

Life Sci.



JUNE 1991
NO. 278

The American Peony Society Bulletin



SOUTHEAST GEORGIA TREE PEONY, see page 5

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Compiled and edited by
Greta M. Kessenich;
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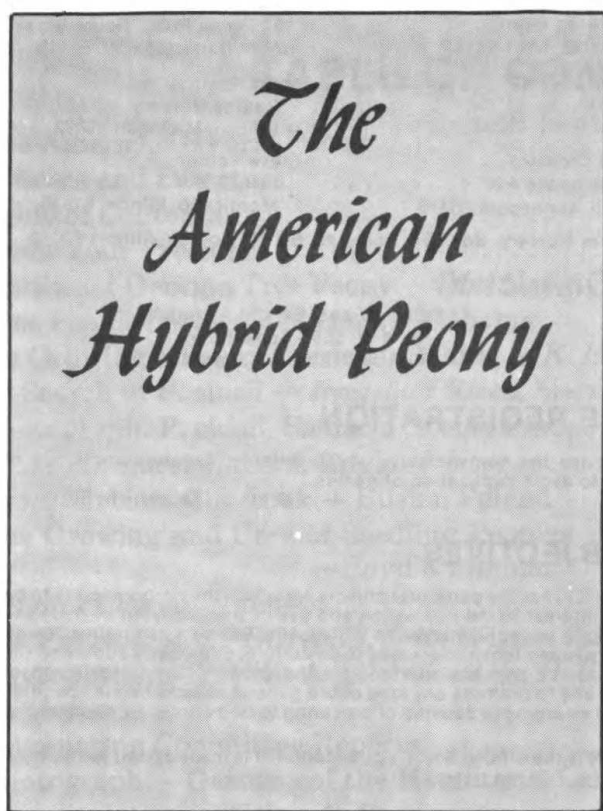
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DEPT. OF REGISTRATION

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 by holding or causing to be held exhibitions, and awarding or causing or procuring to be awarded, prizes therefor or in any other manner.

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

MEMBERSHIP

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

Single Annual.....	\$ 7.50	Junior or member family.....	\$ 2.50
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Contributing.....	\$25.00	Supporting.....	\$100.00
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AMERICAN Peony Society Bulletin



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FROM YOUR PRESIDENT

Dear Friends,

As I end my term as President of the American Peony Society, I believe that it is an appropriate time to report to the membership on the health of our organization.

Over the years, many societies such as ours have had significant problems with their finances and with their leadership. I am pleased to tell you that the American Peony Society is in excellent condition in these areas. We owe all of this to the tireless enthusiasm of our secretary-treasurer-Bulletin editor. Greta's devotion to our group is legendary. I do not believe that one person could do more for a society. Thanks to her, we also have an excellent set of books about the peonies. The new hybrid book is a wonderful addition to this collection.

We continue to have a supportive and involved Board of Directors. With growers like the Klehms and the Reaths, hybridizers like Don Hollingsworth and Chris Laning, and showmen such as Joe Glocka, we have a broad range of interests represented on the Board. What do we lack? I see the major need for the APS as more involvement by our membership with the annual meeting and with the Society. Although every year we have additional members at the June meeting, we need more people to bring flowers and to actively participate in our affairs.

I am most appreciative for the opportunity to have been President and hope to be involved in the APS for many years to come.

Kent Crossley

SOUTHEAST GEORGIA TREE PEONY

By Don Hollingsworth, Kansas City, Missouri

A tree peony originated in Southeast Georgia graces the cover of this *Bulletin*. Delano Deen, Alma, Georgia APS member, originated this plant using seed obtained from the Society's seed distribution program. He started the seed and grew the plant to maturity right there in his own garden.

Attempts to grow peonies in the South have typically involved experimentation (or we could say trialing) using varieties selected in Northern gardens, with the goal of identifying kinds which will thrive there also. Deen's experience with seedling production suggests an entirely different approach to identifying peonies suitable for southern gardens.

Deen grows his peonies where those of us in the Northern half of the United States might think of as deep into the coastal plain of Georgia. Alma is about 65 miles inland from the barrier islands of the south Atlantic coast and maybe 130 miles from the nearest point of the Florida Gulf coast. Elevation above sea level is a little more than 100 feet. The growing season typically runs 230-260 days and rainfall averages around 48 inches per year, heaviest in the summer months and driest in Autumn. (These data from general references.)

Minimum annual temperatures run 10 to 20 degrees Fahrenheit, for hardiness zone purposes, leading to Zone 8 on the new edition of the USDA zone map and about on the line between Zones 8 and 9 of the 25-years earlier edition (the redrawn map reflects more years of temperature records).

Hardiness Zone 8 also includes the areas where Glen Colby grew introduced peony varieties at Monroe, Louisiana, and where nurseryman, Toichi Domoto, long produced seed-propagated tree peonies at Hayward, California, for distribution in the Bay Area. Mrs. Colby's remarks upon her experiences were published in the Bulletin No. 178, and appears in part in the book *Best of 75 Years*. Also see *Handbook of the Peony*, "Special Instructions for Special Regions."

Persons interested in mild climate production of peonies should also see "Tree Peonies in Japan," *Handbook of the Peony*, Fifth Edition (1989), translated from the Japanese language by Ron Ringdahl. This is not only a thorough treatment of producing tree peonies, but also deals thoroughly with the preparation of planting sites for peonies under conditions of high rainfall, heat and humidity.

The Deen project involves trials of introduced peony varieties, including not only tree peonies and Chinese peonies, but both older hybrids and the newer early types, some of which are not yet well refined for reliable hardiness in the Northern parts of the traditional peony growing area. One goal is to identify additional genetic sources of adaptation to Southern climatic conditions. Out of this

should come additional information leading to successful future efforts in originating Southern adapted varieties.

The point of these remarks is not only to illustrate a very nice tree peony produced from seed, but to call attention to the probable benefits of breeding peonies in the South for the South, as an alternative to relying on varieties selected for the North and which may incidentally succeed in the South.

Congratulations Delano Deen, and best wishes for additional successes in your Southeast Georgia peony project!

TREE PEONIES

Betty Grisham, Inc., Huntsville, Alabama

Tree peonies are planted very carefully—good drainage, good friable soil mixed with bone meal. Manure is never used, but compost is excellent. I live 1500 feet on the mountain above our city in the valley. Our temperature is about 6 degrees lower than quoted for downtown. We have high winds and extreme drops in temperature, but the tree peonies survive all of this and show leaf growth very early—mid March. Good sun is necessary.

Of course, being deciduous, these plants are gray in Fall and Winter. Great care must be taken not to break or cut these stems. I devised chicken wire collars—about 10" wide—placed loosely around each plant and I fill this collar with pine straw or leaves or compost. (However, never use anything too dense or heavy.) This seems to protect from pets or feet in the garden. You can remove these collars for Spring or Summer.

I've said nothing about the blooms. They are far larger than the bush peony and often fragrant. Often I have used them in my designs and painting. A wide variety is offered by catalog.

These plants are slow growers so to raise one to 6', such as I saw in China, would take many years. But mine have always bloomed by the second year.

If in mid-summer you find the leaves turning gray and curling, this would be a fungus called botrytis. Spraying with Benlate checks this condition. But I have never had this happen until the last two years because we have had extreme weather conditions. I must remind you that we are in zone seven, but I feel that these are tough plants and do not take a great deal of care.

Sources for tree peonies are: Reath's Nursery, White Flower Farm, and Wayside Gardens.

I trust this brief discussion will encourage more Southern growers of tree peonies.

ON GROWING A PEONY GARDEN IN MAINE

K. E. Liberty, Bangor, Maine; April 4, 1991

There is nothing like the arrival of the first really warm Spring day in early April to get the gardening juices perking within the human soul. With the temperature finally reaching into the sixties on April 4th and the prediction of more of the same through this weekend, I begin to prowl the gardens around my home in Bangor, Maine, for some further signs of Spring.

The dead dried leaves of last Fall cover the gardens in most places. A week and a half ago the ground was covered by two or three inches of new-fallen snow. But with the bright sun of late March and a bare ground to start with, the snow was gone in two or three days, except for the gullies, woods, and where the plows had piled it up in some parking lots around town.

My inspection of my gardens—modest as they really are—show me that the crocuses in the raised narrow garden next to the driveway on the southeast side of the house have a small clump of striped purple buds, which are now clearly visible and will be in bloom before this weekend. Another clump of crocus pipes are clearly visible, but show no buds or color. These will be the yellow ones. The sun does not really get to this garden directly because of the closeness of the neighboring Victorian house, which shades it most of the day. Four herbaceous peonies are planted in that bed along with a Blue Prince holly, a flowering pink almond shrub, several hosta plants, meadow rue and other perennials. There is no sign of these peonies yet. But the **Pink Lemonade**, **Raspberry Sundae**, **Nippon Beauty** and **Prairie A'Fire** should emerge in the next ten days or less.

Out in front of the house, which has a low porch running across the entire front of it, the leaves of the one hundred red and yellow Darwin Hybrid tulips are just beginning to appear above the ground in places. Planted in the Fall of 1983, they have come back year after year just as big and beautiful as their first year in bloom in 1984. I've taken them up once and divided the multiplying bulbs.

On the southwest side of the porch are my earliest blooming peonies. And providing the stimulation for this article, today I found the red spearheads of both **Early Scout** and **Dutch Dwarf** piercing the bosom of Mother Earth and only barely visible. A week or more earlier than usual. Both have leaves which are different from our usual herbaceous peonies. **Early Scout** has a number of narrow elongated leaves arranged fern-like along the stem. Its flowers are small red singles scattered over the entire plant. It is the total plant in bloom which makes the visual impact. But it's early and probably looks very much like the peony before the hybridizer got to work giving us our modern beauties.

Dutch Dwarf's leaves are small and mitten-like. Reminds me of a sassafras leaf. It is truly dwarf, reaching about six or eight inches

high. But the flower is exquisitely beautiful, and a much more vivid statement than **Early Scout**.

I sometimes wonder if the peony madness, which infects me the minute the first red spearhead of the earliest peony appears above the ground in early April and continues until sometime in mid July, when the heat of the summer keeps whatever buds may remain on **Elsa Sass** from opening, infects other peony lovers? Every day for three and a half months, I make the tour of my gardens at least three times a day—morning, noon and night. I watch the new red and pink shoots come up through the earth, a few here, and a few there. I watch the tree peonies go from dead-looking sticks with dry-looking buds, to buds which gradually become plump and green, and burst open to put forth a feathery-looking growth. And then looking like miniature Indian war bonnets with their feathers slowly unfurling, the stem extends to hold the leaves away from the main stem, and the mature plant takes shape. And wonder of wonders, a flower bud is revealed, which was hidden inside that dry dead-looking bud all winter long. This is the stuff of miracles. And I don't want to miss any of it, no matter how often I've seen it before!

The beauty of the jewel-like tones of ruby reds, pinks of all shades, and emerald jade greens, as life begins to pump into the new plant tissues both above ground and emerging from the earth, in itself is full of awe and wonder. It's like reliving the dawn of creation all over again each Spring. I get down on my knees and study it. I make almost daily notes on the progress of each plant in detail. Some evenings, when getting home at dusk, I have to take a flashlight out to see them and wonder what my neighbor thinks, when she drives in and sees me out there with my flashlight and notebook. And this is long before buds or flowers have appeared! Someone once described a hobby as something you go crazy about to keep from going crazy about everything else in the world. My obsession with my peonies certainly fits that description—especially in the Spring and early Summer.

My obsession with peonies goes back almost fifty years to my very early teens, when friends gave my mother several freshly dug old-fashioned peony plants. I was elected to plant them in our yard. Nine years later my parents moved, while I was in the service, and the peonies got left behind. More peonies, this time ordered from Gilbert Wild, were newer and fancier varieties, and with specific names. This time a family death and because the property was sold in the dead of winter, the peonies again got left behind.

Then came years of job transfers, marriage, children, moving, and moving again. Peonies took a back seat, but gardening of some kind was always there—indoor and outdoor. Finally, twenty years ago, I returned to Maine. After a period of adjustment, I began to once again plant peonies and to gather what is today a modest collection of about seventy five different herbaceous and tree peonies. At

first it was a piece of great grandmother's peony, or a peony from an abandoned homestead, or one saved from a bulldozer, making a former yard into a parking lot. The specific names were unknown.

Then came a bargain root or two each year with a name attached from the local department store in the Spring. Nothing very prosperous looking, but they did grow and eventually flowered. Mostly names that had been around for many years. I remember going through the whole display of tree peonies one Spring, when I discovered that each plant, marked by color on the sleeve, had a small tag hidden down near the root with a specific Japanese Tree Peony name on it. It took an hour or more. But over several years I assembled a collection of more than a dozen different tree peony plants. All but one survived. And although I had to wait years for some to blossom, most of them reward me each Spring with their beauty. And surprisingly enough, each one is different.

Next came the local nurseries with potted named peonies in the Spring. I added two or three each year. Then I discovered the specialty catalogs of Smirnow, Wild, Klehm, and Reath. My tastes were growing and I was more aware of quality and the beauty of newer and improved plants. I joined the American Peony Society. And I finally came in contact with peony literature which was not available in almost any bookstore. In looking back and not back too many years, peony catalogs have changed dramatically, and Son has been added to several family peony businesses. Some names have disappeared altogether, and new ones have been added. If I was changing, so was the peony retailing industry. As my pocketbook allowed, I sampled some of the mid-priced peonies.

Then in 1983 came personal upheaval in the form of divorce. In spite of the fact that the court granted me my peonies, as one of the four items of property I requested, I almost lost them with the sale of the house. But I did manage to move them to a temporary location for three years until I got myself settled once again in my own home. Over the past six years I have been able to add to my collection, so that now I have about seventy five varieties. Each Spring brings new peonies into blossom which I have never seen before. My biggest problem is finding space to plant the new ones.

The challenge and thrill of growing peonies goes on for me and always will. After more than five years of search, I was finally able to buy a root of **Walter Mains** from The New Peony Farm. Other peony nurseries were either sold out or didn't stock it. Interestingly enough, I'm not certain that **Walter Mains** is really the peony I'm seeking, since I'm trying to duplicate a beautiful red peony with a flame of yellow in its center. I saw it in a local planting, but the owner lost the name years ago and has never made good on the promise of a root. I have dozens of others I'm anxious to try.

Growing peonies in Bangor, Maine? I find that they are probably the easiest and most satisfying plants to grow without exception.

They are exciting to watch as they emerge each Spring. The flowers are without equal, and each is special in its own way. Our soil is basically heavy clay. But with the addition of peat, processed cow manure, bone meal, wood ash, and an annual top dressing of commercial fertilizer kept well away from the stems, my peonies do very well. Some plants are more vigorous than others, but I suspect that it has more to do with the plant's genes in some cases, or in the case of tree peonies with the grafted root, than with my cultural procedures.

Fortunately, we have plenty of cold weather, although this part of Maine is not the Arctic, as some seem to think. And we usually enjoy adequate precipitation even during the Summer months. They rarely get watered during the Summer, except as I may need to water my annuals planted among them.

As for diseases, they are almost nil. I religiously remove all foliage in the Fall and put it out for city collection. I never spray with chemicals. As for my favorite peonies, I've never met a peony I couldn't love. I originally bought my **Red Charm** because the ad said, "If you could have only one red peony, this is it." I have to agree. Its beauty is breath-taking and so rich. And it is earlier than many others. But I'd be unhappy, if I had to give up my other reds.

Old Festiva Maxima is another great favorite. Each Spring, once established, it vigorously launches itself up out of the ground, like some missile launching itself from a buried silo in slow motion. Its energy and vigor, as it grows, thrills me each year. Last year I had over one hundred blossoms on that plant. I don't disbud the laterals, since I'm interested in prolonged color. No wonder **Festiva Maxima** has endured for decades!

I could go on, but my article is already much too long. **Hermione's** haunting apple blossom pink, in spite of its weak stems; the dramatic dual colors of **Gay Paree** and its long blooming period; **La Cygne** with all the grace and beauty of a ballet dancer—Klehm's Estate peonies.

Peonies, as you can see, have a special niche of their own in my heart. They are unlike any other flower. My peonies over the years have put me in touch with generations of people and family I have never known. And I believe that with a little luck, my peonies, which I cherish so much, will survive me long after I am gone. I think of gardening as an act of faith. Peonies, probably more than almost any other flower, seem to transcend the life of a single gardener. Perhaps that is why the ancients regarded them as sacred.

LETTER FROM IRMTRAUD RIECK, GERMANY

(In search of P. clusii, according to Sterns directions. She knows, grows and studies the species), April 1, 1991

* * * * *

Thank you so much for your kind letter and the wonderful new book. It arrived safely a few days ago and we are happy with the amount of colored pictures of plants we have heard about but never had the opportunity to see. We have not had time to read it because we are busy moving the whole school stuff from our old building into a brand-new one (Gottlob and I are both teachers at the same school) and do have the plasterers around the house at the same time! There is still some work to do for ourselves, and painting also.

I am sending you a picture of *P. clusii*. We were so happy to find it last year. It was an outstanding feeling to see this huge bush shining from afar! We took this photo in the wild in the Samaria Gorge next to the little church, Agios Nikolaos. We were so happy because at this Easter Monday, April 16, 1991, the national park authority opened the Gorge for the public, only because they had a drought and it was not dangerous to walk in. So we drove with our rent-a-car to Omalos plane in the mountains and hiked 700 meter altitude down in serpentines on slippery limestones. I could manage my backpack downwards but back upwards to the car, Gottlob helped me. It was exhausting but, nevertheless, the whole trip was outstanding and I wondered why I did not get muscular aches afterwards.

There were so many plants around this place, from tiny little seedlings to matured plants, but this one was the biggest and had 22 blossoms. The place is characterized by a southbound(?) slope of limestone next to a creek. Huge cyprus trees (the biggest trees we saw in whole Crete) protect the peonies and filter too much sunlight. The air seemed to have high humidity, and one could even feel how cool and humid the air was. The soil was totally black and rocks everywhere; good drainage. I read somewhere that this place was a holy place since and before Christian times, and therefore, these trees were undisturbed and maybe the peonies, also.

Gottlob and I nearly drove 2000 km in two weeks in twisting mountain roads to find the places Stern tells where *P. clussi* should grow. We found another place in the mountains near Ierapetra (on the road between Kalamafka and Anatoli, about one km before the village, Anatoli—Sterns says Kalamarka) one withered blossom in a vineyard wall, and the third one in a vineyard wall, too, in Lassithi plane, near the village Tzermiado, but not blooming yet because of the altitude of 1000m. The problem with the Cretian people is that they're now eagerly using poison against weeds (I don't know the correct word in English and my dictionary doesn't tell it, either). So we can assume that the only place where *P. clusii* will stay alive is in the National Park of the Samaria Gorge. I did not see peonies in the

gardens at all. The people do not have gardens like we do. They go out for herbs in the wild and grow vegetables on small fields. Some people keep flowers in pots on their terrace.

At the moment, our weather is fine but the nights bring frost, therefore, I'm protecting my peony seedlings every evening, because I lost some during January, when it was warm. The peonies germinated and then we got minus 16 degrees. This year I powdered the seedlings with snailpoison and did not lose one yet. Soon the dangerous weeks will be over and the seedlings will not taste anymore. The next problem then will be to find a place to plant them. I'm getting difficulties. But no plants are more satisfying to grow from seeds than peonies. We are so happy and are eagerly waiting for the first blossoms.

I know you can feel with us and please do know how much we appreciate the work you're doing. What would be peony-world without somebody like you who keeps all information together and distributes it? We are so grateful and wish you all the best, for you and your garden.



Species = *P. clusii*, Samaria Gorge, Crete

(From Margaret Babers, Lydney, Gloucestershire, England)

So far the seasons are in their proper places in '91. Welcome hard frosts and moderately heavy falls of snow before and after Christmas, are prompting much of the peony seed to germinate. Despite severe drought and watering restrictions in the Summer of '90, our "Old Beauties" were magnificent and much admired. We now open the garden on certain days during peony season.

Couronne D'Or (Calot 1873), **Philomele** (Calot 1861), **Edulis Superba** (Lemon 1824), **Albert Crousse** (Crousse 1893), **Mons Jules Elie** (Crousse 1888), **Whitleyi Major**, **Adolphe Rpusseau** (Dessert & Mechin 1890), all purchased in England, excelled themselves.

Asa Gray (Crousse 1886), **Gloire de Charles Gombault** (Gombault 1866), **Louis Van Houtte** (Calot 1867) and **Solange** (Lemoine 1907) in their third year and purchased from RiVIERES in France, were magnificent and we have more to come, planted three weeks ago.

OFFICINALIS GROUP: Rosea Superba Mutabilis Plena, J. C.R. Wequelin and **Lize Van Veen** plus a large plant of **Mlokozewitschii** were beautiful in spite of five appalling nights of frost when heavily in bud. Their resilience amazed and delighted me. The peony group continues to expand with a nucleus of very interested members.

(Mrs. Babers is a collector of peonies that were introduced in the 1800's and prior to that time, if any are found. She has been working on this civic project for several years. This is a very treasured collection for the Botanical garden. She continues to search and add to the garden.)

* * * * *

FROM POLAND:

Polish people like peonies. They grow them in gardens but usually old varieties. We do not have nurseries or growers to cultivate them in a professional way. No peony market. They are sold by flower color, not by names. No peony breeding, no books. Our experimental Field Station, Nowy Dwor, is the only one government nursery which is developing the peony production on a big scale. We have about 70,000 peonies.

In Poland only a few persons do research with peonies and all have problems with literature. I have found some names in your Bulletin so I am going to ask them for more information and copy their articles. Please send me some addresses of Universities or other places that do research with peonies. I tried to do this during my two visits to the U.S. in 1979/1980 and again in 1988 but was not lucky as I did not meet people from the American Peony Society.

Last Fall, I started with field experiments in fertilization and planting technology. I am trying to use a planting machine to plant nursery stock.

(Elzbieta Chudziak—Bilska M.Sc.)

THE GROWING AND CARE OF SEEDLING PEONIES

By A. M. Brand

The seed of the peony is dark brown when ripe and of much the shape and size of the average garden pea. If allowed to become thoroughly ripe before picking or too dry after picking, it takes a full year to germinate; but if picked from the seed-pods soon after they begin to open, when it has taken on a uniform light brown color and planted immediately, it will give fully a 40 percent germination the Spring after planting, the remainder coming the second Spring. The seed can also be held until Fall and then planted and still give satisfactory germination the next Spring, if stratified in damp sand immediately upon picking and held cool and moist until planted. If dry seed is planted, germination need not be expected until the second Spring.

The planting can be done either in beds or, if in quantity, in long 6-inch broad rows in the field. Either method is desirable, depending upon the amount of seed sown. In bed-planting, make the beds 3 1/2 feet wide and as long as desired. Elevate the beds about 6 inches so as to shed water. The seed should be planted in the beds either as soon as gathered or, if held dry or stratified, a couple of weeks before the freeze-up is expected. Scatter the seeds broadcast over the bed so that they lie about an inch apart, then cover with an inch of good surface soil which has been lightened by having mixed into it a good half of its bulk of either road or river sand. As soon as the ground freezes, mulch the bed with some coarse litter—marsh hay or cornstalks preferred—just enough to hold the frost steady. Remove this mulch after heavy freezing is over in the Spring.

The little seedlings should be left in the seed-bed until two years old, when they should be lifted in September and transplanted into the location where they are to bloom. If handled in this way, a portion of the plants will bloom when four years old, and all may be expected to do so as five-year-olds. This is the ordinary and probably the easiest way to handle peony seedlings.

But there is another and probably better way if quick results are wanted. Plow a piece of ground, suitable for planting, in the Fall. In the Spring, plow it again and keep in good tilth until planting time in that Fall. Plant the seed, as soon as gathered, in rows 2 feet apart, with the seed an inch deep and 8 inches apart in the row. Mulch the same as in bed-planting. Remove the mulch in the Spring, and if enough seed germinates the first Spring to mark the rows, start cultivation and continue twice a week until August 1. If the seed does not germinate the first Spring, keep the rows hand-weeded the first season and start cultivation early the next Spring as the little plants show up. Seedlings handled this way will throw an occasional bloom the second year, and all will bloom the third year. **Richard Carvel**

bloomed as a two-year-old seedling plant. But to bring the bed into bloom as three-year-olds, steady and intensive cultivation must be given it.

Seed gathered from a promiscuous planting of ordinary, fairly good peonies, as a rule, will not produce worthwhile seedlings. On the other hand, the chances are that from seed gathered from a collection of only choice varieties, such as rate 8.0 and above, some very good seedlings may be expected, the number depending on the amount of seed planted. And yet there are some varieties that do not rate so high that still are good mother plants—**Alba Sulphurea**, for instance, a good clear sulphur-white and a splendid seed producer. Then there are singles in the clear whites, reds, and pinks, all good seed producers, that are good to use.

Where space is limited it is probably best to hand-pollinate. Flowers with good, clean, sharp colors should be used in the work. Using a camel's-hair brush, take the pollen from a clear white like **Frances Willard** and place it on the stigma of a good clear red like **Mary Brand** or *vice versa*, having taken care to remove the stamens from the blooms that are to receive the pollen before they have self-fertilized. Such a cross should give good results. Place rather large paper sacks over the blooms being worked with, to be sure that no natural fertilization occurs.

Where the work is done on a larger scale, more satisfactory results can be obtained by segregating the breeding plants. That is, plant a dozen or more of **Mary Brand** and **Frances Willard**, or of whatever two varieties are to be used to produce the seed, by themselves, where there will be no danger of bees or the wind bringing pollen in from other varieties. Here, if the stamens are removed from one variety and the pistils from the other, the bees and the wind will do the fertilizing on a much larger scale than in the case of the hand-work. The principle is just the same but much more seed will be produced with much less effort.

When the seedlings bloom, the real work with them begins. To be successful, one must be thoroughly familiar with the really good peonies. He must carry them at all times in his mind's eye, for it is by comparison that we judge peonies. As the seedlings bloom they should be under constant observation. The grower should judge each seedling during the short time it is at perfection. A system of marking should be used that will designate plants considered of exceptional merit, and also those that seem good enough for a further trial. For the first class "5x" may be used and "4x" for the other.

In September these two classes of seedlings should be lifted from the seed-bed, divided, and planted with plenty of room in a bed where they are to remain for three years under trial. This three-year trial generally gives one a pretty fair idea of a seedling. During the last two years in this trial-bed these seedlings should be again carefully watched and rechecked as to whether they deserve a "5x" or a "4x" or,

it may be, no rating at all.

A record should be kept of their behavior, and at the end of the third year, the desirable sorts should be lifted, divided, and put through a second three-year test. At the end of this second test the grower can say what seedlings are worth propagating.

In testing seedlings, every one that looks at all good should be tested not only for its behavior and desirability in the field but also for its qualities as a cut-flower. For this last test the flowers should be cut in the bud, developed in the dark, and then opened indoors. Many a peony that is not striking in the field shows up wonderfully if handled in this way. Meanwhile, the seed-bed from which the seedlings have been taken, and the plants left in the first test-bed after removal from the seed-bed should be well cared for for several years, for often a jewel appears where it is not expected. If a seedling does not indicate in the six-year trial that it is worthy, it should be discarded. Seedlings of exceptional merit only should be retained.

—*Boyd's Manual*

ORIGIN OF PEONY NAMES

By Nellie A. Brown, Washington, D. C., Bulletin #68

I suppose you are familiar with the namesakes of most of the well-known peonies but a lot of peony growers are not. Many peonies bear the names of well-known people, others not so well-known. Recently I learned an interesting fact about the peony **Martha Bulloch**.

Martha Bulloch is the name of the mother of President Theodore Roosevelt. Her birthplace at Roswell near Atlanta, GA, is one of the historic homes of that region. Not far from it is the little Presbyterian church over one hundred years old where she was married. Atlanta visitors include these places in their visits to historic spots in the environs of that city.

I am very fond of the color and general characteristics of the **Martha Bulloch** peony and was glad to learn after whom it was named, and thought perhaps you might pass the fact on sometime.

BOOK, *PEONIES*, By Dr. John Wister, Editor

This book is out of print. No more paperback books.

We were fortunate to acquire a few of the hard cover books. The price is now \$10.50; no discounts.

This price supersedes any price that has been given in the past.

PHYTOPHTHORA TEST KIT AVAILABLE

Don Hollingsworth, Kansas City, Missouri

Phytophthora has been credited with a lethal crown and root rot of peonies. The prevalent disease **Botrytis** is also credited with the same symptom. The trouble is, the fungicides that are useful against the latter are generally not particularly effective against the former. The question is, how does one decide when to gear up to spray for **Phytophthora**? If we're spraying with a fungicide and still have crown rot, is it a lousy product—are we using it incorrectly or is it wrong for the problem?

Fungicides based upon the chemical metalaxyl—**Subdue** and **Ridomil**—are specifically for **Phytophthora** and essentially of no benefit on **Botrytis**. Now a do-it-yourself, on-site test kit is being marketed for diagnosis of **Phytophthora**. The test utilizes immunossay technology. The test kit is designed to make this sophisticated technology usable in the field situation. That is the good news.

The bad news is, neither the fungicide nor the test procedure has been defined on peonies. At this stage, if we want to know we'll have to do our own trials. The problem with the fungicide in this respect is that we have to try it on a sample of the types and varieties of concern and check for any harmful effects on the plants. On the other hand, the manufacturer of **Subdue** lists 60—some ornamentals on which it has been found safe to use.

The signal word on metalaxyl products is "Warning," meaning it may be necessary to spend a couple of hours in a pesticide applicators certification short course before you can buy it. That's valuable time spent anyway. Chemicals aren't nearly so threatening when you gain the confidence of knowing how to avoid dangerous practices in their use. To locate a short course for obtaining the certificate, inquire at your local agricultural extension office.

And, the product won't be available off the shelf at your local garden center. Instead, you get it from a company which supplies agricultural or horticultural producers.

The test kit trial problem seems to be where, in the diseased plant tissue, to gather the sample and how to extract material for the test. The supplier which I have identified offers an 800 telephone number for inquiry—Agri-Diagnostics Associates, 2611 Branch Pike, Cinnaminson, New Jersey 08077; telephone 800/322-5487.

The information above is meant to acquaint readers with the existence of the products mentioned, but does not constitute a recommendation for their use. This must be determined upon examining the information provided by the suppliers. Each user is responsible for knowing any regulations or legal limitations concerning use of these or any other products prior to using them and is responsible for acting in accordance with those requirements.

IN MEMORIAM

BENNIE GILBERTSON

Bennie Gilbertson, 94, Kindred, died Friday, Feb. 1, 1991, in Fargo, North Dakota. Bennie was born Oct. 21, 1896, in Milnor, where he grew up and attended school. He served in the military during World War I. In February 1930, he married Signe Larson. She died in November, 1930. He married Alma Stockstad June 22, 1935, in Breckenridge, Minn. They lived in Crookston, Minn., for four years, before coming to Kindred, where he owned Gilbertson Nursery. He developed the Kindred squash and several varieties of peonies. He had worked for years to develop a strain of seedless green ash tree. He was in the beekeeping business in Milnor, Crookston and Kindred.

Gilbertson was honored for his horticulture contributions by the North Dakota Horticulture Society in 1969, and was a past president of that organization. He also served as president of the North Dakota Beekeepers Association and commander of the American Legion posts in Milnor and Kindred. In 1968, Kindred named a park in his honor, recognizing him on his contributions to horticulture.

He had become a resident of the Villa Maria Nursing Home, Fargo, in December 1990.

Surviving are his wife, and a daughter, Zelda Zimmerman, of Philomath, Ore.

MEMORIAL GIVEN IN MEMORY OF:

Bennie Gilbertson

From Alma Gilbertson and Zelda Zimmerman,
Kindred, North Dakota

THE NOMINATING COMMITTEE REPORTS

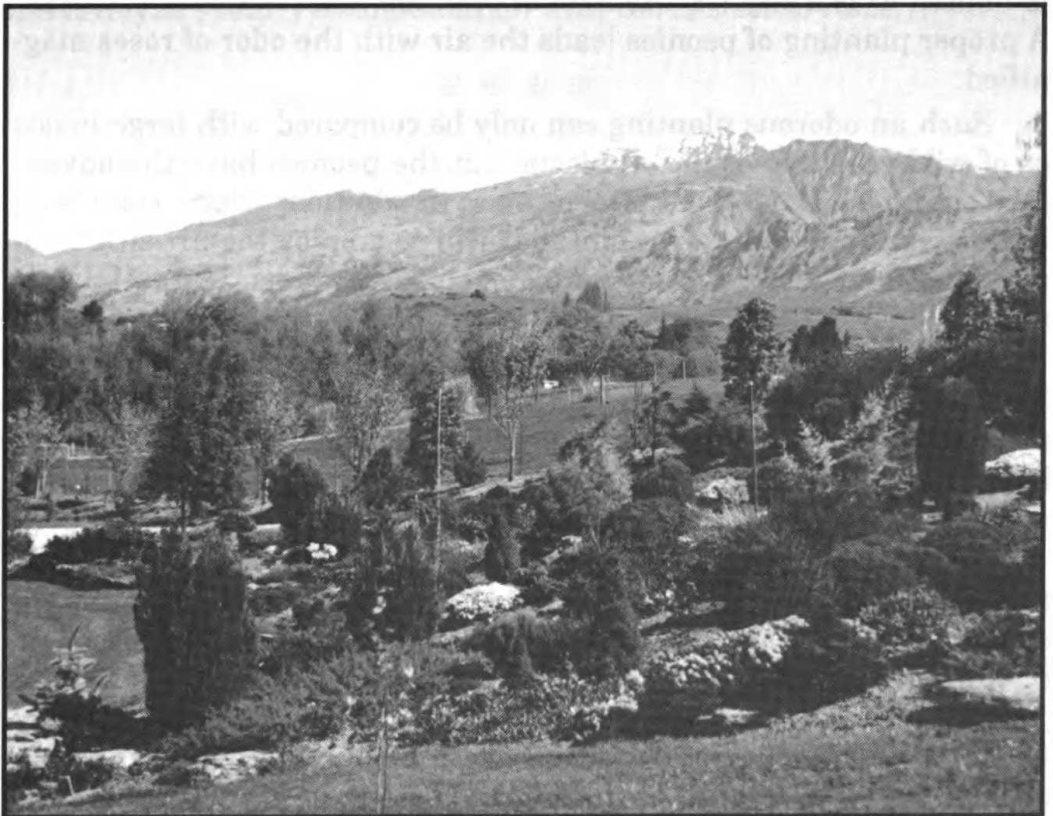
Board of Directors having served their term of office, expires in June, 1991 namely: Greta M. Kessenich, Joseph Glocka, Myron D. Bigger, Lois E. Klehm, Scott Reath, and Steve Varner.

A letter was sent to each asking for confirmation or rejection to serve another three-year term. Steve Varner asked to be replaced; all others responded in the affirmative.

C. F. Spangler has been selected as nominee to fill the vacancy. Mr. Spangler is well known as he has exhibited peonies for many years. His peonies were always blue ribbon winners, on the Court of Honor, and was awarded the Grand Champion of the show several times. He is a judge of peonies, has been in charge of exhibitions, and was President of the Fifth District. He has written articles for the Bulletin.



*Tree Peony **Gaughin** (Nassos Daphnis) in the border garden of the Hamilton, Lake Hayes, Queenstown, New Zealand.*



Garden of the Hamiltons, Lake Hayes, New Zealand. Coronet Peak ski-field in the distance.

RECAPITULATION

*Henry S. Cooper, Kenosha, Wisconsin
(Mr. Cooper died in 1924; date not given)*

There are so many ways to utilize the beauty of the peony! One is to take an individual plant and pet it and coax it and stimulate it, all by itself, and see how you can make it excel any you ever saw before. Take several varieties and get them to emulate one another, and see the rivalry between them (to say nothing of your flower rivalry with your friends and neighbors), and see how this one excels in elegance and grace while the other excels in strength and beauty. Note also how your own wonder and interest and enthusiasm grow with the development of the peonies. In this kind of work, you will want the high class varieties.

It is in mass planting, however, that the real pleasure is attained. A city lot may be made bewitchingly beautiful by mass planting in corners and around sides. In such plantings, same colors or at least harmonious colors must be used. Take light pinks and grade them off through shell-pinks to whites, or take solid masses of reds in corners and shade back to whites in the border. In landscape work and large estate work, solid masses of colors give wonderful vistas that stop the eye and the beholder as well. Borders of drives and walks, if well planted with peonies, make the most showy and the most satisfactory and permanent arrangement. Where the planting is limited or is a city lot, the item of perfume must not be overlooked. A proper planting of peonies loads the air with the odor of roses magnified.

Such an odorous planting can only be compared with large masses of wild crab apples in full bloom, but the peonies have the advantage of sustained odor and of color mass in addition. There is nothing in flowers so full of interest and that will so employ the artistic temperament and taste in color development as the blending of harmonious shades in peonies in masses.

Peonies should not be omitted from any arrangement of a mixed border, because of their early and so striking bloom. No matter what the color scheme of the border, there is a harmonious color that will blend. Mass planting may be done very economically and extremely well by using the cut flower varieties of moderate price.

What is home to a woman without flowers? Our earliest recollection of childhood home is of the mother working in the early morning or in the Spring and Summer evenings among her "beds" of "bachelor buttons," "four-o'clocks," "dahlias" and even the old malodorous "piney." If the dear old mother could only have had her work-a-day life lightened and gladdened by some of our modern improved peonies, what a delight and comfort they would have been to her. And yet they are just as great a delight today—perhaps it's all in the gardener after all.

Mr. Sumner said: "To be successful a man needs three things: First, backbone; second, backbone; and third, backbone." I think much the same way about having a beautiful flower garden. You need: First good peonies, then better peonies and then the best peonies. Years ago, when I bought my first peonies I did so because I loved flowers. The next lot I bought because I loved peonies, and the next because nothing but peonies would fill the bill. Yes, it works that way. First you find out that peonies are beautiful—then you realize that they are the most beautiful and most satisfactory flowers in our climate, if not in the whole world. Then you find out you don't know anything about peonies until you have seen and obtained those exquisitely beautiful, rare and new varieties which are so difficult to see in bloom because they are so much in demand that they are so seldom allowed to grow, develop and blossom. And when one, by the favors of fortune, does see these rare blossoms and does obtain some of them for one's own home, it is a never ending pleasure to show our friends flowers more beautiful than any they have ever seen.

And, marvel of marvels, these things of such rare and delightful charm will thrive almost without care **if they must**. How much we owe to Nature when we are given such bewitchingly elegant grace and beauty combined with such hardiness against frost and such freedom from insects and disease.

It seems so contrary to all other experience, we can with difficulty believe it when we are told that at last the most surpassingly fair and lovely are found in combination with the easiest to raise.

* * * *

THE GOLD MEDAL PEONIES FROM 1980

CYTHERIA (Saunders, 1953), Ithaca, New York, 1980

BOWL OF CREAM (Klehms, 1963), Kingwood Center, 1981

WESTERNER (Bigger, 1942), Hamilton, Ontario, Canada, 1982

CHINESE DRAGON (Saunders), Milwaukee, Wisconsin, 1983

DOLORODELL (Lins, 1942), Kingwood Center, 1984

BURMA RUBY (Glasscock, 1951), Mahomet, IL, 1985

CORAL RUBY (Wissing, 1964), Minneapolis, 1986

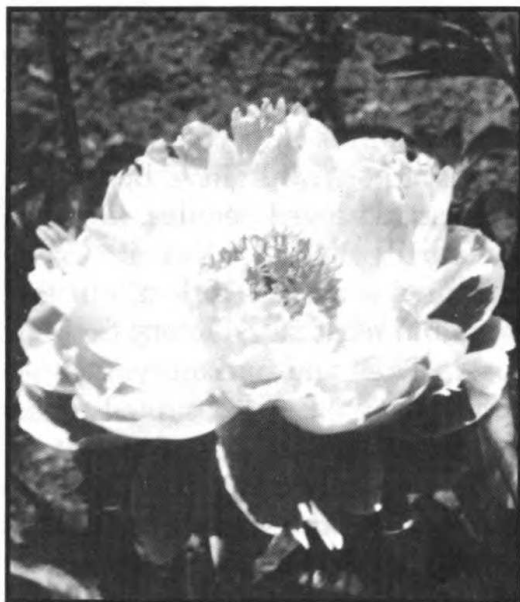
NORMA VOLZ (A. L. Volz, 1968), Kingwood Center, 1987

PAULA FAY (Fay, 1982), Chicago Botanical Gardens, 1988

HIGH NOON (Saunders, 1952 TP.), Janesville, Wisconsin, 1989

SEA SHELL (Sass, 1937), Kingwood Center, Mansfield, OH, 1990

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



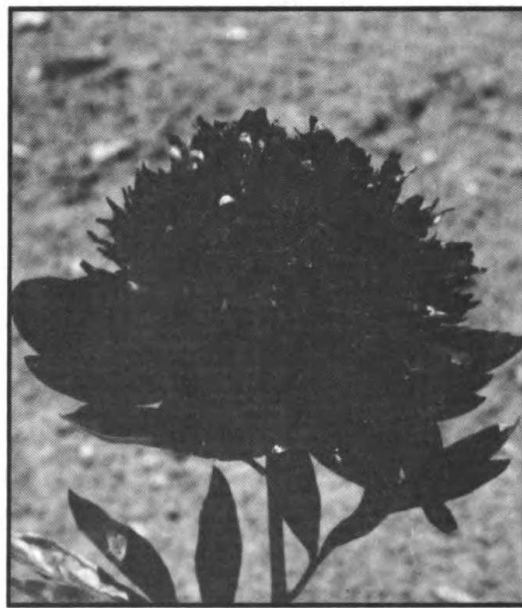
P. Exotic



Tree Peony Savage Splendor



P. Miss America



P. Red Charm

All peonies at Botanica photographed by Edward Michau

Peony roots were donated by some members to Botanica when this now beautiful Arboretum was in its infancy.



P. First Lady



P. Mandarins Coat

All Botanica photos

RECYCLE YOUR PEONIES FOR DRIED BOUQUETS

BY ROBERTA MOFFITT

Three pink "Westerner" peonies with roses, single delphinium, leatherleaf fern, green goldenrod, and baby's breath in a dolphin glass candleholder.



Peonies are the royalty of flowers. Horticulture magazines place them on their covers for breath-takingly showy covers. Taunton Press' *Fine Gardening*, in the May/June issue, shows the best photograph of pink peony flowers I have ever seen. Both flowers and photographer deserve five stars for this strikingly beautiful cover. Inside, a full-page photo of "Doreen" makes me want to add this to my garden. A recent issue of *HORTICULTURE* (Boston) displayed a lovely garden with "Westerner" in the foreground and clumps of "Festiva Maxima" in the background.

Hybridizing has changed the world of peonies from the big round flowers we remember from childhood to new singles, semi-doubles, and doubles with frou-frou petals that are indescribably lovely. Best of all, these flowers dry so perfectly they look freshly picked months after they've dried and gone into bouquets, classic arrangements, and flower wreaths.

The new peony flowers that hybridizers are bringing to life have a whole new range of colors—peach, coral, and combinations of colors, forming a missing link in peony culture. Also new are the pure raspberry, white with pastel pompom centers resembling powder puffs or nosegays. Choosing a few plants is no longer easy, and you find you can't resist just one more!

All this leads me to ask: Why not preserve some of the blooms for Fall and Winter bouquets, wreaths, and gifts? Preserving—drying—peonies is recycling garden gems. We are all into recycling paper and cans. Why not let the artist inside us recycle some peony flowers and leaflets to use in exquisite flower arrangements to add special beauty to our homes during Winter months? Peony growers don't realize the potentials in this artistic creativity, though oddly enough many of the

most enthusiastic people on drying peonies are men! One Southern Governor orders them to decorate the mansion.

The March 1990 Bulletin published my directions for drying peonies taken from my step-by-step book. They show immersion in silica gel (Petalast) using a surround-and-cover technique, letting crystals seep between petal layers so when the flowers are covered, they are in exactly the position they were in when fresh. This means they will be dried looking freshly picked. Leaves may be dried after bloom is finished when they have more substance and deeper color.

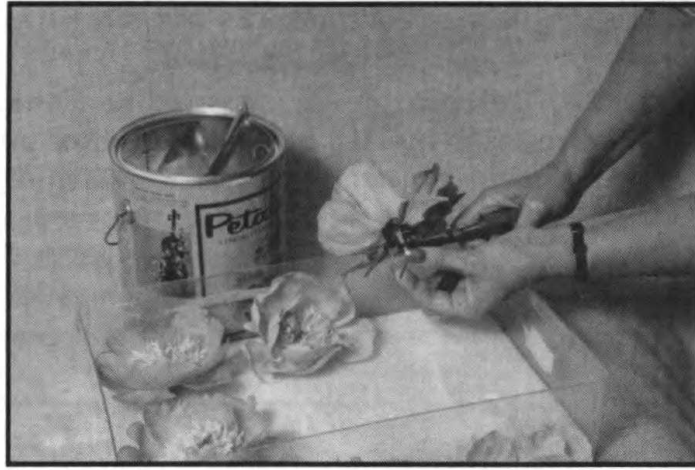


Inserting wire in peony stem and placing in petalast

Peony flowers dry in 4-4½ days using the Regular Method; when silica gel is poured off, they are placed upright in security boxes fitted with a ½" thick sheet of styrofoam in the bottom. Boxes must be deep enough to allow ample headroom for flowers and enough space between them to avoid damaging petals. Add about ½ cup silica gel when box is full (on styrofoam) for insurance against humidity inside the box. I use 4½" deep plastic boxes with double lip covers for a tight fit and fill them with about six or more peonies. When working with large singles like "Sea Shell," it is wise to glue petals on back where they attach to the calyx with a thin ribbon of Duco cement. This helps hold petals erect and prevent collapsing in storage. Let glue dry before boxing (*Illustration on following page*).

Now you are ready to store boxes of flowers through the humidity of Summer. Store in a warm, dry attic, the top shelf of a dark closet, or any place where humidity is low. In my workroom, we have a dehumidifier to keep air at 40% humidity; even then, I store boxes in sealed plastic bags for extra insurance. Nothing is so heartbreaking as a lovely box of perfectly dried peonies that absorbed humidity during storage and are no longer perfect.

When late Fall arrives, open your peony treasury and use them in lovely bouquets following directions in my "Step-By-Step Book of Dried Bouquets" with a nice selection of leaves, secondary flowers



Straightening bent wires beneath flower heads in stems to store in boxes lined with 1/2" styrofoam.

(buds), plus delphinium or larkspur for spike forms. You can enhance the decoration in many rooms of home or office, give some small bouquets for gifts, and place a spectacular wreath over your mantel. Isn't this RECYCLING your garden treasures?

Last Spring, Klehm Nursery of S. Barrington, IL, agreed to ship me a selection of their newest hybrid peonies in new colors to be dried in silica gel by the three methods listed in my book, "The Step-By-Step Book of Preserving Flowers." Flowers were shipped dry-wrapped by UPS Air. They were restored in warm water and some were open in hours, ready for drying. Others required overnight. Most were dried by Regular Method with 4-4 1/2 days immersion; some were tested by Speeded-Up Method with oven heat, and some were Microwaved, using a round bowl for single blossoms. I prefer the first two methods, because microwave ovens have different wattage levels, but if you follow directions in my book and keep a record of your best results in your microwave, you may have satisfactory or even superior results.

I was especially impressed with the fantastic new hybrid corals, salmon and peach-colored peonies, as well as the pure raspberry and combinations of colors advertised in Klehm's catalog. The following is a list of flowers that would dry remarkably well. We had visitors from the West Coast, Arkansas and other parts of the country at that time, and they begged to take samples of these flowers home!

CORALS AND SALMONS

Ann Berry Cousins: A semi-double, salmon-coral with 2 layers of petals and tight gold stamens. Dried a deep coral; some have pom-pom petals extended from centers. Petals are cup-shaped and not overly large, but good bouquet size with excellent substance. Holds up very well in bouquets. A SUPERIOR dryer.

Vivid Glow: A salmon-pink single hybrid with large flowers and about 10 petals. A gorgeous flower, turning fuschia rose with a white

striping on underside of petals. Unusual color; an excellent dryer.

Coral Sunset: A semi-double hybrid with intense coral and rose overtones. Dried peach and deep coral . . . an excellent dryer.

Pink Hawaiian Coral: A mix of coral & salmon pink hybrid double with 5 layers of petals loosely overlapped, forming a light, airy double with yellow stamens and creamy carpels. Dried a light peach pink; the open-looking petals make this an unusual dryer and peony. "I want one of these" is heard when anyone sees them. Excellent dryer.

Coral Supreme: A salmon-coral, cup-shaped peony hybrid with yellow stamens cluster, 4" size, globular with excellent substance and wonderful salmon color. This peony dried the identical color to the fresh color, with 5 petal layers and erect yellow stamens. An OUT-STANDING dryer.

Dainty Lass: A single Japanese, light coral with 2 layers of petals and golden stamens, a beautiful color, drying a light coral.

Petticoat Flounce: Called an Estate Peony, with 5" flowers, delicate salmon-pink double. The form of this peony is most unusual. It has 2 outer petal layers surrounding a soft ivory-pink center nosegay, with some center petals rising above the mound, making this a very interesting flower form. Dried speckled pink with pale yellow and pink centers.

SHADES OF PINK-ROSE

Paula Fay: Deep shocking pink semi-double hybrid with beautifully formed flowers, excellent substance, lovely foliage. This was a GREAT raspberry-colored peony, drying pure raspberry with no blueing of petal color. Excellent dryer.

Cora Stubbs: Raspberry-pink Japanese with a large creamy scoop center resembling a nosegay surrounded with 2 rows of ruffled rose outer petals. I call this a Nosegay Peony. Excellent dryer.

Tom Eckhart: Red-rose Japanese with red, orange, and yellow stamens; 5" large flowers with double row of petals, drying cerise rose. An unusual combination and excellent dryer.

Gay Paree: Cherry outer petals surround a large cream and shell pink center pompom, golden stamens, Japanese. Dried velvet-like deep cranberry outer petals and gold-cranberry pompom. Flowers are small and very good for bouquet size. Excellent dryer.

Fancy Nancy: Rich rose pink, Japanese, 3-4" size, with thick stamen center. Dried an outstanding color; size is very good for bouquets. Excellent dryer.

WHITES AND YELLOWS

Garden Peace: Single white hybrid with deep blush lines on tulip-like petals, about 3" size. Unusual form for peonies. Dried off-white with deeper-colored blush lines. Very nice form holds up well in dried bouquets.

Requiem: Single white hybrid with golden stamens. Two rows of petals surround the golden cluster, has a crimson base when dried. Excellent substance; a very good dryer.

Bride's Dream: Pure white with white center, 3-4" size, and double row of off-white petals surrounding long, slender staminodes. Very good dryer, good bouquet size.

Honey Gold: Double white with golden center, 4-5" size. Some have raised frou-frou in centers surrounded with white-pink blush petals. Dried outstanding with creamy petals. Unusual form and color.

Snow Swan: Single ivory white Estate Peony, excellent substance with cup-shaped double layer of outer petals surrounding a small golden center. Dried off-white with a pink blush. This beautiful peony is 5"-6" and would be suitable for classic or large arrangements. Excellent dryer.

Top Brass: Double ivory pink Estate Peony with 2 layers of outer petals and yellow pompom center, a blush frou-frou top. An unusual flower form; excellent dryer. Frou-frou dried a deeper pink.

(The following flowers were NOT in this study, but based on my own plants and experience with some of them and the color photographs and descriptions in catalogs, I would recommend them very highly as good dryers.)

WHITES

Cheddar Elite	Pico
Cheddar Royal	Evelyn Tibbetts
Cheddar Supreme	*Krinkled White
Cheddar Regal	Lancaster Imp

(* I own this one and use it in numerous bouquets. Its small size is very good and the crinkled petals are lovely additions to all bouquets.)

PINK AND ROSE

Vera Tischler	Sea Shell	Amo No Sode
Westerner	Beth Ericson	Bev
Hazel Brand	Golly	Doreen

CORALS

Coral Charm	Coral Fay	Coral 'N Gold
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TREE PEONIES

Roman Gold (yellow)	Marchioness (peach)	Silver Sails (silver-yellow)
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White peonies, red roses, blue delphinium and green goldenrod in an antique apothecary jar similar to an arrangement placed in a former Vice President's office in the White House.

All information on procedure has been taken from Roberta Moffitt's *STEP-BY-STEP BOOK OF PRESERVING FLOWERS*, 4th Ed., \$7.95 PPD. and *STEP-BY-STEP BOOK OF DRIED BOUQUETS*, 2nd Ed., \$12.95 PPD. Send large SASE for free Newsletter of supplies, flowers, information. —Roberta Moffitt, P.O. Box 3597, Wilmington, DE 19807

" THE STEP-BY-STEP BOOK OF PRESERVING FLOWERS "
(4TH EDITION)

ABOUT THE AUTHOR: Roberta Moffitt has been writing, teaching and lecturing about dried flowers for 26 years. Featured speaker at Colonial Williamsburg Garden Symposium, Longwood Gardens Spring Series, Callaway Gardens, Kingwood Center, Greenwich Garden Ctr., Pittsburgh Garden Ctr., and State Garden Club Conventions for Ohio, Michigan, Illinois, Indiana. Featured in Good Housekeeping Magazine, Horticulture Magazine, American Peony Society's Bulletin, "*Drying Peonies Step-By-Step*;" Member Garden Writers Association of America. Publishes a semi-annual newsletter.

CUTTING PEONIES FOR YOUR HOME, A MORNING PLEASURE

Peonies for the house should be cut in the early morning when the bud of the peony is about half open. Do not cut the stems so long that you take all the leaves with the stalk. Some leaves must be left on your plant to insure flowers for next year. Put the flowers in water immediately and set them in a cool dark place for three or more hours or in your old refrigerator that you keep just for cut flowers.

When arranging them for your living room, cut off the bottom of the stem, so you will have a fresh cut, using a sharp knife. Cut stems at an angle. Treat your lovely peonies to fresh water daily.

USING LILAC BLOOMS AS A CUT FLOWER IN BOUQUETS

Cut only early in the morning, immediately place the cut stems into a bucket of warm water as they are removed from the shrub. Place the cut stems, with the lower leaves removed into a bucket with a commercial flower preservative or make up your own solution: two tablespoons of sugar and one aspirin per quart of warm water. Harden them in a cool place for several hours before bringing them out into normal room temperature.

If the above procedure is followed and bloom taken before fully open, they should last at least eleven or more days. Hammering the stems will not increase the life of the bloom.

—From the Lilac Specialist, Dr. Owen M. Rogers, University of New Hampshire, Durham, N.H. Submitted by Don Wedge, "Mr. Lilac of Minnesota," Wedge Nursery, Albert Lea, Minnesota.

When tulips wilt and hang their heads, make a fresh cut in the stems, roll up in newspaper and stand them in cool water overnight.

From records compiled over a 13-year period on the blooming of *Syringa Vulgaris* (French Hybrid Lilac) in southern Minnesota I came up with the following information:

* The length of the blooming period ranged from 13 to 23 days—the average was 18 days or 2½ weeks.

* The earliest bloom was April 30—the latest bloom was June 10. The average over the period: first bloom, May 14; height of bloom, May 22; ending of bloom, June 2.

* In comparison, the average blooming period of companion plants we find: PEONIES—blooming May 27 to June 18, peaking June 12th; FLOWERING CRABS—blooming May 2nd to 30th, peaking May 17-20.

* In 1981-May 21 when the I. Lilac Society had their convention in Des Moines, Iowa, the lilac blooms were spent.

* 200 miles north in Southern Minnesota they were in peak bloom. On July 4, that same year, the lilacs were in full bloom in Grand Marais, Minn., which is located on the shores of Lake Superior close to the Canadian border. The distance from Des Moines to Grand Marais is 500 miles due north.

* From somewhere the following information was gleaned: **Spring** comes north at the rate of 100 miles a week. The progression of Lilac bloom is 15 miles per day northward.

* Accumulation of 807 degree days above 31 degree Fahrenheit is needed for lilacs to come into bloom.

* The phenology study using the date lilacs start to bloom to predict or forecast intrigues me. We should collect more specific data so that the Lilac Society could go on record recommending every farmer and gardener should plant some lilac, not just for their gorgeous blooms and fragrance, but to help determine when best to plant certain crops, when to expect harvest of Alfalfa, wheat, etc. so that they can predict ahead when they could safely plan to get away on a fishing trip.

—Don Wedge, Wedge Nursery, Albert Lea, Minnesota

COLOR STANDARDS

By G. A. Stevens

Color is not an inherent property of a flower, but is wholly dependent upon the quality of light reflected from its petals. A change in the light profoundly affects the quality of the reflected color, as anyone may see by looking at flowers in the greenish light preceding a thunderstorm and in the golden light of sunset, when their colors are so strangely different that they look unreal. To prove this fact, one needs only to take a flower into a photographer's darkroom where the only light is that transmitted by red glass.

Serious attempts have been made to set up arbitrary color standards for describing flowers. One of the latest provides a means of isolating each color and shade for comparison by an aperture in a sheet of black paper. So far none of these "color charts" has proved really satisfactory, for all such devices rely upon the reflection of light from opaque surfaces covered with pigments, usually of mineral origin. The flower petals which they are supposed to match are stained with nature's finest vegetable dyes, distributed upon surfaces of limitless variation—smooth, rough, translucent, opaque, grained, crystalline, silken, velvety, mealy, metallic, and so on through an unending range of textures and thicknesses—their shades and intensities being modified by infinite interrelation.

It seems to be impossible to mix paints or inks which can show, by reflected light only, those tints and shades in flowers whose translucent petals glow and shimmer with colors seen by both transmitted and reflected light.

Worst of all, for determination by a printed or painted color chart, is the fact that no two petals are precisely the same in hue, alike on both sides, or of uniform color even on one side. With each square quarter-inch differing from every other square quarter-inch, how can accurate comparisons be made with a surface covered by any uniform, opaque pigment?

Colors vary in flowers of the same variety, not only from one bloom to another, but also from morning to afternoon or the next day; from sun to shade; from varying exposures and effects of moisture of heat from succeeding maturities. Comparing living flowers with dead pigment is therefore only a guess, an approximation, an average.

Pending the probable preparation of better color scales, which recognize and attempt to meet these difficulties, the color of peonies in this list is described in the simplest manner possible by using well-known color-names, modified by understandable words.

Thus, *white* means just that, the absence of color. *Flesh-white*, *blush-white*, *cream-white* explain themselves. Such expressions as French white, Chinese white, etc., mean nothing to nine-tenths of us, and while it may be objected that *cream-white* is equally indefinite, meaning one thing to a fortunate person who was brought up in proximity to a Jersey cow, and another a wholly different thing to the city dweller who gets his cream from a milkman, *cream-white* describes with fair accuracy *white* which is yellowish, not greenish like a goose-egg, bluish like bathroom enamel, or pinkish like a strawberry ice-cream soda.

Pink, when used in these descriptions means pink, the color of the old-fashioned clove pink *Dianthus plumarius*, a clear pure shade, somewhere between white and crimson, with little or no hint of yellow and no taint of lavender.

Rose, or *rose-pink*, has a distinctly bluish or lilac tone, but is not grayish like the much more strongly lavender-tinted *old-rose*. *Flesh-pink* is a very light pink with a faintly yellow tinge. *Shell-pink* is the same much intensified. *Salmon-pink* is a still stronger color, with the yellow predominating so that it is not far removed from orange.

Red is a broad term embracing both scarlet and crimson and all intervening shades. *Crimson* is a red more or less inclined to blue. *Scarlet* is red which tends toward orange and yellow. *Carmine* is an indefinite term which stands for so many things that it means nothing, so it is not used in this work. *Maroon* is a very dark crimson with a hint of brownish purple. In peonies, the effect of sunlight on maroon is most peculiar. It gives an almost lavender sheen very difficult to describe.

Yellow means the clear color seen in the evening primrose, (*Enothera biennis*); *golden yellow* the color of the center of a dandelion blossom; *lemon-yellow* a light greenish yellow approaching the generally conceived color of lemons. *Buff* is a flat, whitish, golden yellow with a hint of pink; *canary* a light shade of lemon-yellow.

Other descriptive terms are used, but an effort has been made to make them as clear as possible, and wholly self-explanatory.

HISTORICAL

(From Boyd's Manual, written by A. P. Saunders)

The remote history of the Chinese peony goes back into China where, in a general sense, it is traceable for more than a thousand years. Beginning as the wild species *P. albiflora*, it gradually spread throughout northern China where it was cultivated for medicinal use—even for food—and also for garden ornament; and the evidence leaves us in no doubt that it was grown on a very large scale. There is a record in 1596 of at least thirty improved varieties then in existence, while a document that goes back to the eleventh century states that the herbaceous peony was at that time very widely grown in China, and that it existed in white, pink, and red varieties. We do not think of the peony as a medicinal plant, but our forefathers had a faith more like that of the Chinese in the curative value of plants, and in Hill's British Herbal of 1756 we find it claimed for the peony (*P. officinalis*, no doubt) that "it will alone cure that disagreeable disorder, the night-mare."

Evidently, then, the herbaceous peony enjoyed a wide esteem in China. The tree peony has a parallel and similar, but always a more glorious, story.

So far as we can learn, the Japanese derived their herbaceous and tree peonies from China, and it is doubtful whether they effected any very great improvement in either of them.

At the beginning of the nineteenth century the first herbaceous peonies were imported from China into England. These were given the names: **Fragrans, Whitleyi, Humei, Pottsi**, and the like. The beauty of these flowers made a deep impression on English and continental horticulturists and almost at once there began an active development of new and improved kinds, which has continued with ever-increasing enthusiasm up to the present day. During the century that has elapsed, the number of named varieties introduced into commerce has been almost beyond belief. It is probably no exaggeration to say that two to three thousand distinct forms have been named and sold, or offered for sale, within that period.

This is the race which we call Chinese peonies, or sometimes *Paeonia sinensis*, or, more correctly, *P. albiflora*. In beauty and variety of color, in size, and in perfection of form the European sorts far surpass the original introductions.

It is an interesting question whether any other blood than that of *P. albiflora* has gone into the making of these wonderful flowers; and the statement has often been made by very competent authorities that many of our "Chinese" peonies of today are the results of crosses between the original varieties brought over from China and some of the European species such as *P. officinalis*, *P. peregrina*, and others, which already existed in a number of distinct forms in English and continental gardens.

(Note—Most of our peonies are of lactiflora origin. This word denotes the species. For many years it was known as chinensis or sinensis. Then it was known as albiflora and now the word lactiflora is perhaps the correct name for the species. It has been adopted by botanists as the correct name to be used.)

(So the words chinensis, sinensis, albiflora and lactiflora denote the same species.)

* * * *

SOME BIOGRAPHICAL NOTES

By Alexander Steffen, Pillnitz, Germany

(Taken from APS Bulletin, Vol. 24, #42)

(The following interesting biographical data has been obligingly furnished by Mr. Steffen of Pillnitz, near Dresden, Germany. Anyone who has tried to get information about the lives of horticulturists of an earlier time, knows what a task it is. When I last looked up the French Who's Who, even the great name of Lemoine of Nancy was not in it. Mr. Steffen has done all peony lovers a favor by bringing together the following notes, most of which should find a place in a later edition of our manual.—A. P. Saunders.)

BARR, PETER. Born 1825 in Govan near Glasgow. Died Sept. 17, 1909. Introduced many varieties of peonies, iris, daffodils.

CALOT. Worked with peonies until 1872. He then sold his collection to Crousse at Nancy, France.

CASORETTI. Italian grower, who raised the tree peonies **Elizabeth** and **Rinzii** (1850). He sold these varieties to the nurseryman Rinz in Frankfort on the Main, who introduced them into commerce.

COURANT. At Poissy, France. Peonies of his raising include **Ville de Poissy** (1850), **Mme. Courant**, **Monsieur Conrant** (1850). Known for his hybrids of **Phyllocactus**. He was one of the first who crossed these plants. His collection of **Phyllocactus** was bought by Simon, who in 1895 offered 139 Courant varieties in his catalogue. In 1878 Courant offered 18 new varieties, some of which are reproduced in color in the *Illustration Horticole* for that year.

DELACHE. A Belgian who lived at St. Omer. Produced the following peonies: **Delachei**, 1856; **Rubra Triumphans**, 1854; **Anemoneflora Rubra**, 1854; **Adelaide Delache**, 1854; **Audomarensis**, 1850(?); **Louis van Houtte**, 1854; **Mme. Carpentier**, 1850(?); **Monsieur Bellart**, 1850; **Purpurea Superba**, 1855(?); and **Rubens**, 1854.

DONKELAER, ANDRE. Born 1788; died 1858. Curator of the

Botanic Garden at Ghent, Belgium. Introduced **Festiva**, 1838.

GOOS, MAX JOSEPH. Born June 12, 1858. From an old family in Hamburg. His father was a painter. Founded with Koenemann in 1867 the famous nurseries at Niederwalluf, where they produced many good varieties of peonies, iris, clematis, etc. Died Feb. 5, 1917.

GUERIN, MODESTE. Lived at Charonne near Paris. In 1835 he began the raising of new varieties. His nursery was dissolved in 1866 and the property sold for building purposes. Much of his collection was sold to Mechin. One of his tree peony varieties was **President Bromniart**.

JACQUES. 1782-1866 was gardener to the French King Louis Philippe at Neuilly. Known for his seedling cannas, roses, etc. He produced new peony varieties using **P. paradoxa** and others as one of the parents. One of his seedlings was **Fimbriata sanguinea plena**. His collection of peonies he transferred to his nephew Victor Verdier.

KOCH. Silk merchant at Cologne. A great amateur of plants and flowers. His collection of tree peonies was famous, and he raised many new seedlings, the best of them being **Schome von Kolu** (Beauty of Cologne), **Fortschritt**, **Wilhelmine**, **Klara**, **Koch's Weisse**, **Centifolia Rose** (Rosea?), **Koechlini**. His garden (3 acres) was situated in the Maccabaeer Street. His gardener was Mr. Stuttgart. Mr. Koch died in 1857 or 1858. His peony collection was sold to foreigners (Dutch).

KOENEMANN, AUGUST. Born 1864 at Dortmund, Germany. Died May 23, 1910. The proprietors of the firm of Goos and Koenemann today are Dr. Hermann Goos (born July 10, 1894) and Friedrich Bucher (born Feb. 22, 1873, at Kirberg near Limburg).

LEICHTLIN, MAX. Baden-Baden. Born 1831 in Karlsruhe; died 1910 in Baden-Baden.

LEMON, NICHOLAS. Located at Porte St. Denis near Paris. Probably one of the first to grow peonies from seed in Europe. Had his first batch in 1824; it included **Grandiflora nivea**, **sinensis adorata**, **anemoneflora alba**, **grandiflora carnea plena**; **papaveriflora** in 1825; **Humei alba**, 1830; **edulis superba**, 1824 (not 1924); **Prolifera tricolor**, 1825; **Formosa**, 1824; **Bicolor**, 1835; **Carnea grandiflora**, 1835(?) , **Ligulata**, 1830(?), **Lutea variegata**, 1830(?), **Odorata**, 1830(?), **Sulphurea**, 1830(?).

Lemon was also a raiser of new irises, pelargoniums, phlox, etc. Born in 1787, he lost his parents when he was five years old, and had his education with his uncle, gardener at the Castle de la Malgrange near Nancy. In 1803 he came to Paris as gardener to General Gouvion-St. Cyr. Was in that position three years, then nine years with the gardener Biquelin. In 1815 he began business for himself at No. 3 Rue Desnoyers pres de la Barriere de Belleville, where he remained for twenty years. Famous for the culture and introduction

of *Ananassa sativa* (pineapple), *Ixora*, *Epiphyllum*, *Gloxinia*, etc. He got into a bad situation financially and personally about 1835. Died 1837.

LEVEQUE, PIERRE LOUIS. Nursery founded in 1839 at Paris. Removed to Gentilly, and in 1870 to Ivry-sur-Seine. Leveque was born in 1838 and died in 1925. His son, Gaston, is in the firm.

LORBERG, MAX RICHARD. 1840-1878. One of his sons is in the firm today in Biesenthal near Berlin. Lorberg put into commerce a few seedlings of his own of *P. arborea*. These now probably lost.

MACKOY, JACOB LAMBERT. Nurseryman at Liege, Belgium. Born at Liege, 1790. Died March 4, 1873. Introduced *Paeonia Nivea Plenissima*.

(I called Mr. Steffen's attention to the fact that the spelling of the name current in this country and used in the Manual is *Makoy*, but he replied, "I think *Mackoy* is right"—A.P.S.)

MIELLEZ, AUGUSTE. Nurseryman at Esquermet near Lille. Raiser of new fuchsias, violas, pelargoniums, peonies. Died 1860.

MILLET, ARMAND JOSEPH. Established with his son the nursery under the firm name Millet et fils, at Bourg la Reine near Paris. Produced *Jeanne Gandichan*, *Maman Millet*, *Hakodate* (1912), and many other varieties.

MLOKOSEWITSCH, EDWARD. (*P. Mlokozewitschi* named for him by Lomakin.) Was a forester in the Russian Caucasus near Lagodechi. His daughter, Julia, traveled for Wilhelm Kesselring of Petersburg in 1908 and collected *Gentiana lagodechiana* and other valuable plants. *Primula Juliae* introduced by her was named after her by Kusnezov.

NOISETTE, LOUIS. 1772-1849. At the Faubourg St. Jacques, Paris, and later at Fontenay-aux-Roses. His brother, Philip, emigrated to the United States and had a nursery at Charleston, S. C.

PARMENTIER, CHEVALIER DE. Lord Mayor of Enghien, Belgium. Known for his great collection of peonies and other plants. It is not certain that he himself raised seedlings, but he introduced to the public the following varieties: *Lamartine* (1850), *Francois Ortegat* (1850), *Ambroise Verschaffelt*, *carnea maxima*, *Charles van Geert*, *Coralie Mathieu*, *Doyen d'Engbien*, *Eclatant*, *Eugenie Parmentier*, *Faubert*, *Josephine Parmentier*, *La Sublime*, *L'Eblouissante*, *Louis Parmentier*, *Louis van Houtte*, *Mme. Morren*, *Mme. Paternoster*, *Monsieur Bocquie*, *Pio Nono*, *Prince Antoine d'Aremberg*, *Prefesseur Morren*, *Sultan*, *Triomphe d'Engbien*, *versicolor*, *Prince Prosper d'Aremberg*. His collection of peonies was sold at auction in 1855 and formed the foundation of the famous van Houtte collection. (It is worth noting that three peonies have been put into commerce under the name *Louis van Houtte*, one by Parmentier in 1850, a second by Delache in 1854 and the third by Calot in 1867.

PELE, ANDRE PHILIPPE. Lived in Paris, 81 Rue de Lourcine. Began the culture of peonies and the raising of seedlings. **Alice de Julvecourt**, 1857; **Docteur Boisdouval**, 1850(?). Died in 1888 at an advanced age. Krelage's list of 1892 gives two peonies under the name **Docteur Boisdouval**; one by Guerin, 1850(?) , and one by Pele 1850(?).

POTTS, JOHN. Plant collector who traveled for the Royal Horticultural Society of London, in India and China. In 1821 he sailed on the General Kyd to Canton, Macao, Calcutta, and returned to England in 1823. Soon after returning he died.

PURDOM, WILLIAM. Son of William P., Brathay Hall, Westmoreland, England. Worked as gardener six and a half years at Kew Gardens, and traveled then as plant collector for the Arnold Arboretum and for Veitch and Co., in China 1909-1912. Second voyage 1914-1920, partly with Farrer, in China. (See Farrer's books, "On the Eaves of the World," and "The Rainbow Bridge.") Purdom then entered the Chinese Forest Service. Died Sept. 7, 1921.

RINZ, JACOB. Nurseryman at Frankfort on the Main. His father Sebastian R. (1782-1861) was head gardener of the public gardens in that city.

SALM-DYCK, PRINCE. Born 1773 at Dyck, Germany. Died in 1861 at Nice. Possessed a famous garden and plant collection, especially of Cacti. Described **Paeonia spectabilis**, and **grandiflora** 1820(?). The family exists today.

SASS, HANS P. Was born at Alt Duvenstedt, not Alt Dunvestedt.

SIEBOLD, P. F. VON. Born 1796 at Wurzburg, Germany. Physician, first at Batavia (Dutch East Indies), then at Nagasaki, Japan. Returned in 1830 and lived first in Germany and then at Leiden, Holland. In 1859-1862 he was for a second time in Japan, then again at Wurzburg, and later in Munich where he died in 1866. (Mr. Steffen later added this note: "Born as *Siebold*, not *von siebold*. Interesting sketch in Contes de Lundi by Alphonse Daudet.")

VERDIER, VICTOR. Born 1803; died 1878. Paris.

WHITLEY. Nurseryman at Fulham, England. Member of the firm of Brames, Milne, Whitley and Co. Introduced many plants from China about 1808, among them the peony **Whitleyi**.

WITTMANN. (*Paeonia Wittmanniana* is named for him.) German horticulturist who traveled on behalf of the Russian Government in the south of Russia (Caucasus). In 1841 he returned with many seeds and plants—peonies as well as others—which were sent to Nikitz. There was a book published in 1804, in German, Wittmann's Travels in Turkey, Syria, and Egypt. I do not know whether this was the same Wittmann.

HANDLING EXHIBITION BLOOMS

To have the finest exhibition blooms, it is presumed that plants have been cared for as directed. When the buds appear, go over the plants and select the buds that have the heaviest stems immediately below the buds. They produce the largest flowers.

Label, disbud, bag, cut, store as follows.

LABELING. The blooms should be properly labeled, preferably as soon as selected, certainly before or at the same time they are cut. Use wired wooden tree labels. Paper labels are not satisfactory. Write the name of the variety legibly, on both sides of the label. This will save many an overturned container. Fasten the label securely to the stem, just below the bloom.

DISBUDDING. Removing the side buds from a stem will make the center or terminal bud a larger, better flower. This should be done when they are about the size of a pea. Take the bud between the thumb and forefinger and give it a quick outward twist and it will break off with no damage to the stem. If the main stem is damaged in the process it may cause the center bud to die.

Usually the terminal bud will open before the side buds do which often open all at once.

So, to get a fine bouquet of blooms, remove the terminal buds and you will have from three to five, or more flowers only slightly smaller than the center bud would have made, all on the same stem. The blooming period is often prolonged for a particular plant for from one to two weeks by not disbudding.

BAGGING the blooms will prevent weather and insect damage and keep the delicately colored flowers from being faded out by bright sunlight. This should be done a week or ten days before the buds will open, when the bud is dry. Use two pound grocery bags for the large, full, doubles, and smaller ones for the singles, Japanese, and the smaller doubles. Transparent bags afford no protection from the sun. Slip the bag over the bloom and fasten with a rubber band, staples, or paper clip—never with a pin, as they are dangerous. Pull the bag up until it touches the bottom of the bud. This is important, as it prevents the bloom from being distorted and keeps the stem straight. For ventilation cut a small hole in each upper corner of the bag. This will keep the bloom from being cooked by the heat of the sun. Examine the bags after each rain and if water has collected in the sacks, remove them and resack when dry. Buds should never be sacked when wet as they may mold. After the bloom begins to open, it is hard to resack without damaging it, so if you wish to examine the bloom, tear off the sack about halfway down leaving enough to hold the bloom in shape. Then pull another sack down over the first one, which may be done by holding the bloom encircled with one hand. The bags should not be removed, finally, until you are ready to use the flower.

To remove the bag, cut the rubber band or pull on the paper clip and tear off the sack. Do not pull it off.

CUTTING. You can tell when the bloom is ready to cut by the feel of it. Press down on the center of the bloom, through the sack, and, if it feels soft to the touch, like a marshmallow, then it is ready. Until the center softens up, the bloom will not open well when cut.

Cut-flower varieties may be cut when the first line of color appears and the first petals begin to unfold. Use a sharp knife and cut the stem about eighteen inches long, unless a longer stem is necessary. Leave at least the two bottom leaves on the stem uncut. Never cut more than two-thirds of the blooms on the plant. Remove all the leaves from the cut stem except the two upper ones. Plunge the stem into cold water up to the leaves. Take a pail of water along with you to the garden, so that there will be no delay in doing this. If the blooms have not been bagged previously, this should be done when they are cut. Make a hole in the bottom of the sack, stick the end of the stem into the bag and through the hole, then pull the bag over the bloom, leaves and all, until it touches the base of the bottom. Bagged blooms are not easily damaged by handling.

STORAGE. Store the blooms in a cool, dark place, if you do not have to keep longer than a few days. If they must be kept longer, they should be put in cold storage. The best storage temperature is about 33 or 34 degrees. It should not be over 40. If stored dry, be sure to keep the stems in deep water for at least two hours placing in storage. The leaves may be wetted down when placed in storage, but the buds must be kept dry. If wet, they should be wiped dry. Take them to storage as soon as possible after this soaking. The household refrigerator will serve if no better storage is available. If mold appears, wipe it off at once. Remove the blooms from storage from twelve to twenty-four hours before using, depending on the temperature at which stored, the colder the storage temperature the longer it will take the bloom to warm up and open properly. Take them from storage direct to the work room or ship, if that has to be done, as directed. Blooms that have been stored dry will usually take at least two days to fill with water.

Blooms that are slightly faded or just beginning to fade may often be revived by placing the stems in water as hot as the hand will bear, and leaving them there for an hour or two.

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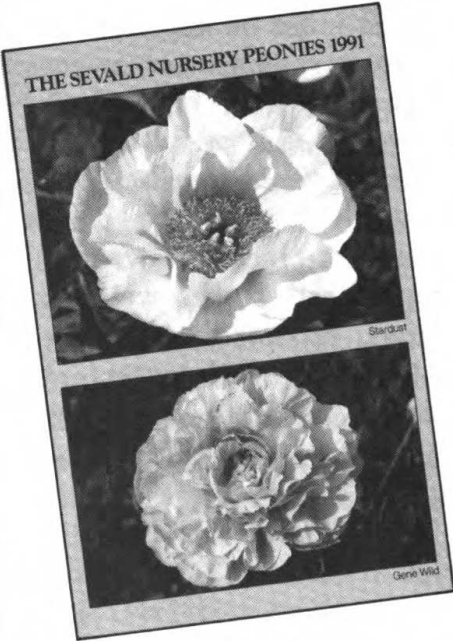
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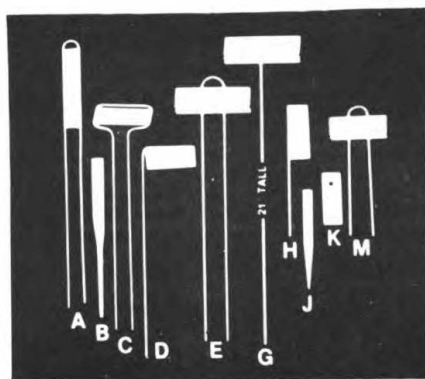
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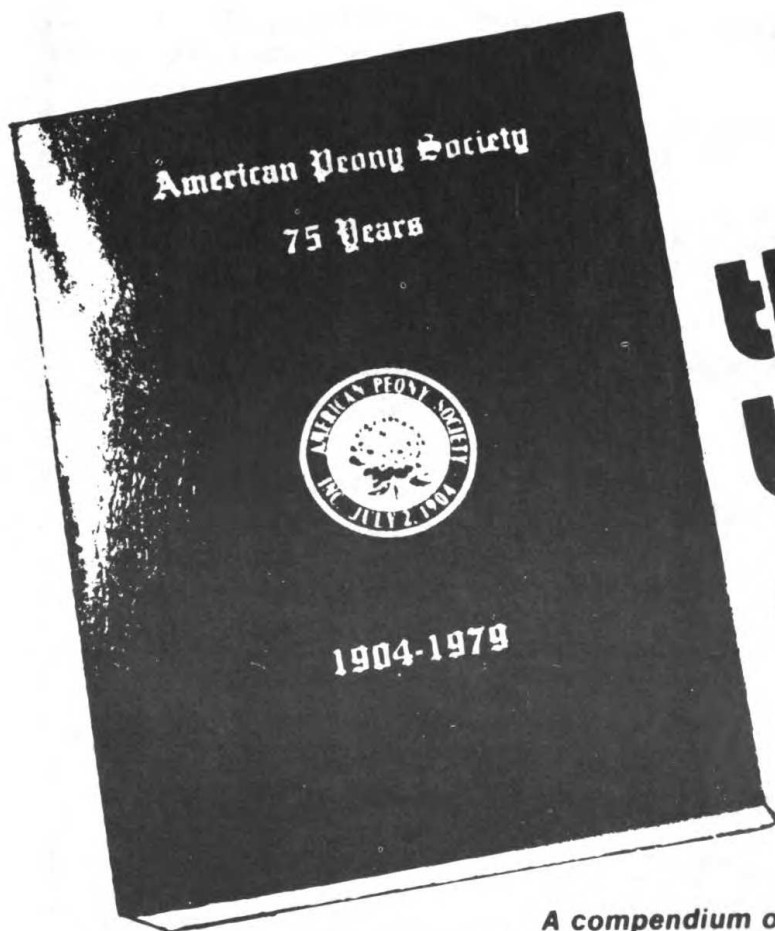
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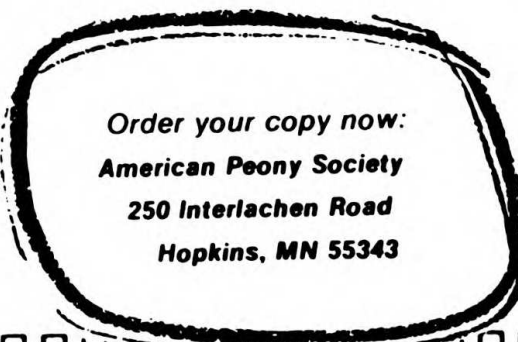
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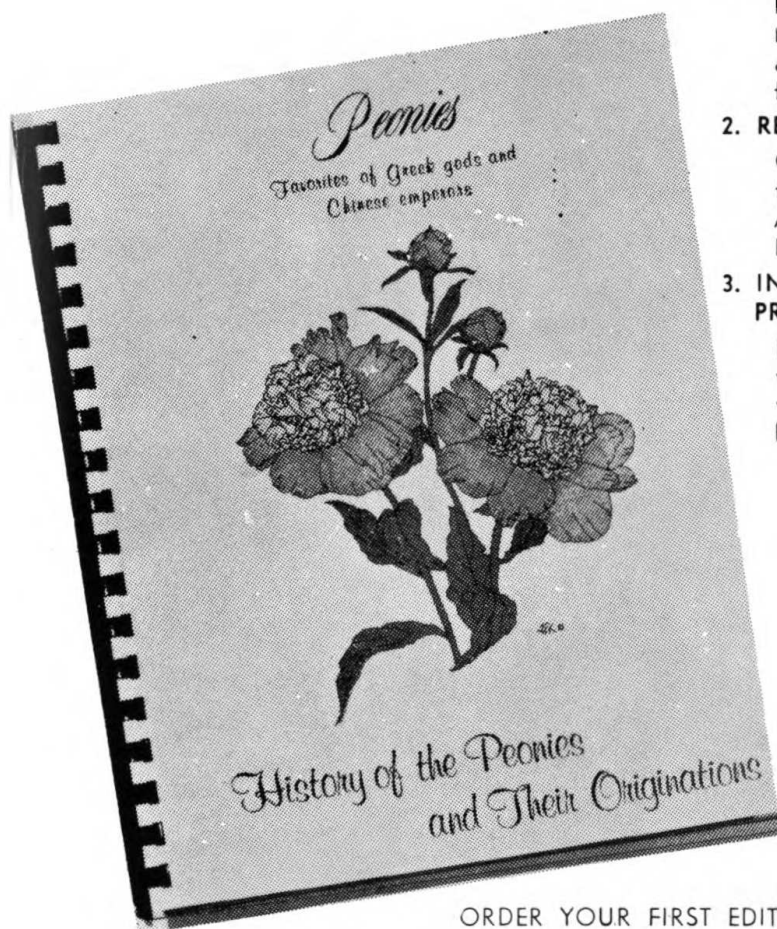
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