JUNE 1989 NO. 270





Pat Stewart, Wanaka, New Zealand, with her Dried Honies 3



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Announcing

The limited publication of a "TABLE TOP" edition devoted exclusively to

AMERICAN

TREE PEONIES



63 BRILLIANT FULL COLOR PHOTOS True, tree peonies with their 1400 year history are not native to America. But a

history are not native to America. But a class of exceptional HYBRID tree peonies are. Efforts by seven world renowned American hybridizers* who successfully cross-pollenated P. Lutea with P. Suffructicosa are covered in this limited edition. Photos are razor sharp in detail and reflect all the brilliance and subtle hues of these native Americans, including the new generation of ITOH's.



Appended cultural notes cover:

- Tree Peony history
- Planting and general culture
- Propagation by root grafting of scions
- Pruning, fertilization, winter protection, etc.

 A.P. Saunders, William Gratwick, Nassos Daphnis, David Reath, Toichi Domoto, Don Hollingsworth and Roger Anderson

\$25 Postpaid

Compiled and edited by Greta M. Kessenich; photos by Roy Klehm and David Reath

Send check or money order to-

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

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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 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; and to promote any kind of the general objects herein specified 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: Junior or member family.....\$ 2.50 Single Triennial..... 20.00 Family Annual..... 10.00

Family membership, any two related members in same household One Bulletin Junior membership, any age through completion of high school Separate Bulletin For those who wish to further support the Society, the following special memberships are available.





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FROM YOUR PRESIDENT

Dear Friends:

This Bulletin will arrive as the peonies are in bloom. This is the time to select new varieties to add to your garden this fall. Each year I am surprised to see how much better double-flowered varieties sell than do Japanese or single-flowered peonies. If you have no single peonies, I'd suggest that you consider one or two for your collection. While the flowers do not last as long as those that are double, they offer a variety of interesting colors and are more resistant to the wind and rain than the doubles. My favorites would inclure Stardust (a wonderful white with excellent substance), Krinkled White, Dawn Pink (a very large flower) and Pink Princess (which has speckled petals). President Lincoln is the only widely available red single. Among the hybrid singles, some of the Saunders' varieties are spectacular. I like Requiem (a white) and Firelight (a light pink with darker pink flares). Burma Ruby is probably my favorite red hybrid single.

In recent weeks, The American Peony Society has lost two important members. Allen Wild and Louis Smirnow both were active members of the society for many years. While they each served as directors of the Society, their contributions were otherwise quite different. Mr. Smirnow served the Society as president and will be remembered for bringing many Japanese tree peonies and the Itoh-Smirnow hybrids to the United States. Mr. Wild introduced many herbaceous peonies to American Gardeners and helped the Society by donations and support of a number of specific projects. If our Society is to continue to grow and prosper, we need more and more involved members who will be willing to help fill the void left by Mr. Wild and Mr. Smirnow.

Kent Crossley



THE 86TH ANNUAL MEETING 84TH ANNUAL EXHIBITION OF THE AMERICAN PEONY SOCIETY June 2, 3, 4, 1989

JANESVILLE MALL, 2500 Milton Ave., Janesville, Wisconsin 53545

ARTISTIC DIVISION

THEME:

Filling Space in a

"Peonetic" way

Our artistic goal —

Both landscapes and floral designs are enhanced by this aristocrat of the floral kingdom. We show the peony's regal bearing in the following interpretive designs:

CLASS I

in an Oriental Manner.

CLASS II

in Wisconsin's Woodland Paradise.

CLASS III

in a Sculptural Form.

CLASS IV

in Wisconsin's New Star of the peony world, the Itoh Hybrids.*

* Peony Convention Chairman, Roger Anderson, will furnish designers with peonies from his garden. Mr. Anderson has devoted his hybridizing efforts to the Itoh Hybrids. This is a cross between the herbaceous peony and the tree peony which produces flowers of unusual beauty.

Co-chairmen:

Kay Moats of Mt. Prospect, IL

Wilma Keyes of LaGrange, IL

Both are certified Judges of National Council of State Garden Clubs, Inc.

ARTISTIC DIVISION RULES

- 1. All artistic exhibits must be made by the exhibitor.
- 2. An individual may make only one entry in a class; however, he/she may enter as many classes as desired.
 - 3. No artificial foliage or flowers permitted.
- 4. Peonies must be used in all designs; however, the flowers need not be grown by the exhibitor.
- 5. Designs will be staged on standard exhibitional tables covered with a white cloth. Space allotted for each exhibit will be a depth of 28" x 30" width.
- 6. Accessories, mats, bases, or backings may be used in all designs, and must be furnished by the exhibitor.
 - 7. Properties belonging to the exhibitor should be marked with



the owner's name (not in view). Neither the American Peony Society nor Janesville Mall will be responsible for damage, but every care will be given.

- 8. All entries must be in place by 11:00 on Saturday, June 3, and not removed before 5:00 p.m., Sunday, June 4.
- 9. All artistic designs must be registered by June 1, 1989. Please call or write to: Kay Moats, 406 S. WaPella Ave., Mt. Prospect, IL 60056, tel. (312) 392-4847, or Wilma Keyes, 350 Sunset Ave., LaGrange, IL 60525, tel. (312) 352-5610.
- 10. Judging Artistic Exhibits will be done by qualified artistic judges, and the decisions of the judges will be final.

A Grand Champion rosette will be awarded to the best in the show. A Reserve Champion rosette will be awarded to the second best.

THE NOMINATING COMMITTEE REPORTS on Nominees for the Board of Directors

Board of Directors having served their three-year term, expires this year 1989; namely: Don Hollingsworth, Marvin C. Karrels, Dr. Carl H. Klehm, Robert F. Schmidt, Dr. David Reath and Dr. Kent Crossley.

A letter was sent to each asking for confirmation or rejection to serve another three years. Since we did not receive any negative answers, the above nominees will be presented for nomination at the annual meeting.

There is one unexpired term to be filled. The committee presents the name of George Allen of North Canton, Ohio.

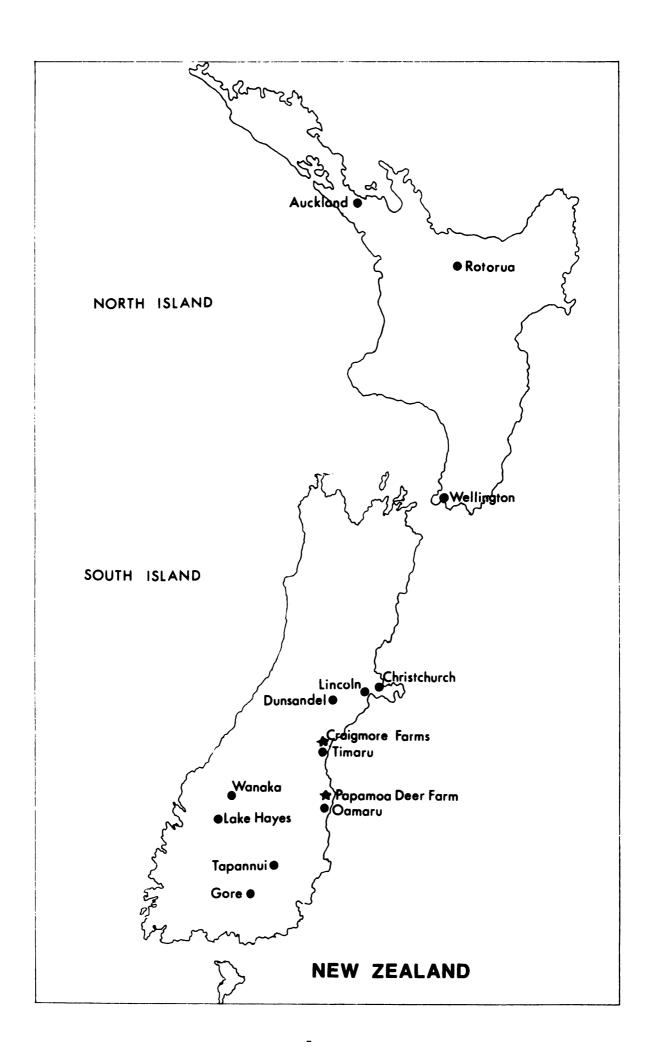
This has always been the home of Mr. and Mrs. Allen. At an early age he became acquainted with peonies, helping his grandmother plant and care for her peonies. Ever since, he has collected peonies of his choice, remembering the fragrance of the older double varieties of those early years. Landscaping with peonies is one of his pleasures—and one point of interest is the totem pole in his yard surrounded by Red Charm. His business of deep mine equipment takes him over the entire United States and Canada.

* * * *

This Bulletin may not reach you in time to see the peonies in bloom at the Andre Viette Farm and Nursery, Route 1, Box 16, Fishersville, Virginia 22939, but all the acres of daylilies are in bloom as well as perennials. A great place to visit.

In Colorado, near Denver, at Littleton, the Old Brook Commercial Gardens operated by Harry B. Kuesl, is a beautiful garden to visit. He has daylilies, iris and peonies. Address: 4 Larkdale Drive, Littleton, Colorado.







PEONIES IN NEW ZEALAND

Roy Klehm, So. Barrington, Illinois

Last January, Sarah and I, along with our two sons, Kit and Ken, were fortunate to have visited New Zealand. Our daughter, Nancy, elected to remain at home to care for the house, animals, and greenhouses. We did go with the intention of vacation activities and also to visit our peony-growing friends.

I can report that peony interest is high in the country, especially with farmers, ranchers, and growers who are looking to diversify. New Zealand is, of course, in the Southern Hemisphere, so peonies generally blossom in late November and early December. This creates an interesting marketing potential for cut flowers during this time to the major cities of the Northern Hemisphere. Wouldn't you like to have fresh peony blossoms for your Thanksgiving table?

Most of the fields I visited were in U.S.D.A. climate zones 6B, 7 and 8. This is a bit warm for maximum peony potential production but generally the plants did look normally healthy. Credit should also be given to the New Zealand people's farm efficiency and attitudes. Never have I seen such productive, tidy, efficient and diverse agriculture pursuits. Besides being excellent stewards of the soil, the New Zealand people (some of them like to be referred to as "Kiwis") are most friendly and hospitable.

We visited Sir Peter and Lady Elworthy's ranch where Jim Drake is in charge of Lady Elworthy's cut flower and tuber production fields. They were neat and tidy, and, I'm told, produced a good crop of quality blooms for the Auckland market. Fiona, as her friends call her, favored 'Miss America' and 'Nick Shaylor' as her best cut flower performance varieties.

Jim Drake and Fiona also have made progress in tree peony growing and are very interested in furthering their collection, and setting up a propagation program. Besides the peony operation, Sir Peter and Lady Elworthy operate a large sheep and cattle farm called Craigmore Farms near Timaru and a "state of the art" deer ranch called Papamoa Deer Farm just north of Omaru where the Waitaki River empties into the Pacific Ocean. The Elworthys have visited the U.S.A. twice to enjoy and observe peony growing.

Julie and John Allen of Dunsandel are raising seedlings from seed sent by Bill Seidl, and also have a good looking young peony cut flower field. Fiona is Julie's mentor and it looks like the lessons are being learned well. John's farm soil looked and felt much like the soil in Northern Illinois. They are good farmers and are on the flatland South of Christchurch which is called "The Canterbury Plains." Sarah and I had a worthwhile growers conference in the Allen Peony patch where we all traded information and ideas. The previous evening I had



spoken to over 95 interested peony people at MAF Tech in Lincoln near Christchurch. MAF is the technical function of the Department of Mines, Agriculture and Fisheries.

Lake Hayes, New Zealand, is just south of Queenstown and is the home of Bruce and Dorothy Hamilton. They operate a very fine peony tuber business called "The Peony Farm." Their present catalog lists 65 varieties including such fine U.S.A. introductions as America, Blaze, Coral Sunset, Do Tell, Liebchen, Marie Fischer, and Raspberry Sundae. Bruce and Dorothy hiked Sarah and I to the top of the nearby Remarkable Mountains for a splendid view of Queenstown and Lake Wakatipu. We also enjoyed a remarkable variety of Alpine plants, many of which were in full bloom. Even though it was the height of their warm to hot summer, there was some snow left at that elevation. In Queenstown, we all enjoyed river rafting, jet boating and helicopter riding, and my adventurous sons participated in parapenting off of 25' cliffs. I did see huge specimens of Paeonia lutea 'Ludlowii' at the Hamiltons but also in almost every good garden we visited. Most of them were loaded with seed pods!

The Hamiltons had been to the U.S.A. a few years ago, and do again plan to come this June to our National Convention. Be sure to meet them and talk peonies.

In Wanaka, Pat Stuart of the Wanaka Floral Studio showed me beautiful dried peony blossoms. I would have never imagined that dry peonies could be so beautiful and hold their color so well. Her personal garden was one of the most beautiful and intricate of all the gardens that we visited. Besides this, her husband, Keith, really knows how to barbecue!

Dennis Hughes of Tapanui owns and operates Blue Mountain Nurseries. The selection and quality of plants here is second to none in the South Island. Dennis told me that people drive 100 kilometers to shop at his garden center. I could see why. Dennis raises for his wholesale customers Paeonia delevayi and lutea 'Ludlowii' in larger size containers. His special personal breeding interest is combining the Ilam and Ghent hybrid Azaleas to create round trusses of double flowers of the most pleasing colors. Dennis' son is also studying Ornamental Horticulture at MAF Tech in Lincoln.

Further South is the Borough of Gore. I was told by the locals, tongue in cheek, that this is close to Antarctica. That morning it was so cold that I believed them. Gore is located just North and East of the far south city of Invercargil. Gordon Bailey has taken charge to revamp the beautiful public gardens of Gore. Gordon especially is adding herbaceous and tree peonies to the plantings. He showed me what is reported to be the only specimen plant of 'Joseph Rocks' tree peony in all of New Zealand. The gardens have a wonderful selection of specimen ornamental trees and shrubs and very beautiful beds of roses.



On to the North Island where a marvelous meeting and lecture was arranged by Bill Robinson of Rotorua. One hundred people came which showed the kind of interest this area has in peonies. Bill owns and operates The Thermal Nurseries, a fine large garden and plant center specializing in rhododendron and camellias.

My family especially enjoyed Rotorua as Bill arranged trout fishing for Kit. We dined that evening on Kit's catch. Both sons also were treated to a helicopter tour of the surrounding lakes, mountains and thermal areas. Bill's friend, Wally Miller, also gave us a Sunday tour of all the interesting Rotorua areas. The thermal areas reminded me of Yellowstone Park. The redwood forests there reminded me of Northern California. The trout park was very beautiful and teeming with fish.

We finished our visit with a drive from Rotorua to Auckland through lush and green farm areas. The sun was so bright and the grass seemed so green that it was hard to look at the countryside even with sunglasses. We stopped at the main park in Auckland before our flight home and enjoyed the huge and old specimen trees like 100' tall Norfolk Island Pine.

Some of my personal quirks reflecting back on the trip and seeing things through my American eyes are . . .

- * I only found three water drinking fountains in all of New Zealand. We were constantly thirsty as we went from our winter to their mid-summer.
- * I've never seen so many sheep concentrated in such well-kept paddocks. New Zealand has sheep everywhere.
 - * I'm not used to customary mid-morning and mid-afternoon teas.
- * When one is to drive on the left side of the road as is the law in New Zealand, look especially to your right before you enter any intersection.
- * The friendly neighborhood Dairy Stores are everywhere and add a homey touch. Most are independently owned and operated and aren't cut out of similar molds like our convenience stores.

All in all, I highly recommend New Zealand as a wonderful vacation experience. The people are very friendly and helpful, and the country offers a wide variety of climates, scenery, and activities.

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



DORMANCY IN PEONIES

Research at Penn State. Supported by J. Franklin Styer.

Plants in temporate and arctic areas adjust to winter by becoming dormant. This is not just a reaction to colder weather, as people suppose; far from it! The mechanics of this system is complex, and should be understood by gardeners. The peony gardener has something to gain.

Dormancy is the termination of growth in stems and leaves. It is not in any sense a cessation of normal activity; roots continue to grow as long as the temperature in the ground and supply of nutrients are favorable; leaves stop growing but continue activity; and stems change their growth into bud formations. The coming of dormancy differs between plants in their outwards aspects; the shape of buds being greatest. For example, a cabbage is a bud. Fall-blooming plants like Chrysanthemums produce flowers when technically dormant. Seeds are dormant plants.

Plants don't wait to become dormant when temperature fails; instead they become dormant much earlier. The leaf is a laboratory, producing foods. But in addition, it produces scents, pigments, "hormones," and an array of proteins and other chemical substances. Among these are what we may call soporifics, and auxins. The leaf clears these out at night and they move down through the stems. By day, the plant destroys these substances; but as days grow shorter and nights longer, these chemicals accumulate and put the tendency to grow on hold. The critical date for this is June 21—dormancy dates from that day.

Before dormancy is complete, say in July, the substances we are talking of, acting like hormones, stimulate stem tissues to produce buds in axils of leaves and ends of branches; while if not already formed, seeds are produced. Seeds are buds and have complicated dormancy as many of our members have found out.

Now let us assume that buds are all formed and have become truly dormant, and leaves (which have remained active all this time) have been killed by cold weather; what can bring the plant out of this condition? Not warm weather, but cold weather. Cold destroys the auxins and other substances very gradually; thus, the plant is assured a long rest, unaffected at all by warm Fall days.

Research has found that the amount of time of cold remarkably fits the local needs to hold the plants dormant. We find that peonies, (P. lactiflora) require an average of 480 hours at 30 to 40 degrees Fahrenheit (0 to 6° C.). Temperatures above or below prevent this change. This is the time needed at the plant crown, not in the air above.

Research has followed this up and tells us much about peonies.



The peony garden may be cut to the ground once the leaves have provided the chemical base for dormancy, even as early as July 15. A peony has two stems, the crown and the herbaceous above-ground stems. Leaves stop growing upon blooming—thus dormancy is on its way. The flowering clinches this and forms seeds. The action moves to the underground crown and draws an invisible line near the base of the dying upper stem, below which new buds appear. These new "eyes" are set in relation to the soil level, not the crown level, eventually raising the crown to near the soil top, if the plant is too deep.

The "eyes" are found to contain primordia of the following year's top growth, with leaves and flowers.

Now, we can explain the action of cultivars selected from seedlings. If a patch of seedlings in Alabama contains one strong plant, the chance is that this plant only requires 375 hours of cold temperature between 30 and 40; if those seedlings were moved to Minnesota all of them might be vigorous. The original stock imported to America came from Northern France and England, where winters are long. The seedling growers might test their new cultivars in the South and give buyers advice on this point. In southern Pennsylvania we have found distinct differences in new peonies between those from Kansas and those from Nebraska-Minnesota. (I hasten to say that most of all these did well, but when moved to Eastern Virginia the difference became very noticeable).

In the garden, peonies must be uncovered in winter to make sure the crowns get cold enough. In the South, the crowns must be kept shallow in the ground. In the North, the opposite is true, for the best area of 30-40 in winter is generally at 4 inches depth.

We suggest that dealers hold peonies above 40°, or they may unknowingly break dormancy. We have often been shown plants just planted in September which were growing. Such plants had been kept in cold storage over a year; of course, dormancy was broken.

Anyone interested in dormancy might try this experiment. Pot a peony and let it bloom in a greenhouse; as of June 21 turn on a light over it for 30 minutes each midnight. This stops auxin formation—the plant will never go dormant. And no new eyes will form. We have some plants four years old, unchanged, never growing or blooming, but leaves are green.

One of the odd results in this research study was to find the M. Jules Elie often comes up and blooms a week to ten days late in Virginia, while in New York state it is the first to bloom.

-J.F.S.



RESTORING THE PEONY SPECIES

Leo Fernig, Bonne, France

This is a progress report from a group of gardeners who devote part of their energies to the peony species. In late 1986, the APS BULLETIN published an article by Trevor Nottle, the Australian garden authority, in which he described the progressive destruction of the habitat of wild peonies, especially in the Meditarranean region, and called for some remedial action. In following this up, a number of us have formed a network, using the acronym SPIN—species peony international network—to enable us to cooperate in this particular field. We now have around 30 members scattered across a dozen countries of Western Europe, North America, and Oceania, about the right size for the type of voluntary effort we represent.

The amateur gardener may have various reasons for growing the wild forms of peony. They can be the basis for producing new hybrids, for example, in regions where the early flowering season of the species would be an advantage because of hot, dry summers. Then again, the species more than justify a place in the garden: they extend the peony flowering season and their single blooms have a fresh beauty that the double or full hybrids never approach. Indeed, it is amusing to note the tendency among the most successful hybridists to select and develop the simpler forms of their crosses—re-inventing the wheel, as it were, in the plant kingdom.

But a still more powerful motive for cultivating wild peonies is the ecological one evoked by Trevor Nottle. We are slowly becoming aware of the rapid degradation of our natural environment, with many species of plants and animals disappearing every year. While the issue is one that confronts governments and international organizations, individuals too can play a part in working for solutions. Many of us believe that a gardener has a duty to be concerned about conserving the plants that give her or him so much pleasure; with the peonies, this means the wild stock from which all our garden cutivars are derived.

The hard facts of plant extinction are difficult to document. We do know that the Balearic peony, cambessedesii, is on the endangered list; it has completely disappeared on Minorca and is extremely rare on the other island, Majorca, where a combination of development for tourism and grazing by goats appears to have driven the plant to a few isolated stands. Another site, the Monte Generoso in Switzerland, housed P. officinalis and was described as a blaze of pink flowers in May by writers of the 1920's; I'm told that you couldn't find a single plant there now, even though it is supposed to be protected in Switzerland. However, it's more by inference than direct measurement



that we believe the peony species to be at risk in the wild—they are attractive flowers to be dug up or plucked, they multiply slowly, their mountain habitats are increasingly being used for tourism.

WHAT ARE THE PEONY SPECIES?

For a good answer, readers need only to refer back to the article by Kendall W. Gambrill, "King of Flowers, Queen of Herbs: the Peony" which was reprinted in the December 1988 issue of the BULLETIN. Mr. Gambrill gives a clear and readable account of the main species and their garden requirements, on the whole following the groups and names established in 1946 by F. C. Stern in his classic Study of the Genus Paeonia.

One of the members of our Network, Ray Cooper, who lives near Manchester in England, has made an extensive survey of what botanists have written about the peony species since Stern's time. He carried out this piece of work as a contribution to the purposes we share in common: in trying to preserve the species, we obviously have to start by knowing what plants we're talking about. Some of the broad conclusions of the survey can be briefly given. A few new species have been identified and described—one from Tibet, named sterniana in honor of F. C. Stern, two in Greece, parnassica and hellenica, and in Turkey, turcica. The botanists who issued the Flora Europea in the 1960's have differed from Stern by treating the two old Western European peonies, mascula and officinalis, (roughly, the southern, Mediterranean type and the northerly Alpine one) as complex names, covering a number of subspecies hitherto regarded as species. I doubt whether gardeners will be much affected by such decisions, but it is needful to keep terminology in line, if only to avoid confusion over a period of time. And another conclusion one gets from the Cooper survey is that Soviet and Chinese botanists have been devoting a lot of attention to the many peony species native to their countries. The former in particular differ considerably from Western scientists in their definition of "species," so that we find a Georgian botanist identifying 13 species in the Caucasus, against the four or five enumerated by Stern. The big issue, I feel, is whether natural hybrids are to be counted or not-for many of the peony species are notoriously promiscuous!

As our Network has taken shape, we've been able to top the experience of quite a range of people, many being skilled gardeners who have been hunting for the species for years. It does appear that the state of affairs could do with clearing up. A number of nurseries send out plants labeled wrongly as species, or use incorrect names; selected strains, too, have evolved over the years from popular species like arietina and peregrino, with trade names that add to the confusion. This observation is not intended as criticism of our nurserymen—the point is that species represent too small a part of their stock to justify more detailed attention. On the other hand, the record of botanic



gardens isn't much better. I know at least four, all famous, where the peony collection is only about 50% correct and/or authentic. Again, gardens are chronically short of staff, with so many demands made on them, that one genus, usually held in a single large bed, cannot receive preferential treatment. Despite these problems, the members of our Network, acting individually, have managed to find and grow a wide range of the species, at times from wild-collected plants or seed. During the past two years, as a group, we've been able to obtain a fair amount of seed from the wild, and one of our members, K. Sahin, a Dutch horticulturist with a private love of peonies, has been most helpful in this respect. Another member, Gian Lupo Osti (whom readers will recognize from articles he contributes to the BULLETIN), travels and mountaineers a good deal, and has collected seed from peony species he has found around the Mediterranean. So it is that a small group can, by pooling its resources, make quite a bit of progress in tracing and obtaining wild material.

PROPAGATION AND RECORDING

A great deal is already known and written about raising peonies from seed, as innumerable articles in the BULLETIN show, and even though the writers are mostly concerned with raising hybrids, much the same rules can be applied to the species. Freshness of seed seems to be very important; stratification; patience and care with the seedlings, which should not be disturbed too soon. Once well started, the species peony is a pretty hardy subject, although the received wisdom is that some of the Mediterranean species (clusii from Crete, for instance) are tender in damp and very cold climates. However, I believe we need to try out these plants in a wide range of situations before coming to conclusions about their hardiness.

At a fairly early stage of the Network, Will McLewin, another English gardener and a mountaineer, circulated a paper on authenticity, in which he urged that the group should concentrate on growing the species from wild material. He gave a simple code for plants and seed-4 being the ideal, collected directly from the wild, 3 being seed from a 4-level plant in a garden, but obtained by hand pollination or "strong isolation." The lower numbers 2, 1 or zero, would, of course, be attached to plants or seed or doubtful validity. With this policy, our Network thus focuses on the 4/4 and 4/3 plants—at least, treats these as the main object of our collaboration—and we have now begun to set up the SPIN Pedigree Book. This rather pretentious name goes to a record book which I'm maintaining, to set out the mature, authentic plants that our members grow and from which, in due course, they will be able to propagate either by division or by seed. For each submission, we will have a sequential number-species name-grower's surname—date of registration; then follows an open-ended abstract to say where and when and by whom the plant was obtained, along with its characteristics. We hope to accumulate here the data on the re-



quirements, hardiness, and so on, of a particular species. The abstract could also, of course, record the names of other gardeners who have obtained material from the first grower.

EXPANDING CULTIVATION AND AVAILABILITY

To know what the peony species are, locate them in the wild, and from this material grow and record plants—these are first steps on the way to conservation. And I fear we shall be some years yet with the first steps. Authentic plants from the Caucasus, Soviet Asia and China must remain high on the list of priorities, and, of course, that elusive P. sterniana from Tibet, named in 1959, and now all but lost to cultivation. But sooner or later, the Network should have a reasonable Pedigree List, and members will have plants from which to handpollinate and make divisions. Maybe we will specialize, each growing clump of those that do best with us, trying out single specimens of the others.

The point then will be to disseminate the species as widely as possible, maybe restore some of the natural stations. Swapping plants with neighbors and friends is the normal commerce of gardeners; but we should, too, interest the nurserymen and work with botanic gardens to improve authenticity. And for some members, there may be an opportunity to move their surplus material into commercial channels. The essential goal then will be to maintain records, so that when someone grows a peregrina, it is a peregrina.

SPECIES

Chris Laning, Kalamazoo, Michigan

QUESTION:

Is it advisable for us to start using the species, or should we build upon what has come to us from past breeders?

Of course, anything written on this question will be just an opinion but would be good material for thought. Species peonies are so different from the cultivated hybrids that they may be considered "collectors' gems" that need no improvement except in hardiness. But that's just it! Some species like cold winters while others can't take frost; some species like woodsy, or mountainous; or hot dry summers with wet winters, while others like cool moist summers and cold winters. So to have a complete garden of species peonies, an engineered micro-climate to fit all needs would be required. Not practical!

Pollinate the wild species right where they live by the use of a pollen exchange organization.

What can be accomplished, or rather, what do species have to offer in adding to our already great gene pool?

A look at the present state of the art shows:



- P. coriaceae hybrids offered lavendar strain and Eclipse for black
- P. mlokosewitschii hybrids lead the way to yellow flowered hybrids.
- P. lobata crosses gave our bright reds.
- P. macrophylla crosses provided early and very early blooms.
- P. officinalis x lactiflora gave us Red Charm, etc.
- P. emodi crosses were needed for the little Windflower beauties and White Innocence.

And Saunders Quads offer a genetic combination that provides variety enough to keep us busy for years, etc.

Untried species offer the unknown.

Species peonies are still important to the hybridizer—the work is not yet completed and never will be finished, but for now we have a gene bank that offers almost unlimited possibilities and opportunities.

It may be wise to investigate the time frame of the more difficult species crosses. Sterility plays an important part in any planned hybridizing program. White Innocence, a lactiflora x emodi cross, for example, has stopped me cold—never a seed in the whole row! And what shall we say of Red Charm? It, too, is uncooperative!

Breakthroughs often come along just before one's patience is exhausted or even afterwards while someone else succeeds. The great example to encourage you is the Itoh cross! The quest goes on and on, and now to make the Itoh cross fertile!

Most of the hybridizing work that Prof. Saunders carried out was with lactiflora (albiflora as he called it) as one parent and all other species that he could find as the other parent. Lack of fertility was the main difficulty he encountered, but, as he said, after many years an occasional seed would be found in most of his crosses. This delayed reaction is still a problem today so maybe after twenty or thirty years we'll get an occasional seed from an Itoh cross.

I'm wondering if instead of using lactiflora as one parent of a difficult cross we use tetraploid advanced generation clones that are now available, we might get even greater results than he did.

As of now, we have some wildlings in captivity which, though homesick, can be used for further hybridizing, such as P. mlokosewitchii, daurica, P. tenuifolia, P. decora. It would seem that in using and mixing up of the genes of this group, a beautiful array of dwarfs could be developed.

Any gain that we get is a step forward—there is no step backward. So the answer to the original question is—try anything and everything, experimenting and maybe do a little planning, but above all, have fun!

—CHRIS



ROY PHERSON

E. LeRoy ("Roy") Pehrson of Lafayette, Minnesota, died in February, 1982. But as early as 1976, due to declining health and with the aid of a neighbor girl, Mary Jo LeGare, he began to distribute his breeding stock and seedlings-both bloomed and unbloomed-to several hybridizer-friends. Knowing that none of his own family members were interested in carrying on his work, he realized this was the best way to preserve the fruit of his labors. He asked only that he be given credit as the originator of any seedlings which, after further evaluation, proved worthy of being registered and introduced. As one of the recipients of these plants, I am now fulfilling Roy's trust with the following seven registrations. Although Roy kept meticulous records, children had playfully pulled out many garden stakes and labels one season, and so some registrations have no pedigree. These plants were also received without any seedling number of numberletter "name." I've therefore given Roy's description for each, along with my own assigned number-letter designation, under which plants have been redistributed to other growers and hobbyists. These cultivars have all proved to be healthy and durable after ten years of "trial" (open field conditions, no babying) in my garden. There are likely to be no other Pehrson originations from my garden.

—Bill Seidl

The serious plant breeder trying for a particular cross always has a plant or plants, with every flower used and capped hoping for a generous supply of seed that may give him the flower he is working to achieve. In a recent Bulletin, Roger Anderson used three plants of his Martha W hoping for a yield of seed to further his activities with the Itoh Cross.



This one shows what a well-dressed seed parent should look like near the close of the pollinating season.

When work was being done on this plant all buds which had opened enough to expose the center were pulled off. Others not yet opened were pollinated with tree peony pollens and bagged immediately. A close look at this picture will reveal some lateral buds almost overdue for pollination. Don't worry about them. It was taken care of.

I have three good plants of this lacti jap (Vesper). I like it because it makes nice seeds, because it stands up well, because it has strong laterals, and because I already have not less than 8 "Ito" type seedlings from it.

This picture should illustrate better than words can do the sort of effort which is desirable when difficult crosses are attempted.

(Bulletin #207, June, 1973) Roy Pehrson



"Some may note the departure from the original 'Ito' spelling first offered as a translation of the Japanese characters by one of Lou Smirnow's Japanese correspondents. The 'h' was added subsequently, by Mr. Itoh's widow, and we honor her wish with the revised spelling."

Bulletin #211 — written by Dr. Raymond Scheele, Dix Hills, New York, article: Lou Smirnow—Man of the Peony Past and Future.

OBITUARIES

LOUIS SMIRNOW

Born in Elizavethgrad, Russia, January 15, 1896 — died March 12, 1989, Brookville L.I., N.Y.

Peony history will record that Louis Smirnow contributed information that has brought a change in the 20th century, in establishing a genetic pool for the tree and herbaceous peony.

Lou began writing about tree peonies while he was still in the manufacturing business. He became known world-wide and did more to promote the tree peony than any other single individual, giving tree peonies a prized and visible place in private gardens, as well as public parks and arboretums throughout the world.

He kept the tree peony constantly before the American public, writing in every issue of the BULLETIN about the beauty of the tree peony. Articles appeared in newspapers and magazines and in foreign countries. In Israel, he founded a memorial garden of his tree peonies. He was an international ambassador, always talking about the tree peony, and his quest never ceased in trying to find new plants. He was the first to publish an all-color catalog featuring tree peonies. It served as a correct nomenclature, having Japanese names, with descriptions of each. He obtained this information from Japan on one of his many trips. He was meticulous in his writing and spelling of the Japanese varieties. He imported peonies from Japan which at times was disappointing because of the misunderstanding of the interpretation of colors and names. Peonies were shipped under the name he ordered but the color and variety were not the same. This was very frustrating, so in time he began growing them in his own nursery in Brookville, N.Y. With these many problems, he continued to promote his beloved tree peony.

He was President of the American Peony Society from 1962-1964. He was a member of the Board of Directors from 1955-1972.

In 1975 he was awarded the American Peony Society medal with the inscription reading "World-Wide Collector—Challenging New Frontiers—Mr. Tree Peony. His role has not been that of a hybridizer but rather a seeker after newer varieties, going to endless trouble to discover new plants and make them available to peony lovers throughout the world. No single individual alive has played so large a



part in the magnitude of expansion of the peony genetic pool."

In 1981, he was awarded the prestigious Saunders Memorial Medal, which is only given to those of outstanding contribution to the peony. This medal was awarded by Silvia Saunders saying: "This medal is long overdue" as she presented it to "Our elder Statesman, Louis Smirnow."

It was on one of his trips to Japan that he at last had found a yellow herbaceous peony: a true yellow as we know the color yellow to be. But it was something more than that; this peony was achieved by the crossing of a herbaceous peony KAKODEN by tree peony, ALICE HARDING. Mr. Toichi Itoh, a famous hybridizer made the cross, and in 1963 the plants bloomed for the first time. Lou purchased the plants, of which six were worthy of introduction.

The first offering of these plants in America was in 1967: Yellow Heaven, Yellow Emperor, Yellow Crown, and Yellow Dream.

Because of this impossible cross, as it has always been hailed, "this contribution by Louis Smirnow may not be fully realized for years to come, as the vastly enlarged possibilities of genetic combination are gradually worked out."

ALLEN J. WILD

Mr. Allen J. Wild, of the Gilbert H. Wild and Son Nursery of Sarcoxie, Missouri, died on February 25, 1989. Mr. Wild was born on June 13, 1903, and was 85 years old at the time of his death.

Allen Wild's father, Gilbert H. Wild, first sold peonies at the age of eleven when he received three dollars for a crate of blooms sent to an Omaha wholesaler in a freight car of strawberries. He devoted the rest of his life to the nursery business. Allen Wild followed his father's career and the family firm grew dramatically under their leadership. In 1949, the Wild Nursery first published a full-color catalog. Four years later the catalog stated "If you can visit our fields when they are in full bloom, we believe that we can show you a million flowers." In that year, the Nursery raised 135 acres of over 1,000 varieties of peonies. Cut flowers were a major crop until the late 1950's, with as many as nine refrigerated rail cars of peonies shipped in a single day. In 1957, severe cold weather in early April destroyed many of the peonies used for cut flowers and this part of their business was discontinued.

Allen Wild was an active member of the American Peony Society and served as a director from 1951 until the time of his death. He was an avid exhibitor and won gold, silver and bronze medals for his displays. He generously donated roots to the Society. He was instrumental in helping arrange publication of the first Handbook of the Peony (1953) and supported development of the Checklist (1956) that later became part of the "History of the Peonies and their Origina-



tions" which was published by the Society in 1976.

Mr. Wild and his father began hybridizing peonies in 1925 and developed many wonderful varieties: Paul M. Wild (named for his brother who died as a child, and regarded as one of the best red double peonies ever introduced), The Mighty Mo, and Hargrove Hudson being some of their finest introductions. Mr. Wild also introduced and sold peonies of other hybridizers. Notable were those of Colonel Nicholls, Dr. Cooper, Ernest Flint Kelsey and Dr. White. The Wilds purchased the Auten peonies, introduced many of his varieties, and assured continuing availability of many wonderful hybrids. Mr. Wild also popularized several of the outstanding peonies of his friend, Mr. Myron Bigger.

Mr. Wild's wife, Haidee (who died in 1983), worked closely with him in the business. Their children: Shirley Gene and James H. Wild, have operated the Nursery in recent years. During the last decade, the Wilds have increasingly emphasized the growing of hemerocallis.

Allen Wild made major contributions to the American Peony Society and to horticulture. He will be missed by all who knew him.

* * * *

NATHAN RUDOLPH

Nathan Rudolph of Lakelawn Boulevard in Aurora, Illinois, passed away on February 4, 1989. Nathan was 84 years old. For many years he hybridized excellent bearded iris and tetraploid hemerocallis in his side yard. His Iris 'Pink Taffeta' won the Dykes Medal in 1975.

Klehms introduced two excellent hybrid peonies that Nathan developed. 'America' was named and introduced in 1976 in honor of our country's 200th birthday. It is among the best and most vigorous of the bright red hybrids. 'Salmon Chiffon' is a very delicate salmon hybrid that Nathan also developed. These two Rudolph selections are arguably in the top 10 of modern herbaceous hybrid peonies. His third variety, 'Rubyette,' will soon be released. Nathan told me that the triploid, 'Burma Ruby,' was the pod parent for both America and Rubyette.

Nathan's wife, Thelma, and daughter, Linda, survive. Thelma was instrumental in helping to select and name selections for all of Nathan's fine iris and daylilies. Ken Major of Cosby, Tennessee, was a close friend of Nathan and helped him in his extensive garden and breeding program for the last ten years. Ken will continue Nathan's breeding lines at his new home in Tennessee.

I will miss Nathan. He was a kind and thoughtful man who I remember visiting as a very young child in the back seat of my Grandfather's car. Dad and Grandfather would spend hours talking peonies and iris with Nathan. Little did I know then as an impatient youngster, that Nathan would also one day teach me.

-Roy Klehm



OLD SEED CATALOG BARGAINS

By R. W. Tischler

Never has a seed catalog been so welcome in our home than a copy of a 1913 Farmer Seed and Nursery Company book. I received this copy from my wife (Addie) as a Christmas present this year. Fortunately, she was contacted by a local antique dealer who knows we collect Faribault items of years gone by.

This was the final year that they printed both a German and English catalog. I have the German version. Both catalogs were of 120 pages. The front and back cover, inside and out, were in beautiful color. The other pages contained many black and white pictures, well described. The Farmer Seed and Nursery was started in Chicago in 1889. They moved to Faribault, Minnesota in 1893, and are still in operation here. When they first started, they grew most of their own seeds and shrubs. They also carried a complete line of garden equipment, books, chicken eggs, trees, and many other items that were of interest to the gardener and farmer of that day.

As I cannot read German, I had to rely on the Farmer Seed collection of catalogs. They have a complete set from 1916 to date. Our local Historical Society has others of older dates, going back into the 1800's. Here I found a set of both English and German printed catalogs of 1907. These were of great help to me in translating names and prices. I wonder just how many catalogs were issued at that time in both languages?

In those days, a packet of garden seed sold for 5¢ an oz; 10¢ a ¼ lb; 60¢ a lb, postpaid. Sweet corn was 5¢ a packet; 15¢ a pint; 35¢ a quart, postpaid. Hatching eggs \$1.75 for 15; \$4.50 for 50; sent express collect. A standard 5-pronged walking cultivator, complete for \$3.00. Seed potatoes sold for 3 lbs. for 50¢ prepaid; 40¢ a peck; \$1.35 a bushel, not prepaid. Roses, two years old, 30¢ each; 3 for 80¢; 12 for \$3.00, not prepaid. Iris, \$5¢ each; \$1.50 a dozen prepaid. Mixed iris, 10¢ each; \$10.00 a dozen. Ash trees 4 to 5 feet for 25¢ each; 12 for \$2.50—5 to 6 feet, 35¢ each; 12 for \$3.50. Those were the days.

My main interest in this catalog was the listing of peonies. In the early catalogs, it was not large, but some of those listed varieties are still grown and sold today. Others have been eliminated. In 1906, they listed only a mixture by colors. Red was priced at 25¢ each; \$2.50 a dozen; white at 35¢ each; \$3.50 a dozen; pink at 25¢ each; \$2.50 a dozen. They used the wording, Herbaeous Paeonies. They stated it was surprising that so noble a flower, almost rivaling the rose in brilliance and color and perfection of bloom, is so easily grown. It may be truly said of them, "that they are as hardy as an oak tree. Their vigorous habit and healthy growth, freedom from all diseases and insects, are important arguments in their favor." Each year they add to their growth.

In 1913, they listed the following varieties at 20¢ each; 3 for 55¢; 6



for \$1.00; 12 for \$1.75; postpaid. They were one- to two-eyed plants: Charlemagne, Delicatissimo, Duchess de Nemours, Festiva Maxima, Jeann D'Arc, Latipetela, Louis Van Houtte, Marie Lemoine, Officinalis Rubra, Triomphe De L'Exposition De Lille and (Joe) Calot.

In 1916, they listed a full page of peonies. This list included Felix Crousse, strong, two-year-old plants for 60¢ each. From some pencil marking beside each variety listed, I figure they paid 16¢ each for these roots of Felix Crousse. Other roots ranged from 7¢ for Rosea Superba to 10¢ for Modeste Guerin. In this catalog they listed the following: Felix Crousse, Golden Harvest, Meissioner, Midnight, Rosea Superba, Agnes Mary Kelway, Duchess de Nemours, Elegans, L'Esparence, Louis Van Houtte, Modeste Guerin, Prince Imperial, Purpurea Siperba, Queen Victoria and Triomphe De L'Exposition De Lille. A mixture of color was sold for 20¢ each; 3 for 50¢; 12 for \$1.65; 100 for \$12.00 postpaid.

In the 1929 catalog, they listed just six peonies, but here they have gone to a 3 to 5-eyed division. They offered many of the same varieties as listed in the previous catalogs. These varieties were listed at 65¢ to 75¢ each, postpaid; 3-year-old clumps at \$1.50, not postpaid. With this listing, they also advised you of Faribault as the Peony Capitol of the world, and of the wonderful peony parade during the blooming season in June. "Over 25,000 visited our city during this parade last year." I well remember this event as that year I helped decorate a float with peony blooms for our local shoe factory, Now, I do not know just where all these cut blooms were kept, but I do know that we could not do this same type of a parade today. From old photos of this parade, the floats were loaded with peony blooms. Wouldn't it be wonderful if we knew how they could operate a Nursery in those days, with prices as they were, how much postage and packaging cost, and what wages were? Perhaps, those were the good old days!

A few other interesting items that appear in their early catalog:

A Currant or Gooseberry tree—grows 4 to 5 feet tall—just as hardy as the bush type. Fruit is larger and sweeter. Priced at 90¢ each; 12 for \$10.00, postpaid. How about a home comfort reed rocking chair? Neatly patterned of the best German reed; large and roomy, with heavy rolled top and sides. Seasoned rock elm frame and maple runners. Seat, strong and pliable. Comes in natural, green or brown. Weight 13 pounds wrapped. Priced at \$3.25.

Gladiolus bulbs at 5¢ each; 50¢ a dozen; 100 for \$4.00 not prepaid. Vegetable plants 20¢ a dozen; \$1.00 per 100 prepaid; 75¢ per dozen or \$6.00 per 1000 not prepaid.

"When sending silver coins in payment of order, please sew in cloth to prevent wearing through. Do not send postage stamps in amounts over \$1.00. Smaller payments in stamps in denominations of 1 and 2-cent stamps, only."



LANDSCAPING WITH PEONIES has exciting possibilities!

By Ned Bayley, Silver Spring, Maryland

The glorious splendor of a single bush loaded with exquisite flowers of delicate shading, or rows of dazzling colorful peony blooms can be sights of great artistic beauty, but peonies can be even more esthetically exciting when made a part of the home or garden land-scape.

Picture the diminutive red EARLY BIRD clinging to the slope of a rock garden in the Spring, surrounded by tiny rose-like apricot petals of the creeping evergreen, Potentilla x tonquei. Or envision the striking combination of red AMERICA and KRINKLED WHITE peonies in the back of a border with deep blue Campanula blooming in the foreground.

Peonies are important plantings not only for rock gardens and borders but also for hedges, fence rows, islands and arrangements in artistic groupings.

The National Arboretum of Washington, D.C. has used Japanese and European tree peonies in beautiful groupings for a sylvan setting. From a foreground of double-white YUKA GASANE and brilliant red HINODE SEKAI, the shrubs change in height to the rose pink KAGURA NISHIKI to deep purple HANA DAIJON, to rose-salmon REINE ELIZABETH, to the tall, bright pink AYA GOROMA. The arrangement and the path through the plantings leads the eye to an inviting garden bench next to cool woods.

For all uses of peonies in landscaping, the basic cultural requirements of the plants must be met. The soil should be fertile and well drained.

Fungus-free foilage is especially important. Varieties with some disease resistance are preferred but may not always be available.

Be conscious of inherent foliage decline in selecting varieties. Officinalis and Lobata hybrids tend to decline in midsummer. The foliage of some very early flowering varieties, such as DOUBLE RED FERNLEAF, naturally mature by mid to late August. In using these varieties, and they can be objects of beauty, be sure they are planted where the demise of their foliage will not leave a blank spot in the land-scape design.

Choose varieties that are least vulnerable to rain and storm damage. Of the herbaceous peonies, the single-flowered varieties like BARRINGTON BELLE are especially adapted to landscape use because their blooms normally weather the frequent downpours of May and June with minimal damage. Semi-doubles such as ZUZU, MISS AMERICA and IMPERIAL DIVINITY, as well as Japanese types also are usually weather durable. The bombs like BRIDAL ICING tend to hold up better than full doubles. Any variety selected for



landscape use, whether herbaceous or tree, should have strong stems that will support the blooms.

When planting long borders, group the same varieties in clusters for most effective color. If the border is short, spread varieties singly. When varieties whose foliage declines early are used in a border or hedge with other varieties, put the "early decliners" at one end of the planting so their absence will not be noticed.

Plant perennials and annuals with peonies which complement the peony blooms or which add colors and textures of interest after the peonies have finished flowering. Early Spring bulbs also can fill the border while the peonies are beginning their Spring growth.

Finally, peonies that are to be viewed from a distance should have light colored blooms so they will be easily visible. Place those with dark blooms, such as BLACK PANTHER and VESUVIAN, in the foreground, and even then, they will show off to best advantage if planted beside a white variety of similar size and time of blooming.

If you have been enjoying peonies solely in one or more garden rows, sit down in the cool shade some hot summer day and contemplate how much more thrilling your display might be if made an integral part of your home landscape.

FOR MORE DETAILS ABOUT LANDSCAPING WITH PEONIES SEE:

Bradford, Leila — Peonies in the Perennial Border — American Peony Society Bulletin No. 257, March 1986, pp. 11-13

Hirshfield, Mary — Garden Transformations — American Peony Society Bulletin, December 1987, pp. 26-27

Hollingsworth, Don — Landscape Placements of Peonies — American Peony Society Bulletin No. 258, June 1986, pp. 8-10

Simkins, John — Tree Peonies in the Garden, Companion Plantings — American Peony Society Bulletin No. 226, June 1978, pp. 21-22

Simkins, John — Garden Complements Home's Interior — American Peony Society Bulletin No. 252, December 1984, pp. 10-14

REGISTRATIONS

DEREK HILL. (Derek Hill, Churchill, Letterkenny Co., Donegal, Ireland), Jan. 4, 1989.

Single hybrid with parents lutea ludlowii and delavayi. First bloomed 1983. A good clear vivid medium to dark yellow with a distinct bright red flare radiating up three fourths of the large petals. It is very reliable, but has the same amount of bloom as its parents. Three and one half feet in height, foliage the same as the parent. Blooms in June. It is a flat form, with stamens and pollen.

A color photograph of this flower was published in the Horticulture Magazine, London.



JUNIOR MISS. (Roy Pehrson; registered by William J. Seidl), April 12, 1989.

Seedling # None. Garden name has always been "Jr. Miss." Double lactifolio. Parentage Laura Dessert x unknown. First bloomed (guess) about 1972, received from Roy in 1978.

Medium pink, lighter in dry weather. Very tight full double bud. This full double flower has no carpels or stamens. Does not always open well; it must have cool weather or ample moisture to open to perfection. 40" height, good stem strength, holds flower well even when wet. Very late, slow to establish and increase, good foliage.

VIKING VANGUARD. (Roy Pehrson; registered by William J. Seidl), April 12, 1989.

No seedling number, labeled "RP-LDEM" by Seidl. Herbaceous hybrid, single. Parentage Laura Dessert x (P. emodi x P. mlokosewitschi). First year bloomed prior to 1979 when Roy sent roots to me.

Smallish purplish-red flowers, single, flat form, well developed stamen ring. Bloom start of the peony season. Occasionally sets seeds (Prob diploid). May set seed if proper pollen is used. Primarily of interest to hybridizers. 24-30 height, rather narrow, deeply lobed foliage. Good stem strength, holds single flower erect.

VIKING VALOR. (Roy Pehrson; registered by William J. Seidl), April 12, 1989.

No seedling number; labeled "RP-NR" by Seidl. Herbaceous hybrid, lactiflora double. Parentage, none given. Prob. "Mikado x Good Cheer." First year bloomed about 1977 (a guess). Received from Roy 1979.

Scarlet red double blooms on sturdy 32" stems. Medium to large size bloom. No stamens, no seeds, has carpels. Good attractive foliage, not overly large or course. Propagates well from adventitious buds. Midseason bloom.

LAFAYETTE ESCADRILLE. (Roy Pehrson; registered by William J. Seidl), April 12, 1989.

No seedling number, labeled "RPWS-19" by Seidl. Intersectional hybrid lactiflora. Parentage Lactiflora x shrub hybrid, possibly "Thunderbolt.' First year bloomed (guess) 1974-1976. Rec'd from Roy in 1979.

Small 3-4" single black red, 10 petaled terminal flowers, bloom just on top of foliage, followed by a few late stems w/o laterals that bloom still higher. Vigorous plant, 30" height, dense green segmented leaves—young foliage deep red, remaining for some time. Somewhat narrowed petals. No seed, and extremely sparce pollen. An excellent landscape plant for foliage.



GREENLAND. (Roy Pehrson; registered by William J. Seidl), April 12, 1989.

Seedling number, Garden names: Roy's D.W., "RP-SSD," "Green Viking." Double herbaceous hybrid. Parentage, Sanctus x a non white F3 derived from Silver Dawn.

First year bloomed (guess) about 1974-75. Rec'd from Roy 1978. White double form, large inner petals, ruffled, cupped and crimped; outer petals large, broad, shaded green underneath. Stamens clustered around small carpels tipped red. Tetraploid. Fertile pollen when used on other tets. Medium large foliage, husky upright stems, usually no laterals. 30-36" height, midseason bloom.

VIKING FULL MOON. (Roy Pehrson; registered by William J. Seidl), April 12, 1989.

Seedling number, received from Roy as "Unbloomed Ito which I labeled RPWS-21." Intersectional hybrid, single. Parentage Lactiflora x Yellow shrub hybrid. First year bloomed 1980-1981.

Light yellow with ten wide overlapping flat petals in two rows. Dull red flares are covered by yellow stamen ring. 5-6 in flowers, strong stems, 30" but barely off the ground for outside stems. Blooms with early lactiflora season. Light grey-green carpels are tipped by cream-yellow stigmas and 2/3 enclosed by sheath of same color.

AUTUMN HARVEST. (Bill Seidl, Manitowoc, Wisconsin), April 13, 1989.

Seedling #SH-42 (also has been labeled AL-42). Double shrub hybrid. Parentage GOLDEN ERA x ALICE HARDING. First bloomed 1987.

Straw-yellow flowers, inherit doubleness of ALICE HARDING and light red flecking and edging of Golden Era. Strong, vigorous, upright stems. Fertile pollen. Height 2½-3 ft. Clumped quickly as a seedling bearing six flowers in first bloom year as a 5 yr. old. Name and initials reflect flower color and pollen parent (same initials).

ROSE FANTASY. (Bill Seidl, Manitowoc, Wisconsin), April 13, 1989.

Seedling #HT-1, garden name "Dusty Rose." Single intersectional hybrid. Parentage (probable) Lactiflora seedling, L5, single purplish-red seedling of Harriet Olney x Chinese Dragon. Bloomed about 1976.

Dusty rose, single with darker flares, silvery picotee, especially as flower ages; 5-6 gray-green carpels enclosed by creamy-white sheath and topped by large, rose red stigmas. Some flowers incomplete with narrowing petals and fringed edges. Infertile, no pollen 30-36". Weak stems make this a good arranger, cut flower, poor garden subject. Healthy foliage. Won CM at National Exhibition, Milwaukee, Wisconsin, 1977.



ROSELEGANCE. (Bill Seidl, Manitowoc, Wisconsin), April 14, 1989.

Seedling #82SDLC-1, herbaceous hybrid, double. Parentage: Salmon Dream, lemon chiffon. First year bloomed 1987, Ploidytetraploid.

Medium rose pink, wide guard petals frame a mound of smaller petals. Ball form or inbetween. Tetraploid. Fertile pollen. Stamens clustered around carpels; not hidden. Occasionally sets seed. Excellent stem strength, 30" height, holds flowers erect, midseason bloom. Dense semi-glossy foliage.

PASTELEGANCE. (Bill Seidl, Manitowoc, Wisconsin), April 13, 1989.

Seedling #82SDLC-4, double herbaceous hybrid. Salmon Dream x Lemon Chiffon. First year bloomed 1987. Ploidy-Tetraploid.

Pastel creamy-pink double with stamens interspersed throughout and clustered around carpels which are not hidden. Tetraploid. Fertile both ways. 30" height holds flower erect. Large but not coarse semiglossy foliage, midseason bloom.

WHITE EMPEROR. (Bill Seidl, Manitowoc, Wisconsin), April 13, 1989.

Seedling # none. Garden name has always been the same. Intersectional hybrid, semi-double. Parentage Mutation or sport of YELLOW EMPEROR.

First year bloomed, first observed 1977. Semi double white with light purple flares by cream stamen ring. Light grey carpels tipped cream with cream sheath. Plant habit same as YELLOW EMPEROR, 30" high, strong stems, blooms early lactiflora season.

HIDDEN TREASURE. (Bill Seidl, Manitowoc, Wisconsin), April 13, 1989.

Seedling #HT-4. Intersectional hybrid-sometimes double-sometimes single. Parentage Lactiflora seedling (L2), a white-cream anemone x Alice Harding. First bloomed 1976.

Medium yellow with light red flares, very single to very double (single most years), 20" height, 2½-3 ft. wide. Strong stems, flowers often hidden and close to the ground. Stems long for cutting, a poor garden ornamental. The initials of name reflect parentage: Herbaceous x tree.

GIGI. (Roy Pehrson: registered by William J. Seidl), April 12, 1989.

Seedling #GG-1 Japanese (anemone) lactifolia. First bloomed (guess) about 1972, received from Roy P. 1978. Parentage: Garden Glory x unknown.

Dark rose-red anemone, central petaloids lighten with age, small to medium size flowers followed by 3-4 laterals. Good substance, reliable, sets seeds. Thin wiry stems holding flowers without support. Early to midseason, very good foliage, 40" height.



PEONIES IN CALIFORNIA

A. R. MacDonald, San Ramon, California

This has been the coldest winter I've experienced since coming to this area 25 years ago. The temperature has been down to 14° which is cold for this part of California. The ground froze for about ten days. All my peonies got a complete chill factor as we have had a long cold spell. My herbaceous peonies are planted with eyes at ground level. That is so the eyes will be above ground level as they mature and the absence of any ground covering exposes them to as much cold as they can get.

I lived in northern Illinois as a boy, and my mother had peonies in our yard as long as I can remember. At that time, everyone had only red, white and pink; perhaps the deep red, we called purple. We moved from there in the Spring of 1935, so it was in the Fall of 1934 that we took the plants to my grandmother's farm in Indiana.

Some of those peonies are now here in California. Coming here and starting to grow peonies, collecting and ordering everything, and many of the late varieties, I lost most of them, as they are not for California. I had no idea there was such diversity.

Herbaceous peonies are border-line plants for this climate. Now this could be my own inaptitude, I don't know.

The very early, early, mid and mid-late, do much better than the lates. If it's not the thrips, it's the hot weather, so the late varieties never open.

One of the first I bought was Red Charm. When it bloomed I just couldn't believe my eyes—no peony thrills like Red Charm. I have about 35 plants of it. No doubt, it's my favorite. It grows real good here.

The climate here in the San Ramon Valley is similar to the desert. Hot days and cold nights. I live on a range of foot hills from the Bay. To the west is a canyon through the foot hills, a very deep V canyon. With the hot days, the afternoon breeze comes up so the cool air over the ocean rushes into the canyon and out over our area as the hot air is rising, and is replaced with cool air of ocean currents. The ocean water is always in the low 50's. So it gets very nippy after sundown.

Just too cool for good growing weather as it is around 55°. Not good for growing watermelons; just too cool!

An attempt to keep the roots cool and conserve moisture, all peonies are mulched with mushroom mulch and rice hulls. I use well water which is sweet and the mulch is sour, so it balances out to about 6.7PH. The soil in our valley is Beach Adobe. When it dries out, it is like concrete. For 25 years I have added so much compost, the ground



around my house has risen about 1½ feet.

Needless to say, I have some beautiful soil now. I do lose peonies every year, some of the cause being due to the mulch. However, I feel it is better to mulch than not to. I do not have much trouble with Botrytis as the rain is so scarce. I do not have any nematodes. About ten years ago I became infested with wire worms of the Click beetle. They almost wiped me out. They thought the herbaceous roots were strawberries and cream. A terrible menace. I managed to get some chlordane 75%. It took two treatments, but, in turn, it also killed all the fish worms. I think it upset the balance of the soil. It has taken about eight years for the soil to return to the smell I look to, because I am an old farmer and I believe you can judge the soil by its odor.

I'm with Bill Seidl—any blade of grass is a weed at my place. Planted in my garden are the narcissus, daffodils—they neutralize very well with crocus. There are Dutch iris, hyacinths, Iceland poppies, oriental poppies, ranunculas, anemones, dodecatheon, media 6000 tulips, gladiolus, lilacs, and many other flowers.

Springtime here is a glorious sight. The days of summer are tough as it gets so hot. Cosmos, petunias and lilies are a drag.

Tree peonies do very well. As a matter of fact, some of them are rampant: souvenir de Maxine Cornu, chromatella, high noon, and shigura nagami. I do not have as many problems with the trees as with the herbaceous. The season is from March through June, starting with the trees and ending with herbaceous.

Of the Auten peonies, rated best for my garden are BIG BEN, CHOCOLATE SOLDIER, DANDY DAN, EARLY SCOUT, FAIR-BANKS, JUANITA SINBAD. Others of his that I rate good are: SWORD DANCE, GAY PAREE, PRAIRIE STATE, RED DANDY, and RED GLORY. Some of the nice ones that died: ALSTEAD, MOUNT PALOMAR, NORTHLAND, ROSALIE, WATCHMAN.

Some other plants: the fern leaf—very hard to grow; Paul M. Wild, easy; smouthie, very easy; lavender bouquet, cannot make it grow; painted desert; easy.

Because I mulch, I have many volunteers. Also have a cold frame used for sowing seeds. Generally, I get 150 seedlings a year. Most of them are tree peony—about 70%, and most of them take 5-6 years to bloom. Once in a great while one will bloom in 3-4 years.

One vexing problem is that all the nurseries here sell peonies only in the Spring. I've talked to many people about this, but to no avail. They think they will do fine is the Spring. If I do buy one that seems to be special, immediately I plant it in my critical care unit, for the summer. The plants I do keep going always take a year or two longer to get established. MY OPINION: plant only in the Fall.



PEONIES . . . IDEAL FOR TODAY'S WORLD

Nyla Null Hughes, Webster Groves, Missouri

As a member of the Peony Society for a long time, I've been no shining star. But I have been a terrific horrible example of an average, neglectful gardener. So what I can contribute to my colleagues who are much more expert and dedicated, is reassurance that you can safely recommend peonies as the flower of choice for today's lifestyle. They're survivors. And today's working woman can identify with that! Which provides a wonderful opportunity for increasing the number of peonies planted nationally.

Those of us who love peonies, focus on them, glory in them, and become, well... maybe just a little bit obsessed by them—may not realize it, but there are thousands of otherwise perfectly normal unfortunates around us who really aren't aware of peonies. Time is at such a premium for most people, that flowers fall away down the priority list for living the good life... or just hanging in there.

You probably know these people, who think of their yards in terms of trimming a few very conventional bushes and fertilizing/mowing/raking lawns the way the TV commercials tell them to. They don't know that they can easily have permanent, spectacular flowers. That's where peonies come in.

The Working Woman's Friend

The biggest single (or married?) potential market for spreading the glory of peonies across the land, is letting working women know that there is a stupendously showy flower they can enjoy year after year which will survive neglect and, once planted, not require further time input. Yes, yes...it shouldn't have to, but we're talking real life and average people here.

When you take blooms from the early hybrids to the office, school, or church, how many people are stunned that peonies are in bloom already? How many people believe that those big silk tree peonies are real flowers that come from bushes that don't die back? Are they mystified that peonies come in color-crayon red, or shades of yellow? How many times have you seen people surprised by the identity of something as simple as single or Japanese peonies? Even most of the members of my local Horticulture Society were not, to my amazement, familiar with the hot, bright colors of the modern hybrids. We have a lot of educating to do!

If Ms. Average Can Do It, Anyone Can

My interest in peonies came naturally, from a grandmother who loved flowers and had gotten many peonies locally from Wettengale's. This was a large grower near Macomb, IL, who, in the '20's, or '30's, used to draw trainloads of viewers down from Chicago when the peony fields were in bloom. (Does that stir memories for anyone?) Even into the '50's, our 4-H club was kindly allowed to tour the home garden



grounds which once must have been magnificent, though the peony operation had long ceased.

So I had starts from a few unnamed big, old doubles and a couple of Japanese and singles—considered unique and exotic in our farm community where doubles are the rule. Once I had seen pictures of the beautiful, bright hybrids in Gilbert Wild's '60's catalogs, I just had to have some. And I wanted to hybridize for the intriguing Tenuifolia foliage.

Surviving Torture Testing

Now, gardening in the St. Louis area means sudden and sharp temperature changes. Our 'Southern' sun can bring 75 degree temperatures in January to lure shoots up early. It can mean a 40-degree change in four hours (a memorable shock)! Our Springs often freeze emerging peonies, and once dumped snow on them in May. It can bring two months with rain every weekend and mold forming on the stems. Summer can be baking hot with no rain for a month. Or it can be beautiful. But gardening here, for sure, means heavy, clay soil, though I'm lucky in having the original top soils in parts of my yard. I try to fertilize in early Spring, and lime occasionally, preferably before adding more wood chip mulch.

Through my initial plantings, I found that some of the hybrids, like Halcyon and Nadia, would not take being in a crowded perennial border with poor air circulation, and most did not really thrive there. The white doubles that I built the border around became increasingly puny, and seemed to have nematodes. The bright red hybrids which I put out by the front bank to intrigue the passersby, Orange Glory and Tango, have done moderately well in spite of being shaded on occasion by hollyhocks, lythrum, and asters. (They're a very effective public relations gesture for the species—few people recognize them immediately as peonies, but are intrigued when they finally do.)

The peonies which have done best in this border through the vagaries of the years are those which are near the retaining wall on the far side of the bed, with better drainage (and perhaps some lime leaching from the concrete?)

Rushlight (or it may be Roselette's Child... anyhow, cream-colored) has become a HUGE bush. The old (actually rather ugly, but cherished because it was Grandma's) maroon single does nicely, and has crossed with Seashell to self-sow some acceptable children which look particularly good with the Iris pseudacorus which picks up the gold of the peony centers. A dark red Jap draws attention there because it is tall enough to show from the street and so late it makes people look twice.

After it became apparent that the perennial border was really no place for select plants, (and space there was too limited, anyhow), I considered where to find decent, unbulldozed soil in my yard, with sun. I dug a large (well, all things are relative—maybe room for 40 plants or so) new bed out of the sod with a tiller which did its best to break my



back, arms and spirit. This bed has good soil (for us—it can't begin to compare with Illinois prairie!) and full sun. The mice, moles, local dogs, and weeds love it! And hauling a hose back there . . . well . . . But I had dreams of hybridizing, and persevered.

Trials

Having acquired both the double and single Tenuifolia, I can tell you only that they wandered around a bit under the woodchip mulch I attempted (and often fail) to keep on the beds, and disappeared within four years. Mlokosowitchii wasn't very happy with the heat, I suspect, and got smaller every year, disappearing within 3 years. Smouthii and Otto Froebel were not much happier with heat and drought, though as I recall, that may have been the large burrowing animal which I never identified. (We don't have woodchucks here in town . . . do we?)

Some shocking winters decimated the little tree peony starts, including the Alice Harding which had bloomed but once, and did not result in any 'shrubaceous' crosses when I attempted them. But the few which survived have become a joy. Age of Gold is about holding its own—the rabbits like the buds. Nisshow (Sunshine) has met any expectations one could possibly have! (It's positioned to thrill and delight those who tour my garden in Spring when they emerge from the path through the Wild Garden area.)

The peony beds have more or less survived years of neglect when I (serially, not simultaneously, thank goodness) focused on babies, ruined my back and couldn't shovel woodchips or pull weeds for a couple of years, went back to work and had only those aforementioned rainy weekends to catch up with everything, went into a depression and divorce and just didn't care, worked two jobs to hold things together, and dated a man who wanted to go out of town fishing every weekend while keeping up with three teenagers. (I told you peonies were survivors!) But I didn't get much hybridizing done, and adding new plants wasn't economically feasible. I tend to plant seedlings and forget where they were (not past tense). They don't grow through woodchips well!

The peonies which have held up best through the torture tests have generally been the lactifloras...some of the old, unknown doubles, Angelo Cobb Freeborn, Minnie Shaylor, Gay Paree, Alstead spring to mind. And hopefully, better days are at hand for the long-suffering peonies now that the kids have pretty well left home and I've married a wonderful man who knew the golden words to say: "I'll help you in the garden."

Due for Popularity

The love of beauty that moved primordial man to transplant the first peony outside the door of his cave or wattle hut still lives in the human heart. But time to indulge this desire is limited. Modern people need a little encouragement to realize they CAN accomplish beautiful,



flowering landscaping. Peonies are a good answer... we just need to make people aware of them.

People have to be shown the peonies of today. Peonies now are much more than the beauties of Grandma's day—they are a technological achievement, a blend of international cooperation, an artist's dream made cognizant.... And most people have never seen them and don't know they exist. That's a pity! We all need to extend our efforts to bring them to public attention.

Thinking about this has made me personally resolve to plant a few new, spectacular peonies in the gaps and share the results through entering flower shows, and taking bouquets to my local library and church. I will offer organizations such as garden clubs and women's auxiliaries a slide talk on landscaping which includes plenty of peonies. (And I'll try hybridizing again this Spring, if last night's snow didn't do in my 6" tall peony shoots.)

Today's peonies are too special to remain obscure. The world needs them!

FROM BUST TO BOOM My First Year Selling Cut Peonies

By Ned Bayley, Silver Spring, Maryland

By the Spring of 1988, my peony plantings here at Twistin' Creek, north of Silver Spring, Maryland, had increased to nearly 150 varieties. I had been raising them for the enjoyment of myself, Joyce, our neighbors and friends. But the time had come, I decided, for any additions to be financed by income from the plantings themselves. Selling cut flowers seemed easier than trying to market roots in the Fall.

A local printer made up a hundred attractive cards which I took around to local florists in April and told them I was in business and would deliver on call. My price was favorable compared to what they would have to pay at a wholesale market.

The peonies started to bloom the last ten days of April. No calls.

I visited one florist who had been effusive about her interest in peonies. She said she would come by the next day, pick them herself. I had offered her ten cents off my price if she did. That night it rained. She didn't show.

I cut a dozen DAYSTARS for her and offered them for free—a starting gift. She didn't like the color. I gave her a dozen brilliant red RED SCOUTS, she accepted them—as a gift. No calls. A neighbor later saw my second gift in the shopping center dumpster.

I visited the other florists. They were pleasant, but never called me.

My effort to sell to florists was a bust.

I contacted the local grocer chain: "Sorry, you'll have to talk to



the central office," I was told. I did. "Call the flower warehouse," I was told. I did. "Can you deliver a thousand blooms at a time?" That was the end of that!

I had placed a \$5.00 classified ad in the local Free Press, just to see what would happen. "Peonies—cut to order," it read. Right away I started to get calls.

The first caller asked, "What are peonies?"

After I explained, he came out with his wife. They were celebrating their wedding anniversary. The radiant expression on her face as she walked to the car with her arms full of glorious blooms was worth a whole season's work.

A portly lady waddled through the beds, pointing to this bloom and that one as I cut them for her.

"This is like being a child in a candy store!" she exclaimed. She bought three dozen and came back for more.

A neighbor read the ad, stopped by and bought a bouquet for his wife—their wedding anniversary.

A young man from several miles north, bought several dozen. His wife would resell them along with her produce at the farmer's market. He came back regularly.

Memorial Day weekend the beds were alive with widows selecting blooms for the cemetery.

Many of my customers had never seen singles, or Japanese or semi-doubles. They went wild over MIDNIGHT SUN, WHITE CAP and BU-TE. They oohed over CYTHERIA and aahed over PRAIRIE MOON. They were almost angry when I refused to cut my only plant of DO-TELL. And, of course, they loaded their arms with the huge doubles such as: PAUL M. WILD, MT. ST. HELENS, FESTIVA MAXIMA, and RED CHARM. Many favored the huge pink JAMES PILLOWS, PILLOW TALK, HELEN HAYES and GLORY HALLELUJAH. They all had a hard time making choices.

By the time the season was over in early June, I had sold everything I was willing to cut, had stored a dozen for a banquet later in the month, and calls for more were still coming in.

Because of a little ad, the expansion of my plantings was assured, and the obvious pleasure people expressed in receiving the blooms was more rewarding then the money they paid.

Next year—let the florists beware! I'll take their bloomin' business away!



HYBRIDIZING: CONTROLLED CROSSES

Bill Seidl, 732 S. 19 St., Manitowoc, WI 54220
In lieu of Pollen. Pistil and Pod Column

Many peony growers have grown some peonies from openpollinated seed gathered on the spur of the moment, with no records, not even of the seedparent. The seed might even have come from carpelheads overlooked during the last deadheading tour through the garden. While this is hardly hybridizing, it does push the door open a little. Unfortunately, the likely result is a bunch of mediocre or inferior seedlings, which is all it takes to blow the door shut again. How much better if those first results are so exciting and fulfilling that the door to the House of Hybridizing is banged wide open, inviting you to explore all the rooms within! And there are many rooms, most having their doors already unlocked and pushed ajar by other hybridizers but with their interiors largely unexplored.

Such first-time results are much more likely to occur if you make controlled crosses. This simply means taking the precautions necessary to ensure that the parentage of your cross (i.e. your seeds) is truly what you planned it to be. Pollination by other than your chosen pollen must be prevented. This contaminating pollen may be wind- or insect-borne directly to the stigma of your selected seedparent, or it may be accidentally brought there by yourself through careless hybridizing techniques. These are the precautions to take:

- (1) COLLECT POLLEN of the desired pollenparent from a flower opened indoors. If collected outdoors, a visiting insect may have already brought contaminating pollen to it. Or, bag the prospective pollenparent during the just-before-opening stage; collect its pollen later when unbagging the opened flower.
- (2) EXTRACTING POLLEN. The anthers of most varieties dehisce (open and release) their pollen readily. Some don't. Also, some produce limited numbers of stamen, often interspersed among the many petals of a double flower (e.g. shrub hybrid Alice Harding). Some doubles or Japs have no well-formed stamens but do have stamens attached along the edge of some petals or stamenodes. In all these cases, to obtain the maximum amount of pollen, place the anthers (and any attached filaments) on a creased but flattened-out sheet of paper and let a fan at low speed circulate air over it. After 24 hours (or more) tilt the paper and tap the dried anthers and any released pollen down the crease into a small container (film capsule, baby food jar . . .). Enclose a pebble; cover and shake vigorously. On opening, you should discover a film of pollen over all surfaces. Label. When ready for use, one or two swipes of your pollinating brush will lift enough pollen to cover the stigmas of one or more flowers. Leave the pebble in place; later shak-



ing will knock out more pollen.

(3) STORING POLLEN. Some hybridizers keep the pollen in closed containers. But beware, this may invite mold if pollen is not thoroughly dried and/or if high humidity conditions exist. An alternative is to keep the containers open but in a box that is closed when not in use. This keeps direct sunlight off the pollen—which should not be overheated—and prevents air-borne pollen from drifting into your collected pollens. When not in use and especially during humid weather (wet pollen is dead pollen), place uncovered box in front of the fan again. Pollen should remain viable for a couple of weeks. But if you have a pollen sample that can't be replenished and must be stretched out over 2-3 weeks, keep the open pollen-container within a larger airtight container having silica gel (dessicant) at the bottom. This homemade dessicator can be refrigerated when not in use. For this longer-term usage. I find plastic flat-topped salt shakers useful as pollen containers. Otherwise, I prefer baby food jars and plastic caps from spray cans. These are left open but are carried around in covered shallow cardboard boxes. (A grease pencil is used for labeling the outside of the jars and the inside surface—easier viewing—of the caps.) This allows for easy access to the pollens and circulating air dry storage. However, it does create problems in transport. The entire bottom of the box must be covered with containers, even if some are empty, to prevent sliding and tipping. When transported in the car, place the box where a sudden stop will not disturb its upright position. Also, the heavier glass and lighter plastic containers can't be mixed lest the former tip the latter during shifting.

(4) SELECTING THE SEEDPARENT; MAKING THE CROSS.

For years before hybridizing peonies I had hybridized gladiolus. In the gladiolus floret the style ends in a three-part stigma which remains drawn together during the first day that the floret is open. During the second day, the parts expand, spread, and curl downward, brushing the pollen-strewn back of visiting bumblebees. This was the proper time to pollinate and I carried the lesson over to my first peony crosses. BIG mistake! Although the stigmatic surface of the peony flower expands and gets stickier each of the first two or three days (you can see the "syrup" pile up and glisten), this is not the best time to pollinate. The best-and perhaps only-time is EARLY, the first day the flower opens, and preferably early in that day. So select your seedparent in bud but showing color, preferably on the day it'll open naturally. Remove all petals and, if any, stamens. If insects have been able to get into the flower, you're too late for a 100% controlled cross. If the flower contains stamens dehiscing early and the pollen gets on the stigma, you have two problems. It's generally believed selfpollination has now occurred (your first problem), which compromises your planned pedigree if you proceed.

I think seed from self-pollination occurs less readily than is commonly supposed. Even if true, there is a second problem: the pollen



already on the stigma (Pollen "C") may Contaminate your Desired pollen (Pollen "D") in your container. This happens if you proceed thusly: use your clean uncontaminated brush (small, artist's type. sable preferred) to pick up some D-pollen, brush it lightly across the stigmatic surface, nicely covering it with D-pollen but picking up some C-pollen in the process, then returning the brush to your D-pollen container for another cross. At that instant, you contaminate D with C. If "D" is hybrid Alice Harding (AH) pollen, which doesn't have many viable grains, and "C" is highly viable (any lactiflora, let's say), your container may already have as many viable C-grains as viable D-grains (AH) in it. If you now go to a different lacti seedparent "M" and use your contaminated D-pollen, you-in your sweet innocence-will be making the cross M x C (lacti x lacti) instead of M x D, your planned cross, in this case the intersectional (Ito) cross. The solution, of course (if you do proceed despite problem #1), is to dip your brush in alcohol after that first cross where you picked up the contaminating C-pollen. While it is drying, switch to a second brush for the next pollination. Follow this procedure whenever in doubt and keep 5-6 brushes available for rotation. As needed, dip the brush in alcohol to clean out caked pollen. This caking will occur quickly if you pollinate "too old" flowers where the stigmatic moisture has accumulated into syrupy ridges.

- (5) PROTECT THE CROSS from contaminating wind- or insectborne pollen by slipping a #1 bag over the carpelhead (or use envelopes). Press two corners together and fold over, then the other two to overlap, and clip. Adjust bag upwards so that the excess bag space is above the carpels. Ruinous heat build-up within the bag does not seem to occur; the shade may actually be a help. The bag also protects against a few raindrops, but a heavier rain will undo your work unless it holds off 3-4 hours after pollination. By then pollen germination probably has proceeded well enough to be unaffected. If you feel you've pollinated too early, hope that the pollen will remain viable until the next day when the stigma becomes receptive. One can always reopen the bag the next day for a reapplication, especially if rain or high humidity has occurred in the interim. Bags can be removed after several days, or they can remain on all season, in which case they serve as reminders to collect the seed or even catch the seed if you're late in harvesting.
- (6) LABEL THE CROSS. The accepted notation is Seedparent's Name x Pollenparent's Name. The "name" might be a number and/or letter designation for a seedling. The "x" is read "by," short for "crossed by" or "pollinated by." For labels I prefer plastic "DIAMOND-LOX" brand labels with a grease-type pencil for marking. If all the crosses on one clump are the same, you need to use only one label, making a note to that effect. I usually make a mark on the stem below each pollinated carpelhead and cut off those flowers not hand-pollinated. For more than one cross per clump, use different iden-



tifiers—different colored tapes, strings, blank labels, etc. One efficient method is to carry around small tubes of artists' oil paint and squeeze a dab of the same color on the stem of each like cross. But don't lose your identifying key! Other good labels are the string-attached Dennison labels, wired plastic or wood labels, homemade labels from file folders... or write directly on the protecting bag or envelope.

If time limitations require that shortcuts be taken in any of the various precautions, remember the prime consideration is to get to the stigma of your seedparent "firstest with the mostest." The pollen could be collected from flowers opened outdoors, but do collect fresh pollen. You could omit the depetaling, emasculation, and bagging. Let the specific cross you are planning determine what precautions to relax. No precautions need be taken with a rare seedsetter.

A fertile seedsetter pollinated by a likely incompatible parent needs all the safeguards possible, lest too much time, effort, and anticipation is wasted on ordinary seeds and seedlings. In labeling the cross, one can vary the x-notation to reflect different degrees of control. I use a circled "x" when all possible precautions are taken, a plain "x" for all other hand pollinations. One could use a double "x" or an underlined "x" to indicate other variations.

Finally, remember that the creation and eventual introduction of a superior cultivar like Thomas Edison, said of his wonderful inventions, that they stem from "10% inspiration and 90% perspiration." Most of the perspiration is still ahead but the inspiration is finished; it came when you selected the parents of your cross. If you chose wisely, it will motivate you to see your crosses to fruition. And it doesn't hurt to take notes on the reasons for your choices; the rereading of them will serve to reinspire and remotivate you when your wisdom is clouded by perspiration.

FLOWER OF THE DAY

by Daniel F. Flavin

In grandmother's garden, in red and white and pink profusion, there always grew a flower referred to in plain folks' English as the "piney." Over the years since Grandmother's day, the flower has changed. It now blooms in many subtle shades, with bigger blossoms, the result of careful cultivation by those infatuated with this very special flower. And most people, except for a few oldsters, call it by its formal name, the peony.

But the qualities that make the peony a special flower and the reasons for its popularity over generations remain changeless. It is a hardy flower, a showy flower: Like the rosemary cited by Shakespeare, it is a flower for remembrance, much in view on the national holiday Americans have set aside for remembrance, the day we call Memorial Day.

Memorial Day itself is a name for modern times. When Grand-



mother stood in her garden those long years ago, in the sunny days of the middle of May, a standard remark she might be overheard saying would run like this: "I do hope the 'pineys' will bloom in time for Decoration Day."

Call it Decoration Day or Memorial Day, it is a day for peonies, peonies carried by the armful, carried with respect and love to family cemetery plots, there to repose in tribute to people remembered as special.

Nobody seems to be able to pinpoint the reasons for the affinity between peonies and Memorial Day. But everybody agrees that the affinity exists. And those who raise peonies, and love them for all their qualities, can tick off some very realistic reasons why the flower is in such common use on this day.

It is, to repeat, a hardy flower. It is almost always available in time to fill its special role. It has a strong "holding" power, growers point out. If it should bloom too early in some years because of favorable weather conditions, it can be cut and held back for use in the cemetery. Those familiar with peony lore as it applies to Memorial Day say that in one period the reds were most often used on graves of male forebears, with white ones reserved for females. In earlier days, some people even planted peonies in family cemetery plots, almost always being rewarded with a timely blooming of this special remembrance flower. This is still done in many small graveyards.

Early in this century, farmers often would plant several acres of peonies. They would cut the blooms and sell them to florists, who in turn retailed bouquets for family use. Farmers and florists no longer follow this practice. The peony has become, perhaps for all the right reasons, a "personal" sort of flower grown in private gardens.

To the people of this land, the peony merits recognition for serving a simple basic need. It is, in essence, a flower that helps keep the memory of those who are gone fresh in the hearts of those who remain and helps note, with love and compassion, a fragment in time so rightly named as Memorial Day.

-The Columbus Dispatch Sunday Magazine, Columbus, Ohio

Calendula

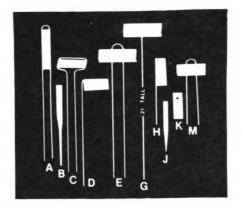
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Calendula

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The Permanent Metal Label



A — Hairpin Style Markers 30 for \$ 8.70
B - Plant or Shrub Labels 100 for \$ 6.70
C — Cap Style Markers 30 for \$ 9.10
D - Swinging Style Markers 30 for \$ 7.40
E — Rose Markers 30 for \$ 8.20
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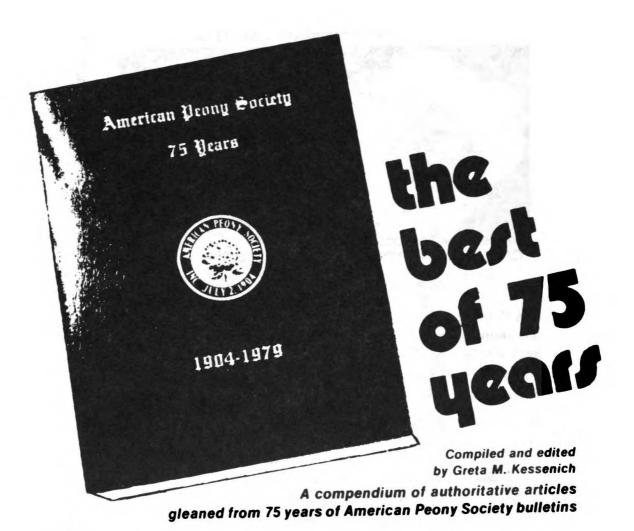


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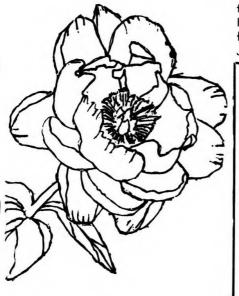
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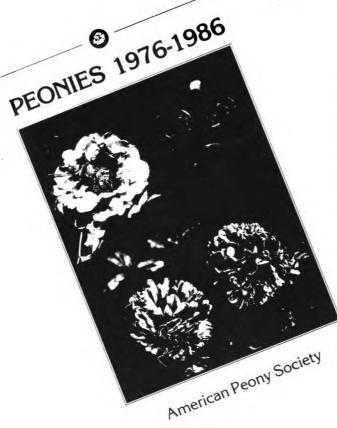


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