducing new varieties like PINK HAWAIIAN CORAL and CORAL SUNSET, the whole outlook on the product will change. Buyers will see and find new potential. Creating a wider audience for the cutflower market, simply through enriching it with quality. More peony publicity and awareness informs customers of availability. Informed customers are easier to work with because they know what they want and the florist will order accordingly. Also the fact that peonies are only available for a short time is another issue. Because many of the exclusive peonies are put into propagation, it takes longer before they are available for the cutflower market. Only when exclusive peonies are offered in large amounts and for a fair price, will it boost the market. Being a pioneer can be a risky business, but it can also pay off like it did when we introduced RED CHARM. With that variety we decided to buy all available cuttings, thus creating a monopolistic vacuum from which we profited greatly.

BOUQUETS — TINI SCHOLTEN-KEEMAN

Peonies offer such great magnificence—I just can't take my eyes off of them. As my grandmother used to say, "One gets tired from watching."

To extend the time that we can enjoy our most favorite flowers, I use different tactics. To start off with, every year we take a tour around various peony gardens to take photos and films of the latest varieties. Through that, we are able to still enjoy the splendor of these flowers in wintertime as well. I tend to store peonies in the refrigerator at night, especially the rare

varieties, so we can enjoy them for a much longer period. Peonies that scatter (lose their petals relatively quickly) are placed on a flat dish, after they have been stored in a cold storage room for a few days. That way they last longer.

I have worked in the peony business for many years. Finally I have found my favorite chore in this business: composing bouquets and photographing them. At auction fairs, I collect and buy fancy old utensils that can be used in combination with my bouquets. When I am done with my composition, I display them in our village and await the reactions of visitors. Their responses greatly help me to improve my compositions. RED CHARM, CORAL CHARM, CORAL SUNSET and ETCHED SALMON normally get the best results.

Whenever I present someone with a bouquet, I always see to it that it contains a few peonies with a strong scent, for example BIG BEN. The scent stands out amongst the colors and design.

continued on page 122

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Impossible Dream (Donald Smith, 2004)

Reverse Magic (Donald Smith, 2002)

THE IMPOSSIBLE DREAM — continued from page 83

would finally get my answer. My heart began to race in anticipation. From more than 100 feet away, I could see several huge pink flowers waving proudly in the cool spring breeze. I remember saying out loud, "Oh my God!" I began to run as the anticipation became almost too much to bear. As I entered the garden, now only a few feet away, I realized that I was about to experience the ultimate joy of seeing a dream come true. Clearly, the answer to both questions was a resounding, "YES!" At that moment, the only word that came to mind was, WOW! The flowers were more than just beautiful—they were really quite spectacular. In fact, they were just about everything I had hoped they would be. They were very large, very pink and very beautiful. Unquestionably, this was the largest and finest pink intersectional hybrid that I had ever seen.

I stopped for a few minutes to enjoy the moment. I thought about the first time I laid eyes on my son and my daughter. I thought about how blessed I felt, how lucky I was to have succeeded where so many others had failed. Then, I thought about the fact that I was the first, and at that moment still the only, person in the entire world who had seen this beautiful new creation. It was then I realized that extraordinary moments like these are the magic and the lure of hybridizing. They are, of course, the reason we spend so many hours in the garden and in the house working with pollen and seeds and plants, only to wait so many years to finally see the first bloom. It is the hope we can create something of true beauty, which will last for the ages that gives us the patience and the perseverance to keep trying.

PLANT & FLOWER DESCRIPTION

The Plant: First and foremost, this new plant is tall and upright with stems that are straight and strong. With a height of at least 34–36 inches, it is easily the tallest of all the inter-

sectional hybrids in my garden. From a distance, it resembles a typical lactiflora cultivar. As you get closer, the foliage appears like other intersectional hybrids, which is to say that it looks rather tree peony like. On even closer inspection, you notice that the leaves have fewer and somewhat deeper leaf cuts than is typical of the intersectional group. Although the foliage is clearly intermediate between the herbaceous and woody types, to me the overall balance is shifted towards the herbaceous side (see figure 1). Overall, it seems more like its pollen parent than its seed parent. Naturally, these differences are easier to observe when the plant is growing side-by-side with other intersectional hybrids, as is the case in my garden. The foliage is quite attractive and healthy with no leaf spotting or other defects and, in this regard, is similar to most other intersectional hybrids. The leaves are a nice dark green color and remain healthy and attractive late into the fall. The tips of each leaf are a much lighter yellow-green color, creating an effect that, I believe, is unique among the intersectionals.

Overall, I would say that the plant habit is predominantly herbaceous (*i.e.*, lactiflora like). The plant shape can best be described as tall, narrow and rather upright in contrast to the shorter, wider and more nearly hemispherical shape of the normal intersectional hybrids. Above-ground buds are readily formed in late summer, but few, if any, survive the harsh winters here in New England. As a result, growth is almost entirely from a combination of below-ground and ground-level buds. However, as with other intersectionals, this appears to have no adverse affects on the overall growth of the plant, which can be described as extremely vigorous.

The stems are a dark red color over nearly their entire length and they remain red throughout the entire season. There is no hair or fuzz on the stems or leaves, but the fall seed pods (follicles) are tomentose, similar to its seed parent.

The Flower: This plant begins blooming very early in the season and its first few flowers were among the very first to bloom in my garden. The flowers emerge from very large, attractive rose-shaped buds that are typical of the tree peonies and the intersectional group. They are carried on very tall and erect stems well above the top of the foliage (about 3–6 inches). This is different from the majority of the other intersectionals where the flowers are usually presented just above and beyond the foliage.

Flowers are produced one per stem with no indication of lateral buds. It is often difficult to evaluate the abundance of flowers (flowering) of a mature plant based on the first year of bloom. This is because many varieties have only a few flowers in their first year of flowering. Based on the large number of flowers (ten) produced in its first year of bloom, I would say that flowering appears to be good to excellent despite the fact there is only one flower per stem. This characteristic is similar to its seed parent, STOLEN HEAVEN and most other Japanese tree peonies as well, but is not typical of the intersectional hybrid group as a whole.

At first sight, the flowers reminded me of the famous Japanese tree peony, SHINTENCHI (ex Japan, pre 1931), with its beautifully ruffled, gorgeous pink petals, only slightly more double. The very large (9–10 inch) flowers are held extremely upright on remarkably strong herbaceous stems that do not bend or droop in heavy wind or rain. The flower form is semi-double with doubling of the type usually seen in the Japanese tree peony group. By actual count, the flowers have between 45 and 50 petals.

The flowers open a gorgeous, deep, bright pink that fades towards the outer edge of the petals as the flowers age. At maturity, the petals become nearly white at the edges and take on what many would describe as a silvered effect. It is probably easiest to think of the flower color in terms of two

distinct color phases, both of which are very attractive. The early phase is a lovely deep, lavender pink, whereas the later (mature) phase is a lighter, silvery pink that becomes nearly white at the edge of the petals. In the early phase, there are no visible central flares. In the later phase, however, medium, near white, basal flares are visible radiating outward from the flower center. The attractive, open center contains a relatively small but, dense ring of yellow stamen with cream filaments surrounding 3–4 very pale green carpels with cream stigma that are encircled by a cream sheath. The large flowers are beautifully displayed atop very tall, strong and upright, stems well above the foliage, thus making this a useful cut-flower variety as well as a superb landscape plant. The flowers hold up very well in the sun and weather, and as a result, blooming lasts for about three weeks.

At this point, I think, it is very interesting to note the remarkable similarity of this plant to the description of the two Itoh "pinks" given by Louis Smirnow in 1967 (see description of PINK HEAVEN and PINK PURITY earlier in this article).

I have decided to register this remarkable new intersectional hybrid under the name IMPOSSIBLE DREAM (see registration on page xx).

GENERAL DISCUSSION & COMMENTS

I hope that IMPOSSIBLE DREAM will be recognized as more than just another beautiful garden peony. In my view, this new hybrid is notable for several other important reasons as well. I believe it is the most herbaceous of all the intersectional hybrids created thus far and may also be the best pink intersectional hybrid yet produced. In addition, it is one of only three intersectional hybrids that are not triple hybrids, since it contains only two species, one herbaceous and one tree peony. The others are Roger Anderson's UNIQUE (lactiflora x potanini) and Chris Laning's DARK EYES

(lactiflora x delavayi). These three also share the distinction of being the only registered intersectional hybrids that do not contain chromosomes from p. *lutea* and, therefore, also do not contain genes for the dominant lutea yellow pigment, carotenoid. UNIQUE (Anderson, 1999), however, probably does contain a different yellow pigment, chalcone, which comes from its pollen parent, p. *potaninii* var. trollioides. Furthermore, p. *delavayi*, p. *lutea* and p. *potaninii* are now considered to be only variations of a single species (p. *delavayi*) according to the latest classification of section Moutan based on the recent work of Hong et al. (see *Paeonia*; Vol. 30, No. 4). These facts highlight the uniqueness of IMPOSSIBLE DREAM and suggest that it may be the only pink intersectional with no undertones of yellow or cream to alter or mask the clear pink color. This point may be important for the breeding of pure reds and pinks in the intersectional group in the future. More importantly, however, IMPOSSIBLE DREAM is the only known hybrid that combines the genes from the two most popular and widely grown peony groups, lactiflora and suffruticosa, undiluted by the presence of any other species. Combining the best characteristics of these two exceptional and beloved peony groups has long been the ultimate dream of many peony hybridizers.

A DISCUSSION ON GENETIC MAKE-UP

At this point, it is interesting to speculate on the genetic make-up of this unique reverse cross intersectional hybrid. Many might assume, based on its parentage, that this new hybrid must be diploid, since both of its parents are diploids and since it contains only the two species, lactiflora and suffruticosa. If this were the case, this plant might also be fertile and thus capable of producing F2 or backcross (BC) offspring. Although this possibility cannot be ruled out at this point, I believe that this is rather unlikely to be the case. To fully understand this, it is probably necessary to review what we know or more correctly, what we think we know, concerning the rest of the

intersectional hybrid group. I say, "What we think we know," because none of the following is scientifically proven—it is all based solely on morphological evidence (observations). This being said, it seems to be quite widely accepted that intersectional hybrids (at least the normal ones) are sterile triploids with three sets of five chromosomes, two sets from the tree peony side and one set from the herbaceous side. It is believed that this comes about as a result of the union of an unreduced gamete (2n) from the pollen parent (lutea hybrid tree peony) and a normal haploid (reduced) gamete (1n) from herbaceous seed parent (lactiflora). Since the double dose (*i.e.*, two sets) of chromosomes comes from the lutea hybrids (which are from the cross p. *lutea* x p. *suffruticosa*), it is presumed that one full set of chromosomes is contributed by each of the two species. Therefore, the resulting intersectional hybrids are presumed to have one set of five chromosomes from each of three different species, p. *lutea*, p. *suffruticosa* and p. *lactiflora*, for a total of 15 chromosomes in all. This results in plants that are both triploids and triple hybrids with an equal number of chromosomes contributed by each of the three species, but where the tree peony chromosomes outnumber the herbaceous ones by the ratio of 2:1. Consistent with this explanation, we would expect the intersectional hybrids to more closely resemble their hybrid tree peony parents than their herbaceous parents and this has indeed been the case for all intersectional hybrids up until now. In addition, we would also expect these hybrids to exhibit a high degree of sterility due to the fact that they are triploids and this has also proved to be the case. Furthermore, it is generally accepted that the intersectional cross can only be successful when unreduced gametes are involved. With this in mind, therefore, it is important to recognize that unreduced gametes are a fairly common occurrence in interspecific hybrids from wide crosses, which is precisely the case with the lutea hybrids.

In August 2002, I registered the first *reverse* cross intersectional hybrid, REVERSE MAGIC (Smith, 2002, see *The APS*

Bulletin; No. 324, Dec. 2002). This hybrid is remarkably similar to other registered intersectional hybrids, except that it was produced from the reciprocal cross (lutea hybrid x p. *lactiflora*). Despite its unique reciprocal parentage, it is, for the most part, nearly indistinguishable from other "normal" intersectional hybrids and thus more closely resembles its tree peony parent. Based on my observations, I assume that this cultivar is also a triploid (3n = 15) with three sets of chromosomes similar to all of the other intersectional hybrids produced thus far. For this to be the case, however, the "required" unreduced gamete (2n) must have been contributed by the tree peony parent (*i.e.*, lutea hybrid) as in all of the other cases. Therefore, since the tree peony parent was the female parent in this case, this could only have occurred if the 2n gamete was present in the form of an *unreduced egg*.

The morphological evidence in the present case, however, seems to support a different explanation. IMPOSSIBLE DREAM appears to be unique among the intersectionals in that it more closely resembles its herbaceous parent than its tree peony counterpart. Assuming that unreduced gametes are once again involved, then this result would require that the pollen parent supplied the unreduced gamete, as is usually the case with the intersectional hybrids. Only this time, the resulting chromosome distribution would have to be reversed, since the direction of the cross was reversed and consequently, there should then be two sets of herbaceous chromosomes to only one set from its tree peony parent. This would make IMPOSSIBLE DREAM genetically, as well as morphologically, unique. Proof of this hypothesis will have to wait for results from a more scientific study (such as a chromosome count or DNA analysis). I hope that definitive tests of this type can someday be performed on IMPOSSIBLE DREAM and various other intersectionals as well, so that many of these important questions can be answered once and for all. In the meantime, we can only continue to speculate concerning the make-up of these interesting new hybrids.

THE (P. *SUFFRUTICOSA* X P. *LACTIFLORA*) CROSS

Much of the story behind this unique seedling has already been told over the last several years in *Paeonia* (see Vol. 26, No. 4, p. 1; Vol. 27, No. 1, p. 3; Vol. 28, No. 1, p. 3). However, for those who are not *Paeonia* readers, I will summarize the particulars here. In the early 1990s, I had become fascinated with the reverse intersectional cross and had attempted many different reciprocal intersectional crosses with somewhat mixed results. Beginning in 1992, I used the pollen from lactiflora varieties (especially MARTHA W.) and several tetraploid herbaceous hybrids on various hybrid tree peonies including F1, F2 and advanced generation lutea hybrids. Between 1992–95, several hundred very large seeds were obtained from these crosses, but almost every one was hollow and infertile. From all of the many seeds produced over numerous years, only one hybrid plant survived and grew to maturity (see REVERSE MAGIC, *The APS Bulletin* No. 324, Dec. 2002, p. 38). Based on over ten years of experience with the intersectional cross in both directions, I would estimate that the reverse cross is at least 100 times more difficult than the intersectional cross made in the opposite (*i.e.*, forward) direction.

In 1996, I used MARTHA W. (Spangler, 1985) pollen for the first time on several Japanese tree peony varieties and again was rewarded with many seeds. Some of these seeds, however, appeared different from the others. In particular, one batch from a single cross with the Japanese tree peony, STOLEN HEAVEN (Smirnow, 1964) yielded 19 seeds that were smaller and firmer than all the others. The cross was made on May 28, 1996 with fresh MARTHA W. pollen that had been collected just the day before. These seeds were collected in early September and the germination process was begun on September 23 when the seeds were separated and placed in plastic bags with damp sphagnum moss. An inspection of these seeds in December revealed that nine of these 19 seeds had germinated. By the end of January 1997, however, only four

of the nine seeds had continued to develop normally and these were transferred to the refrigerator when the roots reached a length of approximately one inch. Growth of the remaining five seeds stalled with the roots all less than ½ inch long, and these were eventually also transferred to the refrigerator. When the seeds were examined again in the spring, only five had developed normally and produced tiny plumules. These five seeds were planted with potting soil in separate four-inch plastic pots and three of the five continued to grow. The first of these seedlings grew normally for several weeks, but never turned green and eventually failed. By the end of June, only two seedlings remained from this cross. One of these two seedlings was very small, somewhat of a weakling and its authenticity as a true hybrid was always in some doubt. This seedling survived the entire 1997 season, but I was not at all surprised when it did not reappear in the spring of 1998, after its simulated winter storage period. So, by spring 1998, there was only one surviving plant from this group of seedlings. Fortunately, the one remaining seedling (RC-96-02) was extremely healthy and vigorous and continued to grow in a completely normal fashion.

From the beginning, (RC-96-02) looked much more herbaceous than any of the other intersectional seedlings, although its tree peony heritage was always clearly evident as well. This observation provided solid evidence that this plant was indeed a true intersectional hybrid, since there was absolutely no question that the seed had come from a Japanese tree peony cultivar. So, despite its rather unlikely and unique parentage, the hybrid authenticity of this seedling was never in any serious doubt.

The (STOLEN HEAVEN X MARTHA W.) cross and other similar reverse crosses with different parents were repeated in subsequent years and these crosses did produce a good many additional seeds and several more seedlings. Unfortunately, none of these seedlings turned out to be genuine intersectional

hybrids and all have since been destroyed. The majority of these subsequent crosses were made using pollen from the previous year that had been stored frozen. This is obviously one of the factors that make this a difficult cross. I have often wondered if my results might have been significantly better if I had had a reliable, early source of fresh lactiflora pollen to use. However, this is not easy to accomplish without help from another gardener, since nearly all of the lactiflora varieties bloom well after the last of the suffruticosa varieties are gone. Unfortunately, this usually includes MARTHA W. even though it is among the earliest of the lactiflora varieties to bloom each year. All things considered, there seems little doubt that this cross will continue to be among the most difficult for some time to come. Nevertheless, based on what has already been achieved, this cross clearly deserves far greater attention from both serious and amateur breeders alike and should probably be pursued in both directions. Those who are inclined to pursue this challenging new direction in intersectional breeding should take special note of the fact that MARTHA W. is not only the mother (seed parent) of a large number of "normal" intersectional hybrids, but is also the pollen parent of my only two reverse cross hybrids as well. On the other hand, I would strongly encourage prospective breeders to experiment with as many different parents on both sides as possible. Experience has shown that significant progress in very difficult crosses is often linked to the discovery of one or two special "super breeder" plants such as GOLDEN ERA (Reath, 1984) and MARTHA W. Obviously, the chances of finding one of these "special" plants are significantly better when there are more people doing the searching. With the collective efforts of a few determined people and a little luck, it should not take another 35+ years to produce a second hybrid with the same or similar parentage.

PRELIMINARY FERTILITY CHECK

Due to the possibility that this new hybrid might be a diploid and could, therefore, also be fertile, I was quite anxious to

test its fertility. The flowers had a fairly tight, dense ring of stamen with anthers that appeared to be fully functional. An ample supply of pollen was obtained from several flowers and this was used on eight flowers of the lactiflora cultivar, MARTHA W. No seeds were obtained from these backcrosses. In addition, six flowers of IMPOSSIBLE DREAM were pollinated using pollen from the very fertile Reath hybrid tree peony, GOLDEN EXPERIENCE (Reath, 2000) (*i.e.*, A-198). These crosses also yielded no seeds. Although this result is hardly unusual for an intersectional hybrid, it does tend to support my conclusion that this new hybrid is probably also a sterile triploid. This spring I plan to use IMPOSSIBLE DREAM more extensively both ways as a parent in backcrosses as well as in various crosses with other intersectional hybrids.

PROPAGATION & DISTRIBUTION PLANS

Being keenly aware of the history associated with this unique hybrid group, I am determined to do everything possible to ensure that this remarkable plant is quickly and widely distributed to assure its long-term survival. In addition, I am also very anxious to have this remarkable new hybrid grown and tested in gardens throughout the world to determine how it will perform in various locations, climates and hardiness zones. And, just as importantly, I want to share this wonderful new hybrid with other peony collectors and enthusiasts. Consequently, in the fall of 2003, I cut seven stems with aboveground buds from IMPOSSIBLE DREAM to begin exploring various propagation options. Some of these stems were sent to a propagator/grower in Germany for bud grafting onto herbaceous roots. This method has already proved to be quite successful with the intersectional hybrid group. The remaining stems were sent to a Canadian biotechnology firm to determine whether this variety can be effectively propagated using modern, state-of-the-art micro-propagation (tissue culture) techniques. Recently, this method has also been shown to be very effective with the intersectional hybrid group. I am optimistic that both of these methods will prove to be practi-

cal and effective. Either way, we should know the answer shortly. If micro-propagation of this plant is successful, then a significant number of small plants could be available in just a few short years.

LOOKING TOWARD THE FUTURE

During the last 55 years, since the first successful intersectional cross was made by Toichi Itoh in 1948, several of the natural fertility barriers impeding the progress of the intersectional cross have been removed or surmounted. The breeding accomplishment reported here has broken down yet another of these long-standing barriers and thus marks one more major step forward in the progress of the intersectional group. This achievement opens a new road to the future for this relatively new and wonderful hybrid group. With another road to travel going forward, I am fairly confident that progress in the next half century will be far greater than in the last one. However, it is important to recognize that significant progress is still being made using the more traditional approach, as well. For example, I have a small group of, as yet unbloomed, intersectional hybrids in my garden, which also have no "lutea" in their make-up. These otherwise "normal" intersectional hybrids have two of the usual three species (p. lactiflora and p. suffruticosa), but contain p. *potaninii* instead of p. *lutea* as the third species in the mix. It is my hope this new combination will yield an assortment of beautiful new colors and shades not presently available in the intersectional group, including clear, brilliant reds and pinks, in addition to some outstanding pure whites. I am anxiously looking forward to when these new hybrids begin to bloom in two or three years to see whether my expectations will be fulfilled. In the meantime, it's fun to plan and dream about what this or that cross might produce. In the end we must accept that hybridizing is a lot like a box of chocolates — "You never know what you're gonna get."

Editor's Note: For more information see www.paeonianewsletter.com; www.intersectionalpeonies.com; and ww.yellowpeoniesandmore.com.

The Impossible Dream

A Peony Triolet*

By Don Smith

The Impossible Dream, is what we were seeking
Herbaceous and tree peony perfectly blended
A new race of peonies, historically speaking
The Impossible Dream, is what we were seeking
A breakthrough was needed, much more than just tweaking
Mission accomplished is how it all ended
The Impossible Dream, is what we were seeking
Herbaceous and tree peony perfectly blended.

* A Triolet is a poem or stanza of eight lines in which the first line is repeated at the fourth and seventh and the second line is repeated at the eighth and with a rhyme scheme of ABaAabAB.

My Paper Bag Peonies

Reiner Jakubowski — Waterloo, Ontario, Canada

Several years ago my father-in-law had an iris in his garden that had the overall color effect of a washed out brown paper bag. My wife, Lex, and I were not impressed and referred to it ever after as "The Paper Bag Iris." It was left behind in a move and we don't miss it, but I was reminded of it this past year during peony bloom season because in my yard I found that I had several plants of paper bag peonies. I tried to convince my nieces that I was actually growing these bags for the national doughnut chain, here in Canada, whose logo was so boldly emblazoned on most of them, but sadly they've outgrown the stage where they believe everything their Uncle Reiner tells them.

"In reality," I then told them, "these were bashful peonies," and maybe it was so because what I had done was remove all their petals while still in bud and then I removed the stamens. Removing the stamens is called emasculation (ouch) and is an essential part of hybridizing and controlled pollination. Emasculation prevents self-fertilization of the flower and the bags placed over the poor remains protect the cross from contamination by insects or windborne pollen. I've found that the bags in question are very suitable for this purpose because they have either been treated or made from a different quality paper, which better resists the weather than the common lunch variety of bag.

The results of all these bags were 365 seeds from controlled pollinations and another 120 seeds from unprotected or open pollinated seeds found on peonies, which I thought might give interesting results. A few of these seeds came from friends'

gardens, but in all cases I know the pod and pollen parent from my protected crosses and pod parent in the case of open pollinated crosses. "Pod" or "seed parent" refers to the female half of the cross and by convention precedes the male or pollen parent, when writing out the cross. Thus TOURANGELLE x CLAIRE DE LUNE denotes that CLAIRE DE LUNE pollinated TOURANGELLE. Knowing and recording parentage is essential in any serious hybridizing work. If one gets anything interesting in the progeny, knowing the parents allows that cross to be repeated or an attempt to be made at improving the desirable characteristics by back crossing to one parent or the other.

Three-hundred and sixty-five seeds sounds like a lot, but it's not that many when you consider that they are the result of 100 different pod-pollen combinations employing about 310 individual flowers. That's hardly more than one seed per flower for my effort, but that's not the whole story. Sixty-seven of the pod-pollen combinations failed to produce, so all the seeds actually came from just 145 blooms and I'm now up to two and one-half seeds per flower pollinated. That's still a manageable level of seed production for a backyard hybridizer.

The most often used pollen was from a three-year-old tree peony graft that I have as GOLDEN ERA, which provided me with one flower. I used this on 15 different lactifloras, getting seeds, which have sprouted or look like they're going to, from nine of them. By far the most prolific of these crosses was with an unknown double of the form and almost color of FELIX CROUSSE, but doesn't quite match the plant I purchased as that variety and it blooms a few days earlier than FELIX CROUSSE. From 28 blooms pollinated, I selected 130 seeds that looked sound and, to date, I have had to dispose of about 30 of these. By comparison, FELIX CROUSSE provided four

seeds from 12 blooms pollinated, so this result alone suggests that the unknown peony is not FELIX CROUSSE.

Also good for me in this cross were RARE CHINA (18 seeds from four blooms), MONS. JULES ELIE (11 seeds from one bloom) and TOURANGELLE (ten seeds from three blooms). MARIE CROUSSE, ADOLPHE ROUSSEAU and a home-grown seedling all gave some seed from this cross and maybe so too did SUSAN B. WHITE, but I may not have caught the bloom in time to assure an uncontaminated cross. Time will tell if I have been successful.

Next in use as pollen parent was SCARLET TANAGER. Here I'm trying for a Court of Honor double to challenge RED CHARM, RED GRACE and COMMAND PERFORMANCE. I tried SCARLET TANAGER on eight lactifloras, six hybrids and *P. officinalis* RUBRA PLENA. Six of the lactifloras produced seed but nothing from anything else. The unknown lactiflora so successful in the GOLDEN ERA cross was once again a good producer with 145 seeds from 11 blooms. This is how it often seems to happen, that your best success involves a peony with no name.

I had an even better success rate using ADOLPHE ROUSSEAU as the pod parent. Here I got 92 seeds from four blooms, but only about 70 seeds remain sound. TOURANGELLE (three flowers, 20 seeds) and RED CHAMPION (two flowers, 18 seeds) were also good producers.

I have several lots of open pollinated seeds from peonies that missed getting deadheaded or were left intentionally because good-looking pods had formed and you just never know. The most exciting of these are the two seeds collected from MAI FLEURI, one of which has germinated and I'm hoping for the

other one, too, because it remains sound and free of mold. Lemoine considered his four lactiflora x *wittmanniana* hybrids to be sterile. Saunders reported that they had never been known to set seed, but he also tested pollens from these and "although those of AVANT GARDE and MAI FLEURI are sterile, that of LE PRINTEMPS shows a considerable degree of vitality." Saunders also said (source of quote) that most apparently sterile hybrids probably would, if given enough time, eventually set a few seeds here and there. It could be that this is the time for MAI FLEURI.

Some other crosses that proved to be low seed producers were DAWN GLOW x PICOTEE, *P. tenuifolia* RUBRA PLENA x LITTLE RED GEM and MARIE CROUSSE x SUNNY BOY. There were also a few seeds from open pollinated SUNDAY CHIMES, FRIENDSHIP, CORAL FAY and SUNNY GIRL. Crosses that produce few seeds always have high hopes attached to their outcomes. We expect things that come easily to be less valuable than the products of hard work and extended effort. That's obviously not true, but there is one benefit to low seed production: there are fewer seedlings to contend with. Backyard hybridizers soon run out of planting space for their seedlings.

This is the first year that I worked as a "serious" hybridist, keeping notes, bagging most crosses and thinking about what I might want to do ahead of time (called planning), so that I wasn't out there haphazardly spreading pollen about and next morning having no clue what it was that I did. At this time of year, the interest and value of all those notes on numbers of flowers pollinated, number of carpels, seeds per carpel and germination records, far surpass the effort expended in collecting them. These notes allow you to compare your crosses on a unit basis, as there is a big difference between getting 20

seeds from a cross when you've used only one flower, as opposed to the same number of seeds collected from a cross in which 50 blooms were employed. Notes that say "no take" are far more meaningful when you also know how many flowers were involved in the attempt.

I haven't planned out next season's breeding program yet. Some of these crosses will be repeated, but others won't be. Some of the ones that didn't take last year will be tried again. Purchases of peonies new to my garden will provide new opportunities, especially in the area of yellow herbaceous peonies. Hybridizing plants and the search for new cultivars, is not very difficult to do but takes one's gardening interests to a level well beyond outdoor decoration, back into true horticultural pursuits.

Opinions & Observations & Opinions & Observations & Opinions & Observations & Opinions

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BOOKS FOR SALE—The Genus Paeonia by Josef Halda with James Waddick. Hardcover, 228 pages for sale at the 2004 APS Convention. $25.00 each. No mailorder sales.

Book Review

William Countryman — Northfield, Vermont

The Genus Paeonia

Josef J. Halda with James Waddick
Illustrated by Jarmila Haldová
Timber Press, Portland, Oregon
8 1/2" x 11"
227 pages
Hardbound, with cloth cover; sewn in signatures.

Not since Stern's publication of 1946 has an author revised the entire genus *Paeonia* and it was with great anticipation that I opened Josef Halda's new book. I am pleased to report that it is Stern's worthy successor. There is no other comparable book available and I wholeheartedly recommend The Genus Paeonia to all peony aficionados.

The genus is given the full, standard botanical and taxonomic treatment, with attention paid to infrageneric classification, species, subspecies, varieties and naturally occurring hybrids. Many new species have been described since 1946, including several by Chinese botanists. Even so, Halda recognizes three fewer species than Stern, relying instead on an extensive infraspecific taxonomy (*i.e.*, he emphasizes botanical varieties more). For each species or variety, a lengthy synonymy is given, followed by an accurate technical description, a statement of geographic range and habitat and comments.

Stern's monograph was illustrated with watercolors by the famous artist Lilian Snelling, For Halda's book, his wife, Jarmila Haldová, has also rendered beautiful watercolor paintings of each species—most done on location in the field—and numerous full-page line drawings of leaves to complement the text (there are no photographs). These images will no doubt

ter of interest to any gardener or botanist. The book, at 8 ½ x 11 inches is larger than technical publications usually are, but this only serves to showcase the illustrations better. Still, it is smaller than Stern's book (11 x 14 inches).

An initial section on morphology is also illustrated with line drawings of whole plants, roots, flower parts, fruits and seeds—all very well done and useful. As to the many drawings of leaves one might ask, why so much attention to leaf shape? The answer is that it is surprisingly useful in peony taxonomy. In fact, Stern relied heavily on this character; Halda has integrated it with the more traditionally used characters of flowers and fruits.

As worthy as this book is, I feel I must point out a few other perspectives and points: these are not critical of this book, but may be of interest to the reader and deepen his or her understanding of the group.

For example, in addition to *Paeonia*, Halda recognizes *Glaucidium* in the small family Paeoniaceae, based on the arguments of Melville (1983). Readers should be aware, however, that this debate has not been finally settled. Tobe (2003), for example, includes *Glaucidium* in the separate family Hydrastidaceae along with goldenseal (*Hydrastis*) - another small but fascinating genus with a long history (as *Paeonia*!) of medicinal use. Tobe (2003) also cites references to studies showing that the group that includes *Hydrastis*, *Glaucidium* and *Paeonia* is basal to the buttercup family, Ranunculaceae (*i.e.*, the entire buttercup family evolved from the group that contains these three genera). For this reason, it may have been well to have included goldenseal along with *Paeonia* and *Glaucidium* in this book. At the same time, a working group of evolutionary botanists, the Angiosperm Phylogeny Group

(APG 1998) includes all three entirely within the buttercup family and recognizes neither a separate peony family nor a separate goldenseal family!

From a modern systematic perspective, it also seems unusual to see the various subgenera and sections of *Paeonia* displayed in an old-fashioned "tree of life" (Fig. 13, p. 32), which, although labeled "phylogenetic tree" is not exactly that, under current botanical practice. Perhaps Halda undertook some formal analysis to arrive at this infrageneric classification: I have not seen his technical publication (1997). However, that there is no mention of cladistic methodology (*i.e.*, comparing molecular or morphological data using parsimony to reconstruct the most likely evolutionary history) is unusual in a modern treatment of this scope. See, *e.g.*, several monographs published by the same publisher (as Kew Monographs), with explicit cladistic analyses.

As noted above, Halda recognizes fewer species than Stern. But, the reader might also keep in mind that the British botanist Stephen Haw (2001) has also recently revised *Paeonia* Subgenus *Moutan*, the tree peonies and that his classification differs from Halda's, especially in the circumscription of *P. suffruticosa*. For example, Haw recognizes *Paeonia rockii* (long known as 'Rock's variety') and others, while Halda considers them only subspecies of *P. suffruticosa*. To Halda's credit, he explicitly states the reason for his decision to recognize a large species with several varieties (p. 152): "The whole *P. suffruticosa* complex is uniform in flower structure, a point that is significant in my classification."

I would note that Halda and Haw both agree on the major points of subgeneric classification, *i.e.*, that the genus is best understood as having three or four subgenera, with one or

more sections in each subgenus. Accepting Halda's subgenera Moutan (the tree peonies) and Albiflora (including *P. lactiflora*) means that the "Itoh" hybrid group, which some have been calling "intersectional" hybrids, are better-termed "intersubgeneric" hybrids. The term "intersectional hybrid" would correctly be applied to such plants as *P* .X *lemoinei* L'ESPERANCE and SOUVENIR DE MAXIME CORNU, both cross between sections Moutan and Delavayanae within subgenus Moutan.

Also of interest to students of *Paeonia* would have been discussion of the possible hybrid origin of some species (Arnold, 1997). For example, Sang *et al.* (1995) found molecular evidence that *P. emodi* arose from an ancient cross between *P. veitchii* and *P. lactiflora* and that *P. corsica* likely arose from an ancient cross between *P. obovata* and *P. lactiflora*. More recently, Ferguson and Sang (2001) have presented evidence that "*Paeonia officinalis* is a hybrid species between *P. peregrina* and a member of the *P. arietina* species group." Such hypotheses would be of great interest to hybridizers and may explain some of the crossing data discussed by Halda on p. 30.

Following the botanical treatment is the section entitled "Growing Peony Species," written by James Waddick and Halda. There are chapters entitled "Cultivation," "Propagation," and "Diseases and Pests," all thorough and standard. The final chapter is a "Guide to Growing the Species," where detailed notes are given for each species. I must admit that I personally grow few peony species and do not claim the authors' breadth of knowledge; nevertheless I find their advice to be "right on the money." For example, for *P. tenuifolia*, "good drainage is needed"—how true! I never grew this species well until I planted it in a bed of almost pure gravel; since

then I have enjoyed an ever-increasing display of early spring blooms. Their advice on *P. mlokosewitschii* reflects my experience that "quality varies." In fact, as most northeasterners will attest, this is a difficult species to grow here; we often joke that it, if grows smaller each year, then it must be the right thing. Now, following Waddick and Halda's advice, I will plant it in a moister site.

The authors at last crack the knotty problem found in nearly all horticultural literature—hardiness. Rather than relying on USDA hardiness zones or the English belief that almost everything is hardy (they who have never experienced a New England winter!), Waddick and Halda opt for a short but well-researched discussion, usually tied to a mention of the natural range of the species that is far more helpful than a mere number. For example, *P. emodi* is stated as follows: "Temperate or mild. Treated as a subtropical alpine, this species does fine where there are cooler summers, milder winters, snow cover and moderation overall." an example to future authors to follow.

As usual with Timber Press publications, the quality of the editing, printing and binding is of the highest order. The only minor fault in editing that I would note is that while though many words are defined in text, even so the glossary is scanty: words such as *bract, carpel, disc, rachis, filament, stigma*, not to say *placentation* and *tricolporate*, although familiar enough to botanists, should be in even the most minimal glossary. In particular, I noted that the word *carpel* is missing, although it is required to understand the definitions of *"follicles"* [which is oddly plural in the glossary] and of *gynoecium*. An editor ought to have caught this one—I refer the reader to Figure 10, where *carpel* is illustrated.

I am afraid my review will have emphasized some doubts, but I do not wish that. We have all wanted this book. We are happy to have it.

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A DUTCH VIEW — continued from page 87

It is also something that in my opinion new varieties tend to lack more and more. I hope that breeders and developers of new peony varieties will start to focus more on the peony's scent and sweet smell, because a beautiful peony flower needs both: the smell and the looks. I cannot imagine something more beautiful than a bouquet of peonies on my table, especially one that fills the room with a strong and sweet fragrance . . .

CONCLUSION

When you consider specializing in breeding the more exclusive varieties, we advise you to concentrate on pink-orange varieties, such as the famous exotic flower CORAL SUNSET or on peony varieties such as RED CHARM (which is a basic variety but still a prize winner on the flower auction). We believe that in the near future there will be more rare colors such as pure yellow, orange and even blue. It will take at least ten years to get enough quantity of the new varieties to be able to promote those cutflowers worldwide! Most of all you will definitely need the skills of a fanatic peony hunter!

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The editor does not have back issues, before December 2003 – Issue 328, of *The APS Bulletin* available.

Claudia Schroer, Editor — *The APS Bulletin*, 713 White Oak Lane, Gladstone, MO 64116-4607. Office phone (816) 459-9386; Fax (816) 459-7430. E-mail to: cjschroer@kc.rr.com.

The Bulletin Board

A note from Art Hartman about the word "**anthesis**" in Toichi Itoh's Four Original Intersectional Hybrid by James Langhammer (*The APS Bulletin*, March 2004, No. 329, p. 26) reminded me that this is an uncommon botanical/scientific term. While editing this article I had to seek out the definition of anthesis and confirm spelling—so, maybe I wasn't the only one. When editing, one of my favorite websites is **www.hyperdictionary.com**. To clarify I've listed some information that I gleaned from that site.

Pronunciation: an'theesis

WorldNet Dictionary
Definition: (n) the time and process of budding and unfolding of blossoms.
Synonyms: blossoming, efflorescence, florescence, flowering, inflorescence

Webster's 1913 Dictionary
Definition: The period or state of full expansion in a flower.

Biology Dictionary
Definition: 1) The time or action of a flower opening. 2) The time of a flower's opening.

Further mention about this article should include my apology to Mr. Langhammer for some incorrect last minute editing of the article. I usually return articles to the author after final edit—for their approval before printing. But, in a time crunch I disregarded my own policy and so, I apologize, Jim, for my lapse and thank you for your kind message to let me know. For an editor, rushing to meet deadline has many hazards, and this is one of them. Hopefully, I won't repeat this mistake anytime soon.

I do appreciate all of the e-mails, phone calls, fax and letters that I've received from members. Good or bad it's feedback and I hope I've used all advice to create a better publication. It's not possible to make all the changes in two issues, but I hope I've given members a good representation of my vision for the future of *The APS Bulletin*. I've enjoyed being your "temporary" editor.

See you in Mansfield!

Best wishes,

Claudia Schroer

American Peony Society

713 White Oak Lane — Gladstone, MO 64116-4607 — USA

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- Peonies; History of Peonies and Their Originations — In 3 parts: Variety Checklist, Registered Peonies and Introductions. 5,000 individual entries. Kessenich, APS Nomenclature Committee, et al with artwork by J. Kuczek. Spiral bound, 161 pages, 1st edition. $20.00 postpaid.

- Peonies 1976–1986 — 10-year update, registered peonies and tree peonies. Kessenich and APS Nomenclature Committee. Softcover, 106 pages. $10.00 postpaid.

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