PAEONIA

Volume 14, No. 3 September, 1983

REQUIRED READING:

1. "The Peonies" by John C. Wister, $3.50 from American Peony Society, 250 Interlachen Rd., Hopkins, MN 55343
2. Bulletins of the American Peony Society.
3. History of the Peonies and their Originations.
4. The Best of 75 Years; 3 & 4 ed. by Greta Kessenich, and available from the American Peony Society.

Editors are Chris and Lois Laning,
553 West F Avenue,
Kalamazoo, Michigan, 49007.
Suggested yearly contribution to cover expenses of printing and mailing is $2.50 in U.S & Canada and $4.00 in Europe and Australia.

TABLE OF CONTENTS:

- -

Problems arising from disputes over information contributors offer for publication are to be promptly eliminated. You, Paeonia Reader, will accept all materials for information and hopefully will find some of it helpful in your hybridizing efforts. Lay all conflicting articles and materials side-by-side, accepting and using all that is helpful and useful. The remainder should be held for further development or elucidation.

Don't choose up sides! Keep all this in mind when reading this issue.

- Chris

SEEDS FOR DISTRIBUTION:

1. Vista x Archangel
2. Quad F3 x Moonrise
3. Serenade F3
4. Quad F3 x Silver Dawn F3
5. Tetrapioids - collected from pink clones and. yellow
6. Sanctus x Silver Dawn

More seeds are expected from Don Hollingsworth and others but I don't yet know what will be offered.

Peony seed distribution is a grand success if judged by the number of requests for them, but very little feedback is received regarding the success in raising seedlings from them. Exceptions do occur. Two pictures of seedling production have been received from Herman Krupke of Sweden, good Old Herman!!

Now I am wondering if plant distribution will enhance our Peony Society. Two year old seedlings are offered at $10 per dozen; limit is one dozen.

- Chris

LETTER FROM DON HOLLINGSWORTH, dated September 2, 1983

Dear Chris:

It has been a curious season. Mother Nature's infinite capacity for variety has been demonstrated again! First, a very warm late winter. By late March the earliest suffruticosas had new shoots up to 10 inches long and flower buds approaching the size of a quarter. By the first week in April they were being subjected to below freezing temperatures night after night — down to 20° F, and snow piled high upon occasion — the most extreme contrast of shoot development and low temperature that I have yet observed. It was yet a month before those quarter sized flower buds were to open, but open they did.

Early tree peony bloom quality was considerably reduced, but there was very little bud blast in either the trees or the herbaceous. Along with the loss of quality of flowers there was apparently some reduction of fertility in the very earliest tree peonies. The earliest lutea hybrids to flower had a considerable reduction in flower size and I see no other obvious factor than the weather which might have been causal.

A reduction in petal length -- and a more widespread occurrence of ragged petal edges among varieties — seemed to be associated with the weather in the early herbaceous varieties. Every year I see "short petals" (resulting in open centered buds) as a common flaw among the early hybrids seedlings. This was apparently the same thing more widespread, a clue to a possible genetic (heritable) condition that we should be giving some care to selection against in choosing breeder plants for the early hybrids, which typically develop flowering buds during erratic temperatures.

Throughout the season there was a marked reduction of petal numbers in semidoubles and an increase in pollen on Laning’s Best Yellow — both of which proved to be a boon to hybridizing.

It rained very favorably throughout the flowering season and until the last of June. Afterwards it has been dry and hot. Seed quality is variable, but generally satisfactory. One bonus is that first it was too cold for the crabgrass to germinate, then it was too dry. For the first time in several years the patch did not get embarrassingly ragged!

The highlight of the season was using home produced flowers for our younger daughter's wedding in June. As you know, I haven't been able to get to very many of the national exhibits. Well, this year we had our own and the audience members were also our guests. We were able to have a good range of the midseason hybrids and lactifloras and you can imagine how surprised the non-gardeners (and gardeners) were to realise those were peonies.

In the garden there were some new double seedlings of '**Good Cheer**' crosses and older selections which had been lined, out for increase were available for further selection.

Of the older seedlings, the Itohs 205 and 206 stand out. Both have yellow flowers with faint red flares. 205 promises to become a connoisseur variety — both for the garden and for the show table. 206 is a flat bush and makes a lot of durable, dark green foliage which makes a form that takes a little getting used to, but has excellent

landscape possibilities in the position (foreground of a low shrub), something we are not accustomed to using a peony to do. Petal ends of 206 are silvery and a little serrated which takes away a little for show table. However, with the abundance of stems, I was able to cut a sizeable number with. 24-inch stems (to the ground) and they worked beautifully for arranging.

My '**Lady Alexandra Duff**' x '**Claire de Lune**' pale peachy double — #685 — which has been a slow increaser, was superb this year, with a 10-inch flower. It was extremely effective arranged with '**Red Charm**', '**Cytherea**', mystery red (I'll explain) and a single white - either '**Virginia Dare**', '**Spellbinder**', or both.

Mystery Red is a hybrid - which came from Bill Krekler as a wrong delivery for '**Laura Magnuson**'. It comes close to being superb and I appreciate it more and more as the years go by. This year was the clincher. It is an intensely pigmented red of the midseason group — stiff, straight, very heavy substance, cupped, single, that stays open when cool. There is a pale, narrow streak, from the base of each petal which imparts a star sapphire effect. The center is a bright yellow contrast, small and no pollen to fall on the petals and dust over the "star". There's more. The arranger wove the flowers into a fern garland for the stairs, without water, and the flowers looked just as fresh five hours later as they did at the beginning. If this variety has been named I would sure like to know what the name is. If not, it should be named. The unfortunate thing is that it is easily overlooked in the "sea" of red single hybrids.

For the alter baskets we cut '**White Sands**' and my pink double #199 to the ground and '**LeCharme**' with stems to match (it's so tall there was a leaf or two left). The pink, white, and yellow with pale sweet rocket and a few gladiolus spikes and greens were spectacular. A silver vase with '**La Lorraine**' and '**Raspberry Sundae**' with violet tinted sweet rocket was perhaps the loveliest. Another handsome basket had '**Westerner**', '**Spellbinder**', my #683 (which has the '**Westerner**' pattern with smoother center, warmer pink and heavier substance — hybrid origin) with a few '**Shawnee Chief**', chartreuse shrub and sweet rocket.

Those are the ones I have in the photos. People have asked, me about the other variety names, but I simply don't remember the other arrangements, which is frustrating.

Of the '**Good Cheer**' seedlings, two siblings stand out so far. #995 is a curious orangey color that has been likened to Tropicana Rose. The flowers are smallish for the type, so we can say it's suitable for arranging! #995 is a large ball of warm red that is more my type. The jury's still out on these. These are going to propagate well; they form buds on blind root pieces.

The '**Moonrise**' x '**Paula Fay**' seedlings are distinctive. Like many '**Moonrise**' seedlings, they have heavy substance and a strong, milky undertone and creamy colors — pink, peach tones, pale yellow and. white.

There is a '**Roselette's Child**' F_2 x '**Moonrise**' seedling which I call Big Peach which may come to something. Everything is big, rather different for a '**Moonrise**' cross, the seedlings of which are more often short, so it stands out in the patch for plant as well as flower. A well cupped, large single of sort of a pale camel color.

Well, I've probably gone too far on these descriptions, but to not be enthused is difficult. One other, which may be important, is a seedling of 'Nosegay' F_x x '**Moonrise**' — excellent form single yellow, very fertile. A good increaser, 23 inches tall, has a few side buds, which prolongs flowering and crossing opportunities. This cross was made by using '**Moonrise**' pollen stored in the freezer from the year before.

Crossing was good this year. A lot of plants were back to good flowering since the last move and I was able to try some things that have been long awaited. Also, I had the excuse to be at the patch every day to cut flowers for the wedding, so was able to get better coverage than in most years.

Worth mentioning is several seeds from '**High Noon**' and from '**Demetra**', by pollen of Reath's A-199. Also have some seeds from F_2 lutea hybrids, but the plants are small and there weren't many flowers to work with. One of note came as scions from Pehrson marked D-222 (Gratwick). I think there is a nix-up here as the sharp yellow flower neither agrees with Roy's description for that number nor with a plant I have from Chris as D-222. (The latter is quite seed-fertile but not pollen bearing.) The yellow flower is similar to '**Roman Gold**' and it produces copious pollen which may or may not be effective. I used it on some of the F_1 lutea hybrids which sometimes give good seeds, but got only hollow seeds so far. There are some F_2 pods still to be collected. The Pehrson clone is my number 1332. I think it will bear watching as we search for prospective breeders among the members of this group.

I hope to use Lutea Hybrid '**Alice Harding**' for the LH crosses, but it has the problem of flowering after most of the others are done. This year I have put a supply in the freezer, and hope to have it useable next spring, for both suffruticosas and lutea hybrids.

One of the problems I haves been seeing with many of my crosses is the pods dying, along with the end of the stem, for a couple of inches down. '**Lady Alexandra Duff**' does this and so does '**Demetra**' to a very frustrating degree. As the season goes on leaf spot shows up and parts of leaves die. I can't help thinking there may be a parallel, that a fungal agent is involved in the pod dieback. This year I made a valiant effort and got out the spray, using Benlate. I sprayed twice, first as the lacti were just coming through the surface and again in maybe 10 days.

The principal point of this spraying report is not the desired result. For "good measure", 1 used Miracle Grow nutrient in the spray water and a spreader sticker—Ortho X-77. Therein was my problem. I was intending to follow Reath's procedure (for improving scion quality) given in his article on grafting. However, I used the commercial spreader instead of detergent, which was reported in the article. I had some damage, which showed up as yellowing and dieback of foliage and stems in some varieties. Weak growers were more severely affected, and certain varieties I'll lose some plants over it. And this is not the first time. I did the same thing 4 or 5 years ago, but had attributed the result to residue of 2-4-D in the sprayer tank, thinking it was released by the surfactant action of the spreader-sticker. My plant pathologist friend, Chuck Schiller, suggests that the oily quality of the sticker phase of X-77 does some harmful things when combined with the nutrient in the mix. Whatever -- I've changed to Shaklee's Basic-H as surfactant and hang he sticker!

Most of the seed heads on '**Lady Alexandra Duff**' died again and so did those of '**Demetra**', which didn't have seeds. Maybe some varieties just naturally die back if there are no seeds in spite of the fact that many others develop seed pods whether or not there are fertilized seeds. However, the fungicide is worth the effort and expense for the maintenance of healthy foliage and plant appearance.

One other observation has at last come to its logical conclusion. As many Paeonia readers have read before, I use polyethylene plastic bags extensively as my containers for seeds germinated indoors and some may have seen my accounts of using this type bag to hold tree peony grafts during the knitting period, and to overwinter them in most instances. Polyethylene allows oxygen and carbon dioxide exchange through the membrane, but retains water, so that is an attractive choice for the purpose. Well, I sometimes have a lot of rot in the seed bags and sometimes have very poor results with grafts, while other times the results are very satisfactory in both procedures. It has been pointed out to me by plant pathologists, who examined the remains of spoiled materials, that poor oxygenation might be a problem (Living tissues require oxygen to survive). However, I always placed this in the context that fungus actively growing in the bags might be blocking circulation of gases and simply be using up the available oxygen. For several years I have been careful to avoid leaving rotting materials in the seed bags and have taken special measures to avoid crowding them in order to keep all bags exposed to the air. I had made no special connection with grafting success and this idea, however.

Last year? I lost almost every graft made. Then I heard from Neville Harrop of Tasmania with a report of his experience in holding grafts in plastic bags. He has had some experience in which almost all grafts would be successful in some bags, but other bags would lose almost everything. He’s like me, has been looking to sanitation — avoiding contamination of the grafts and the medium — as the means to reduce the risk of this loss. Showing his photo of a plant from a container with black rot on the roots and his account to Dr. Schiller, the first response was "bacterial rot". This reminded me of the previous pathology reports on my rotted seeds — bacterial development was deemed to have come in under oxygen starvation. I mentioned this to Dr. Schiller to which he responded that "sub-oxygenation can kill tissue pretty quickly". I know that I have often crowded grafts severely in bags, thinking that all I needed to do was to keep them from drying out, particularly during the warm period right after they are first made.

Now, the probability that I have been causing some of my own problems by crowding the grafts in the bags falls pretty heavily on my consciousness. This year I am using the thin Baggies brand bags for the grafts (the larger kitchen size) and leaving quite a lot of room around the grafts with the vermiculite medium which I am using. The proportions of these bags are not favorable. They would be better if longer (deeper), but I can get by until some other arrangement can be made. In the past I have commonly used salvaged, newspaper plastic bags, some are thin and some are not. In addition the newsprint ink has an oil base and some of this probably comes off on the bags and may reduce the permeability to oxygen — so my reasoning goes. I realise this is all pretty speculative, but I want to share it in case it will be thought provoking to others in comparing their own results. If it does provoke further thought, I will appreciate having your comments. - Don Hollingsworth

Letter from L.J. Dewey, 2617 Wyndham Dr., Richmond, VA 23235

August 11, 1983

Dear Lois and Chris,

We all missed you both at the National Peony Show. I did not get to Michigan until June 15 and assumed you had left the day before for Europe. I hope you had a wonderful trip. After the meeting, we did get to Kalamazoo to visit 'the Bradfield's new home and. garden . We saw some of your handiwork, Chris, in the new house. Earlier in the day, we stopped by to see Ms. Hazzard and pick up my Japanese Iris order. We had learned about Mr. Hazzard's death from Leila in Milwaukee.

The Peony Show in Milwaukee was a great success and was one of the best I have seen. I thought your PAEONIA readers might be interested in a few observations about the seedling table. We all missed the yearly Laning exhibit although Leila Bradfield did bring in blooms from a couple of your seedlings. The one which caused a small sensation was the full double, bright coral (? the color is difficult to describe) herbaceous seedling. Perhaps you would like to tell us about that one, Mr. Editor, if you can identify it from this meager description.

Before I proceed to other specimens on the table, I would like to make a plea for more information on the seedling entry tags. For me, and I should think for other hybridizers, it would be most helpful to have the pedigree of a seedling listed. If records were not made, or have been lost, even "parentage unknown" would let the wondering onlooker know that further inquiry would be futile. If only one parent is known a question mark can be used for the unidentified parent. In the case of advanced generations, the pedigrees of the parents of seedlings as well as of the seedlings themselves would be most informative. With these facts and his evaluation of the seedling at hand, the breeder may be able to plan more promising crosses in the future.

This was really the year of the tree peony at the seedling table. A list of the exhibitors and the seedlings which were seen at the table is given below. Keep in mind that this is not meant to be a complete list.

David Reath - D-237
D-294
D-306
A-198 (Golden Isles x F_2 lutea hybrid)
S-104 (tree peony)
S3-2 (Rock's pink seedling)
Fay Pink (Tree peony, semidouble pink with magenta flares)
79-4 (herbaceous, large Japanese type with pinkish guard petals and yellow staminodes)

William Seidl- A-197 (Canary x F_2 lutea hybrid) x D223. Maroonish with dark flares, 2 rows of petals.
Rock's x single purple (purplish -single with dark flares)

Steve Varner - '**Avis Varner**' (herbaceous, large purplish double)
V 4123 (herbaceous double rose)

I have not tried to describe the color for all of the seedlings in the list, since it is almost impossible to do this in a brief way. Overall this was a good collection of seedlings which maintained the high standards of the seedling table set in the past.

The pedigrees of the Daphnis hybrids exhibited by David Reath are unknown to me. If we assume they are advanced generation hybrids, perhaps a few general comments about this generation would be in order keeping in mind that exceptions to most generalizations will be encountered here and there. The flowers in this group are usually of a medium size with one or two rows of petals. The petals themselves have a heavy substance, a character often associated with tetraploids which some of these plants may well be. The colors are very interesting and might be described as consisting of a basic background color suffused with another darker color, which often because even more concentrated at the petal edges. At the center of the flowers there are usually flares of a darker, often intense color which draws attention to the prominent yellow anthers. Many of the plants in this group have inherited the curving flower stem from the lutea species, but the curve is nowhere near as pronounced as with the original, heavy European lutea hybrids. Although many of these hybrids may never be planted as garden specimens, they certainly are of interest to the peony breeder. In addition to the admirable characters already described, the plants have beautiful foliage and seem to display a certain amount of hybrid vigor. Finally, of particular interest to the hybridizer, fertility has been restored in these advanced generations.

Commenting on peony seedlings is a little like trying to evaluate other peoples' children. You hesitate to do it, but having done so, you hope all the while that the parents will not take offence.

Trust this finds you both well and having a better growing season than we are experiencing here in Richmond.

- L.J. Dewey

Dear L.J.:

I'll have to ask Leila Bradfield which bloom she took to the show. Then the parentage will be published.

Seedling parentage is of great importance. When records of parentages are lost, the value is reduced to the level of just a pretty flower. Our Miss Saunders so aptly expressed it, saying that when pedigrees are unknown, the plants are "mutts". However, the hybridizer very soon finds that records of parentages develop into a "family tree" sort of a thing and recording becomes a time-consuming affair. Parentages are interesting but they are receding into the distant past (at least for me) and are being reduced in importance as hybridizing information.

I have changed my approach from clone orientation to the Luther Burbank method of selecting from great populations the few outstanding plants — and continuing this process until the goal is reached. So you see, when dealing with fairly large numbers of seedlings in this manner, new pollens are treated, and thought of, as additives to the strains being developed rather than crosses. It is wise to record all parentages wherever possible, notwithstanding.

- Chris

Letter from Patricia Plunkett, 4 Orrell Ct., Mt. Waverley 3149, Vic. Australia

Dear Chris,

This is just to let you know how your seeds are coming along. Germination was rather irregular, many seeds died eventually, and about 30 to 40% are still alive. Some developed small roots.

I transplanted the seeds from their plastic bags of peat moss in fall (here about April) to 6 inch plastic pots of a good potting mixture and put 4 seeds to a pot outside, in various positions in the garden.

Two developed plumules, and stupidly I forgot to cover them on a night of mild frost, and lost them. Having learned a lesson this way, I have covered all the pots with hessian, except those under trees.

You may be interested to know that the strains of Botrytis in this country are resistant to Benlate, and the Garden Advisory Dept. which here is part of the Dept. of Agriculture (an extension service as in the USA for the public) has advised not to use it, or Manzate 200, for this reason, but a Aba-Geigy product "Fungorid" (trade name). The reason I'm interested in this is that although I dipped your seeds in Benlate, I still lost about 70% to mould. Or rather, the mould was an outward indication of death.

I have learned a great deal from your excellent articles in several bulletins, also practical experience has taught me a lot.

One thing is certainly definite — the seeds you sent in September were healthier and remained alive longer than those you sent in November. The reason most likely was that the September batch had a longer incubation period at temperatures recommended.

After November we can expect temperatures in the 80's and 90's (°F). The September batch had a chance to develop roots, before the hot weather. The later batch hadn't. I put all of them in the vegetable compartment of the fridge over our hot summer, and as mentioned, planted them out in April after about 6 weeks on my back veranda, again in cooler conditions March-April (65-75 °F).

I think I'll have very much improved results if I could try another batch of seeds from you. If I sent you $5.00 (US) would that be sufficient? Could you send seeds in September? This new fungicide is going to make a big difference, and I can dip the seeds even half strength to start with. Does this sound OK?

I have 27 tree peonies now. We can't grow herbaceous in Melbourne, but they can in the Dandenongs, Ballerat, Woodend and other places with colder winter.

Thanking you for your trouble. - Patricia Plunkett

Pat — Sounds OK to me, Chris.

REPLY TO BEN GILBERTSON'S LETTER, JUNE 1983

Betty Halas

We were very happy to receive your comments. Peony breeding is still more art than science. I would like to refer you to page 59 March of the American Peony Society Bulletin by Mr. Bill Uhde. Mr. Uhde reports the Mloko-tenuifolia F_2 as tetraploids, which I am in agreement with. That couldn't happen if each of them was diploid, originally. I would say that '**Goldilocks**' is a diploid, the cross of '**Oriental Gold**' by '**Claire de Lune**', from what you tell me. You state that you were able to get seeds on '**Claire de Lune**' from Tenuifolia Rubra pollen and also Lactiflora pollen, while Mloko pollen did nothing. In the F_1 state you were able to pollenize (sic) '**Claire de Lune**' with other diploids. I would predict that the F_2 of '**Claire de Lune**' will be a diploid. '**Oriental Gold**' is an F_1, probably Lactiflora pollen parent on Mloko as seed parent, a most difficult cross, is very likely a diploid.

The easiest crosses of Peonies would be in the tetraploid pollen parent and diploid pod parent. However the most promising crosses and those which have a high tendency towards more petals and doubleness is a diploid pollen parent upon a tetraploid pod parent. These crosses are very tough to make however. The F_2 of '**Oriental Gold**' should be more receptive to Moko however. That would be '**Goldilocks**', but I'm not sure that it is fertile. Probably you would know for sure because you originated the plant.

You also speak of not being able to cross tenuifolia with Lactiflora. Actually such a cross has been made and it is called '**Peter Barr**' and also Laciniata in different directions I believe. Both of them are bright red in flowering with cut leaves.

From what you describe, you may be having some problems with Mloko pollen. Actually Don Hollingsworth is a real whiz with pollen collection and preserving and he could teach a great deal on the rather difficult subject of pollen collection and drying as well as storing. I think that Mloko being so early in the year, the pollen doesn't get enough sunlight to dry out and become powdery so that it is still in the green stage. Inadequate ripening of the pollen for the early blooming Peonies is a tough problem to resolve, needing more skill to work out.

The Peony '**Oriental Gold**' is a promising Peony and it is fully hardy over winter. The leave pattern and geometry of '**Oriental Gold**' is in number the same exactly as '**Ballerina**', the Saunders hybrid of Wittmanniana. The differences being that the leaves of '**Ballerina**' are bigger and much wider, the plant being smaller in stature. The leave clusters of '**Oriental Gold**', which I believe is Lactiflora onto Mloko. The Saunders '**Ballerina**' is Lactiflora on Wittmanniana. Compare the leave pattern and you will see what I mean, but it's rather startling in similarities. '**Oriental Gold**' is a brighter green in color of the leaves and there are multiple flowers to a stem and actually '**Ballerina**' only has one flower per stem. On an older plant the leaves of '**Oriental Gold**' actually approach that of the width of '**Ballerina**'. Some Japanese made the tough cross, but pollen of Mloko would be better in the sun and would ripen better. Here we have a pollen problem, I believe most of all.

The diploid that belongs to the Mloko, Wittmanniana, Macro tetraploid series is the Peony Daurica, which is very pretty in its finest forms. We are always very interested in the results of your work and would encourage you to convey your results to us when you feel they are significant.

COMMENTS ON HOLLINGSWORTH'S PEONY CALIFORNICA NOTE

Betty Halas

Mr. Hollingsworth being rather experienced with Pollen collection and treatment is likely to succeed where some of the rest of us would probably not, in the hybridizing of the Peony Californica.

The Book, "The Genetics of Flowering Plants" by Verne Grant, as published by Columbia University Press in 1975 has several pages devoted to both the Peony Californica and also the Peony Brownii.

Pages 379, 380 and 389-395 summarize the results of several investigators in this rather interesting topic. What it does say is that under the best of conditions the pollen fertility of Peony Californica is 24%. It states further that Peony Californica has quite a variation in gene structure of at least five distinct structures for allowing variability in new plants.

With Peony Brownii, almost all the genes are in one structure, as a result of too much inbreeding. The Peony Brownii is relatively uniform in characteristic but it has both the advantages and also the disadvantages of too much inbreeding. Peony Brownii is a much more hardy plant in the types of weather and food that it will tolerate. However it is much more susceptible to disease and the numbers of this plant are reducing in quantity.

The articles indicate that Peony Californica does have a great deal of versatility and would be successful in hybridizing. WithMr. Hollingsworth setting his goals, I would feel that we have sent our best equipped person to make the difficult cross of Peony Californica. Certainly we will await his efforts with a great deal of interest.

****

A DAY WITH DON HOLLINGSWORTH IN KANSAS CITY

Harry Kuesel
4 Larkdale Drive
Littleton, CO 80123

A few weeks ago I was asked if I would teach a two hour course on the History and Development of the Peonies at Denver Botanic Gardens. I knew enough to cover the history pretty well, but decided I needed to know a little more about the development of new varieties so asked Evelyn Kinnick, a mutual friend, to help me plan a tour on the Kansas City Peony Gardens with Don Hollingsworth as a guide. Don met me at the Kansas City Airport at 10:30 and we talked peonies and tree peonies for about eight hours with very little time out for lunch.

Our first stop was at Don's home garden on Colrain Avenue, where the tree peonies were nearing peak bloom. I quickly identified Gessekae, a glistening pure white double with yellow center, and Kamada Fuji with its distinctive wisteria shade of

lavender, and Shintenchi, a fine pink double. Then our tour was interrupted by a heavy downpour, so we moved indoors where Don showed me how to dry out the peony pollen collected from yesterday's bloom, in his furnace room. He stores it in old Kodak film cans for future use and labels them with tape, or self stick labels. I had been having trouble dividing tree peonies, but he showed me how to graft a scion onto herbaceous peony rootstock. I gather this is more likely to be successful than tree peony root stock which is a little finicky to get started. He recommended I read David Reath's article on page 61 of Greta Kessenich's - The Best of 75 Years - in A.P.S. for further details. We then spent about thirty minutes looking over slides illustrating all the various types of tree, hybrid and herbaceous peonies including the species and foliage as well as flower identification.

Our next destination was the Lynda Hall Library in Kansas City. This is an all science library located very close to the University of Missouri (K.C. Branch) campus. Each of the main rooms and hallways of the library was decorated with vases each containing a half dozen tree peony blossoms. Fred Leimkwaler, curator of the outside gardens, explained that the Chinese ambassador was expected shortly and this type of decoration was done to make him feel right at home. He then took us outside to tour the mother plants out in the gardens, more than fifty of which were in full bloom. I had not seen such a display since I left New York in 1971 where I frequently visited Louis Smirnow's tree peony garden on Long Island. P. suffruticosa, Rock's variety (white with dark purple flares), 'Hana Kisoi' (famous double Japanese pink), '**Guardian of the Monastery**', a lilac with deeper flares from Gratwick, '**Thunderbol**t', a lustrous black red lutea hybrid from Saunders, and Yasonomine, a large white double with contrasting red carpels in the center were a few that impressed me the most.

We next proceeded to the Bell Road Barn Garden where Don maintains at least fifteen different species, many hybrids and. a large collection of tree peonies. I was impressed with the way Don could walk up and down the rows frequently identifying the peonies from their foliage characteristics even when the plant was not in bloom. Peregrina, a red lobata type species, '**Claire de Lune**', a cream yellow hybrid from mloko x albiflora, and the tree peony, '**Alice Harding**', were three plants he was using for hybridizing. He also used the red single, '**Good Cheer**'. I took lots of pictures. Among the tree peonies a huge white not unlike 'Gessekae', and an outstanding purple double probably 'Hanadajin', impressed me the most. '**Halcyon**' and '**Nancy**' were in good bloom and useful breeders. These are singles from Saunders and White.

It wasn't long before it was time to scrape the mud off our shoes and make a mad dash for the Kansas City Airport. I considered the day well spent and absorbed enough to teach my class without many notes a week later. Kansas City's bloom is about two weeks ahead of Denver this year so the slides sure came in handy. Only '**Starlight**' and '**Roselette**' were in bloom here with '**Chalice**' showing color in the buds, but we expect good bloom next week.

- Harry Kuesel

May 31, 1983

Dear Chris, September 7, 1983

Seed harvest is complete. I have over 3000 seeds from my principal crosses, involving 150 separate seed lots. (A seed lot is generally a separate mating.) There are another 50 lots of what I think of as miscellaneous parentage, usually in small numbers of seed — down to one, in many eases, especially the seeds of F_1 hybrids, open pollinated and crossed.

The principal crosses involve as pollinators '**Nancy**', '**Claire de Lune**', '**Roy Pehrson's Best Yellow**', Laning's Best Yellow, Laning's Peach SD, Laning 104-L (l call it Peach Double), '**Silver Dawn**' F_3 Roy, and Laning Ivory SD (from 1977 shipment) of the early pastels hybrids, 1380 seeds.

Of the little Reds types, I used '**Good Cheer**', '**Little Dorrit**', '**Scarlet Tanager**' and a local seedling (94 '**Good Cheer**' x 95 Little Red Un-named), my number 1242. These crosses include intercrosses of the little Reds types and the Lactiflora crosses 1325 seeds.

In the tree peonies I have a few crosses involving the creamy white Suffruticosa, 'Imachowko', and other whites. Also, 17 seeds of a yellow species received as seeds labelled Potaninii Alba (I suspect it is either Trolliodes or perhaps a hybrid of Alba and another source of yellow) crossed with white Suffruticosas. There are 11 seeds of 'Imachowko' x '**Gauguin**' and 18 Lutea Hybrid seeds (F_1 x F_2 and F_2 x F_2).

There are 68 seeds of '**Lotus Queen**' x Lutea Hybrid '**Alice Harding**', which seems highly doubtful, although the flowers were carefully stripped, because '**Lotus Queen**' does shed pollen. Other '**Alice Harding**' crosses resulted in an additional 54 seeds.

So, you see that I am relying heavily on the Laning clones in my quest for doubling in the early hybrids. This is a remarkable group of plants which you have produced. The impact of their creation will be evident for many years in peony breeding.

I will get a batch of seeds off to you in a few days, about a pound of mixed herbaceous, mostly of hybrid origin, but including some Lactiflora varieties. There will be a couple of hundred mixed tree peony varieties. These are being held dry, but some of the seeds will not be dry enough yet for long term storage and will need to be spread out to get them properly dried.

There will be some which are seeds that I originally meant to plant, until I realized how much the current crop is over the capacity of my bed space. So, I will reluctantly be sending some of those, still in their moist medium. However, as you can realize pretty easily, I will find a place for those I consider to be the best prospects!

Cordially,

Don (Hollingsworth)
5831 N. Colrain Ave.
Kansas City, MO 64151

Friends and Paeonians:
The seeds from Don will be included in our seed distribution collection.

Chris