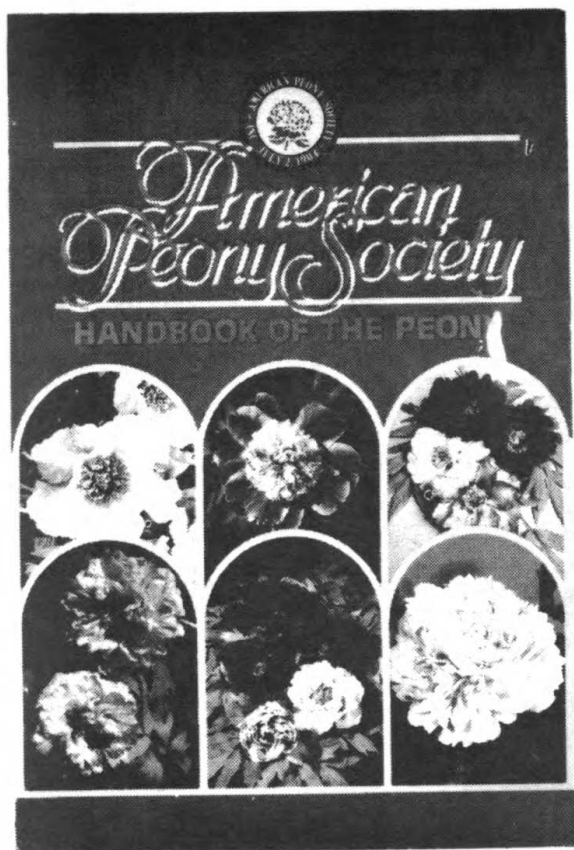


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JUNE 1987
NO. 262

The American Peony Society Bulletin



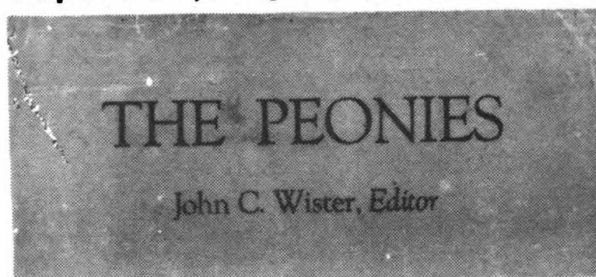


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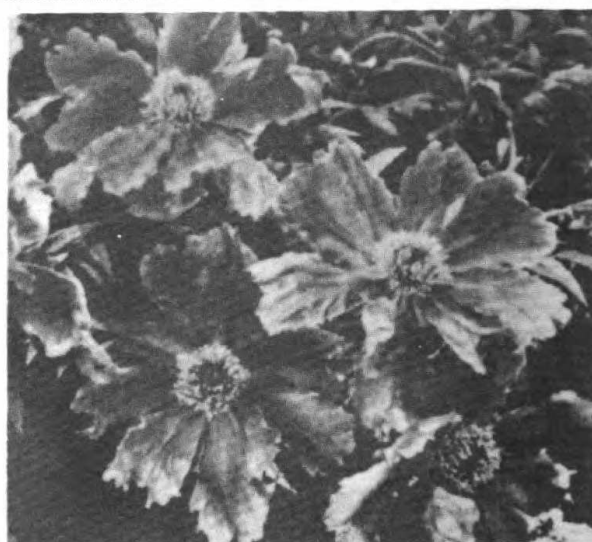
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Greta M. Kessenich, Secretary

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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AMERICAN Peony Society Bulletin



JUNE 1987 NO. 262

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FROM YOUR PRESIDENT

DON HOLLINGSWORTH

April 18, 1987

Dear Friends,

The outdoors has grown lush and green in the Kansas City area. In spite of temperatures into the upper teens two mornings three weeks ago, the peonies are in flower—Laddie, Tenuifolia, Roselette and the Japanese tree peonies are making a good account of themselves. Much flowering was spoiled, also. There is much to learn from these unfortunate occurrences [or re-learn].

First, varietal and species sources of freeze resistance are always of interest to landscapers, gardeners and breeders. From the latter standpoint, I note with great interest that the species tenuifolia, peregrina (lobata), and daurica (triternata), and some of their hybrid descendants, proved exceptionally well-adapted compared to some other species sources of early flowering.

Secondly, I re-learned that protection from early sun is especially helpful in survival of tender tissues when subjected to severe freezing temperatures. The Japanese tree peonies, which are flowering here, lost only flowers that were exposed. Buds in the shade of other shoots on the same plant were able to survive. A plant exposed to the cold northwest wind but with complete shade until mid-morning after the air had warmed, lost no flowers at all. Find a location for some tree peonies on the west side of a building, big shrubs or a densely-crowned tree for extra frost-proofing.

Grow your peonies well; this year's growth makes next year's flowers. Then share them—display, exhibit and make color photos for off-season programs!

Sincerely, Don Hollingsworth

PEONY SEEDS GERMINATION

"The Magic Paper Towel"

*Maurice Menard, 1194 Montee Champagne Ste-Dorothee, Laval, Qc,
Canada H7W 3S6*

Apart from direct sowing in the soil, each horticulturist, or gardener, seems to have his secret or preference as to the best medium for germinating peony seeds. After a few years of trials and errors, I came to prefer a coarse washed sand made of crushed gneiss, rather than ordinary silicium builder's sand. This gives a satisfactory, but sometimes irregular, germination (of course every peony plant seed lot is more or less irregular). Each seed lot is placed with enough fresh sand to prevent dryness in a plastic bag, or any other waterproof container allowing air exchange.

Everyone knows that peony seeds require two moist stratification periods: a warm one (68°-75°F) and a cool one (38° to 45-50°), each during two to four months or more.

During the cool period when the root begins to swell and crook, it means that germination is nearly complete. The crook part will separate itself, and through the middle, the leaf germ will emanate from the seed. It is now time to plant the seeds outdoors if the soil is still ready, or indoors in small pots kept in good light, without direct sunlight, at a rather low temperature until the leaves appear and develop.

But it is troublesome to handle the small sand bags, and after the first 6 or 8 weeks examine them weekly to take out the seeds ready for the cool treatment, and make other sand bags to go to refrigeration.

Through the years I have found a germination method without the use of any medium or strata. It can be useful to any amateur gardener. It begins by harvesting the seed pods as soon as they begin to crack open. We force them open and place the seeds in a paper bag, preferably not more than to cover the bottom. The bag is left open and stored in a warm spot (from 70° to 85°F), never under sunlight, but in a well lighted and aerated place.

Some growers wash the seeds and treat them with fungicides. I feel there is no harm to do so, but personally I prefer not. But should the seeds have touched the soil or been gathered late when the pods are very much opened, then I treat them. Gathered in closed pods (only cracked) the seeds are still white or cream, or partly light brown or with brown or black spots. After 10 to 15 days in the paper bag they should have matured and be completely colored brown or black. It is time to begin the warm stratification.

A thick polyethylene bag is used, to avoid quick evaporation and allow sufficient aeration; in fact, a milk bag well washed and rinsed is

used. I then take one sheet of a sponge paper towel and make two folds lengthwise. Then I make two folds side-wise from one-third of each end. That gives me a small rectangle about 3 x 4 inches. I open it, place in the middle one seed lot, remake the folding, and slip it in the plastic bag. The paper towel is then moistened with one or two teaspoons of clean water; the plastic bag is given two folds and kept closed by a small piece of scotch tape. Before putting each bag in a warm place I had stuck on it a strip of masking tape on which is noted all information relative to the cross or lot of seeds. It is important that the paper towel be always kept moist. Normally, it is not necessary to add water before it is time to first inspect the seeds after 6 to 8 weeks.

After the roots have developed, each plastic bag may be placed as is in a home refrigerator to complete the cool stratification. Again, after 6 or 8 weeks, each bag should be examined and every week or two thereafter as mentioned previously. Each seed should be planted as soon as possible after the leaf germ has developed.

I have not tried another method of cool treatment other than in a home refrigerator, so I cannot propose any other. However, depending on the climatic conditions where you live it may be possible to plant the rooted seeds outdoors, or they possibly may be placed to freeze in containers or flats in a protected area like a cold shed until very early spring when they could be taken from the median and sown outdoors.

There may be an inconvenience to the "paper towel" method. Should there be many seeds in a lot and the roots develop too long during the warm treatment, they will pass through the paper and get all entangled. The solution is to drop everything in a pail of water and when the paper has sufficiently disintegrated, pull out each seed and continue the stratification in sand, vermiculite, or whatever median you prefer.

Three years ago seeds received on the 8th of December from the Society seed committee were treated as described and some were ready to plant from the following 6th of April (4 months), for a few up to the 7th of June (7 months).

To those of you who have peonies now in your garden, here are a few simple rules to get the most satisfactory results. Don't allow your plants to become sod-bound by permitting grass to grow immediately about the plant. Keep the earth free at least a foot or more from the plants. Provide ample moisture especially before the blooming season and that is from now on. A good soaking once a week is worth innumerable sprinklings that do not penetrate the ground deep enough to get to the roots of the plant. Don't expect best results if your plants are located near trees or heavy shrubs. Peonies need plenty of sunshine for best development. Don't allow the earth to bake about your plants after watering. For large show bloom, disbud all but the center or main bud as early as possible.

PEONIES FOR THE SHOW

Joe Glocka, West Allis, Wisconsin

Another national peony exhibition looms on the immediate horizon. Each year this anticipated activity sparks a few mental gymnastics: What to take to this year's show at the Kingwood Center, Mansfield, Ohio.

All points turn to comparisons and evaluations based on past performance. Which varieties from our gardens did best in Minnesota, in Illinois, or here in Wisconsin? Which will permit bagging without becoming misshapen during prolonged refrigeration? Bagging and refrigeration in coolers set somewhere below 40 degrees is the general practice for exhibitors who own peony varieties which normally open into blooms at up to four weeks before the show. This extended blooming period varying with lactiflora varieties and their hybrids poses problems for exhibitors. They must retard the blooming periods to coincide with a two-hour period during which judging takes place.

Blooms brought to the show are either dry-packed into styrofoam containers or are brought to the preparation room in water-filled jugs.

It is a never-ending source of fascination in preparation rooms to watch exhibitors remove bags on the eve of the show. As bags are removed and blooms meet the warmth of the surrounding air, they begin to open as they would on the plant.

Singles open up much like flowers emerging from a magician's wand. Once the bag pressure is removed, singles practically pop open. Semi-doubles seem to pause a while to catch their breath before opening to true form. What a delight to watch *Miss America*, *Minnie Shaylor*, *Rare China*, or *Sylvia Saunders* seemingly hesitate and then evolve into a perfect bloom after a couple of week's refrigeration.

Doubles, being more intricately formed, take a few hours, and sometimes overnight before responding to room warmth to open. Unfortunately, some of these if bagged and cut too soon, may not open at all. Others may open too late for the show. Many expire in their bags and disintegrate on removal. The trick for exhibitors is to get blooms to open and stay open in their prime during the TWO HOURS of judging!

Fortunately, many medium blooming varieties can be cut off in the garden and brought to the show relying on their average 10-day blooming life. These are generally brought open-end bagged to prevent scuffing during transportation.

In reviewing the performance of our peony varieties, we find that the varieties listed below are generally consistent winners of blue, red and yellow ribbons, and oftentimes command a berth in the Court of Honor.

Full doubles from white to blush include: *AVA MARIA*, *MOTHER'S CHOICE*, *SYLVER*, *VICTORY*, *MOTHER'S DAY*,

MOONSTONE, NORMA VOLZ, ANN COUSINS and the perennial favorite and "oldie," **FESTIVA MAXIMA**.

Among the pinks from light pink to dark pink doubles, we enjoyed considerable success with **KLEHM'S DINNER PLATE, NICK SHAYLOR, MRS. F.D.R., MRS. LIVINGSTON FARRAND, WESTHILL, THERESE, WALTER FAXON**, a comparative newcomer to our garden, **THE FAWN**, a dark pink with a semblance of spots, or petal color variances which won a place in the 1986 Court of Honor and the award for the best dark pink. And further, among the dark pinks, we enjoyed good ribbon-winning support from **EMMA KLEHM, VIVID ROSE, PRINCESS MARGARET, MARTHA BULLOCK** and **LOREN FRANKLIN**.

In the light to dark red full double category the following came through in great style: **MABLE GORE, LORA DEXHEIMER, JUDY BECKER, PHILLIPE REVOIRE** and **RUTH CLAY**.

Our gardens do not have many semi-doubles. However, among the whites we find **MISS AMERICA, MINNIE SHAYLOR** and **RARE CHINA** spectacular each year. **SYLVIA SAUNDERS** is our only semi-double pink, but a brilliant performer each year.

Full double **BOMB** types are like magnets for drawing attention from visitors. We have plants of **HONEY GOLD, SNOW MOUNTAIN, TOP BRASS**, and **BERLE CROCKETT** among the whites, and **MONS JULES ELIE, JAYHAWKER, RASPBERRY SUNDAE** among the pinks.

Among the singles we manage to take to the show, although very tricky to bag and hold over an extended period, are, among the white singles, **KRINKLED WHITE** and **PICO**. Pink single varieties include: **L'ETENCILANTE, SEASHELL** (oh, the ribbons this one has brought in over the years!), and **SPARKLING STAR**. Red singles include **ARCTURUS, IMPERIAL RED** and **PRESIDENT LINCOLN**, so appropriately named since it grows exceptionally tall, vigorous, and invincible.

Ribbon winners in the past in the **JAPANESE** category are: **FAIR ELAINE, CARRARA, TORO-NO-MAKI** and **WHITE GOLD** among the whites; **AMA NO SODE, BREAK O'DAY, LARGO** and **WESTERNER** among the pinks, and for reds: **HARA AI NIN, NIPPON BEAUTY, NIPPON BRILLIANT, RED SPLENDOR** and **WHITE CAP**, a most unusual study in contrasts.

Perhaps one of the greatest frustrations in entering as an exhibitor is to enter the Division I, Class 101 class which consists of twenty-five varieties, any type or color. Even though one may bring up to fifty varieties to the preparation room, it becomes a fantastic challenge, oftentimes to get twenty-five to behave like champions, remembering that many of these have been held in coolers for up to four weeks. However, after a process of elimination, twenty-five are selected and brought to the floor with hopes that they shine in splendor the moment

the judges pass by.

Arranging to present a collection of hybrids, also falls in this category, either as single specimens or as part of collections. The following have been consistently ribbon winners: **RED CHARM**, **CAROL FIREBELLE**, **BUCKANEER**, **NEVADA**, **GOLDEN GLOW**, **ANN ZALLER** and the hybrid Japanese: **WALTER MAINS**. Further success is had exhibiting **CHOCOLATE SOLDIER**, **PAULA FAYE**, **FRIENDSHIP** (another consistent blue ribbon on its own!), **WHITE INNOCENCE**, **CLAIRE DE LUNE**, **YOUR MAJESTY**, and **HERITAGE**— (although a spectacular, tall, vibrant red, garden double, it doesn't do too well under extended refrigeration).

The hybrid, **CAROL**, a red full double, was the 1976 **GRAND CHAMPION** at the National Peony Exhibition held at Edina, Minnesota. Hopefully, there might be a few blooms from our gardens which will make the Court of Honor this year at Mansfield to be in competition with the Best of the Best.

IN MEMORIAM

C. Dan Pennell, Van Wert, Ohio, long-time member of the American Peony Society, died December 1987.

He became a member of the Society in 1926. He was Secretary and Editor from 1964 - 1966. He was then elected Treasurer in 1966 and served until 1971. Mr. Pennell was active in the Van Wert Mens' Garden Club, and while President of that organization, in 1932, he was named general chairman of the first Peony Festival of Van Wert and was involved in all of them until they were eventually discontinued.

Over the years he was continually active in the National Peony Society and the National Exhibitions.

He served on the Board of Trustees of the Marsh Foundation; also served as acting Postmaster of Van Wert from 1953 - 1957. He was then elected mayor, and served until 1972.

Mr. Pennell was born in 1903. After an extended illness, he died at his home at 947 Elm St., Van Wert, Ohio.

Mr. Pennell wrote the following for the Bulletin in March 1933.

PACKING PEONIES FOR SHIPMENT

By C. D. Pennell, Van Wert, Ohio

Peony blooms are easily packed to ship by mail. Every peony lover should know how to pack them for this purpose or even to pack them for house guests who are returning home. The ease of transportation is the feature that is to be explained in this article, to old, new, and prospective peony lovers.

The writer has packed many blooms in packages of one to two

dozen. My method seems easy and is apparently satisfactory. The following suggestions are given in the hope that they will stimulate other methods and bring suggestions before members of the Peony Society.

(1) SELECTION OF BLOOMS:

Selection of blooms for packing is the most difficult problem. The stage of development of the bud must be considered in relation to the distance the package is to be sent. The variety must also be considered.

(a) Suggestion for selection:

Japanese and single varieties—tight buds that show color. Semi-double and full double varieties—loose bud or half-open flower.

Notation: Buds that are sacked are more easily packed. This procedure is recommended for exhibition and is a splendid education for all growers to experience.

Process: Disbud and select promising terminal buds. Place one-half pound paper bag over the buds and slip a small rubber band over the bag to draw the bag shut and hold sack to the stem. Bag should then be lifted up so as not to rest on the bud. This protection serves against rain and retains the color. Heavy rain will drive the bag down and the bag should be lifted up off of the bud as soon after a rain as possible in order to prevent contact and thereby chance of disfiguration.

(2) CUTTING OF BLOOMS:

(a) Time: Cut the blooms early in the day. The buds should be dry and the color unaffected by the sun. Between 9:00 and 10:00 a.m. is suggested as the best time.

(b) Method: Judge blooms to be cut by the *feel* of the bud. The single varieties should be in a tight bud that shows color. The full double variety should be about three-fourths open. Remove foliage with exception of one or two leaves. The sacked bloom can be judged by the feel of the bud under the sack. A full double flower will completely fill a half-pound bag.

(3) PREPARATION OF BLOOMS:

Cut the blooms—label, if necessary—and place in water in a basement room (or a cool room) that is *dry*. The peony will absorb water and the cool temperature will hold the flower at the stage of development desired. Plan to leave the flowers in water at least 6 to 10 hours.

(4) BOX TO USE:

A suitable box may be obtained from the florist. It should be a cardboard box or corrugated box as is commonly used for cut flowers. A convenient size would be 8 inches wide by 36 inches long and 10 inches deep.

(5) METHOD FOR PACKING:

Line box with heavy paper or newspaper (either provides excellent insulation). Place box in same temperature with flowers until time to pack. When ready to pack, dry the stems before placing in the box. (Many times it is desirable to have the stem ends of the blooms packed in some damp moss or wet paper—this depending on the length of time of shipment, distance, etc.)

Place blooms at ends of box—stems in center. In this way, a dozen buds or more can be placed in each end. At the center of this arrangement, make two holes in the bottom of box and then tie with a soft cord or strip of cloth. This will prevent the arrangement from shifting and being damaged in handling. The buds or blooms should be protected by tissue paper. In case of a sacked bloom—the sack will provide protection. Cover the center of the arrangement with waterproof or oiled paper if damp moss or wet paper are used, before tying in center of box.

(6) WRAPPING AND MARKING:

Remember to consider the distance the package will be sent and the amount of handling necessary in shipping. Wrap and tie package carefully. Instructions to cut and place blooms in water on receipt of package, should be marked on outside of box. Postal authorities will advise you as to best time for shipment and time of arrival at destination.

REGISTRATION

ADDIE TISCHLER (R. W. Tischler, Faribault, Minnesota) April 10, 1987.

Seedling #8392. Parentage unknown.

Double blush, blooms 6" to 7" in size. Plant grows about 30" in height, with good strong, straight and thick stems. Flower texture is heavy. Foliage dark green. Blooms late in the season.

MRS. E. J. FRIESEN (R. W. Tischler, Faribault, Minnesota) April 10, 1987.

Seedling #8394. Parentage unknown.

Medium pink double with blooms 8" to 9", soft texture. A 28" plant with dark green foliage, no fragrance, blooms midseason.

* * * *

Because of near name duplication **P. VIVID SALMON GLOW** (Lyman Cousins), Bulletin #259 has been changed to **VIVID GLOW**.

Seedling #74-2, first bloomed 1974.

This peony is a very vivid salmon pink hybrid. Early, large cup shaped single flower.

Registered by Roy Klehm

WHITHER THE WEATHER?

Rev. Joseph Syrový, Vining, Iowa

We've had over two years of drought, spring, summer and fall, besides snowless winters. The temperatures have also been fickle, sudden changes being the rule, and the consequences all different.

Last fall, we had continuous badly-needed rain. It soaked the ground 4-6 inches deep. All the tree peonies looked good and were with nice fat buds. I expected 1987 to be a banner year, as the drought had hurt many plants in 1985, and some plants did not bloom in 1986.

1987 broke all records for 19 years as the warmest winter we have ever had, besides being snowless. When it did snow, it melted immediately. It was June in January!

I noticed at the beginning of March that the terminal and side buds of the tree peonies were unusually fat. On March 12, I viewed with alarm the buds were crocking, and the top of the green leaf already showing. The buds on my Star Magnolia were also doing the same. They do not bloom until the latter part of April, and sometimes May.

Then the big storm that started in the West with all the snow and freezing temperatures, hit us the last week in March. It rained, hailed, with winds and sub-freezing temperatures all week.

It became very warm again, and after everything began to leaf out, there were frozen sticks looking at you. Every tree peony that had any yellow blood in it froze and had to be cut to the ground. Now they have sprouted back again. Why this weakness in the yellow?

On the other hand, all my Japanese tree peonies were not hurt at all. I will enjoy their beautiful bloom. These are all old plants, some 15-20 years old. They have never failed me. I had to water them during the severe hot summer droughts.

My Itohs are all going to bloom normally. I covered them with plenty of sawdust and wood ashes last fall. In the spring of 1986, they were short and ugly. One, **YELLOW DREAM**, went under ground and I had to poke holes around it and water it, and give it a shot of hyponex a couple of times. It came up and bloomed a month later than the others.

Besides the Japanese tree peonies, **ROCKS** is also one of the hardiest. It was not hurt at all by the big storm and will have a profuse blossom set, even those planted on the north side of the house along the foundation; perhaps the warmth of the house helped.

The weather department has stated that area 5, in which we live, has the most changeable and treacherous climate in the U. S.; so I guess we will have to live with it.

YOUNG SEEDLINGS UNDER LIGHTS

Roger Anderson, Fort Atkinson, Wisconsin

It has been advantageous for me to grow rare hybrids and Itoh seedlings under artificial lights since I have lost so many little plants in trying to grow them in the house without any special lighting.

By February or March, most of the Itohs are beginning to send up a pummel. The refrigerator of 32 degrees is just not cold enough to hold them back, and the little plants continue to grow, and if left there they become spindly. This first happened to me in '79 or '80 when I removed all plants from the refrigerator and left them to grow in the house without any artificial light. This was the year I lost one-hundred-fifty or so small Itoh hybrids. Since then I have been growing all rare hybrids under lights and have concluded that at the end of two years, the plants are much better and of a larger size than a two-year-old which was left outside to grow.

This is my procedure: all seeds are rooted by the indoor method. When the root portion is $\frac{3}{4}$ to 1" long, the seeds are planted 4 to a 4" pot and put in the refrigerator until the pummel growth is visible. At this point they are removed from the refrigerator and put in a slightly warmer place of about 40-50 degrees. For me, this is a basement window. Here they remain for 3 or 4 days before going under the lights.

My plant-growing stand has five different tiers with each having its own separate lighting. This is good because not all plants are ready to be put under the lights at one time. Once under the lights they receive 12 hours of light the first week and this is increased at a rate of one hour per week until 16 hours is reached.

The plant stand is in a south window and, when possible, artificial light is replaced with sunlight. This is when shade is needed. These little plants will spend the first year here. One year I tried putting them outside, but with the wind and heat they soon dried out, and many were lost.

In October, they are moved to the basement where the light and temperature is low and they are left to stand there for the dormancy reduction period. By this time these plants have grown for 8 months and are larger than their outside cousins.

Once dormant, they are removed from the 4" pot and each one put in a separate 4" pot—then left in the basement, or put in the refrigerator to finish their dormancy period. In the spring, the same procedure is repeated, but by this time, there are 4 times as many pots and the plants are much larger. I believe it is an advantage to do this.

For two years, these plants have been under a controlled condition and given foliar feed using 'Schultz Plant Food.' I have also been experimenting for the last two years with alfalfa tea. There is a marked difference in root and top growth which is more noticeable in seedlings than in two-year-olds. It is my opinion, that at the end of two years

when these seedlings are planted out, they are comparable to an outside three-year-old plant. From observation, I am having Itohs bloom as three-year-olds, not all, but some of them. Usually they bloom at four years and older.

Potting mixture consists of 1/3 sand, 1/3 worm castings, and 1/3 peat moss for moisture. When potting seeds, a 4" pot is filled with 3/4 of this mixture. Sprouted seeds are laid on top and then covered with 1/4 of milled spagnum moss. This seems to retard the only disease problem (damp off). Other than this, I have not had any other problems.

Growing temperature is between 65 and 70 degrees, going down to 60 degrees at night. Plants seem to do well in this range.

This year, I am putting up a 10x24 green house, as I am running out of room in the house. I might add, that my wife is all in favor of this.

SOMETHING NEW, SOMETHING OLD

Anthony De Blasi, West Newfield, Maine

In our enthusiasm for the peony, we tend to overlook the fact that what is new is not necessarily better.

The newer varieties are unquestionably wonderful, and you should help yourself to these, but there is a world of discovery for those who seek out the older varieties—as well as frustration in getting them. A tree peony like KINKADEN is hard to find. Many great peonies are becoming “endangered species” simply because no one is propagating them and making them available.

Our friend, Gertrude Goddard, of Dodge City, Kansas, who grows 56 tree peonies, wrote me back in March, asking me if I could tell her where to find some of these special varieties. I confess that I was at a loss. The Gratwick collection, it seems, is no longer available, and the Smirnow collection has been shrinking. It would be a pity if we lost the gems of the past. Because peonies don't spread like daffodils—or their seeds take off like daylilies—the work of preserving our peony heritage must be a labor of love among amateur, as well as commercial growers.

Recently a painting of sunflowers by Vincent Van Gogh was sold for almost four-million dollars. That smacks of fiction. In my imagination, I see one of Van Gogh's descendants who, in disgust over the fact that people are getting rich over the work of a poor soul who had to scrape for a living, seeks out and destroys the painting. Such a loss would be great but would hold a modicum of poetic justice.

There would be no justice, it seems to me, poetic or otherwise, if great works of horticultural art were to be lost. In my imagination I also see enthusiastic new plant collectors tracking down gems of peony breeding, perhaps among weeds in abandoned gardens—hopefully ahead of the bulldozer—and making these wonderful works available to a newer generation to enjoy and cherish.

PEONY SPECIES

*Ray Cooper, 13 Beechwood Drive, Royton, Oldham,
Greater Manchester, England OL2 5XR*

Referring to Don Hollingworth's letter in the Dec., 1986 Bulletin: If anyone wishes to reply to the questions and proposals set out below, please let me know . . . a brief introduction and explanation . . . I am neither a botanist nor gardener but have some time to devote to collating information and one of the many advantages of an international network is access to flora & botanical journals in major libraries, together with skills in many languages. My major concern, then, is conservation. While many people are interested in hybrids, it is upon the species that this interest depends and peonies were not put on this earth because men and women find them beautiful. I am prepared to provide an initial survey, as sketched out in these proposals.

1) List species followed by botanist's name who first validly published it, the journal and date.

2) List synonyms for each species. *Paeonia* is particularly encumbered with these, as names like *corallina*, *officinalis* and *peregrina* have been used to describe different species over the years.

3) Retain Frederick Stern's division in his 1946 study as there is absolutely no comprehensive work since then, and I assume few people possess the book, and access via libraries may be difficult or time limited.

4) Indicate those species (a) considered valid by Stern (b) those transferred from one species to another. *P. Mascula* with its widespread range is a complex rather than singular name, and several species are subsp. or varieties of it. (c) discovered/described since 1946 (about 9 or so species).

5) Give description of plant—I would welcome comments about degree of detail required. Are people familiar with botanical names of flower parts? Would a semi-diagrammatic drawing assist?

6) Give information on location; range of plant in wild, altitude range and habitat.

7) Give information on what names (*daurica*, *wittmanniana*, etc.) mean if required.

8) As comprehensive a bibliography as an amateur can gather together. Botanists do publish material of use to gardeners although in the UK this is not always appreciated.

9) Please send any information about books, journals—author, title, volume, page nos., date—as exact as possible. Info. on identification via seed color/structure . . . has anything been published?

Greetings from across the Atlantic. Please read J. Scott's article in *American Horticulturist*, Vol. 65, No. 6, June, 1986, pp. 27-32—'Native Plants and The Nursery Trade' before we lose more living things.

WILL THE REAL DELAVAYI HYBRIDS PLEASE STAND UP?

Bill Seidl, Manitowoc, Wisc.

In the past, the yellow *lutea* species and the maroon or mahogany-brown *delavayi* species have been regarded as just that, two separate species. When referring to the dark-colored tree hybrids such as **THUNDERBOLT**, **BLACK PIRATE**, and **CORSAID**, there has been a tendency, albeit a weak one, to call them *delavayi* hybrids rather than *lutea* hybrids in the belief that, since they aren't yellow, *delavayi* must have been the non-*suffruticosa* parent.

But the dark color could come from the *suffruticosa* (*moutan*) parent. For the Daphnis F₁ hybrid, dark crimson **KRONOS**, the listed parentage is L₁ x **UBA TAMA** (APS 1976-86 Check List). Presumably L₁ is a yellow *lutea* clone. And since "Uba-tama" translates to "Pitch Black," **KRONOS** takes after its moutan *daddy*, as regards color, showing none of its *lutea* parentage. Pedigrees for other Daphnis hybrids do not indicate use of *P. delavayi*. However, some are derived from the Saunders F₁ dark-colored hybrids, **THUNDERBOLT** and Company. Are these *delavayi* hybrids? One will never know from their pedigree since Prof. Saunders did not keep parentage records on his tree hybrids. (It's a different story with his herbaceous hybrids.) So we can only guess!

In the "APS, 75 Years" book, pg. 122, is a reprint of an article by Prof. Saunders in the Dec., 1943 Bulletin. (He is 74 years old, the bulk of his hybridizing work finished.) Talking about tree peonies (*), he says he has "something like one or two thousand" (what's a thousand more or less?!). One assumes, back in the 1920's, that he also had a large selection and very likely some of the really dark ones, potential parents for dark colored hybrids. In another article, pg. 121, he refers to the cross "tree peony (*) x *Paeonia lutea*;" no mention of *delavayi*. (I think this article is a reprint of a reprint in the Dec., 1945 Bulletin.) In a 1926 article, pg. 119, Prof. Saunders mentions crossing *P. lutea* and *P. delavayi* but not expecting anything of value from the cross. He describes his *delavayi* plants as having flowers "mahogany brown at the base, fading to yellow at the edges." Although handsome in foliage, the plant is "unsatisfactory in flower, the blooms being smaller and duller than those of *lutea* . . . hiding themselves among the foliage." It doesn't sound like Prof. Saunders was eager to use it in hybrid crosses.

The only pedigree I've seen involving *P. delavayi* is in *The Peonies* (Wister), pg. 171, where the crimson-maroon **SANG-NO-LORRAIN** (Lemoine, 1939) is listed as *P. delavayi vera* x *moutan*.

So if the real *delavayi* hybrids stand up, **SANG-NO-LORRAIN** might well stand alone.

(*) "Tree Peony" is always used by Prof. Saunders to mean *suf-*

fruticosa (moutan), excluding the other species and the hybrids.

ADDITIONAL NOTE: Because *delavayi* and *lutea* are interfertile, Saunders thought *delavayi* might only be a form of *lutea* (pg. 119), i.e. not a separate species. Since *delavayi* was named first, the botanist, Stern, says the species name for both would have to be *delavayi*. In that sense, all the "lutea hybrids" are "delavayi hybrids." Stern, however, continued to recognize all three minor (or non-*suffruticosa*) species (incl. *potanini*) but, realizing their similarities, placed them in one group, the Delavayi Group (Subsection Delavayanae).

PRONUNCIATION GUIDE

suffruticosa, sah-fruit-i-KOSE-ah (short i as in "hit")

lutea, LOO-tee-ah

moutan, MOO-tan

potaninii, po-tan-IN-ee-eye

delavayi, de-LAV-ay-eye

Itoh; ee-toe (not eye-toe). Rhymes with the Emperor's name, Hiro-hito.

Genus name: *paeonia*, pee-OWN-ee-ah

Garden name: peony, PEE-ah-nee, locally pee-OWN-ee, which seems more appropriate considering the pronunciation of the genus name.

The species pronunciations were taken from the American Horticulturist, June, 1985, which issue contains Anthony DeBlasi's article about hybrid tree peonies.

CUT FLOWERS, COMMERCIALY

T. Person, Jersey Isle, Great Britain

It is now mid-February. For many years we have not had such severe frost. It must have done so much good for my peonies, as they came in bloom earlier. This frost also kills many weed seedlings and opens the ground for easier cultivation in the spring.

Next week, we are hoping to put on the tunnels and plastic mulch so as to get them to market one or two weeks earlier. We cover at intervals, one row tunnels and one row plastic. The reason for this is the tunnels crop is first, a week before the plastic. It is much easier to walk in the rows for cutting and taking the stalks to the end of the field.

We cover half the total crop, therefore we get a season of three weeks to a month depending on how warm the weather.

The first application of fertilizer 10-10-18 is applied at the end of January. At the same time, we give them a strong dose of Copper Sulphate (Bordeaux) to control stem rot. It is cheap and efficient.

1986 was a good year, although we lost a lot of bloom with bud rot; the season was very wet.

Botrytis, and other similar blights, sometimes attack peonies. All parts of the plant may be affected. As the prevention and cure for all of them is the same, little distinction will be made here between them. In early spring, the new shoots may suddenly turn black and die. The buds may turn brown and turn to a powdery dust. The infection may spread downward on the stem and cause it to die. It may extend down into the roots. Spores from these infected parts are carried by ants, or other insects, and the winds to other plants. They also are carried over winter in the plant debris left lying around. Soon after growth starts, the stems may develop oblong brown spots on them which are called Peony Measles. Leaves may develop spots on them, usually soon after blooming, which spread and may kill the leaf. The leaf area is reduced and the plant damaged. Damp weather and poor air circulation tend to increase these infections.

Sometimes a fungus attacks the stems after blooming season, especially those that have been cut. Nothing much is known about it, but proper spraying with a fungicide may help. The infected stems should be cut and burned at once.

Start a spraying program at an early date. When eyes begin to show, start to spray. Botrytis occurs more often in cool wet weather. Any good fungicide or Bordeaux mixture has been used and does give a considerable degree of control.

THE 1987 SEED COUNTER

Bill Seidl, 732 S. 19 St., Manitowoc, Wisc. 54220

A seasonal note to seed donors: In many areas it is not too late to take steps for a good seed harvest. If you decide to help Mother Nature along, pollinate opening flowers using pollen from doubles or other good quality plants, even if you do not label or protect the cross. You may choose to send seed separately by seedparent, or put into mixture. (If you send only a few seeds from a controlled and labeled cross, I will not list separately but will send, with pedigree, to requesters asking for the type of seed represented by the cross.)

There are already requests on hand for all kinds of seed. Some of the more specific ones are for *tenuifolia* and hybrids (LADDIE, NOSEGAY . . .), white shrub (tree) peonies, dwarf rock-garden size plants, whites tinted yellow, and pastel double lactis of commercial cut-flower value. A floral shop owner requested the latter. (Use MONS. JULES ELIE, CHARLIES WHITE, etc. as seedparents.) "Yellow" herbaceous tets have been a popular item, esp. using Roy's or Chris's BEST YELLOW.

A belated thank-you to L. J. Dewey for shrub peony seed donated last year. There is a steady demand for moutan seed.

Requests for seeds (by general type or description) received any time. Distribution is planned for November-December. Postage payment after receipt of seed.

GETTING STARTED WITH PEONIES

Ned Bayley, 13907 Overton Lane, Silver Spring, Maryland

The late March day was warm and balmy, and I worked in a light tee shirt as I hoed cool season weeds that had survived the winter in the peony beds. Deep-red shoots were just emerging from the crowns. It was a day of looking forward to beautiful blooms of late April and May, but I couldn't help thinking about the year, 1981, when I planted the first beds.

That was a year of high hopes and a low level of confidence. I separated and planted a number of garden variety peonies from our perennial beds just in case the purchased ones didn't grow. My fears were unfounded; all the peonies came up and flourished. I couldn't wait until the second year to see the blooms on the new varieties so I left every plant flower that had a bud.

For the first two years, my selection of varieties was based on those I liked in the gardens of the National Arboretum in Washington, D.C. Then I started balancing colors and types. I read advice written about avoiding late varieties in southern climates, but since our location is more Mid-Atlantic than South, I planted a few late ones. The advice for the South may prove to be correct. Blooms on some late varieties don't develop when May suddenly turns hot. On the other hand, if successful, late varieties would be valuable in extending our season further into June; so I'll keep on trying them.

By now, I have been able to notice how different varieties grow. It's no wonder that **Festima Maxima** is such a popular "garden" variety; it grows despite all kinds of adversity—even in wet springs. For me, the most vigorous other varieties have been **But-Te**, **Barrington Belle**, **Sparkling Star**, **Mrs. Franklin D. Roosevelt**, **Glory Hallelujah**, **Angel Cheeks**, and **Duchess de Nemours**.

I have increased the plantings by about 20-30 varieties a year and now have 143. A little arithmetic would show that I have lost a few. My plantings for next year will be replacements for those lost. They deserve another chance before I discard them. (A mole devoured half the root of a newly-planted **Age of Gold**!)

What are my favorites? For sheer beauty and profusion of blooms, I like **Sparkling Star**. The startling earliness of **Burma Ruby**'s red, makes it a standout. Friends and neighbors ooh and aah about all types, but I think they express the most wonderment at the striking, contrasting colors of **White Cap** and the soft pink and golden glints of **Do Tell**.

From now on, I'll be walking the beds daily, watching the leaves spread and the buds develop, guessing which variety will bloom first, and applying spray and fertilizer. I fertilize according to the "Klehm" system—a small handful of 5-10-5 on the smaller plants and a large handful on the big ones—applied right after the shoots emerge and

again just before blooming. Weekly spraying with Benlate seems to be necessary to control Botrytis in our wet climate.

Because I don't exhibit in shows, I have not disbudded. However, last year, some of the more vigorous doubles put out so many buds that their blooms didn't do justice to the beauty of the variety. I'll be doing some disbudding this year, just for the pleasure of myself and the neighbors.

"What's that? You say it's going to snow tomorrow? It's snowing now?" I left my typewriter to look out the window. "Oh, well, let it snow. It'll melt and the peonies will keep right on growing!"

THE PEONY IN THE GARDEN

By A. M. Brand, Bulletin #58

The spring planting season is at hand and many of us will have the desire to plant some peonies. Do not be misled by the catalog which tells you peonies should be planted only in the fall. Stop and ask yourself if this advice is true. Try a spring planting for yourself and you will be delighted with your results.

It has been my pleasure to have had considerable experience with the peony, an experience that had its beginning as a boy some 55 years ago in my father's nursery. It was a general nursery, where apple trees, small fruits, evergreens, and windbreak trees were the main lines. But there were flowers also in the nursery in Minnesota's pioneer days. The peony was the main flower—we had an acre or more of them. Most of the stock sold at that time was through traveling agents to farmers all over the state. The stock went out and was planted in the spring and into almost every order went one or more peony roots. These peonies were not only planted in the spring but they were dug in the spring. Some years later in selling nursery stock I came to many of these old plantings and invariably found spring planted plants doing well everywhere.

When To Plant

Peony roots handled properly do just as well planted in the spring as in the fall. So, let all those who wish to plant peonies this spring, do so with the assurance that they will do just as well as if they were planted in the fall. Plant them as early as possible and then give them good care during the summer and you will have the best of success with this most extravagantly beautiful of all flowers.

In the first place, we must select the right place in which to plant. The peony, unlike most of our flowers, is long-lived. Yes, it is very long-lived. There is but one other flower I know of, the lilac, that gives such wonderful satisfaction. There are authentic records of peonies being planted and remaining in the same place and doing well for over 125 years. A plant that will live as long as that should be planted well at the start.

The peony should not be planted in a location where the roots of

large trees rob the soil of the very nourishment that the peony needs. The peony is one plant that will not do well under or near large trees. It should be planted in full sun to do its best. It should not be planted close to the basement wall of the house nor should it be planted under large growing shrubs such as honeysuckles, and large spireas.

It is a mistake to plant the peony in the lawn and then allow the lawn to close in about the plant and literally choke it to death. We cannot grow two things in the same place at the same time and have them both do well. If peonies are wanted on the lawn, the turf should be kept removed for a space of at least a foot from the plant in all directions, and the surface of this space should be kept cultivated during the growing and blooming seasons.

Depth To Plant

The mistake is often made of planting the peony too deep. The base of the eyes of the plant when planted should not be over two inches beneath the surface. If planted much deeper than this, the plant will bloom well as a rule for a year or two and then gradually give less bloom each year for a few years and then cease to bloom at all.

It is a flower that, to give its best results, demands heavy cultivation and lots of water at the blooming season. In the absence of timely rains as the bloom period approaches, it is well to give the peonies a good drenching at least once a week. Just turn the hose right on and let the water run until the ground is saturated a foot deep. Then as the soil dries be sure to break the crust as it forms on the surface. Most people do not cultivate their flowers enough. The best flowers are obtained by a good, thorough cultivation at least twice a week beginning with the appearance of the first young shoots in the spring and continued every week right through the blooming season. From then on the plants should have a good cultivation at least once a week until the middle of July when cultivation should cease. Late in the fall just before the freeze-up comes, it is well to go over the peonies, and other perennials as well, to loosen the top soil to a depth of two inches. This loose soil on top acts as a mulch to the plants and roots over winter and will save many plants from winter root killing.

Mulching

Young peonies should always be mulched lightly the first winter after planting. Just a slight covering of straw or coarse hay. I am coming to the conclusion that if we mulched our peonies every winter we would save much damage. One can never tell when the crown of a peony is going to be exposed to the action of the winter frosts by the earth being washed away by some late fall rain, leaving the buds exposed and if this happens the whole root is apt to receive an injury during the winter from which it may never recover.

In times of drought, peony roots are often injured by lack of moisture and at such times it is well to place a coarse, six-inch mulch about the plants after first giving them a good drenching. In the South, when the long hot summer sets in, it is well to keep the plants mulched while the heat period continues.

PLANT A FERN LEAF PEONY

R. W. Tischler, Tischler Peony Garden, Faribault, Minnesota

Growing the Fern Leaf Peony can be enjoyable. They are the easiest of all peonies to plant. They are the first peony to show sprouts in the spring, and they bloom before any of the other peony varieties; and who cannot look again and again at this brilliant red flower on a lacy green foliage!

The plantable divisions of the Fern Leaf Peony are smaller than other peony varieties. Usually the roots are spread sideways, thereby, not a large hole has to be dug. Spread the roots out well, being careful not to break any, as they are attached to the main stem by a very thin root stem. I like to plant my Fern Leafs in late August or September. I feel planting at this time gives the small white feeder roots a good start and helps to carry the parent plant through the winter months.

I make my planting holes just the right size of the root to be planted—making sure the top eyes are covered with one to two inches of soil. I do not water or fertilize at this time. In fact, I use very little fertilizer at all. My soil is black, rich and fairly heavy. I feel that over-feeding can do more harm than good. If you feel your plants need help by fertilizing, use bone meal or any other slow-acting type of fertilizer. Never use a fast-acting fertilizer on your peonies. In the spring, make a shallow trench about your plant, place the fertilizer in this trench, cover with soil, and let nature do the rest. Surely, in a dry spell, a watering will do no harm.

Plant your Fern Leafs as soon as possible after receiving. I find the roots have a tendency to dry out fast, if left unplanted for a long period of time. Never plant in an area that stays wet for any length of time. If your soil is heavy clay-like, then add sand or some other mixture to help to loosen your soil. Rock gardens are very good areas for a Fern Leaf. I do not cover my plantings, but it is a good idea to do so, especially the first year of planting. You can use straw, hay, pine branches, anything that does not pack down hard. This covering helps to keep the roots from breaking when the spring thaws come.

Your Fern Leafs will show sprouts very early in the spring. The first year after planting, the foliage will die back very early in the summer. Sometimes they show very little growth the first year. Usually the foliage starts to die back in July. This, many times, gives the grower a feeling that the plant is dying off. By leaving the plant alone, one will be surprised how well it will come back the next year. It takes two to three years to get a good growth on a Fern Leaf. There is nothing prettier than an established, blooming Fern Leaf Peony.

Be careful of the nursery who advertises a Fern Leaf Peony in any other color than red. To the best of my knowledge, there is none. I try all these ads and have found them all to be a form of the cut-leaf peony. The true Fern Leaf comes in a red double and a red single flower. I would be most interested in finding a true Fern Leaf Peony in any other color.

THE PAEONY—A Favourite Border Flower

*By Hugh Redgrove—from the Wakatipu Advertiser, New Zealand
(Submitted by Roy Klehm)*

There are two main groups of paeonies and many species and hybrids in each group. The herbaceous group grow and flower each spring and die down to the ground in autumn. The shrubby group may grow in time to 1.5m or 1.8m and are deciduous shrubs with woody stems. They are called Tree Peonies (*Paeonia suffruticosa*).

Although some species may be grown from seed, they may take many years to flower and the hybrids generally have more handsome flowers, some fully double, others large and single with flowers up to 15cm broad. Occasionally one sees specimens of tree paeonies in the cooler parts of the country but they are hard to come by because they are very difficult to propagate and most of those growing here have been imported.

The tree paeony is propagated by grafting onto roots of the herbaceous *P. officinalis* and for this reason must be planted at least 8cm deep in order that the scion may in time produce its own roots from the buried portion of the stem.

Named varieties may be white, yellow, mauve, or purple, and because of importing costs are quite expensive.

More easily acquired are the herbaceous paeonies (Chinese) and the range is wonderful. Fully double light rose is *Sarah Bernhardt*. *Dbchesse de Nemours* and *Festiva Maxima* are both double white. In dark red we have *Inspector Laverne* and *Karl Rosenfield*. *Mons Jules Elie* has double silvery lilac flowers, and *Solange* is rather late flowering and double pale salmon pink. Most of them open to a diameter of 12-15cm.

Bowl of Beauty is single deep pink with cream petaloides; *Jan Van Leeuwen* is a lovely cup-shaped white with yellow stamens. *Johnny* is a rich red and *Mistral* is a bright carmine pink. This is only a short list to provide an indication of the range available, and the varieties mentioned are all free flowering and fairly easy to obtain.

These double and single paeonies require a cold winter to flower well. They also need a fertile soil to promote flowering. Light sandy soils are not good unless dressed regularly with plenty of well rotted animal manure. Unfortunately, it is not cold enough in winter in Auckland and the North, and very few gardeners can flower them. But from Hamilton southwards most paeonies flower well on any deeply dug fertile soil.

Propagation of paeonies is usually by division and the best time to do this is in autumn. A large clump must be lifted carefully for the roots are brittle. Then with a sharp knife the crown is cut to leave about 3-4 buds to each section and with as much root as possible. Your

garden center may have these available in plastic bags to keep them moist, or you may buy them in spring already growing in bags. The autumn planted divisions are most likely to produce some flowers but will be much better in the following years. Patience is the name of the game, but once planted they do not need further division for up to 10 years. Flowering is in November.

The 'old English' paeony has big double red flowers, and flowers in October. It is called *P. officinalis rubra* and there is a rarer pink form and white also. They flower more readily but do not have the lovely scent of the later Chinese Paeonies (at least the white and pink ones have scent, but not the red ones). They do especially well in the colder areas of the South Island.

They are all unsurpassed as cut flowers for large arrangements and for this purpose should be cut just as the petals are expanding.

Another very hardy species, good in South Island gardens, is smaller in growth with much divided deep green foliage. It is *P. tenuifolia*, and it has single cup-shaped crimson flowers about 8cm across with a bunch of golden stamens in the center. Unfortunately, it is scarce, but should be noted in case you come across it sometime—NZNA Release.

PROPAGATING BY DIVISION OF ROOTS

By James Boyd — Boyds Manual

When peonies become too old, and flowers begin to get small and stems rather crowded, it is advisable to divide the roots; or, if one wishes to sell or give a certain variety to friends, he may do so by carefully dividing the roots, either in the spring or the fall. The latter time is preferable because the bloom for that year is not lost, and the flowers the following spring are generally as numerous and as good from the fall-planted division as they are from the division planted six months earlier.

Amateurs should not divide a plant that is less than three years old, but commercial growers who desire to increase their stock as rapidly as possible can successfully divide two-year-old plants.

To divide a clump, the first important thing is to dig it up carefully. A three or four-year-old plant will generally have roots 12 to 15 inches long, and the spread will be between 20 and 30 inches. Dig around it and under it in order to pry and raise it without cutting or breaking the roots, which are rather brittle when they are first exposed to air. When the plant is free, lift it out of the ground and shake it to remove as much of the earth as possible, and then let it stand in the sun and air for two to three hours. When it begins to wilt, the roots will have become softer and more pliable and may be handled without much danger of breaking. Then, holding the plant by the leaves and stems,

wash off all the soil, either in a tub of water or by using a garden hose. When clean, remove the tops within 1 to 2 inches of the topmost bud. Next, examine the clump closely, holding it in both hands. Work or bend it back and forth slowly to determine where it seems inclined to part. If it bends readily in one or two places, these are the points at which it should be cut. A short, stiff-bladed hunting-knife is very useful, because one often has to pry the roots apart as well as cut them.

When the clump is divided into two or three main parts, examine each part carefully to see where it may be cut or divided again with as little injury as possible to the roots. If a root should accidentally be broken off without an eye on it, throw it away because it never can make growth. Sometimes a very small eye may be concealed under dirt, and when the root is thrown away this eye will develop and in time send up a shoot, eventually making a plant. This will take time, and unless the variety is extremely rare and expensive, it is not worthwhile to endeavor to get a plant from a division with only one very small eye. It is very important to remove all pieces of root from the ground when plants are dug, otherwise roots with concealed eyes may form plants in years to come and cause much confusion by mixing varieties.

There have been many arguments in regard to the size of the division, but it is generally conceded that the greatest success comes from the strong standard division having three to five eyes. A division with one or two eyes, planted in a light, friable soil, will thrive and make a good plant in two to three years, but a standard division in the same soil should make a good plant a year sooner. A small division in heavy clay soil will not make a good-sized plant in less than three or four years, and the results at the end of the first or second years are generally so disappointing that one is inclined to dig it up and throw it away, unless it is a very valuable variety.

I have planted roots of all sizes and have found the standard division the best and most satisfactory in every way, but the novice often thinks he would like to buy a big plant, and hopes thereby to get an abundance of bloom almost immediately. This is a great mistake. Often a large plant will not develop all its eyes the first season, and at the end of two or three years a plant grown from a good division will be much finer than a larger clump that has been transplanted. It is a great mistake to purchase old, heavy clumps with the expectation of getting immediate effects; a standard division having three to five eyes will make an entirely new root system and give far better results in a very short time.

NATIONAL CONVENTION

Kingwood Center, Mansfield, Ohio

June 12-13-14, 1987

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THE PEONY—SPRING'S GRANDEST FLOWER

By George R. Syfert, Columbus, Ohio, Bulletin #52

After long weeks of Winter, comes the return of Spring, and, with the awakening of all plant life, we look forward to our gardens in anticipation of much joy and happiness.

One of the finest of all hardy plants, deserving a place in our gardens, is the peony.

So much has been written in the last few years about this beautiful perennial, that it is difficult to write anything that could be claimed as being new, but the restating of some established facts about the peony might be helpful to some of us.

Early in April we see the red or pink buds pushing up through the ground from the old peony beds, and from that time on we can almost see the actual growth of the leaves as they unfold under the warm rays of the sun. Our step is quickened and with vigor we begin to clean up our gardens, putting them in shape for the blooming season—early before the buds appear. If the tops of the peonies were not cut in the Fall, then we should cut away the old dried tops of last year's growth, gathering them up together with the dead leaves and other rubbish that has accumulated during the Winter, and burn them up. Our gardens are now ready for cultivating and, in order to keep down the weeds, we must keep up this cultivating, which is good for the plants, as the more pliable the ground is, the better the plants will grow. In ordinary garden soil, thorough cultivation is more desirable for peonies than the use of too much fertilizer, be it either the commercial variety or the common stable manure, which often causes the plants to produce luxuriant foliage, but few blooms.

If you have never visited a large field of peonies during the blooming period, you are to experience a thrill that will be difficult to describe; you will feast your eyes upon row after row of these lovely flowers, which are planted in rows 200 to 300 ft. in length about 4 ft. apart. They come in different colors ranging from pure white into blush, light and dark shades of pink, from the light cherry reds to velvety crimson, and from bright dark reds to an almost black maroon. To have been privileged to see such a sight, is one never-to-be-forgotten by the beholder in visiting for the first time a commercial planting containing hundreds of varieties of fine peonies in full bloom.

There are many types of peonies and by including the early, mid-season and late varieties, one can have from six weeks to two months of continuous peony blooms in his garden.

I have been asked to explain the different types of peonies, and, if possible, name some varieties of these types so you may become better acquainted with these fine flowers when you see them in the garden or on the exhibition tables at our flower shows. There are many species of

peonies growing as wild plants in Europe, Lapland, Asia, Siberia, China, Spain, Portugal, Corsica, Asia Minor, Morocco, Algeria, France, Sicily, Sardinia, Persia, Armenia and Caucasian Mountain ranges. There is a species found in America, in the snowy regions of the Sierras of California; it is called *P. Browni* and it grows to a height of 12 to 18 inches, having a dull red flower about 1 to 1½ inches in diameter. The bloom is not conspicuous for beauty.

I will speak briefly of two species that are occasionally found in some of our own gardens: *P. suffruticosa*, better known as the Moutan or tree peony. They have woody stems that do not die to the ground in the Fall, and differ from the herbaceous peony by forming a shrub growing a little higher each year until it attains a height of 4 or 5 ft. with a spread of about 4 to 6 ft. at the top. The flowers are large and of the most delicate tints and shades, blooming three or four weeks earlier than the *Lactiflora* peonies. They are perfectly hardy, but the buds, which develop very early, should be protected from severe frost or freezing after they start to swell. This can be accomplished, either by using chicken wire to enclose the plants in the Fall and filling in the space around the plants with straw, removing same when all danger of frost is over in the Spring, or you can plant the tree peony near the house, where it will be sheltered by other shrubbery. Tree peonies still are very scarce. Here are the names of twelve fine tree peonies:

Age of Gold	Savage Splendor	Artemis
High Noon	Thunderbolt	Gauguin
Harvest	Mystery	Tria
Hana Kisoï	Godaishu	Yae-zakura

Now we come to the species *P. lactiflora* which I will try to explain at some length as this is the species from which were derived the most beautiful peonies which we now have in our gardens. Peony blooms naturally arrange themselves into the following five groups: Ingle, Japanese, Anemone, Semi-double and Double.

SINGLE TYPE—Is a flower with five or more true petals arranged around a center made up of stamens with pollen-bearing anthers.

JAPANESE TYPE—Is really a double form, but it has arrived at its goal in a much different manner from the other double forms, and for practical purposes stands distinct and alone, characterized by five or more guard petals and a center made up of stamens, bearing abortive anthers, nearly or completely devoid of pollen, thereby distinguishing itself from the true single type with pollen-bearing anthers.

ANEMONE TYPE—Resembles somewhat the Japanese, but is distinguished from that, by the absence of anthers of any kind, while the filaments of the stamens have taken on a petal-like character, being narrow, more or less incurved and imbricated. While this character

is constant in some varieties, there are others where it appears in side blooms and flowers borne by one or two-year-old plants.

SEMI-DOUBLE TYPE—This is well marked and includes some of the most artistic blooms. Flowers of this type never become full doubles, and always show a greater or less number of broad petals intermixed with the stamens, the latter always a prominent feature.

DOUBLE TYPE—In this type the transformation of the stamens and sometimes the stigmas into petals has advanced to that stage where they make up the main body of the flower, sometimes leaving no trace whatsoever of either stamen or stigma, and in others still showing these to a greater or less extent, imbedded among the petals.

I trust classification of the different types of herbaceous peonies, will be helpful to each of us in identifying these peony types, when we see them in our gardens.

THE TREE PEONY IS “THE ARISTOCRAT OF THE GARDEN”

By Charles E. Hammersley, Milwaukee, Wisconsin, Bulletin #65

Tree peonies are unquestionably the most magnificent flowering plants grown. They are indeed the aristocrats of the garden. The shapely, finely-cut green foliage has a majestic dignity not found in either the azalea, rhododendron or the lilac, and the exotic large heads of flowers borne in great profusion give the appearance of tropical luxuriance unequalled in any other plants.

Generally speaking, the tree peony differs from the herbaceous peony in that the stems are woody, and it is really a shrub.

The story of the sacred origin of the tree peony is found deep in the dim antiquity of ancient Greek religion. The peony is referred to as far back as Homer's Iliad and was thought to have medicinal properties. And ancient writers tell us that Paeon, one of the ancient Greek gods, cured Pluto with a peony and incurred the envy of another god, who plotted Paeon's death, but Pluto, grateful to Paeon for his cure, changed Paeon into a living plant, which to this day bears his name.

While we laugh at the credulity of the ancients who believed in either the royal origin or the immortality of the peony, we bow our heads in adoration to a living Father who is the Creator of all things.

The tree peony is as hardy as an oak and stands the roughest kind of treatment as long as it is kept out of standing water. It requires less attention than the rose, azalea, phlox and other hardy plants. The tree peony requires no more room than the ordinary peony and when once you have a tree peony planted, it is a source of pride and pleasure for a lifetime. It is at all seasons a thing of beauty with its shapely form and full green foliage. The tree peony is the ruler of the garden by sheer virtue of its majestic and enduring beauty.

The tree peonies lend themselves well to lawn planting on large estates. They may be planted in groups, but on small lawns they may be used as specimens; when added to the shrubbery border individually or in groups, they greatly enhance the value of the planting with their profusion of color. One tree peony in your garden will raise your garden above the commonplace.

The tree peony is a native, and the national flower, of China, and throughout the ages it is found pictured in designs and descriptions in China and Japan, its companion being the peacock and golden pheasant. The tree peony has long been cultivated in China and Japan. There are probably few gardens in England that lay any pretension to beauty which are not adorned by the gorgeous blooms of this fine tribe.

The chief variety of the tree peony of China is called Moutan, which means king of flowers. There is a yellow variety Lutea, and Delavayi, and the Moutan and Lutea have been crossed by hybridizers so that we now have real double yellow and orange tree peonies, gorgeous beyond words. The tree peony has been neglected because of the slowness and difficulty in propagation which, of course, meant high cost of the plant.

With a growing appreciation of the beautiful, I indulge in the hope and prediction of the tree peony popularity in the immediate future. In fact, considering its beauty, one is astonished that it is so little known.

We Americans can succeed in growing the tree peony over a wide area; they are no more difficult than the herbaceous peony and are much more satisfactory.

If you want an aristocrat in your garden, plant a tree peony.

Know the tree peony intimately in your garden. It will open the most fascinating of garden experiences. They may be had in over a hundred varieties, double, single and Japanese, and provide a wealth of magnificence and splendor unequalled by any other flower. Colors range through a hundred shades, tints and combinations of white, pink and purple. The foliage varies through much-divided leaves to broad, strong and leather-like leaves.

The usually waxy and luxuriant foliage of the tree peony is a great landscape value all season long. The many shades of green appearing in the sturdy, shrubby-like plants make beautiful hedges, flowering backgrounds, and specimen effects, after the blooming season has passed.

This article is addressed to those who do not know the tree peony, with the hope and expectation that it will awaken an interest in the most gorgeous of all flowers, the tree peony—the aristocrat of the garden.

PEONY 'JOSEPH ROCK'

Tess Allen writes about her attempts to keep this peony in cultivation. (Permission given for reprint from both: Tess Allen and the Garden, Journal of the Royal Horticultural Society.)

A shrub of this peony in flower is of unsurpassed beauty. The flower has a sheath which develops from the bloom's disc. The sheath is a distinctive white membrane, which encloses the capsule, as it were, in a bottle with the white stigmas protruding at the lip. The sheath bursts as the capsule divides into five white downy carpels. Those which may have set seed swell and strongly recurve at maturity. Their color changes from white to a light green to gold, and finally brown when the carpels split open.

In *Science and Civilisation in China* (Vol. VI, part 1, 1986), Joseph Nedham writes that there are fourth century records of wild tree peonies being transplanted and cultivated in Chinese gardens. Buddhist lamas are recorded as having taken tree peonies from China to Japan in the eighth century. The lamas also appear to have cultivated the shrubs in their gardens in other eastern countries. This has caused confusion to botanists, since specimens collected in Szechwan, at the end of the last century, may have escaped from cultivation. Other specimens in the Kew and Paris herbaria were collected from the wild at the end of the last century, and early in the twentieth century. In 1914, William Purdom was acting as a guide and companion to Reginald Farrer when they found the wild white Moutan above the Blackwater river valley in Gansu and again near the border of Tibet. From Farrer's description, his wild *suffruticosa* seems to be the same as 'Joseph Rock.' Dr. Joseph Rock collected seed from shrubs growing in a lamasery courtyard in south-west Kansu, and later he introduced it to the west by sending seed to the Arnold Arboretum in America about 1932. The Buddhist monks said that the peony had come from the limestone mountains, the Min Shan.

With my own plants, I had difficulty in stimulating the flowers to set seed. The first time that the pollen grains were roused to activity was in 1983 when we exchanged pollen with the Royal Botanic Gardens, Kew. In the following two years, again by hand pollination but using the shrub's own pollen, the flowers set a few seed, some of which can be seen in the photographs taken in our garden.

The seed needs to be sown deeply, about 1½ inches (4cm) because they are hypogeal, i.e., the cotyledons remain in the seed. Germination is poor, but even when the seed develops, germination appears to be delayed, since in the first year the root emerges from the seed, and it is only in the second year that the leaves appear above the ground. The seed should be sown as soon as the carpels split open.

Shrubs raised from Dr. Rock's seed flowered in America, Canada, Britain and Sweden in 1938 (John C. Wister and Harold E. Wolfe 1955).

National Horticultural Magazine, Vol. 34, pp. 1-61). There has been no introduction of seed from China since 1932. A few years after Joseph Rock's visit, religious fanatics destroyed the lamasery and killed the lamas. If the wild habitat of the tree peony has also been destroyed, the responsibility has to be taken by western gardeners of keeping in cultivation this beautiful shrub, that seems to be losing its power of regeneration.

Peonies

One of the chief requisites in establishing a garden planting possessing constant appeal, is to make selection of plant material that will meet this requirement. We must select something that is attractive, both in the bloom and plant; we need plants possessing a hardy nature that will withstand rigorous winters and droughts such as we have experienced this year; we desire dependable performance of our chosen flowers year after year and flowers that will fit into any color combination that we have carefully worked out in our garden plans. All these attributes may be found in the modern peony, a plant whose history can be traced back to the year 77. Its existence before that time is a certainty but we are not concerned in antiquity but in the modern peony of our day and age.

Within the past quarter of a century, truly great progress has been accomplished in improving and producing peonies that are marvels of beauty. The blooming season has been extended several weeks; many new colors and color combinations have been developed; improved methods of propagation and distribution are now practiced that will insure success regardless of the fact that the recipient may be a novice possessing but little planting knowledge.

To get the best (and you will want the best), secure your plants from those who make a specialty of growing peonies and have a wide variety from which to make selection. Visit these plantings this coming month of June and make selections to meet your particular requirements. The matter of quality should be paramount to price. Bargain counter peonies may mean dissatisfaction later. A peony is a permanent investment and should be treated as such, as it will stand for years and give an excellent account of itself by producing an annual crop of beautiful bloom and filling in the border with a pleasing green foliage that is very attractive and ornamental.

There are a number of ways peonies may be planted and success obtained, but the main point I wish to stress is not to plant too deep. This is one of the most common mistakes made in planting and is sure to result in disappointment. Failure to bloom can be invariably laid to this chief error in planting. If the ground where the peony is to be planted has been worked to a considerable depth, see that the earth is well packed before placing the root in its permanent location. If not well packed, allow for settling. This will obviate serious trouble later.

TREE PAEONIES

F. C. Stern, O.B.E., M.C., F.L.S., V.M.H.

(Lecture given on June 14, 1960, Sir Eric Savill, KC.V.O., C.B.E., M.C.,
M.A., V.M.H., in the Chair)

Tree paeonies are all indigenous in a wild state to South-East Asia; the most important species from the point of view of their flowers are *Paonia suffruticosa* and *P. lutea* var. *ludlowii*, and possibly *P. lutea* itself, for its value for crossing with other tree paeonies. All the tree species are useful and attractive plants, but cannot compare for beauty with those mentioned above. *P. delavayi* has dark red open flowers about 3 to 4 inches across, and grows into a large bush about 6 feet high; there are a number of forms of this species, all varying in the size and the shade of colour of their dark red flowers. This plant is useful in the garden as it will do well under deciduous trees.

A smaller tree species, *P. potanini* and its varieties, are low growing, about 2 feet high with smaller flowers about 2 to 2½ inches across; there are several forms, some with yellow flowers, some with red and some white. These plants sucker freely, growing in sun or shade, and are suitable as undershrubs in the woodland garden.

The most beautiful of all the tree paeony species is *P. suffruticosa*, and its different forms, often known as the "Moutan" paeonies. "Moutan" is said to be derived from the Chinese "Mow-tan", translated 'Male Scarlet Flower'. It is the national flower of China; the red form was considered by the Chinese to be the finest. The Chinese grew these paeonies in their gardens for literally hundreds of years. Johann Hoffman (1) quotes from the Chi-

nese literature that "Moutans" were well known and loved by the Chinese already in the eighth century. Although these plants were well known in China and Japan since the earliest times, they were unknown in Europe or America till about 1787. E. H. Wilson in his *Monograph of Azaleas* of 1921 (7) says that Chinese Buddhist monks introduced many plants from China and Korea to Japan as early as the eighth century and among them plants of tree paeonies.

In 1656 an Embassy of the Dutch East India Company was received by the emperor at Peking. On their return Nievhof, in 1656 (2), described this journey and the plants they had seen, including the paeonies to which he gave great praise. But nothing seems to have been done about introducing these plants till a hundred years later. Sir Joseph Banks is said to have read Nievhof's report and also seen drawings of these plants by Chinese artists. He engaged a Dr. Duncan, attached to the British East India Company, to procure a plant. It came back to England about 1787 when it was planted at Kew and another in 1787 was planted in Sir Joseph's garden, later to be named *P. moutan* var. *banksia*, with double pink flowers; in 1825 it was said to be about 8 feet high and 10 feet in diameter. In 1802 (or perhaps in 1794?) Sir Abraham Hume imported a plant to his garden at Wormley Bury in Hertfordshire, which in 1826 was recorded as being 7 feet high and 14 feet in circumference. This garden

in recent years belonged to the late Major Pam. This plant was named *P. moutan* var. *papaveracea* and illustrated in the **Botanical Magazine**, t. 2175 of 1820; it had white flowers with deep red markings at the base of the petals. I saw the remains of this plant still growing at Wormley Bury, with one flower, a few years ago.

Although tree paeonies were grown in gardens throughout China, Korea and Japan for a great number of years, the location of the wild plants was not known till about 1890 when Scallan and Giraldi (3) discovered the true wild plants in the province of Shensi in China; they did not collect any living plants or seeds. In 1910 Purdom found wild tree paeonies also in the province of Shensi. He sent a dried specimen to the Arnold Arboretum at Boston, U.S.A., and seed to Professor Sargent and to Messrs. James Veitch in England. The young plants at Boston were eaten by rats; only one was raised by Messrs. Veitch which was sent to Professor Sargent. In April 1914 Reginald Farrer (4) found the tree paeonies in the province of Kansu in China, and he gives a glorious description of the plants in his book *On the Eares of the World*, but he collected no seed or dried specimens.

The wild plant was not in cultivation till Dr. J. F. Rock sent seed back to the Arnold Arboretum in 1926. The Arboretum distributed the seed and one plant was sent to us in 1936. When it flowered, it seemed to tally exactly with the wild plants described by Farrer. (R.H.S. Journal, 84, Fig. 104, 1959.) Dr. Rock wrote from China that the seed sent back by him was collected from plants in the garden of a Lamasery at Choni, in South-West Kansu, and

the Lamas told him that the plants came from the mountains of that district. This plant is now about 8 feet high and 12 feet in diameter.

Sir Joseph Banks' plant mentioned above was described in his **Botanist's Repository** of 1804 (5), under the name of *P. suffruticosa*, which is now considered the correct name of the wild tree paeony of China.

A few garden "Moutan" paeonies were imported from China at the beginning of the nineteenth century, but few survived the journey. About this time seed seems to have been brought from China and Japan, for seedlings began to appear in French and American gardens. Siebold (6) in 1844 brought back some especially fine plants to Germany from Japan. In February 1843 Robert Fortune was sent out to China by the Horticultural Society (as the R.H.S. was then known) at a salary of £100 a year plus expenses. He was able in 1846 to bring back living plants of some of the best tree paeonies; these gradually came into cultivation in Europe and America. Some of the nurserymen in England later on began to catalogue these paeonies. Messrs. Kelway are reported to have offered them in their catalogue of 1889. All these plants are reported as having single or double flowers, pink, white or purple.

It was not until about 1902 that a new phase in hybridizing the paeonies took place. Before this there was no hybridizing, as far as is known, between the species of tree paeonies. In 1882 Abbe Delavay. One of the French missionaries, discovered *P. lutea*, the yellow-flowered tree paeony species, in Yunnan and sent seed to France. This species flowered

for the first time in England in the Temperate House at Kew in 1900. Soon after 1902 Messrs. Lemoine of Nancy, father and son, who were already famous for their hybridizing of philadelphus and lilacs, began to use *P. lutea* to cross with the "Moutan" garden tree paeonies. They produced some striking new hybrids with yellow flowers, such as 'L'Esperance' and 'Alice Harding' with double flowers of deep yellow; these double flowers are not too heavy and are held well above the foliage. In some of the double-flowered forms, the flowers are so heavy that the stems cannot hold them up, especially after rain. An old hybrid 'Comtesse de Tudor', bred in France by Charles Gombault in 1889, has large very double flowers, rose-du-Barri pink, about 9 inches across; it is not a good garden plant as these fine flowers fall over, but in a vase they are magnificent. It is still in cultivation in English gardens.

In 1917 Professor A. P. Saunders, Professor of Chemistry at Hamilton College, Clinton, New York, began crossing paeony species in his garden. Saunders is responsible for some of the finest crosses of both herbaceous and tree paeonies. His 'Argosy' is the best of the single yellows and his 'Black Pirate' has magnificent deep mahogany-red flowers (R.H. S. Journal, 84, Fig. 118, 1959); he has produced many other excellent hybrids.

In 1936 Ludlow and Sherriff collected seed of a variety of *P. lutea* in South-West Tibet at about 10,000 feet. Seed was sent to us under the name of *P. lutea*. Several plants were raised and because we did not think much of *P. lutea* as the flowers are usually held under the leaves, we thought we would try a tree paeony on the

chalk rubble on the side of the chalk cliff. To our astonishment these plants became taller and taller and eventually large deep butter-yellow flowers appeared well up above the foliage, about 5 inches in diameter. This first-class paeony species was named after one of the collectors, *P. lutea* var. *ludlowii* (10) (Fig. 85). It is the earliest of the larger tree paeonies to flower in May, is perfectly hardy and seems happy in any soil. I have not heard of any hybrids made between this paeony and garden tree paeonies. We have tried and have not yet been successful.

Some young plants without names were brought to us many years ago from Japan. They grew well on the chalk soil; some had white flowers and some good pink ones. One with an extra fine pink flower with a sheen on the petals was named 'Silver Pink'. From seed of this plant in open pollination we raised some lovely plants; one named 'Mrs. George Warre' had rose-pink flowers about 10 inches across, and another with large light-pink semi-double flowers was named 'Cassandra'. It is fascinating to raise seed of the tree paeonies, but alas the seedlings take five or six years to flower! A friend sent us seed from some of the best plants growing in the gardens in the south of France; they came all colours of white, purple, and pink, but one turned out to have real rich scarlet flowers, an unusual colour and is now named 'Sybil Stern' (R.H. S. Journal, 83, Fig. 142, 1958).

The cultivation of tree paeonies is not difficult as long as they have well-drained soil. They require a good loam with or without lime. They dislike animal manure. When we started to grow these plants we thought they

ought to be well fed. They did not like the old cow manure and some died. It was interesting to read lately in Paxton's **Magazine of Botany**, XVI (1) of 1849, in a translation of Hoffman's articles on tree paeonies from old Chinese and Japanese writings, that "the use of animal matter as manure has proved to be injurious". We have never given the plants any animals manure nor any old mushroom manure for the last twenty years or so, but just very old leaves in autumn.

All tree paeonies are perfectly hardy plants and will stand any amount of frost as long as the young growths have not started. The real danger with tree paeonies is that they are apt to get the young growth injured in a mild winter and spring. This new growth, which holds the flowers, comes very early in the year and may get injured by a late frost or even a cold east wind. In order to circumvent this, we have tried to make the plants delay their early growth by planting them in half shade among deciduous shrubs and small trees, and also on the north side of evergreen shrubs away from the morning sun and protected from the east wind.

The crossing of tree paeonies is not easy. The flowers have a mass of anthers which have to be removed before the flower opens. It is a tiresome job and one is apt to get lumbago doing it in an east wind. The pollen of the male parent has to be dry and fresh and in May the pollen on the anthers is very often damp. We find the best plan is to cut the flowers of the male parent just before they open and put them in water in a warm room so as to get the pollen as fresh and dry as possible. In raising seed, it is most successful to sow the seed as soon

as the capsule begins to open. In this way the germination of the seed is much quicker and more even. This is true of all paeony seed. It is very interesting to read in the translations of Hoffman from the original Chinese works of 1596 that, "Seeds should be sown immediately after they are ripe as soon as the seed vessel commences to open and show its seed within".

The best time to move tree paeonies in the south of England is the first week in October. They dislike moving and often die back after moving but soon recover.

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Also, Sir John Heathcote Amory. Bt. tells us in *A Garden in a Wood*, RHS Journal 85, 10 60, that both tree and herbaceous paeonies do well in the more open parts of a wood, *P. obocata alba* especially.

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A note in the Journal of the Royal Horticultural Society for September, 1960, tells us that *Paeonia lutea* var. *ludlowii* at Highdown (Sir Frederick Stern's estate) has established itself on the cliffs of the chalk quarry and is completely at home, rearing masses of children with seeming ease. Also it tells us that *Paeonia delavayi* and *Paeonia lutea* behave similarly in other gardens.

The above note appeared in an article by Lanning Roper entitled "Mass Plantings In Nature and In Gardens." in which is mentioned many other such occurrences, the masses of our native dogwood being especially noted. It is a most interesting article and one which any of us can read with pleasure.

Tree Peonies . . . Varieties and Culture

by Marinus Vander Pol

The Tree Peony, a shrub or small tree is considered a hardy Oriental plant, which usually flowers from early May well into June. It appears under several names including *Paeonia moutan*, *lutea*, *potanini*, *Delavayi* and others. These plants were discovered in the Southern Himalaya Mountains and in the several provinces of China including: Yunnan, Kansu, Szechwah, Shensi and it is also reported to grow in Manchuria and northern Korea.

The Tree Peony is found native at high elevations which would indicate that it requires a well-drained location to grow well. Historically it is one of the oldest deciduous shrubs known. When first reported in the sixth century it was not only known for its ornamental values, but also for its medicinal values. The plant is also closely associated with the Buddhist religion. It is held by them, the Buddhists, as Sacred Emblem of the Land Beyond, even the careless discard of a smoke on the growing grounds of the Tree Peony is sacrilegious. At Hasa Dera Temple, the roots of the Tree Peony have been brewed and the results in Japan distributed to some 3,000 Buddhist Units for healing purposes, for some 400 years, although this work has now ceased according to reports received. At Hasa Dera some 1200 plants in 300 varieties have been developed with no benefits of planning, crossing or hybridizing. It is assumed that with a chromosome system of 5, the Tree Peony is self-improving over the years, thus through selection finer qualities are continually detected and by selection used for con-

tinued improvement. It appears that through this method a number of devoted persons in the Orient and particularly in Japan have been able to introduce improvements over older varieties. Today there are some 1200 named varieties known. There is in the field considerable misunderstanding both here and in the Orient. Fortunately some effort is being made to bring the interested parties together, therefore considerable improvement in nomenclature of the Tree Peony can be expected soon.

Propagation of this plant is carried on by means of grafting, seed, and divisions, both in the United States and the Orient. Grafting is by far the most popular method. The root stock used is invariably the herbaceous or albiflora types. The moutan roots offer a possibility of a more responsive plant. Seedling grown plants are by far the safest type, they are, however, not necessarily the most desirable as they are unpredictable in growth habit and flower production until they have attained the age and size of expression. Commercially they are of very dubious value. Grafting of these plants is usually done at the time that the plant has reached growth maturity and at which time roots may be taken from other plants without loss. In Japan the whole operation is carried out in the open, with the taken grafts planted out in the field rows in early October. Growers in the States are less set on exact dates for grafting. We have several growers who do their grafting early in September, heel-in under glass for 4 to 6 weeks,

after which time these taken grafts are potted. The selected roots are necessarily short to fit into the clay pots, such plants do not develop as quickly and as strongly when compared with full root field grown plants. Either method has its grafting losses and no perfection of graft stands have yet been observed anywhere. Division of plants is, of course, the very slow increase method, it is, however, the surest to obtain 100% stands.

Potted plants in bud and bloom are very desirable merchandise. We have been working on these ideas for several years, and have learned that the Tree Peony can be grown for a maximum of two years in a container without constant care. Plastic and other non-porous containers cannot be used except with extra care. The old standby clay pot also produced satisfactory results. A one year old graft (full root) potted in late fall grows into an excellent plant by the following September, setting buds and can be moved into a new permanent location with no loss of vitality; over 90% of these plants produce from one to three full size blooms. The potting media should be gritty and heavily fortified with phosphates. The plants after potting should be buried at least 4 inches below the graft, the top two inches can be sharp sand which provides excellent mulch to prevent weed growth and appears neat and clean at the surface. A two year old potgrown plant is excellent material for the development of tree peony gardens on private grounds as well as in public parks.

Later plants, which are invariably older plants have been used to create immediate effects. These plants, carefully dug and balled

protected with burlap, have responded splendidly on occasion, however the dry root stock requires extra time to become established unless much of the top-growth is removed. When the top-growth is severely cut back, the bare root older plants do respond very satisfactorily. Fall planting of bare-root plants has produced spectacular effects immediately, flowering surprisingly well, producing full sized blooms perfect in every detail. These plants then would be considerably ahead three years hence over their non-cutback counterparts.

Preferred varieties of the best varieties are listed, these, however, are usually a particular person's interpretation. Experience with the Tree Peony and the particular application of the plant determines in my opinion just which is best or preferred. Some grow tall, others short, some have 12 to 15 inch flowers, while others are 4 to 6 inches. Most of the luteas or yellow sorts are sparse flowering, while many Japanese varieties are free flowering. The following I consider among the better varieties: Akashi-gata, Beni-chidori, Fusa-no-tsukasa, Gessekai, Hakuo-jishi, Haru-no-akebono, Hatsu-hinodi, Hinodisekai, Hodai, Howzan, Kagurajishi, Mono-yama, Nissho, Okinajishi, Renkaku, Reine Elizabeth, Shin-kagura, Taisho-no-hokori, Tama-fuyo, Ubatama, Yachio-tsubaki, Yae-zakura and many other fine varieties, to grow, to force and to love.

The above is a paper presented by Mr. Vander Pol at the Eighth Annual Short Course, Connecticut Nurserymen's Association At Storrs, Connecticut on 1/20/1960

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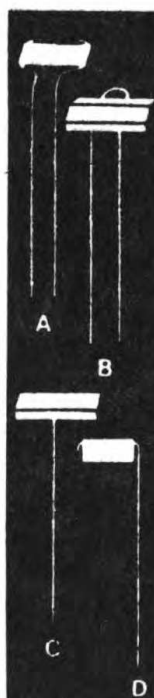
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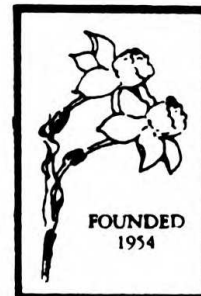
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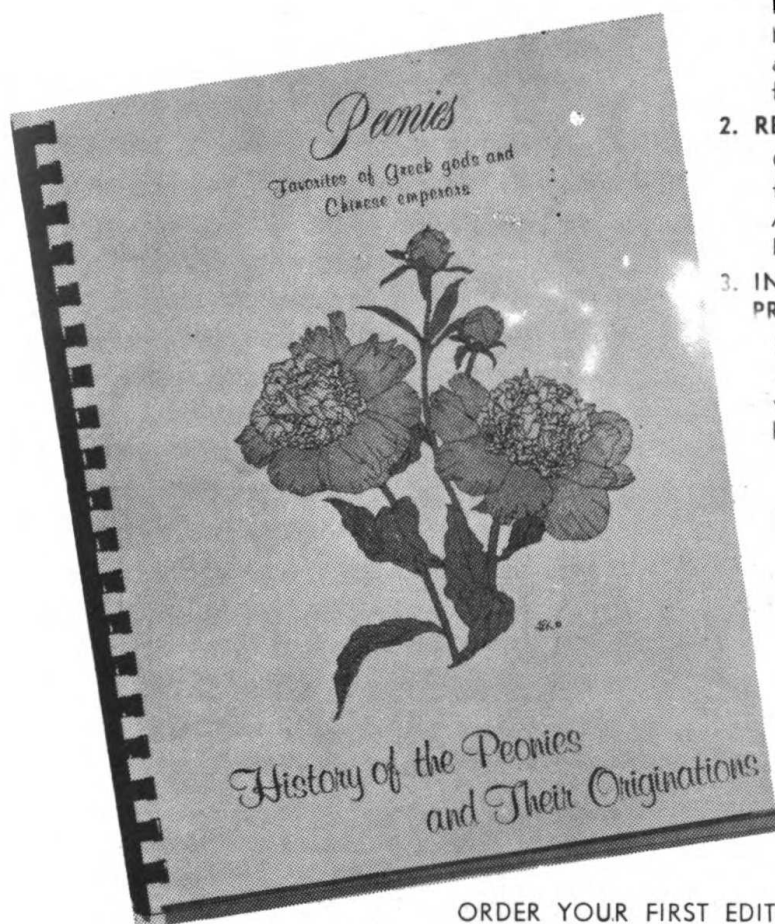
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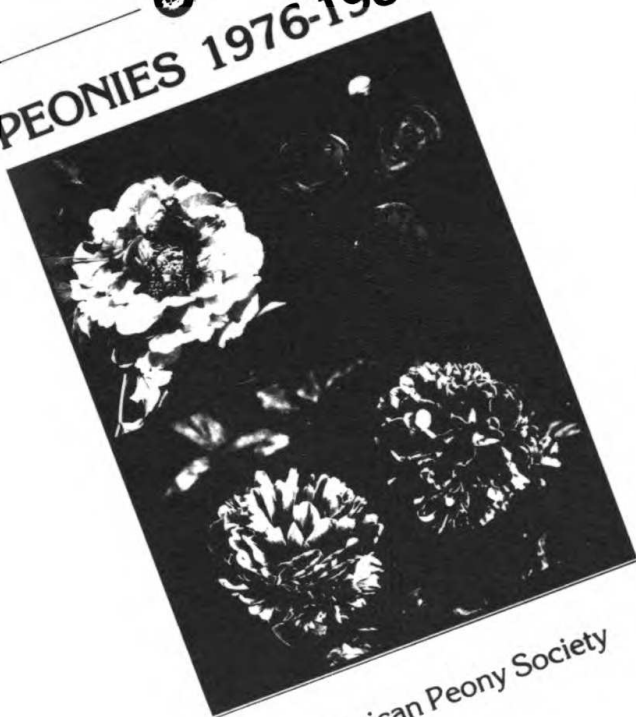
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