SEPTEMBER 2001
NO. 319

The American Peony Society Bulletin

"Garden Treasure"

GRAND CHAMPION AT HAMILTON, ONTARIO

Exhibited by Chris Laning
Kalamazoo, Michigan

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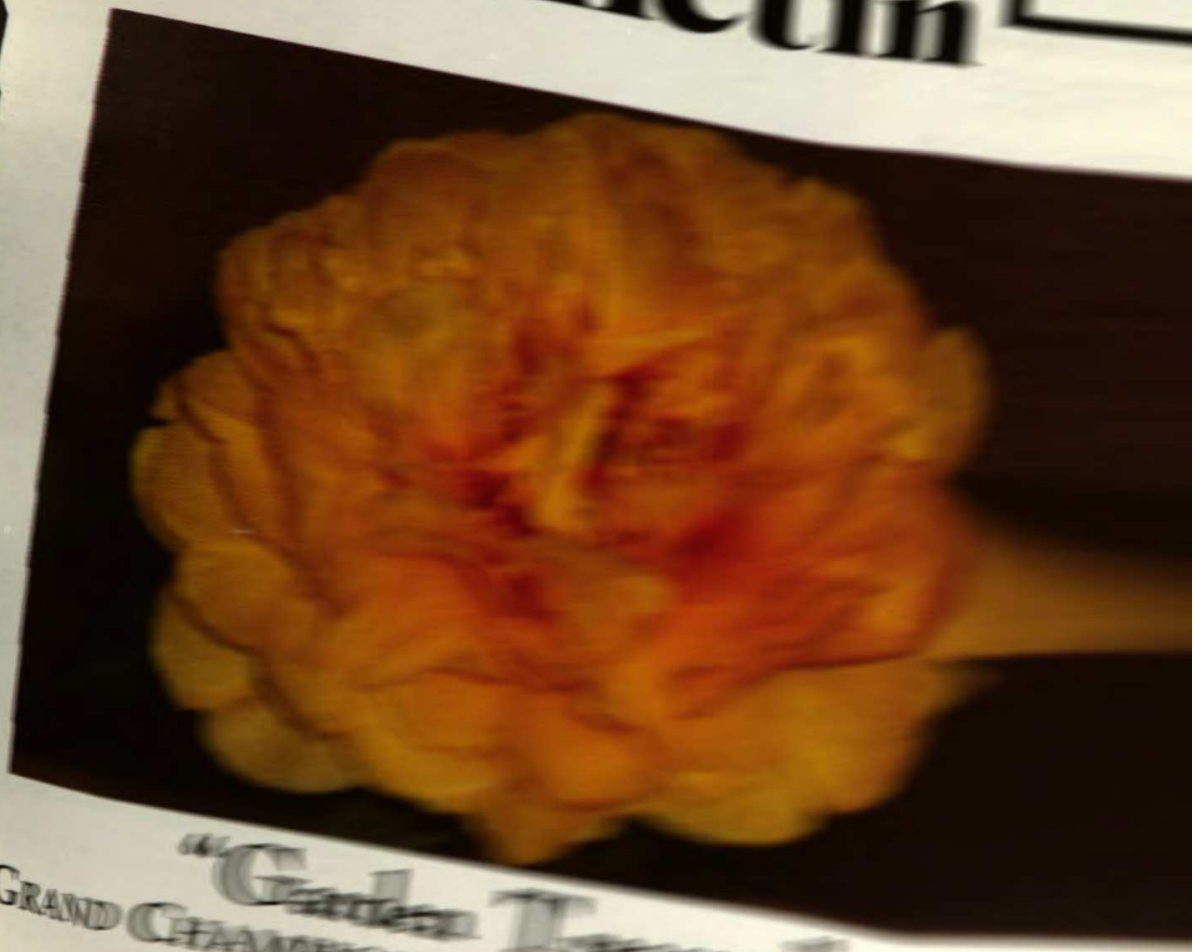
SEPTEMBER
NO



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AMERICAN PEONY SOCIETY
250 Interlachen Road (612) 938-4706 Hopkins, MN 55343

BOARD OF DIRECTORS

DEPT. OF REGISTRATION

The department was formed to properly supervise the nomenclature of the different varieties and kinds of peonies. All new varieties should be registered to avoid duplication of names.

Greta M. Kessenich, Secretary

OBJECTIVES

The Articles of Incorporation state: Section (2) That the particular objects for which the corporation is to be formed are as follows: To increase the general interest in the cultivation and use of the Peony; 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 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; and to promote any kind of the general objects herein specified by holding or causing to be held exhibitions, and awarding or causing or procuring to be awarded, prizes therefor or in any other manner.

The AMERICAN PEONY SOCIETY BULLETIN is the official Society publication. It is mailed postpaid quarterly to all members in good standing.

MEMBERSHIP

The By-Laws state: All reputable persons, professional or amateur, who are interested in the Peony; its propagation, culture, sale and development are eligible for membership. Dues are as follows:

Single Annual	$7.50	Family Triennial	27.50
Single Triennial	20.00	Life Membership	300.00
Family Annual	10.00	Commercial membership	25.00

Family membership, any two related members in same household .....One Bulletin

For those who wish to further support the Society, the following special memberships are available.

Contributing	$25.00	Supporting	$100.00
Sustaining	50.00	Patron	250.00

AMERICAN Peony Society Bulletin

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If you cut a tree, plant a tree.
It is nature's replaceable energy.

President's Message

Our annual American Peony Society show was held jointly with the Canadian Peony Society (Ontario Region) at the Royal Botanical Gardens in Hamilton, Ontario, June 8-10.

Because of the late spring, the majority of the varieties shown were hybrids, which made a colorful display. The Canadian Peony Society is to be commended for the great job they did to put on the show this year. In addition, their members exhibited many beautiful flowers in the show and had a number of prize winners. The Queen of the Show was ***Garden Treasure*** shown by Chris Laning of Kalamazoo, Michigan. It is a flower that consistently wins top honors at shows. An excellent job was done on the auction by John Simkins, who once again entertained us with his unique auctioneering style.

The Gold Medal winner chosen by the Board of Directors this year is ***Early Scout*** (Auten, 1952), a very early red single hybrid. It will be added to the prestigious list of peonies awarded this honor since 1923 for outstanding excellence and performance.

Roy Klehm, Scott Reath and Leila Bradford are on the Nominating Committee for the coming year. The Show Committee will be handled by Kent Crossley, Art Hartman, Roy Klehm and Roger Anderson. Other committees will be established as required.

Don't forget — the 2002 show will be held at Olbrich Botanical Gardens in Madison, Wisconsin, June 8 and 9.

Floyd E. Kimball

APS Internet Site

Board member Peter Waltz has initiated work on our internet site, and he is continuing to add more information as time allows. He has done a great job so far. Be sure and check it out as you surf the 'Net' at home or at your local library. The address is: www.americanpeonysociety.org

Convention of the AMERICAN PEONY SOCIETY and the CANADIAN PEONY SOCIETY (Ontario Region)

ROYAL BOTANICAL GARDENS, Hamilton, Ontario, Canada

June 8, 9, 10, 2001

COURT OF HONOR

Grand Champion—Best Intersectional Hybrid—**Garden Treasure** - Chris Laning
Best Double Lactiflora, Blush—**Moonstone**—Art Hartman
Best Double Lactiflora, Dk Pink—**Rozella**—Pamela Dewey
Best Japanese Lactiflora, Any Color—**White Cap**—Ed & Rena Preston
Best Hybrid or Species, Double, Any Color—**King's Ransom**—John Simkins
Best Hybrid or Species, Semi-Double, Any Color—**Buckeye Belle**—Fred Gentner
Best Hybrid or Species, Single, Any Color—**Firelight**—Ed & Rena Preston
Best Tree Peony (Moutan)—**Mrs. Smirnow**—John Simkins
Best Seedling—**#2000-1**—Scott Reath

DIVISION I. OPEN TO ALL EXHIBITORS

Class 101 - Twenty-five varieties, any color or type
No Entries

Class 102 - Fifteen varieties, lactiflora double, bombs and semi-doubles, any color
No Entries

Class 103 - Ten varieties, herbaceous hybrid only, any type or color
1. Fred Gentner—**Alexander Woollcott, Claudia, Coral Charm, Dandy Dan, Friendship, Illini Warrior, Multiflora, Red Grace, Requiem, Walter Mains.**
2. John Simkins—**Convoy, King's Ransom, Krinkled White, Pehrson's Best Yellow, Rushlight, Star Dust, Sim 182, Sim 183, Sim 214, Sim Lobat.**
3. Floyd Kimball—**Coral Supreme, Cytherea, Edward Steichen, Golden Glow, Janice, John Harvard, Ludovica, Paula Fay, Red Grace, Requiem.**

4. Reath's Nursery—**Claudia, Coral Fay, Cream Delight, Garden Peace, Horizon, Montezuma, Pink Frost, Red Charm, Sunbright, Vivid Glow.**

Class 104 - Ten varieties, Tree peonies only, any type or color

1. John Simkins—**Alhambra, Amber Moon, Apricot, Argosy, Artemis, Fairy Tales, Fuji NoAcorono, Golden Vanity, Marie Laurencin, Themis.**
2. John Simkins—**Age of Gold, Amber Moon, Apricot, Aurore, Golden Bowl, Pluto, Rose Flame, Savage Splendor, Shin Towen, Sunrising.**
3. John Simkins—**Amber Moon, Arcadia, Argosy, Banquet, Canary, Countess, Golden Hind, Marchioness, Mystery, Vesuvian.**
4. Reath's Nursery—**Corsair, Gauguin, Hinode Sekai, Leda, Persephone, Rock's Variety, Silver Sails, Thunderbolt, Vesuvian, Waucedah Princess.**

Class 105 - Five varieties, Japanese type lactiflora only, any color

No Entries

Class 106 - Five varieties, single type lactiflora only, any color

No Entries

LACTIFLORA

Three blooms of the same variety in one container

Class 110 - Double White

No Entries

Class 111 - Double Blush

No Entries

Class 112 - Double Light Pink

1. Floyd Kimball - **Mildred Gardner**

Class 113 - Double Dark Pink

3. Charlotte Wilhelm - **The Fawn**
4. Fred Gentner - **Cincinnati**

Class 114 - Double Red

Two Entries, No Awards

Class 115 - Semi-Double White or Blush

2. Ed & Rena Preston - **Miss America**

Class 116 - Semi-Double Pink

No Entries

Class 117 - Semi-Double Red
No Entries

Class 118 - Bomb
No Entries

Class 119 - Japanese White or Blush
No Entries

Class 120 - Japanese Pink
2. Art Hartman - **Kelway's Glorious**

Class 121 - Japanese Red
2. Floyd Kimball - **Terry Grudem**

Class 122 - Single White or Blush
No Entries

Class 123 - Single Pink
No Entries

Class 124 - Single Red
No Entries

LACTIFLORA - One bloom

Class 130 - Double White
3. Charlotte Wilhelm - **Mrs. J. H. Neeley**
4. Charlotte Wilhelm - **Mrs. J. H. Neeley**

Class 131 - Double Blush
No Entries

Class 132 - Double Light Pink
1. Pamela Dewey - **Reine Deluxe**
2. Fred Gentner - **Claude Barrow Jr.**
3. Charlotte Wilhelm - **Adonis**

Class 133 - Double Dark Pink
1. Charlotte Wilhelm - **The Fawn**
4. Fred Gentner - **Cincinnati**

Class 134 - Double Red
1. Floyd Kimball - **Mary Brand**

Class 135 - Semi-Double White or Blush
2. Alex Landon - **Rare China**
3. Ed & Rena Preston - **Miss America**

Class 136 - Semi-Double Pink
No Entries

Class 137 - Semi-Double Red
No Entries

Class 138 - Bomb White or Blush
No Entries

Class 139 - Bomb Pink
No Entries

Class 140 - Bomb Red
No Entries

Class 141 - Japanese White or Blush
No Entries

Class 142 - Japanese Pink
No Entries

Class 143 - Japanese Red
3. Ed & Rena Preston - **White Cap**

Class 144 - Single White or Blush
2. Ed & Rena Preston - **Stardust**
3. Ed & Rena Preston - **Stardust**

Class 145 - Single Pink
No Entries

Class 146 - Single Red
No Entries

HERBACEOUS HYBRID OR SPECIES
Three blooms of the same variety in one container

Class 150 - Double or Semi-Double White, Blush or Yellow
1. Reath's Nursery - **Lemon Chiffon**
3. Ed & Rena Preston - **Goldilocks**

Class 151 - Double or Semi-Double Coral
2. Brenda Maguire - **Pink Hawaiian Coral**

Class 152 - Double or Semi-Double Pink
2. Ed & Rena Preston - **Paula Fay**
3. Brenda Maguire - **Coral Fay**

Class 153 - Double or Semi-Double Red
1. Ed & Rena Preston - **Black Swan**

2. Ed & Rena Preston - **Heritage**
2. Fred Gentner - **King's Ransom**
3. Nick Visser - **Red Charm**
3. Fred Gentner - **Alexander Woollcott**

Class 154 - Japanese, Any Color
2. Ed & Rena Preston - **Walter Mains**
3. Fred Gentner - **Walter Mains**

Class 155 - Single White or Blush
3. Reath's Nursery - **Garden Peace**

Class 156 - Single Yellow
2.Reath's Nursery - **Cream Delight**

Class 157 - Single Coral
2. Brenda Maguire - **Salmon Chiffon**

Class 158 - Single Pink
1. Ed & Rena Preston - **Firelight**
2. Fred Gentner - **Friendship**

Class 159 - Single Red
1. Floyd Kimball - **John Harvard**
3. Ed & Rena Preston - **America**

HERBACEOUS HYBRID OR SPECIES - One Bloom

Class 160 - Double or Semi-Double White or Blush
One Entry, No Award

Class 161 - Double or Semi-Double Yellow
1. Reath's Nursery - **Lemon Chiffon**
2. Peter Waltz - **Sunny Girl**

Class 162 - Double or Semi-Double Coral
1. Reath's Nursery - **Coral Sunset**
2. Fred Gentner - **Coral Charm**
3. Brenda Maguire - **Pink Hawaiian Coral**

Class 163 - Double or Semi-Double Pink
1. Fred Gentner - **Rose Heart**
2. Fred Gentner - **Paula Fay**
3. Fred Gentner - **Paula Fay**

Class 164 - Double or Semi-Double Red
1. Fred Gentner - **Buckeye Belle**
1. Fred Gentner - **King's Ransom**
3. Fred Gentner - **Red Grace**
4. Ed & Rena Preston - **Red Charm**

Class 165 - Japanese, Any Color
1. Ed & Rena Preston - **Walter Mains**
2. Fred Gentner - **Walter Mains**

Class 166 - Single White or Blush
2. Ed & Rena Preston - **May Music**
3. Reath's Nursery - **Garden Peace**

Class 167 - Single Yellow
2. Reath's Nursery - **Cream Delight**
3. John Simkins - **Garden Peace**

Class 168 - Single Coral
1. Ed & Rena Preston - **Superior**
2. Janeth Cooper - **Constance Spry**
3. Brenda Maguire - **Salmon Chiffon**
4. Fred Gentner - **Claudia**

Class 169P - Single Pink
1. Ed & Rena Preston - **Firelight**
2. Ed & Rena Preston - **Joyce Ellen**
3. Fred Gentner - **Flame**
4. Ed & Rena Preston - **Joyce Ellen**

Class 169R - Single Red
2. Fred Gentner - **Illini Warrior**
3. Brenda Maguire - **Scarlet O'Hara**
4. Fred Gentner - **Illini Warrior**

INTERSECTIONAL (HERBACEOUS X TREE) HYBRID (INCLUDES ITOH)
Three blooms of the same variety in one container

Class 170 Yellow, Any Form
No Entries

Class 171 - Any Color Except Yellow, Any Form
1. Chris Laning - **Old Rose Dandy**

INTERSECTIONAL (HERBACEOUS X TREE) HYBRID - One Bloom

Class 172 - Yellow, Any Form
1. Chris Laning - **Garden Treasure**

Class 173 - Any Color Except Yellow, Any Form
1. Chris Laning - **Old Rose Dandy**
2. Ed & Rena Preston - **Julia Rose**

TREE (SHRUB) PEONY SUFFRUTICOSA (MOUTAN)

Three blooms of the same variety in one container

Class 174 - White
1. Scott Reath - **Rock's Variety**

Class 175 through Class 178
No Entries

HYBRID TREE PEONY

Three blooms of the same variety in one container

Class 179 - White, Cream
No Entries

Class 180 - Yellow
No Entries

Class 181 - Blend
1. Ed & Rena Preston - **Souvenir de Maxime Cornu**

Class 182 - Pink
1. Scott Reath - **Leda**

Class 183 - Red
No Entries

Class 184 - Black-Red
No Entries

Class 185 - Lavender/Purple
1. Reath's Nursery - **Wauceda Princess**
2. Reath's Nursery - **Anna Marie**

TREE PEONY SUFFRUTICOSA (MOUTAN) - One bloom

Class 186 - White
1. Reath's Nursery - **Double Rock's Variety**
2. Reath's Nursery - **Rock's Variety**
3. Ed & Rena Preston - **Hana Jin**

Class 187 - Pink
1. Reath's Nursery - **Hana Kisoi**
2. Reath's Nursery - **Shima Nishiki**

Class 188 - Red
1. Janeth Cooper - **Chinese Dragon**
2. Reath's Nursery - **Hoki**
4. Ed & Rena Preston - **Shima Nishiki**
4. Ed & Rena Preston - **Shima Nishiki**

Class 189 - Maroon
1. Floyd Kimball - **Vesuvian**

Class 190 - Lavender/Purple
1. Reath's Nursery - **Guardian of the Monastery**
2. Reath's Nursery - **Hana Daijin**
3. Reath's Nursery - **Hoorei**

HYBRID TREE PEONY - One bloom

Class 191 - White, Cream
1. Reath's Nursery - **Center Stage**

Class 191b - White, Cream - Semi-Double
1. John Simkins - **Golden Isles**
1. John Simkins - **Daffodil**

Class 192 - Yellow
1. Janeth Cooper - **Harvest**
2. Reath's Nursery - **Golden Era**
3. Reath's Nursery - **Percephone**
4. Reath's Nursery - **Roman Gold**
4. Reath's Nursery - **High Noon**

Class 192b - Yellow - Semi-Double
1. John Simkins - **Angelet**
2. John Simkins - **Savage Splendor**

Class 193 - Blend
1. Reath's Nursery - **Princess**
2. Reath's Nursery - **Damask**

Class 193b - Blend, Semi-Double
1. John Simkins - **Tamafuyow**

Class 194 - Pink
1. Reath's Nursery - **Leda**
2. Ed & Rena Preston - **Zephyrus**
3. Reath's Nursery - **Chinese Dragon**

Class 195 - Red
1. Reath's Nursery - **Strawberry Delight**

Class 195b - Red, Semi-Double
1. John Simkins - **Kronos**
2. John Simkins - **Pluto**
3. John Simkins - **Vesuvian**

Class 195c - Red, Double
1. Ed & Rena Preston - **Strawberry Delight**

Class 196 - Black-Red
1. Reath's Nursery - **Hephestos**
2. Pamela Dewey - **Hephestos**
3. Reath's Nursery - **Hephestos**
4. Reath's Nursery - **Vesuvian**
4. Reath's Nursery - **Thunderbolt**
4. Reath's Nursery - **Black Pirate**
4. Reath's Nursery - **Corsair**

Class 197 - Lavender/Purple
1. Reath's Nursery - **Waucedah Princess**

DELAVAYI GROUP - One Bloom

Class 198 - Single, any color
No Entries

DIVISION II. AMATEUR

Class 201 - Ten varieties, any type or color - One bloom each in separate containers
No Entries

LACTIFLORA (Unless otherwise stated)
Three blooms of the same variety in one container

Class 205 - Double White or Blush
1. Robert Young - **Jane Rutherford**
2. Robert Young - **Jane Rutherford**

Class 206 - Double Pink
No Entries

Class 207 - Double Red
1. Robert Young - **Lowell Thomas**
2. Robert Young - **Lowell Thomas**

Classes 208 through 214
No Entries

LACTIFLORA (Unless stated otherwise) - One bloom

Class 220 - Double White
1. Robert Young - **Jane Rutherford**
2. Robert Young - **Jane Rutherford**

Class 221 - Double Blush
2. Art Hartman - **Mother's Choice**

Class 222 - Double Light Pink
No Entries

Class 223 - Double Dark Pink
1. Art Hartman - **Princess Margaret**

Class 224 - Double Red
1. Robert Young - **Lowell Thomas**

Classes 225-228
No Entries

Class 229 - Herbaceous Hybrid
1. Art Hartman - **Kristin Joy**

Class 230 - Intersectional Hybrid
1. Art Hartman - **Yellow Heaven**

Class 231 - Tree, Moutan or Hybrid
No Entries

DIVISION III. NOVICE

Class 301 - Five varieties, any type or color, in separate containers
1. Ronald Adams - **Age of Gold, Big Gold, Black Panther, D. H. Lawrence, Gauguin**
2. Dorothy Elston - **Coral 'N Gold**

LACTIFLORA (Unless otherwise stated)
Three blooms of the same variety in one container

Class 305 - Double, Any Color
Entries by Robert Young - All Unknown Varieties

Class 306 - Semi-Double, Any Color
1. Ronald Adams - **Buckeye Belle**

Classes 307 and 308
No Entries

Class 309 - Herbaceous Hybrid
1. Ronald Adams - **Apache**

LACTIFLORA
(Unless otherwise stated) - One bloom

Class 315 - Double, White or Blush
1. Robert Young - **Jane Rutherford**
2. Robert Young - **Jane Rutherford**

Class 316 - Double, Pink
Entries by Robert Young - All Unknown Varieties
4. Emily Cain - **Aza Mode**

Class 317 - Double, Red
1. Robert Young - **Lowell Thomas**
2. Robert Young - **Lowell Thomas**
3. Emily Cain - **Camden**

Classes 318 and 319
No Entries

Class 320 - Japanese, Any Color
1. Emily Cain - **Toro No Maki**

Class 321 - Single, Any Color
No Entries

Class 322 - Herbaceous Hybrid
1. Emily Cain - **Alexander Woollcott**
2. Emily Cain - **Janice**

Class 323 - Intersectional Hybrid
No Entries

Class 324 - Tree, Moutan or Hybrid
1. Robert Young - Unknown
2. Ronald Adams - **Pluto**
3. Ronald Adams - **Pluto**

DIVISION IV. SEEDLINGS AND NEW VARIETIES

Class 403 - Seedlings
1. Reath's Nursery - **#2000-1**

Peony Season 2001 in Minnesota

by Steve Johnson, Shorewood, Minnesota

The spring of 2001 was very welcome here after one of the longest and coldest winters on record. Heavy snowfall and temperatures that lowered quickly in October and did not rise again until well into May, made for a slow start to the peony bloom season. Continued low temperatures and heavy rain the first week of June further delayed development so much so that very few blooms were available for the APS Show. The coming arrival of our second child also contributed to the decision to bypass the show this year.

Despite a late start, the beauty of the peony blossoms did not go unappreciated. Outstanding peonies this year included ***Lemon Chiffon*** and ***Mackinac Grand***, with an amazing five

blooms each in their first spring! Other choice performers included ***Coral Sunset*** and ***Mrs. Fern Lough***. The vivid coral and frosted pink show of these peonies was both thrilling and unique. The true colors and strong stems of all four varieties are exceptional and highly recommended.

It is interesting to note that the half dozen tree peonies we grow performed poorly after the long winter. All tree peonies here had fewer than a quarter of their usual number of blossoms.

Our annual family and friends barbecue ("Feast and Flowers") was held at the peak of bloom in the gardens. Many varieties were blooming simultaneously and there was much interest in the peonies. Like bees after pollen, friends and family hovered around their favorites in admiration of the gifts from Mother Nature. It is always an honor and joy to share the beauty of the blooms, especially when the timing is right, when peak is at hand, along with a break in the weather.

After the day's celebration had ended and evening fell upon the gardens, I cut approximately seven dozen long-stemmed pink buds for dry storage in anticipation of the arrival of our second child. Having practiced in the storage of blooms for show purposes, I am confident that the refrigerator holds some very nice flowers. What a welcome it will be to have a maternity room filled with the opening pink buds and the scent of peonies! Perhaps the "gardening gene" is already present in the baby and she will share in our love for the flowers we so enjoy. . .

The day after our party, a wicked hailstorm moved into the area and created quite a different scene in the gardens. The hail was so large and strong that our copper fence post tops were deeply dented. The peonies faced the assault head-on, while most were at vulnerable full bloom. The resulting damage can only be described as carnage. Many stems were randomly snapped in half and torn ragged. Blooms were strewn about like fallen, bloodied soldiers on a battlefield. Petals were blasted off of blossoms and leaves were stripped and lay dying about the base of the hail-hammered plants.

Hours were spent relieving the plants of their broken limbs and fallen heads. Despite the extensive storm damage, I am pleased to report that no fatalities occurred and that the peonies will be glorious again next spring due to their wonderful resiliency. And if the weather cooperates, the blooms will be ready in time for the 2002 National Show in Wisconsin. Hope to see you there!

PEONY FARM SOLD

Word was received in June from Granville Hall, Virginia Peonies, 7294 Shackleford Avenue, Gloucester, Virginia 23061, telephone 804-693-3919, that the peony farm has been sold to Leslie and Darnell Melton of Amelia, Virginia.

Surprises In The Peony Garden

by Art Hartman, Mattawan, Michigan

Blooming season always brings surprises, and this spring was no exception. Torrents of rain with temperature drops to the mid-30's F. at night provided the peonies with mixed signals.

At Chris Laning's patch, where my plants grow, the growth was strong and disease-free. Both air and water drainage are excellent. Frost pockets and soggy spots are not a problem.

Krinkled White, not a particularly strong grower, bloomed with flowers shot with pink instead of the usual pristine white. ***Princess Margaret*** and ***Moonstone*** came on and bloomed beautifully, as did ***Mother's Choice***. Up went the red flags; ***Mother's Choice*** had to be mislabeled. The buds had been sheared off all the plants in this part of the patch in years past. This year, for the first time, they were allowed to bloom. It bloomed very full, very round, very deep and very pink.

Even with its identity in doubt, the decision was made to cut ***Mother's Choice*** for display at the convention in Hamilton. Not until it was handed to Scott Reath and pronounced true-to-name was the question settled. However, none there had ever seen it pink before.

For reasons of health, Chris Laning was unable to attend this year's convention. He asked that certain of his plants be cut for display, among them the intersectional ***Garden Treasure***. Two half-open buds were cut from his plants and refrigerated during the week preceding the show. In the twenty minutes or so it took to remove the blooms from the cooler and set them up for display, the buds just popped. When they hit the bench, they were nearly fully open and spectacular!

Scott Reath pronounced them "a new variety," "developed in secrecy." They were not, of course, but they were a surprise. Instead of the usual soft yellow one expects from ***Garden***

Treasure, the flowers were a rich tan-gold color and gave the appearance of a full double. Although Don Hollingsworth, the originator of the plant, offered that it often bloomed like that at his place, apparently it had never been shown.

Saturday morning one of the two blooms of ***Garden Treasure*** was judged Best in Show. Too bad Chris could not be there.

A few days after returning home, Chris mentioned that the phone lines had been busy. In spite of what Don had said, some were willing to pay very substantial sums of money for this "new variety." What Chris plans to do remains to be seen, but I sure hope he doesn't extend any guarantees relative to color on this "new variety," should he choose to part with any plants. If someone were really anxious to grow flowers of this color, they should get a division, any division, of ***Garden Treasure*** and plant it in a yard or two of soil from Chris' patch. That and cold, wet weather ought to do it.

Mutations are random, singular events. If one clings to the notion that simultaneous, identical mutations affecting all the plants as the most likely explanation for this remarkable color expression, then I have my own remarkable suggestion. It was Pixie dust! Now, if the head Pixie simply wasn't so cranky and hard to get along with...

Request for Peony Varieties

Request for the following peony varieties, perhaps some of the readers may have some of them or know where I may purchase them.

Waseca (Brand, 1936) Single red.
Eclipse (Saunders, 1950) Maroon flowers.
(Officinalis Rubra Plena x Coriacea)
Green Ivory (Saunders, 1939) Single white.
(Lactiflora x Wittmanniana)
Magnolia Flower (Saunders) Mauve.
(Lactiflora x Wittmanniana)
Ballerina (Saunders, 1941) Yellow-pink bomb.
(Wittmanniana x ***Lady Alexandra Duff***)
Elizabeth Cahn (Saunders, 1942) Cream single.
(Lactiflora x Wittmanniana)

Write directly to: Hans Hansen
15605 Snake Trail
Waseca, MN 56093
Phone: (507) 835-5743

The following is a letter from:

Lindsay D'Aoust, Box 220
Hudson Heights Quebec J0P-1J0
(450) 458-2901
e-mail: lindsay.daoust@paeonia.com

Dear Ms. Kessenich,

Please find attached an article I hope you will consider publishing in the American Peony Society Bulletin.

The article presents the results of an investigation into the micropropagation of peony. Over the years the APS has published several articles on micropropagation research and we believe our work presents a continuation of this work.

The paper is offered to the APS for publication because we wish to share the results of our work with the international peony community. Though the paper is somewhat technical in nature we believe that there are many APS members interested in advanced propagation techniques and that they will appreciate the opportunity to learn from the work of others.

The research was undertaken by the Department of Plant Science, Macdonald Campus, McGill University and was supported in part by a contract between La Pivoinerie D'Aoust and D. J. Donnelly.

We hope that you as the Editor of the APS Bulletin will look favorably upon our request for publication. Should you have any questions or require any modifications, please do not hesitate to contact me at the above address.

Yours sincerely,

/s/ Lindsay D'Aoust

Micropropagation of Herbaceous Peony

A. Habib - Graduate Student
D.J. Donnelly - Professor
Department of Plant Science, Macdonald Campus, McGill University, 21,111 Lakeshore Road, Ste. Anne de Bellevue, QC, H9X 3V9, Canada.
E-mail address: donnelly@nrs.mcgill.ca; phone (514) 398-7851 ext. 7856.
L. D'Aoust – La Pivoinerie D'Aoust, Box 220, Hudson Hts, QC, J0P 1J0, Canada.

INTRODUCTION

Peonies (*Paeonia lactiflora* Pall.) are increasing in popularity and micropropagation of commercially desirable herbaceous cultivars could greatly improve the producer's

ability to meet market demand. The objective of this work was to try to overcome some of the major obstacles to successful micropropagation of peony (Bucheim and Meyer, 1992; Hansen et al., 1998) including problems associated with disinfestation of source plant material, medium browning caused by phenolic exudation, and ex vitro transplant mortality.

MATERIALS AND METHODS

Plant Material

Dormant plants of herbaceous peony including hybrid genotypes Cytherea, Prairie Moon, and Paula Fay were obtained from La Pivoinerie D'Aoust (Hudson Heights, QC, Canada). Plants of the three hybrids were dug from frozen soil in winter and brought to the greenhouse. Successive populations of shoot buds 2-3 cm-long with tightly closed bud scales were removed from the crowns of tuberous roots and transferred to the laboratory.

Disinfestation of source plant material

Disinfestation trials were performed on detached vegetative buds because 15 min exposure to 10% commercial bleach (Hosoki et al., 1989) did not yield contaminant-free explants. Buds were placed in screen-covered glass containers under running tap water to remove soil debris (5 min) then washed with antibacterial dish soap (5 min) and rinsed. Next they were agitated in 10% bleach for 15 or 20 minutes or in potassium iodide (KI) solution (active iodine 5%) for 10 or 20 min followed by 10% commercial bleach (0.6% NaOCl) for 10 min. They were then rinsed in sterile distilled water and transferred to the laminar airflow cabinet for dissection. Working under a dissecting microscope the shoot tips with their cluster of compressed shoots were exposed. Shoots 1.0-1.5 cm long with tiny primordial leaves were singled out from the shoot clusters, removed using a sharp sterile scalpel, and transferred to culture medium for shoot multiplication.

Medium browning

In preliminary experiments, and in research conducted by others (Mayer, 1976), all explants from field-grown peony secreted phenolics that were implicated in causing medium browning. All cultures left in contact with darkened medium progressively declined. Polyvinylpyrolidone and ascorbic acid were not effective in reducing phenolic exudation from peony

cultures (Mayer, 1976). Apart from addition of antioxidants, a range of remedial treatments have been suggested for other species, including dilution of basal medium salts, dark-incubation, relocation to fresh medium at intervals (reviewed by Compton and Preece, 1986), and sealing of cut surfaces (Bhat and Chandel, 1991). We evaluated some of these for reduction of medium browning in Stage I peony cultures. Basal medium was half-strength MS (Murashige and Skoog, 1962) inorganic salts and full strength organic fraction, with 0.5 mgl^{-1} 6-benzylaminopurine (BAP) and 1.0 mgl^{-1} gibberellic acid (GA_3) (Hosoki et al., 1989). Explants of the three hybrid genotypes were incubated in the light (65 $mmolm^{-2}s^{-1}$, cool white fluorescent) or placed for 48 h in the dark followed by diffuse light (20 $mmolm^{-2}s^{-1}$) for several hours before full light exposure (65 $mmolm^{-2}s^{-1}$). In conjunction with light or dark treatment, explants were relocated to fresh medium within the same test tubes within 1-2 h.

Media trials (Stage II, Stage III)

The basal medium used for isolated shoot tip explants was as described for Stage I medium above except that full strength $CaCl_2$ (3 mM) was used to control shoot tip necrosis. The growth regulators tested for adventitious shoot multiplication were 1.0 or 0.5 mgl^{-1} BAP and 1.0 or 0.1 mgl^{-1} GA_3. Genotype Paula Fay was used for preliminary rooting trials. Rooting of 3-4 cm-long adventitious shoots was compared in the light (65 $mmolm^{-2}s^{-1}$) or dark in basal medium containing 2.5 mgl^{-1} indolebutyric acid (IBA). Rooting in the dark on this medium (control treatment) was compared with several other treatments including that of (Hosoki et al., 1989) in which a paper bridge was used to support cultures in liquid medium containing 1 mgl^{-1} IBA. Other treatments involved dipping shoot bases into concentrated (100 mgl^{-1}) IBA solution for 1, 5, or 10 min followed by incubation on growth regulator-free medium. Rooting success of genotypes Cytherea, Prairie Moon, and Paula Fay were then compared in the dark on rooting medium containing 2.5 mgl^{-1} IBA.

Culture conditions

Culture establishment (Stage I) and rooting (Stage III) occurred in 15 x 2.5 cm^2 test tubes covered with transparent plastic covers and containing 15 ml of medium. However, proliferation of shoots (Stage II) occurred in Magenta boxes

containing 50 ml of medium. Media pH was adjusted to 5.7 prior to autoclaving at 121º C and 103 KPa for 15 min (test tubes) and 25 min (Magenta boxes). Growth room conditions were long days (16/8 h d/n cycle) provided by cool-white fluorescent light in a walk-in growth room (21º C).

Ex vitro transplant

Plantlets with well formed roots were transferred to a greenhouse or growth room either directly from culture or following cold treatment in the fridge (4º C) for up to 4 mo in their culture containers. Ex vitro transplants were maintained under plastic covers either in a greenhouse (ambient conditions) or a growth room facility (18º C, 16 h light, 65 $mmolm^{-2}s^{-1}$).

RESULTS AND DISCUSSION

Disinfestation of source plant material

When rinsing and washing steps were followed by agitation in 10% bleach (15 or 20 min) a persistent bacterial contaminant occurred in > 40% of cultures. With agitation in KI (6%) for 10 or 20 min, followed by agitation in bleach (10%) for 10 min, decontamination was much more effective. The best disinfestation treatment was KI (20 min) followed by bleach (10 min) which gave a contamination rate of only 10-15%.

Medium browning

When shoot tip explants from vegetative buds were incubated in the light they almost always exhibited medium browning within 2-3 h. However, fewer than 15% of explants placed in the dark for 48 h developed medium browning. Relocating explants to fresh medium within the same test tube after 1-2 hours was a labor-intensive but effective means of avoiding medium browning. Light was implicated in increased medium browning and probably resulted in increased phenol production (Compton and Preece, 1986). Medium browning that followed subculture to multiplication or rooting stages was also effectively handled by putting freshly transferred cultures in the dark for 48 h prior to light incubation. The exception was the hybrid Prairie Moon, which may benefit from dark intervals beyond 48 h or inclusion of an anti-oxidant in the medium.

Media trials (Stage I, Stage II)

Adventitious shoot formation occurred in 50-60% of

genotype Paula Fay and Cytherea cultures in multiplication medium recommended by Hosoki (1989). These formed 2-3 new shoots per month. New shoot formation occurred in only 25% of genotype Prairie Moon cultures and the rate of increase was less than 2-fold per month. Subculturing involved shoot tip removal and division of small clumps of proliferated shoots to force new lateral shoot growth from the bases of the clumped shoots. Successive subcultures in low BAP (0.5 mgl^{-1})-high GA_3 (1.0 mgl^{-1})-containing medium caused progressive decline in the proliferation rate, over the course of several months, and promoted elongation growth of individual shoots. When subcultures were alternated each month between medium containing low BAP (0.5 mgl^{-1})-high GA_3 (1.0 mgl^{-1}) and high BAP (1.0 mgl^{-1})-low GA_3 (0.1 mgl^{-1}) shoot proliferation improved with less elongation. After several alternating subcultures, genotypes Cytherea and Paula Fay had many adventitious shoots; 5-10 fold more shoot numbers than Prairie Moon.

Root initiation in Paula Fay was favored in the dark compared with light. The control treatment was superior to other treatments (70% rooting). Dipping treatments in 100 mgl^{-1} IBA (10 min) followed by transfer to growth regulator-free medium resulted in 55% root development without associated callus formation. Shorter dipping treatments were less successful. Genotypes Paula Fay and Cytherea, but not Prairie Moon, rooted quite well in medium containing 2.5 mgl^{-1} IBA. Most Paula Fay but fewer than half of Cytherea shoots formed 1-3 tuberous roots within 6 wk. Only one in five Prairie Moon shoots rooted forming 1 tuberous root and some callus per shoot within 6 wk. Although shoots paled during dark incubation they quickly became green when rooted plantlets were transferred back under lights. These results are consistent with other reports of improved rooting in the dark and callus induction due to high IBA levels in the medium (Kunneman and Albers, 1989).

Ex vitro Transplant

In preliminary trials, and in trials conducted by others (Hosoki et al., 1989; Albers and Kunneman, 1992) plantlets transferred directly to the greenhouse had 100% mortality, primarily due to poor growth performance. For this reason, plantlets were given a cold treatment of 4 mo in the fridge (4º C) before being transferred to a peat-based potting mixture and

covered with a transparent plastic dome. Growth room conditions (16 h light, 65 $mmolm^{-2}s^{-1}$, 21º C) were the same as those used during Stage II. After 8 wk in the growth room, 80% of the cold-treated plantlets were well established with several thick tuberous roots and 2 healthy shoots per plant.

CONCLUSION

Micropropagation difficulties were overcome for the hybrid genotypes Cytherea, Prairie Moon, and Paula Fay. Decontamination of explants was 85-90% when shoot bud rinsing and washing was followed by consecutive treatment with KI solution (20 min) and bleach (10 min). Medium browning was controlled in two genotypes when explants and subcultured shoots were placed in the dark for 48 h prior to light incubation. Proliferation of adventitious shoots was best in medium containing alternating high BAP/low GA_3 (1.0/0.1 mgl^{-1}) with high GA_3/low BAP (1.0/0.1 mgl^{-1}). The proliferation rate for all genotypes was about 2- to 3-fold per month and similar to that described by Hosoki (1989). However, over the course of many months in culture, a much greater multiplication rate was achieved. Rooting of isolated shoots occurred in the dark on medium with 2.5 mgl^{-1} IBA, although dipping treatment in 100 mgl^{-1} IBA (10 min) was preferable for the genotype Prairie Moon. Both tuberous root formation and ex vitro growth performance improved following cold treatment of 4 mo in the fridge (4º C). This preceded transfer to a peat-based potting mixture under growth room conditions and resulted in 80% survival of transplants, some of which are now doing well in the field.

Fern-Leaved Peonies

Mr. Peyton

The fern-leaved peony most often referred to is the species *tenuifolia* and its varieties, though some other species have this cut-leaved foliage that have been given the name of fern-leaved. The varieties that may possibly be included under this head are *tenuifolia* and all its different varieties and variations and its hybrids. Also the species *anomala* has this same characteristic to some extent. The following varieties may be said to be "fern-leaved" to a more or less extent.

Tenuifolia - This species occurs in the wild in Transylvania, Crimea, Caucasus and Armenia. It is one of the first to bloom. Its varieties are *hybrida, laciniata, lactifolia, rosea* — all singles and red except *rosea* which is pink. The double form, *flora plena*, the most widely grown, is a brilliant red. The growth is quite dwarf, rarely exceeding 18 inches. The double seems to have the finest cut foliage with the singles varying from it to some extent.

The species, *anomala*, has coarser foliage and is found wild in Russia and Central Asia. It is midway between *tenuifolia* and *officinalis* and its flowers are small, bright crimson and single. Its varieties are ***Insignis***, ***Intermedia***, and ***Peter Barr***.

The variety we know as ***Smouthi*** is the first known hybrid we have and is the result of a cross between *tenuifolia* and *lactiflora*. It is single and dark pink or light red in color. It is sold under several different names, though its correct name is ***Smouthi***. Its foliage is somewhat coarser than that of *tenuifolia*. Mr. Auten repeated this cross, using ***Richard Carvel*** as the lactiflora parent and the single *tenuifolia hybrida* and has two named varieties from it — ***Early Scout*** and ***Roxana***, both single and dark red, not as tall as ***Smouthi***.

Mr. Glasscock has one, ***Laddie***, which is a cross between *tenuifolia* and ***Otto Froebel***, an *officinalis* variety. It is a brilliant red, almost scarlet, and grows luxuriantly everywhere. It is single and has coarser foliage than *tenuifolia*. It is medium height and early.

Dr. Saunders has named several — ***Earlybird***, a cross between *tenuifolia* and *veitchii var. woodwardii*, single, bright crimson and small; ***Nosegay***, single, tall, salmon rose pink, small and ***Playmate***, single small, bright rosy pink. Both are crosses of *mlokosewitschii* and *tenuifolia*. The varieties from the reverse cross are not fern-leaved. ***Roselette***, a triple hybrid of *lactiflora*, *tenuifolia* and *mlokosewitschii*, single, unusually tall with large flowers of pink is moderately fern-leaved.

Also one of his hybrids still not named, No. 10996, which has *lactiflora* and *tenuifolia* as its parents, is a tall, early crimson-red single that is rather lusterless. It is finer than his homemade ***Smouthi***, which Miss Saunders still has. Mr. Maxwell tells us that ***Pink Salute***, an Auten double, whose color is described as red to pink, is also fern-leaved.

(Editor's Note: ***Pink Salute*** (Auten 1954) is a double, very early hybrid, described as a bright shade of cerise pink with darker tints toward the center, *officinalis x albiflora*.)

Seeds, Seedlings and then Peonies

William H. Krekler - Bulletin No. 220, Dec. 1976

Harvest seeds of Chinese hybrids and tree peonies just before the pods open, because later the pods will have scattered the seeds on the ground. To salvage means endless hours retrieving them.

The seeds from the Chinese-type peony will be a light chocolate brown when ripe for shelling. The seeds of the hybrids, species and tree peonies will mostly be a dark blue. They are earlier, smaller and oblong, except trees are larger and more red. When Chinese seeds are not quite mature, they will be yellow, the others a slight red color and generally will only have fair germination. Should the Chinese-type seed get very black, their coat will be too hard to have good germination the following spring.

Plant peony seeds as soon after harvesting as possible, while the coats of the seeds are softer. Take time to shell the seed pods. In planting the entire pod, germination will not be good and the seeds in the pods that do germinate, the plants will be too close together.

In preparing a seed bed, the soil should be deep and fertile and humus rich. Till the bed until the soil is fine and soft; rake the bed to make a level surface. Eighteen-inch paths between the beds are advised with the seed bed only a few feet in width so the weeds can be easily reached from the path. It is very important that the bed be in a well-drained location and in full sun.

In planting peony seeds, I have always broadcast them, spacing a half-inch to an inch apart, daylilies and iris also, thus never wasting ground in my seed beds or giving space for more weeds. The seeds are not covered with any soil, nor are they pressed into the soil. Immediately cover with an inch or two of old sawdust. Very fresh sawdust will heat. Sawdust prevents most seeds from heaving out by frost and most weed seeds from growing, as well as fast drying of soil.

Hybrid peonies and species generally take years in beds to grow large enough to be transplanted into long nursery rows. Chinese peonies take half as long, two years in the bed and then may flower some the third year, in field rows. There are always seeds that do not germinate the first spring; some small plants will continue to appear for a few years.

When hybrids grow to their full size and are divided, they grow about as fast as lactifloras and have less disease, except botrytis. If set out in rows before a half foot in height, they may seem to disappear; perhaps the cultivator covers them or they are hoed out with the weeds.

Hybrids bloom earlier, most tops die off earlier, even before frost and before most lactifloras. It is advisable to not gamble by using weed killer on young seedlings; they are tender and may not endure it.

You cannot expect first quality peonies from second rate parents, but whoever saw a peony that was not lovely, so daub that pollen.

DIVIDING AND PLANTING PEONIES

By Fred C. Helmling, Ravenna, Ohio

This is the time to divide and plant peonies. Try using a small six- or seven-inch carpenter's key hole or compass saw in cutting divisions. It is much safer than a knife and a valuable clump of peonies can be divided much better, saving more divisions and more propagating roots than with a knife. I still have a hunting knife, a pocket knife with a two-and-a-half-inch blade and a large heavy screwdriver. Sometimes it is used to pry saw cuts apart on the cutting table. Also at hand is the long-nosed pruning shears, as recommended by Mr. Krekler in one of his articles in the Bulletin. The keyhole saw can be purchased at any good hardware store. It has a cast iron handle and has different kinds of blades that fit the saw.

ROOTS

The Hidden Key to Peony Success

Roy G. Gayle, Rockford IL - Bulletin No. 100, 1945

Peony growers in general are disposed to blame soil conditions for plant and flower failures. The use of the word "failure" is construed to mean weak plants and mediocre flowers. My personal opinion is that, by far, the majority of failures can be attributed to improper preparation of root division and careless planting.

The dividing of peony roots is, to me, the most interesting and the most important phase of peony culture. It is as essential to successful results as skilled surgery is to human welfare, and skilled tree surgery is to horticultural operations.

Tree surgery is the science of removing unnecessary surplus wood, interfering or injured limbs, or such limbs and branches which in later years will interfere, or produce an unbalanced pattern. Anybody can saw a limb from a tree, or prune a branch from a shrub, but to do this properly requires an understanding of the habits of the tree or plant, and knowledge of the proper balancing of the root system to the plant superstructure, in order to obtain a strong vigorous plant. The same fundamental principles, if applied to peony roots, will pay big dividends. It is a difficult task to attempt to treat, in words, the subject of root surgery. If this were like a surgical clinic, wherein the victim is exposed to observation, then the task would be quite simple and no doubt much more interesting and instructive.

On several occasions I have been invited to address garden clubs on the subject of peonies. Fortunately these assignments have occurred at the normal peony dividing time, so I took advantage of the opportunity by digging a plant and dividing it in the presence of the audience. I consider this method of "talking" to be far more instructive than debating the incontestable fact that the peony is the monarch of the flower kingdom.

An eminent peony authority once stated that a root division should never exceed the size of the hand with outstretched fingers. That is a good general guide and quite generous. However, size alone is not the key, as other details are far more important.

A large division with a surplus of food stored in its roots is not disposed to start working to make new roots the first year. It simply gets lazy and only bothers to assimilate the oversupply of stored up food. The first year the eyes develop into many fine strong-looking stems — and the gullible owner thinks he sure hit the jackpot on his purchase. But lo — the second year! Having expended its resources the preceding year by not having been forced to work to send out new roots, the multiple of eyes that developed find the food supply to be insufficient and the plant becomes devitalized and never again seems to regain sufficient stamina to produce fine

flowers. The moral is to cut back hard — starve it — and force it to get to work and build a sturdy root system.

If a properly divided three- to five-eye division produces but one or two stems the first year, which do not appear to be strong, do not let this alarm you, for you can place your bets that those "weaklings" will ultimately produce grand flowers. By severe dividing, a plant will be a bit slower in arriving, but it is well worth the sacrifice of the first year bloom (which is subnormal anyway) to gain the thrill of many succeeding years of flowers which will cause your friends to regard you as a successor to Luther Burbank. Keep in mind that you are aiming at a first-year root system. A third-year-sized plant the first year will most likely produce a first-year flower the third year.

Just what is a perfect root division? My idea of a perfect division is in fact not a division, but is the complete two-year development of an originally small division. Its roots "star" out in all directions from the crown like the spokes of a wagon wheel. A division of that type does not require shock surgery. By simply severing the original planting-stock root, a perfect pattern results, with fresh, clean, healthy, vigorous roots — capable of supporting a self-balanced group of plump eyes.

But to acquire a perfect division is another thing! Why? Well — if a commercial grower took the time to first properly divide propagation stock, then grow, cultivate, dig, clean, trim, label, pack and ship this "perfect" division at the prevailing market price, he would develop a permanent case of malnutrition.

Propagation stock with roots in excess of three-fourths inch in diameter seldom produce a first-class, well-balanced division. A small propagation division will in two years produce one perfect division; in three years one perfect and one semi-perfect, plus some suitable stock for continued propagation. After three years the grower has developed a commercially profitable plant — from which the purchaser acquires perfectly abominable merchandise. A heavy plant divided through the crown does not make a good division as it requires a heavy draft on its vitality to heal the wound and also results in a lopsided, unbalanced system.

Even viciously manhandled and mutilated roots are endowed with the will to live and grow regardless of the brutal treatment given to them. There is, however, no secret known

which will change the destiny of an improperly trimmed and carelessly planted peony. The problem is, what to do about it! And that forces out the purpose of this discourse. The first step in dividing or retrimming roots is to clean off all fiber and secondary roots. Then start eliminating the surplus roots, and cut off volunteer eyes that may have developed too low down or underneath the crown, provided there are sufficient upper eyes.

As previously stated — the root pattern should be shaped like the spokes of a wagon wheel. If the roots are tight together, like the fingers of the hand with the fingers held together, then take a narrow-bladed sharp knife and cut out alternating roots so the remaining roots will have room to expand. Be careful not to cut into or damage the adjoining roots, and leave a clean-cut smooth surface which will heal quickly.

The cleaning off of all small rootlets is the most important detail of all. Then let nature take the initiative and you will find that she's too smart to grow new roots all tangled up and girdling each other, thus choking off food supply. The mess and mass of gnarled and twisted roots we usually find is the result of negligence of this detail.

Some varieties develop abnormally large-sized roots (***Reine Hortense***, for example), and if large roots are cut off square at the ends, the result will ultimately be a mass group of small roots forming around the cut, similar to what is known as a "witches broom" formed on improperly pruned tree limbs. Cut the root on an angle of 45 to 60 degrees and slightly round the sharp edges of the cut. Make the cut on the under surface of the root except where two heavy roots are quite close together, in which case make the cuts on the outer sides (not top or bottom), leaving the pointed tips to the inside. This is the reverse of tree-trimming principles wherein cuts are made so the terminal buds will branch in opposite directions. But peony roots do not have buds like trees and shrubs, and the new roots, instead of forming at the terminal, will form at the heel and thus are directed away from the two roots. This is probably due to the fact that the base of the cut is closer to the crown, but we are probably more interested in the fact than in the theory. Our scientific members could very likely make this a highly controversial subject and convict me as being incorrect. My defense is that

all I know about it is the result of many years of observation of this feature.

While roots are the key, planting is a procedure which should be given due consideration, so a few remarks regarding care in planting may be apropos. My personal regard for a peony prohibits any guesswork. I am such a strict believer in proper depth that I use a gauge in planting. This gauge is made from a three-fourths inch piece of pine, three inches wide and three feet long. To the side of this, at the center, is nailed a piece of lath projecting two inches below the bottom. The gauge being wide, lies flat over the hole and does not tip over. This permits the use of both hands in planting. It is simple and takes no time to use, eliminates guesswork, and accuracy gives one a sense of security. I even use it when planting small propagation stock.

Be sure to firm the under soil on which the roots rest to prevent settling later. If the hole is too deep, keep adding earth and pound it down solid with the fist until the roots are resting on a solid base, and the eyes touch the gauge. Then carefully fill in around the roots and up over the crown, being extremely careful not to injure either "eyes" or roots. This will leave a cone-shaped depression like the top view of a sombrero. Around the rim pour two or three quarts of water and let it soak in well so as to force out all air pockets. When sufficiently absorbed, fill the rest of the hole and gently firm with the palm of the hands. Fill over the top, above grade, to a height of from four to six inches, and then insert a stake from the outer edge of the hole, at an angle, so the top is over the crown of the plant. This will protect the new shoots the following spring from damage by animals — and clumsy people.

By mounding over with earth it is not necessary to mulch with leaves or straw. In the spring, do not try to level off the mound, as you will damage the tender shoots. The spring rains will reduce the mound considerably and the tender new shoots will need this cover to protect them from late freezes. Early cultivating at a distance of about eight inches away from center, if a crust is formed, may be beneficial, but do not worry about those delicate little shoots, for old Mother Nature has provided them with plenty of power to lift a ton of weight. Don't pamper the child or you'll have a spoiled weakling. Let 'em fight and they'll be more rugged. About the time you feel so sorry for the "pore lil feller" with a huge

hunk of crust bending the back of his tender little neck — along will come a rain to take care of the situation. Old Ma Nature looks after her young. The ignorance of man is her greatest opposition.

To divide properly, to dress up the divisions you receive in a rough state from the grower, and to exercise care in planting will take only a few minutes longer than haphazard methods — and the reward will more than justify the extra time and slight effort.

Late Peony Planting

by Don Hollingsworth, Maryville, Missouri

Cool soil is good for peonies. They like it. Every year, as the soil cools with the shortening of days and lowering sun, peonies commence getting ready for the next growing season. They extend new white roots into contact with the soil—just as do tulips, daffodils and a host of other early flowering perennials and woody plants.

In an ideal world, new plantings of peony might be already in the ground when the temperature has cooled to 50-60 degrees Fahrenheit, and ready to commence growth right along with undisturbed peony plants. And, if the only peonies it is desired to plant are some we are going to dig ourselves, then we have control of the entire process. We can make the best of it, prepare them and plant them when we choose. However, when the desired plants are coming from somewhere else, timing control is pretty quickly "out the window." The greatest potential for frustration is, of course, in those regions where autumn comes early.

Fortunately, peonies are tolerant and adaptable—even tolerating being stored over winter and planted in the spring, in field-size quantities, as I have sometimes been forced to do. The generally-offered rule of thumb that one can do well to plant peonies anytime until the soil is frozen holds up with experience (we do not say, however, that late is equal to early). I believe that growers in the central USA, especially here where we have typical dry, hot summers, will probably say that, on balance, anytime in fall is much better than spring planting of peonies. Bare root divisions in spring have so little time to

expand new root contact with the soil before new shoot growth overruns their capacity to deliver moisture in needed quantity.

When one is at risk of receiving peony divisions after frozen soil is threatening, what is there to do? The most useful strategy I hear is from peony enthusiasts in more northerly states and central provinces of Canada, "Cover planting holes against freezing." I first heard of this from APS Secretary Greta Kessenich a good many years ago. Simply stated: prepare your planting site ahead, make the planting hole and save the backfill soil in a container where it can be kept unfrozen. Then put a sheet of plywood or similar guard over the hole and cover with mulch if further insulation is wanted. When your plants are received, install them as usual. While this may not be ideal, it works and gives an important measure of control in favor of fall planting.

Another strategy is to order your plants from growers early in the season so that your order is early in the sequence of orders that will be filled. Also, some growers may be willing to handle a few orders out of sequence, in recognition of early autumn shutdown—e.g. for Alaska and prairie provinces of Canada. Everyone should expect that late orders will be respected and will do their best to meet the real needs of the situation. However, it helps for customers to keep in mind that competition for attention is tough at shipping time.

Winter Protection of Peonies in the North

From the book "American Peony Society - The Best of 75 Years"

Winter protection is only necessary the first winter and will help prevent heaving by frost. Mounding the soil over them several inches is as good a method as any. Salt hay, corn stalks, evergreen boughs, anything that will not mat down and make a soggy mass over the crowns will do. Remove covering before growth starts in the spring. Protection is beneficial in extremely cold climates and should be given. No covering should be provided until the ground freezes up hard. Of course, when a mound of dirt is employed, this must be done before that time.

Cut off all foliage and stems of peonies close to the ground and burn, to prevent spread of disease. Early November is a

good time to do it. Just before that time is permissible. Never cut them down immediately after blooming, as it will mean the eventual death of the plant. They may be trimmed back, after blooming, to the first leaf under the bloom.

Peonies need a great deal of water from the time they come up until the blooms open, and again when they are making their eyes for next year's growth. Nature usually supplies enough for their wants. If the season is dry and the plants begin to wilt from lack of moisture, it is wise to give them a thorough soaking. Enough water should be given to wet the ground down to the bottom of the roots. Repeat when the soil becomes dry.

Peonies and the Environment

1977 by W. G. Sindt, Afton, Minnesota

From the book "American Peony Society - The best of 75 Years"

Anyone who ever tried to grow plants out-of-doors knows there are many factors which enter into his success or failure in the growing. Some of these factors he can control and others he cannot.

All plants are especially adapted to certain climactic and soil conditions, but we always attempt to change those conditions and force our plants as we desire. We in the North try to grow plants adapted to the warmer climates, and our southern neighbors try to grow those which require a cool or cold dormant period. Apples, peonies, and lilacs need the cold, and palms, holly and rhododendrons need the warmer temperatures all year. We transplant them to our climate and attempt by one artificial means or other to protect them, altering the conditions enough so that they will survive, if not thrive.

However, even when we grow plants native to the area, like peonies in the North, we run into the problems that nature throws at us. I have grown peonies in Minnesota for over 35 years and only once have I experienced any appreciable loss

from winter kill or freezing. That was in 1958 when we had our normal two weeks of -20ºF weather but with no snow cover. The soil temperature two inches below the surface dropped 10-20ºF below that of any normal winter. It was not the air temperature that killed plants but the fact that the temperature of the soil in which the peony plant was resting had plummeted far below the normal. I am sure that if a heavy mulch of hay, straw, or leaves had been applied early in the fall, the losses would have been minimal. That same year many trees and shrubs, as well as perennial flowers such as iris, were destroyed.

Needless to say, the winter just past, 1976-1977, caused a great deal of concern to me. Generally it was the coldest winter east of the Rockies of this century. The extreme cold, plus the fact that much of the area was also very dry during the summer of 1976, did not make us feel confident about the condition of our peonies and other plant materials. From February 1976 through September the temperature was above normal by appreciable amounts. October through January was the second coldest winter of record since 1820. The coldest period was in 1872-1873. There were 23 consecutive nights when the temperature was sub-zero and days when the range was -30º to -5º. These were official temperatures recorded at our airport about thirty miles from here. I saw -40º several mornings on our thermometer.

The variation in weather conditions over short distances is something that we often neglect to consider when arranging a planting. Low spots are notoriously colder — micro-climates. Frost went unbelievably deep in this dry ground, over six feet.

These two extremes of drought and cold caused us a great deal of concern until we could see our plants starting to grow in the spring. The surprises were pleasant indeed. I lost no established plants and only two of about twenty new plants. From what we think we know about growing, the losses should have been extensive. Did the dryness somehow counteract the cold? Losses on iris which are much more susceptible to cold were also minimal. I did think there was some effect on the bloom this season. It seemed that the flowers were not quite as large as they should have been and that they did not keep as well. The quantity of bloom was normal and plant growth seems to be normal.

Weather is difficult to control but the soil in which plants

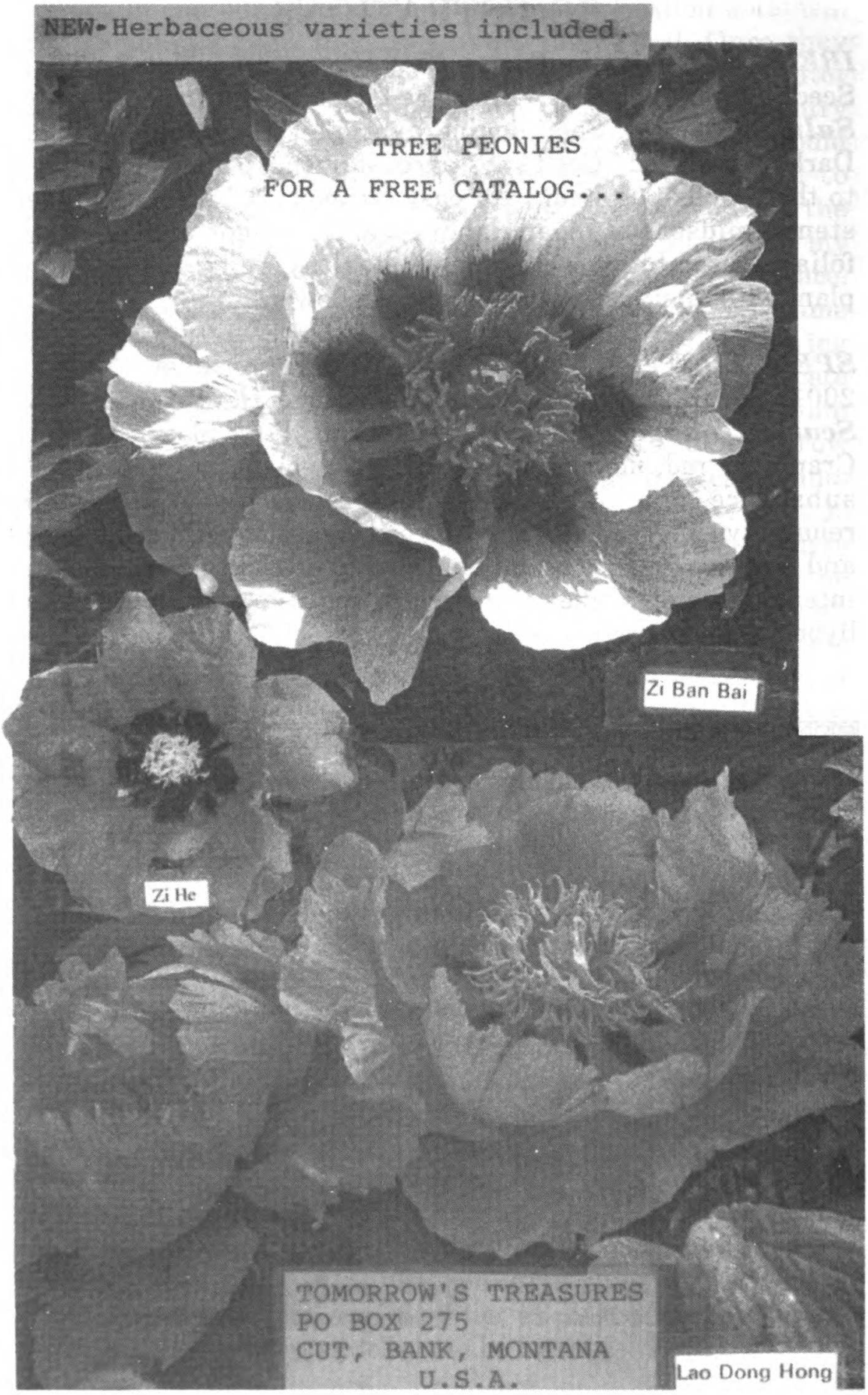
are grown can either be altered or a better location obtained. For 25 years I grew peonies in very heavy soil. Once they became established, they seemed to flourish more year after year. Ten years ago we moved to a new home in the country where the soil was very sandy, and I was told peonies would not grow well. Since this was our new home, I had to determine for myself whether this was true. For about the first six years the peonies did very well and I felt I won my share of ribbons at the shows, but then a change took place. The plants no longer increased in size and the stems became more spindly. It was quite obvious that my days of growing good peonies at this site were finished. I managed to locate some land a couple of miles away where the soil was medium to heavy loam and the owner was willing to let me grow peonies. The process of digging and dividing the weak plants growing in the sand was started. One advantage of sand is that the roots are easily cleaned so that it is easy to see where the division should be made. The change in growth of the peonies in their new location was amazing. Those plants with the spindly stems in a couple of years had become husky plants and are continuing to grow. Last year after a very dry hot summer other plants growing in sand were divided and moved to the new location. The divisions were of very poor quality and I questioned whether they would live, a concern which increased as the cold winter progressed. This spring every one of those divisions has survived and is growing.

With these experiences what can I say about "Peonies and the Environment"? First, I think there are many things that enter into weather conditions (rain, drought, heat, cold) that we don't understand and that it is not the effect of any one condition but the interaction of all of them. This also is something over which we have little control since man has not yet altered natural weather conditions to his "desires." The second is that peony life expectancy in sandy soil with partial shade is limited. The initial growth can be good but after about five years the plants retrogress rapidly. In essence there is still much we do not know as to why peonies do or do not flourish, but that should not deter us from growing them. Rather we can be encouraged to make the growing of peonies a challenge, recognizing that with each season there will undoubtedly be one more lesson to be learned.

REGISTRATIONS

IRENE (Peter Waltz, Exeter, New Hampshire - May 2, 2001) Seedling number 2722. Parentage P01898 (an APS seedling) X ***Salmon Dream***. Semi-double hybrid. First bloomed 1999. Dark maroon red. Good substance, stamens, pollen, seeds, one to three buds per stem. An easy bloomer, 30" with adequate stems, midseason bloom, above average vigor and healthy foliage resembling lactiflora. A healthy, reliable-blooming plant with an unusual dark attractive flower.

SPENCER (Peter Waltz, Exeter, New Hampshire - May 2, 2001) Seedling number 3729. Parentage ***Miss America*** X ***Scarlet Tanager***. Semi-double hybrid. First bloomed 1999. Cranberry red, more or less. Stamens, pollen, no seeds, good substance, one bud per stem, adequate bloom and good reliability. Midseason, 30" with good stem strength, good vigor and healthy foliage resembling lactiflora. The flower has an intensity which makes it different from the usual officinalis hybrids.



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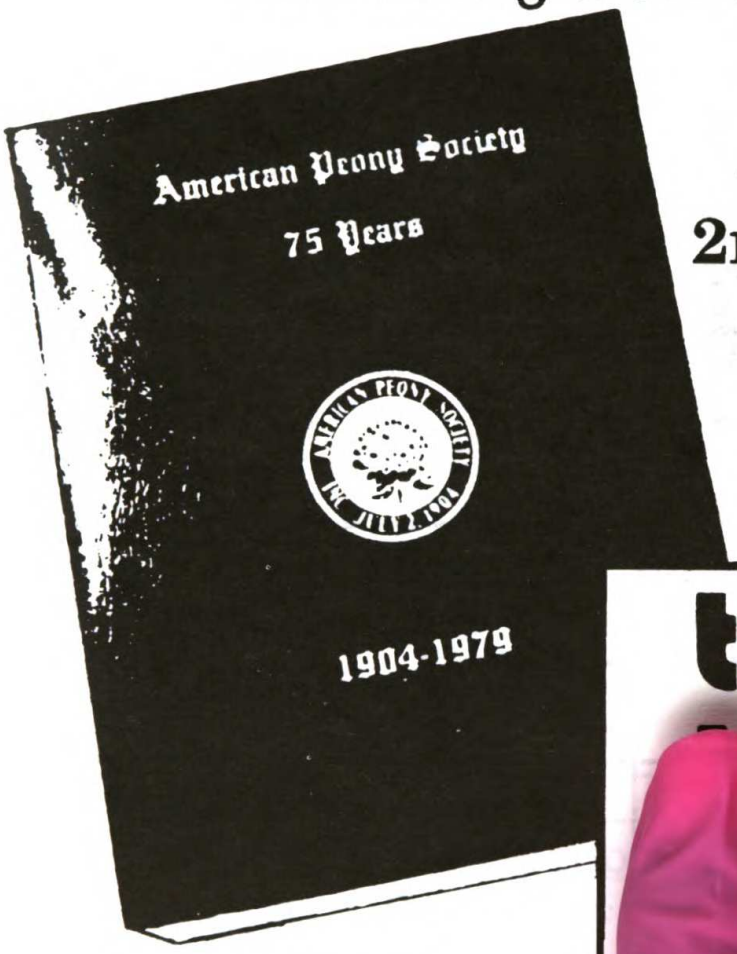

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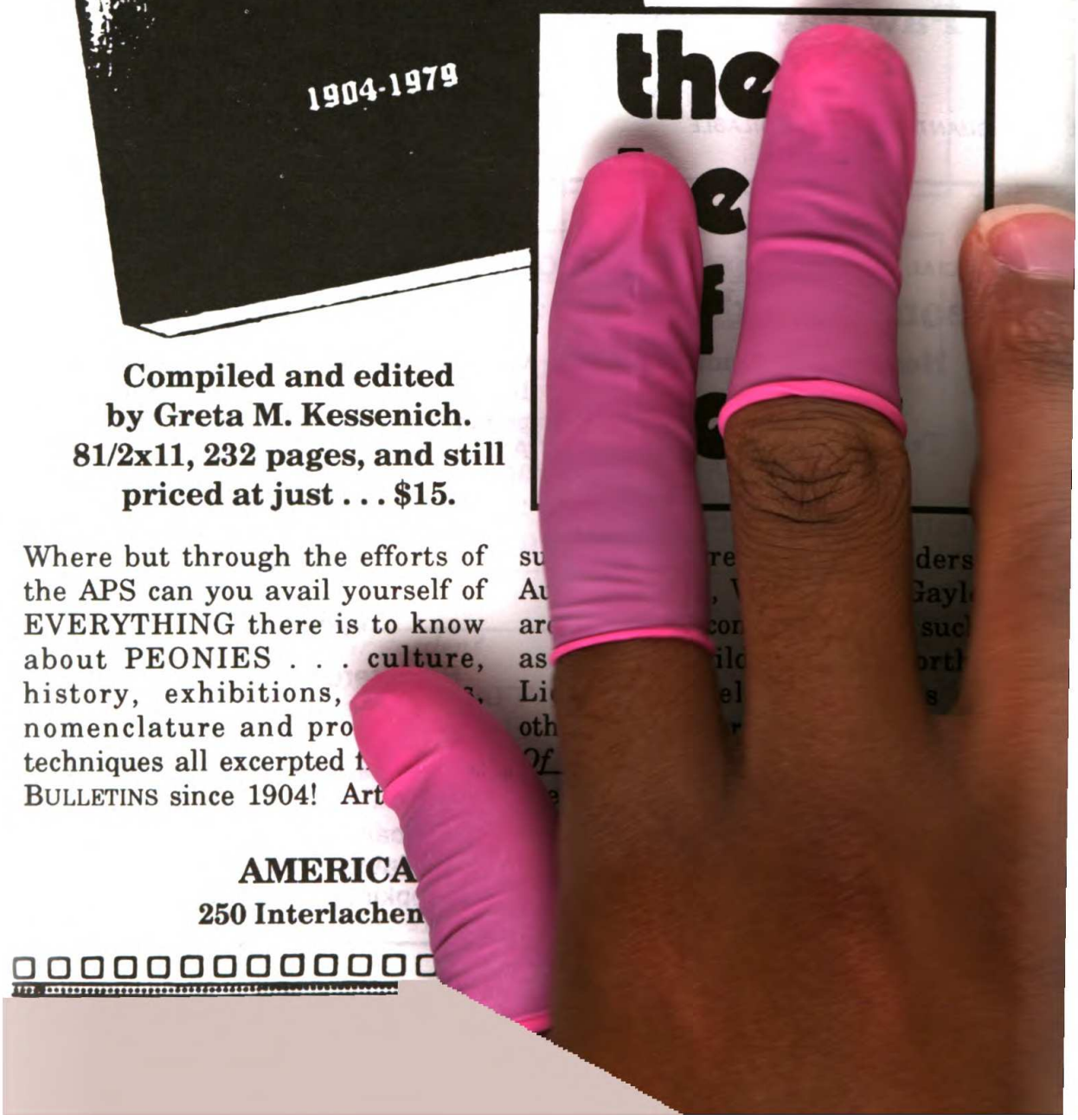

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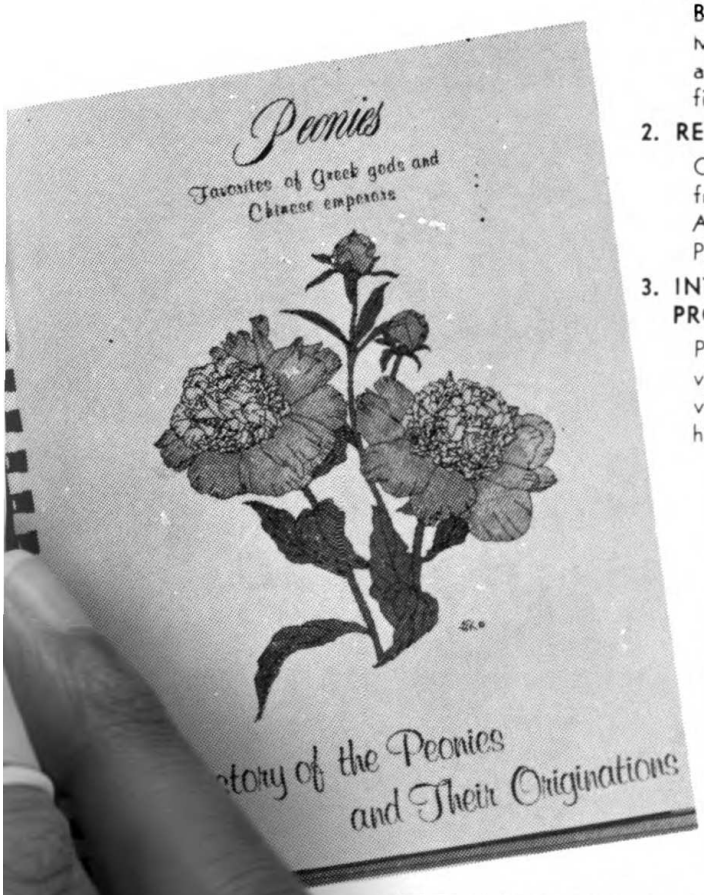

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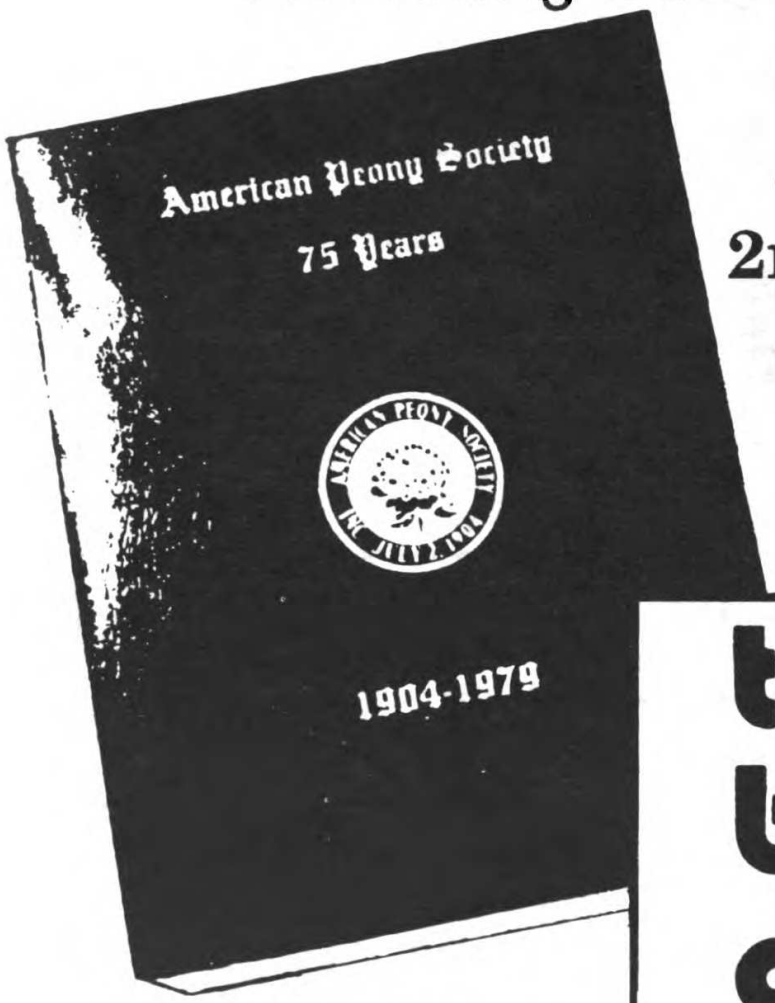

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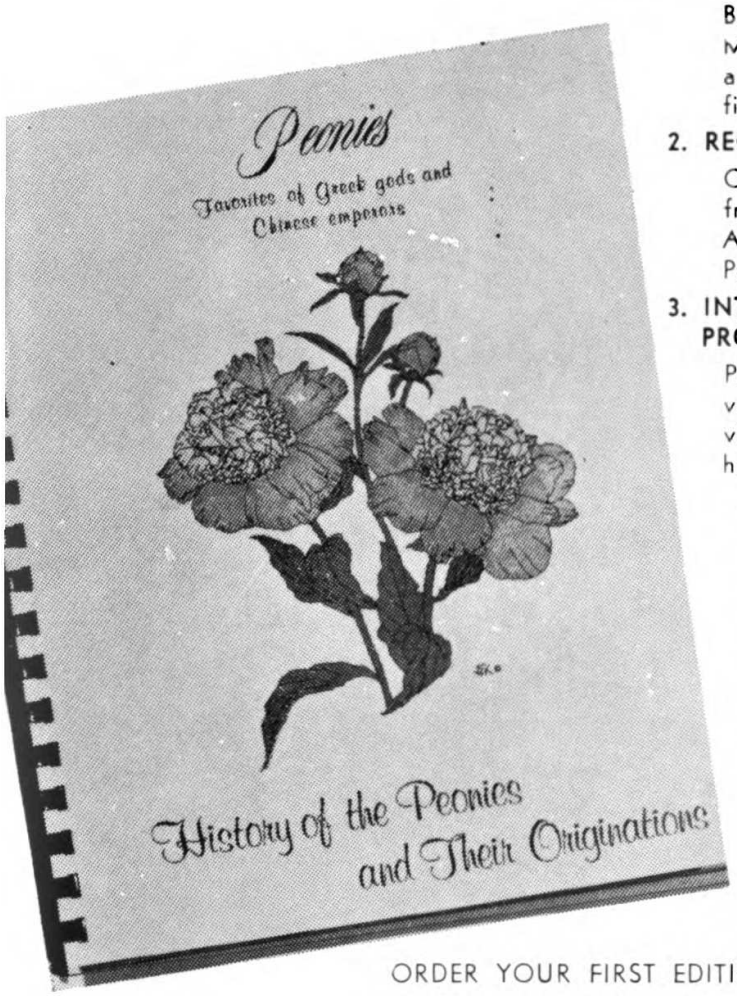

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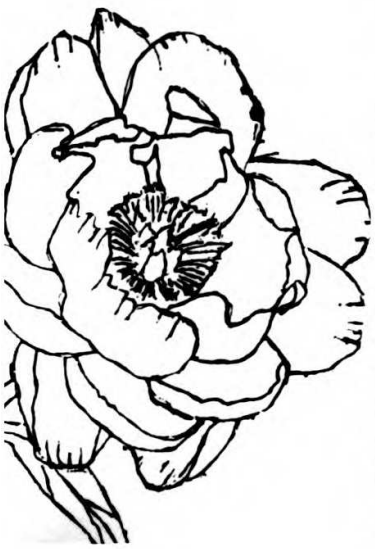

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Greta M. Kessenich, Secretary

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The Articles of Incorporation state: Section (2) That the particular objects for which the corporation is to be formed are as follows: To increase the general interest in the cultivation and use of the Peony; 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 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; and to promote any kind of the general objects herein specified by holding or causing to be held exhibitions, and awarding or causing or procuring to be awarded, prizes therefor or in any other manner.

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