PAEONIA

Volume 8, No. 4 December, 1977

REQUIRED READING –

1. "The Peonies" by John C. Wister, $3.50 from American Peony Society.
2. The Bulletins of the American Peony Society.

SUGGESTED READING –

1. "The Peonies" by John C. Wister, $3.50 from American Peony Society.
2. The Bulletins of the American Peony Society.

The PAEONIA is authorized by Miss Silvia Saunders.

Our leader and teacher in hybridizing is Roy Pehrson.

Editors are Chris and Lois Laning, 553 West F Avenue, Kalamazoo, Michigan, 49007.

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Suggested yearly contribution to cover expenses of printing and mailing is $2.00.

ITO CROSSES: FIVE SUCCESSES - by Bill Seidl

In 1961 some lactiflora seeds were planted and some of the resulting seedlings, labeled L1, L2, etc., were used as pod parents in the Ito cross. In 1971 these four crosses were made:

61L5 (single rose-purple similar to one of its parents, '**Harriet Olney**') x '**Chinese Dragon**'.

61L5 x '**Mystery**'.

6lL6 (light pink, lighter tuft of central petals) x '**Thunderbolt**'.

61L7 (rose-pink anemone type) x '**Thunderbolt**'. The garden name of the lacti parent has been "Rose Pompom".

There were about five pollinations in each cross and a total of 40 seemingly good seeds, about half of these from the first cross listed. Those were all mixed together under the label 71HT3 (HT=Herbaceous x Tree) and planted in July, 1972, in a large clay pot submerged in the open ground. Germination occurred in 1973 and three true hybrids (out of 20-30 plants) were immediately recognized as such. The "false" hybrids were discarded and the three true ones were transplanted from the pot to the open ground while in the young-leaf stage, shaded for awhile and surrounded with wire screening to protect from damage by rabbits, mice, or birds. Two plants, HT-1 and HT-2, bloomed for the first time in 1976 as four-year-olds. The third plant, HT-3, bloomed this year.

HT-1 is a dusky medium rose, lighter edges and darker flares, 10-13 petals, pink stigmas on dark carpels sheathed in rose-gray, surrounded by a thin ring of pollen-less cream stamens. It's a vigorous plant, having 5-6 blooming stems in its initial bloom year, 1976. Plant height is about 2-1/2 feet; each stem had 2-3 laterals and some stems, unstaked and growing from ground surface eyes, broke off at their base in midsummer (1976) under the weight of empty seedpods. In 1977 it was staked; three lateral blooms were shown at the national show in Milwaukee where, under the misread seedling number AT-1, it received a Certificate of Merit. No seed has resulted from various pollinations.

HT-2, in both 1976 and 1977, had dark red deformed flowers made up of stubby narrow petals and multiple carpels, no stamens. No seed.

HT-3 is the smallest and least vigorous of the three. Its stems are thin and wiry and sprawly. The flower was single, dark red, without stamens and had grass-green unsheathed carpels. They looked very functional so I pollinated them liberally with Reath's Potanini Tall Yellow Seedling #1 and was pleasantly surprised this fall to find a dozen seeds of dubious viability in three seed heads.

All of these have foliage similar to the Ito-Smirnow hybrids. All are herbaceous; occasional above-ground buds freeze out. All appear difficult to divide — having a massive central root requiring vertical saw cuts — unlike the Itos derived from the yellow lutea t.p. hybrids. *Continued on Page 10*

REPORT FROM NORTH DAKOTA

Ben Gilbertson

The summer of '77 was very different from that of '76 when we had something like 2 inches of rain total for the entire growing season. This summer we had ample moisture throughout the season and we shall start '78 with a very good moisture supply. We also had one of the longest growing seasons ever as we did not have any spring to speak of, going from winter into summer in a few days. Our last spring freeze was April 10 and we have not yet had a killing freeze as our petunias and other flowers are still blooming on Nov. 5th when this was written.

Everything in the peony patch grew very well this year, but good flowers were mostly absent as I understand much of the energy that goes into the making of a good flower is stored up in the plant's root system the preceding season, and that being as it was very poor, we did not expect much in the way of bloom, the early varieties showing the most adverse effect but the late varieties also being very poor. However, not one plant was lost.

All new material planted last fall came on very well. The five roots received from Lithuania, U.S.S.R., fall of '76 all produced very nice tops and many should bloom next season. The eight we received from Don Hollingsworth all did well and are nearly all expected to bloom the coming summer. The plant from Roy Pehrson of Roy's Best Yellow gave me through grafting, the original (which had one nice bloom), plus four new grafts that grew all summer.

The four plants received from Leningrad U.S.S.R. in the fall of '73 have all bloomed. First, Poceda is a very tall robust hybrid single, purple flower. Second is Novestj, a good double dark pink without carpels or pollen. Its bloom is too heavy for its stems so they go down rather easily. The third plant is *P. anomala* L., and has had trouble surviving but still had one stem but no bloom this, the fourth year. It did, however, have one single purple, nodding bloom as a two year old. The fourth plant the *P. tenuifolia* Pall, finally came through with one small purple bloom which had opened one morning when we had a 4-½" rain early in the day, so when I got to see it, it looked like a drowned rat. It seemed to have good carpels but all pollen had been destroyed and washed out by the heavy rain, so I pollinated it with some fresh single tenuifolia pollen but had no results.

Going back to the *P. anomala* L. root plant, I also received seeds of this variety in the wild which had been picked by my contact there in the Altai Mountains in eastern Siberia. The plants look quite similar to the first mentioned but have a much finer leaf division and so far have survived four winters with no apparent difficulty. I do not expect any bloom for at least two more years.

New this year was a very husky growing dark red double that I divided and replanted. Also a new Ito type hybrid plus a number of "just as good" reds and pinks which I no longer keep as we already have too many look alikes. The Ito type plant, according to my records, is of '**Plainsman**' seed parent and '**Alice Harding**' Tree Peony the pollinator. I was not aware of this plant being there until I started cutting down the tops of the seedling rows to be dug out. The plants in this row stood around 24-30" tall and the row was quite well populated with plants so that one could not see any undergrowth at all, when I came upon this low-growing 10" plant with four stems with leaves shaped like tree peonies on wiry stems that had no terminal buds but did have two buds on stems above ground about one inch. The leaves have the color and texture of Lacti, also the root is more Lacti than Tree, having many root fingers that were unbranched and a good supply of buds on the crown. I dug the plant and made four good sized divisions which were replanted. Only time will tell what we have in this one.

A 6 or 7 year old *mlokosewitschii* graft which had refused to establish any root of its own, but was growing on an immensely enlarged Lacti root which was some 2-½ inches in diameter at 1-½

inches below the graft, was dug up and the root cut at the graft union, the crown and buds were then cut into four equal parts and planted out as they were, just to see what they will do. This variety which I have worked with for more than 25 years without any worthwhile results has been the most disappointing peony variety that I have worked with.

Possibly also worth mentioning are two plants due to be dug out next year. In a section of that row that shows "'**Claire de Lune**' - open" as the seed source, there are two plants. One is a quite tall single stem plant which looks very much like '**Claire de Lune**' itself and seems ready to bloom next year. The other one is very much smaller and has the typical blue-green foliage of *mlokosewitschii*, only one stem about three inches tall. I do not know how old the plants are as I have never noticed them before. The row was planted in the fall of '72 but the small one may not have come up for a couple of years later. Here too we must wait to see what is in store for us.

My Best Wishes and Season's Greetings to all of you.

Ben Gilbertson
Kindred, North Dakota 48051

CORRESPONDENCE BETWEEN HARLEY E. BRISCOE AND CHRIS LANING

Dear Mr. Briscoe: February 1, 1977

Just why you should be interested in seeds of *wittmanniana* and its hybrids, I can't imagine. This species is difficult to grow and doesn't hybridize with other species readily. Also, its hybrids seem somewhat tender. I would have discouraged you on this type of cross except that there is one plant that does very well for me - it is called '**Ballerina**'. This clone is a reverse cross, that is, *wittmanniana* x lactiflora. It blooms early, having very large greenish white full double flowers. It has never set seed (for me).

These *P. wittmanniana* seed are species and were gotten from C. Graham Jones, of England. Have fun!

Sincerely,
Chris

Dear Mr. Laning:

Thanks for the seed, especially the *wittmanniana*. Do you over hybridize on hunches? I have crossed iris and hems for 20 years. When I became interested in trying a few peony seedlings I carefully studied the species. *Wittmanniana* seemed to me to offer breaks in green and yellow. Yes, I have '**Ballerina**' (from Wild last year. I had to wait three years before they could fill order.)

Thanks also for information on *wittmanniana*. I probably will not be successful also, but one never knows. I have not been able to get any of the other Wittmanniana Hybrids so far.

Thanks again.

Yours,
Harley E. Briscoe
Route 1, White Hall, Ill. 62092

INFORMATION FROM - A. P. Saunders' "Big Notebooks of His Hybrid Peonies

4913-7 5 1796 x Wittmann. Frame 1

4913 1931 Yellowish. Pink spots chic stigmas. May 30. Pollen 2-1-3 4-5% good. Carpels (June 12) later are almost black. A sort of blackish gray with some red in it.
Sent to Mrs. W. V. duPont 1931

4914 1931 Single purplish. Not good. May 29 pollen 0-v. few - v. few 2% 1932 - June 1 not good

4915 1931 Gaupoudre pink on white. Rather nice. May 30. Pollen 0 - v. few - 3 2-3%

4916 1933 May 26 small pink pollen 0-v. few - v. few 1%

4917 dead 1931

4918-9 2 Gaiety x Wittmann.

4918 dead 1931

4919 1931 May 29. Very yellow. As yellow as a pale Mloko. Pollen 0 - v. few - 1 1-2%
1932 May 30 Very nice yellow
1934 May 27 very yellow. Divide. Really good.
Divided 1935 in 23.5 row 3

Albiflora x Wittmanniana

1925 0.0.0.0.0.4.0.1.0.0.1.0.5.6.7.6.0.6.6.6.6.6.0.1.0.0.0.5.5.5.5.5.
6.8.8.5.5.5.5.5.0.0.0.0.4.0.8.0.4.4.1.5.2.1.2.10.11.5.8.2.9.10.
3.9.0.4.0.0.6.4.9.6.12.3.1.11
1928 0.0.0.0.0.0.0.0.0.0.3.9.3.6.15.15.11.1.14.24.5.5.6.11.6.7.1.0.0.
2.0.3.4.0.1.31.27.23.20.3.6.0.4.7.3.8

122 crosses 576 seeds average nearly 5

(must have had a very bad germination from so many seeds, for I have never had more than a small group of these hybrids.)

ALBI x WITTMANN.

4920 1 993 x Wittmann.
dead 1931

4921-7 -7 1091 x Wittmann.
4921 dead 1931
4922 no bloom to 1934
4923 1931 May 29 creamy, fading white, not interesting but pretty
Pollen 0-0-0 1% good
1932 June 1 quite fine freenish cream white
1934 lovely white cup

Green Ivory 4924 1931 much like 4923. May 30 pollen few - v.few - v. few 2-3%
1932 June 1 yes. like 4923
1933 May 26. better. cream yellow. divide tall: 36 inches
in 7.4 9.21 10.15 10.17

4925 dead 1931
4926 " "
4927 no notes
4928 1931 too near Mai fleuri pollen n.g. v.few -v. few -
v. few 7-8% June 12 Pods blackish green. Sent to
Mrs. W. K. duPont

4929-30 2 - 447 x Wittmann.
no notes in Frame 1

4931-6 6 - 741 x Wittmann
4931 1931 May 29. Pollen v.few -0-v. few 5-7%
1932 June 1 small deformed white single
1933 May 22 much green in it, and crinkled,
E. Cahn amusing and not unpromising
1938 divided in 8.5 now 2
10.18 r 8 (4) 10.19 r 9.10 (12)

4932, 3, 4, no notes

4935 1931 May 29 very yellow stained pink, interesting
but small. Good stamens. Best of this group. Bollen
few-few-some 40-50% good
1932 fine buff yellow. Large. A beauty
divided. in 14.3 row 5 (5)
1941 rather unconvincing

4936 1930 small white
1931 May 29 pollen v.few - v.few - v. few 5%
1932 June 1 very nice cup-shaped cream, not too small.

5516 - 9 4 1796 x 3979 in 4.1
no notes

5520 - 8 9 Primevere x 3979 in 4.1
5520 diseased looking little plant
2 terrible little flowers
5521 1931 too near Avent Garde.
1934 May 30 v.few-few-v. few 5%
4.1 bottom line. Magnolia type. Divide
5522,3,4,5,6,7,8 no notes

5531 1 1796 x 3979
1931 bad light purple
May 23. Pollen poor

5537 - 6 4 Primevere x 3979
5533,4,5 all albi's out
5536 1931 May 29 pollen v.few-few-few 10%
1932 June 1 very pretty Wittmann hybrid
1939 tall magnolia like. Divide (Beauty)

5639 - 42 4 - 917 x 3979 in 6.1
5639 - 40.1 no notes
5642 albi. out.

5656 1 - 1505 x 3979 in 6.1
no notes

5798 - 9 2 - 463 x 3979 in 6.1 last row
5798 albi. out
5799 dead

7126 - 31 6 - 2467 x 3979 in 9.2
7126 1933 May 29 pollen v.few-few-few 10%
cream single
7127 dead
7128 no notes
7129 dead
7130 dead
7131 1933 May 29 Pollen v.few-v.few-v.few 5%
white single

7132 - 6 5 - 441 x 3979
7132 dead
7133 no notes
7134 dead
7135 no notes
7136 dead

7137 - 8 2 Duff x 3979
7137 1933 Pink not good color, but semidouble
1934 May 29 0-0-0 none
7138 no notes

7139 - 41 3 James Kelway x 3979
7139 no notes
7140 1933 May 29 Pollen v.few-v.few-v.few 20%
single palest pink
7141 no notes

8302 - 23 22 3481 x Wittmanniana 12.2
8302 no notes
8303 1941 divided. In 8.17 r 9 (3+1)
8304,5,6 no notes
8307 1934 May 29 0-v.few-v.few 5-6%
8308 1933 May 29 Pollen few-few-few 10%
1934 May 30 Pollen 0-v.few-v.few 3%
1937 Beautiful pink cup. Very symmetrical, very firm.
Rescue and divide (not done)
8309 1934 May 31. 0-v.few-v.few 5%
8310 1934 June 1 0-0-0 2%
8311-21 no notes
8322 1934 May 30 v.few-0-0 1-2%
8323 dead

8324 J. Kelway x Wittmann.
Dead

8325 - 53 29 Venus x Wittmann.
No notes on any except
8350 1934 June 3 0-v.few-v.few 5%
8351 1934 June 3 0-0-0 1%
Many of these I imagine are dead

8354 - 85 32 - 2625 x Wittmann
8354 - 71 no notes
8372 1934 June 1 v.few-v.few-v.few 1%
similar pollens for 8373,4,6. No other notes

8386 - 9 4 837 x Wittmann.
8386 - 7 no notes
Magnolia 8388 1941 divided. In 10.17 row 6 (4)
8389 1934 May 31. Pollen 0-0-0 3%

8390 - 2 3 - 3056 x Wittmann.
8390 albi out
8391-2 no notes

8393 - 5 3 - 3500 x Wittmann.
no notes

RECIPROCAL. WITTMANNIANA x ALBIFLORA

8890 - 2 3 Wittmanniana x Lady Duff 13.2
8890 no notes
8891 1934 June 1. Semidouble, only one small bloom. No pollen.
Ballerina
1937 nearly full double, very good. Divide.
Cream yellow. Really grand as it matures
1938 divided. In 8.6 r 2
1941 in 10.15 r 8 10.16 r 7,8 10.20 r 10
8892 no notes

F_2 ALBIFLORA x WITTMANNIANA

F_1		F_2	
1924	green ivory	14028	in 18.5
4935		15940	in 7.11 row 1
5536		15621	in 9.12

Back crosses Albiflora x F_2 of Albi-Wittmann.

917 x 14028 (F_2 of 4924) green ivory

16171 - 87 in 7.13 r 4.3

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comments by chris laning on this wittmanniana cross --

From "The Peonies" by John C. Wister - page 50

"Professor Saunders raised some one hundred and sixty hybrid plants at one time or another, of which he likewise selected four for propagation: two whites (one has delicate greenish tints); a third, Magnolia Flower, with blooms of a mauve and tawny-cream shade; Ballerina, the fourth, is the reverse of the cross; it is a smallish plant with very double cream-white blooms. He felt that this was a cross that might well repay further work by someone living in a climate better suited (wherever that may be) to WITTMANNIANA'S needs (whatever these may be). But it has always been a hard plant to obtain; it apparently has rarely if ever been offered in America."

PAEONIANS, you will note that the hybrid plant #4924 ('**Green Ivory**') had succeeded in producing offspring for Professor Saunders. Let's hope this plant is still available. Two other F1s (4935 and 4936) did the same. Also note, 4935 had pollen 40-50% good — that is exceedingly good for this type cross!

It appears to me that Wittmanniana and its crosses are quite tender, needing extra winter protection. Funny though '**Ballerina**' (plant #8891) needs no coddling here in Kalamazoo. You may wonder — why bother with a difficult cross that isn't very hardy. Surely '**Ballerina**', a precious gift from the hand of Professor Saunders, is reason enough. The blooms are very early, very full double, extra large with a green-white color — almost too good to be true. On an established plant blossoms cover the thing (when in bloom, of course!) Also, yellow is in its genetic make-up.

TECHNIQUES FOR IMPROVING THE FERTILITY LEVEL OF DOUBLE FLOWERED PEONIES

by Don Hollingsworth

The image of a classic double peony such as '**Dolorodell**' in form, but clothed in the warm pastels, warm red or cool pinks of the early and mid-season hybrids, looms in my mind's eye as a soon to be achieved goal. The matter of selecting crosses to this end has received a good deal of my deliberate attention in recent years. The necessary genetic materials appear to readily be available. It is just a question of how to achieve the appropriate combinations of this genetic material to produce the desired plants.

One of the barriers to achieving these ends has been our own inexperience. We are quite aware that the big double flowers are normally unable to produce seeds and the best show winning forms typically produce no pollen. This of course is not absolutely true, but is true enough to have led most of us to steer away from the full doubles in our beginning years. We have generally leaned toward the Japs or, in the hybrids, it has been the interbreeding of single flowered types, preferring their more dependable seed production during the period of our inexperience. However, as one gains more confidence and the planting space fills with mostly single flowered seedlings, the possibility of breeding from double forms becomes quite appealing.

A compelling argument for working primarily toward double flowered peonies is made in an article by Edward Auten, Jr. that is reprinted in the current issue of the APS Bulletin (Dec. 1977). In part, he said, ".....there is a strong tendency for reversion to the single type. You will get all the singles you need in your striving for Japs and doubles." I believe this tendency that he observed is due to the relationship of dominance and recessiveness in the genes that effect doubling, rather than to any tendency for the genes to revert (mutate) to the single form at a disproportionate rate. Also, the simple fact of much greater fertility in the less double forms mitigates in favor of larger numbers of their progeny among the seedlings produced.

The information base pertaining to the breeding of double flowered peonies, insofar as I understand it, has been covered in two previous articles in this publication. These are, "Double Flowered Forms of Paeonia Lactiflora as Seed Parents" (Dec. 1975) and "Outline of Sources of Doubling in Peonies" (Mar. 1976). The latter is concerned with a proposed theory of dominance and recessiveness in genes proposed to be factors in the inheritance of flower doubling in various peonies. I have nothing further to add to those discussions at this time. However, I believe it is useful to discuss here some of the techniques that are pertinent to the possible improvement of fertility in double flowered peonies. In a subsequent article I will discuss some logical considerations for planning matings intended to help transfer the doubling genes of the diploid Chinese peonies to descendants of the tetraploid hybrid peonies.

In general, the reluctance to function as parents on the part of double flowered peonies is directly due to the complete or partial transformation of reproductive parts into petal forms. When this is the cause, it is readily observable. However, particular clones nay also be infertile due to internal barriers just as may be the case with single flowering clones having perfectly normal appearing reproductive parts. The recovery of normal reproductive form does not assure success.

The improvement of fertility in flowers having transformed parts usually requires a reduction in the degree of transformation — a reversal of the direction of variance from the natural flower. This type of reduction is often seen in the flowers of immature peony plants. Clones that typically flower on young plants may be the bettor candidates for success with this approach. When one is dividing frequently and replanting several replications of a clone it may be possible to have a certain amount of ongoing success as a byproduct of the other activity — through a sort of opportunism.

However, a more positive or planned approach for many of us may be carried out through the treatment of established plants. The treatment has sometimes been reported using the term decapitation, which translates to beheading. I prefer the term pruning. As the new shoots appear in the spring prune them off at the top of the ground, usually beneath the lowest leaf node. The remaining stubs will then develop secondary stems from shoot bud initials located at the axils of those elongated bud scales which protected the primary shoot as it pushed upward through the soil. These secondary stems will be more slender and the flowers produced will usually be lesser in their development. They may or may not give the hoped for improvement in reproductive parts, depending on factors about which I am able only to speculate at this time. Some very vigorous hybrids and Chinese peonies have been observed to produce secondary stems right along with the primaries. One of the latter is '**Miss America**'.

Another group of Chinese peonies is more likely to be fertile on the biggest flowers, rather than the reduced ones. One example is '**Kansas**', another is '**Kelway's Glorious**'. Those may give one or more nearly vestigial carpels in the depths of the flower center. Curiously, the stigmas on these tend to bo normal, whereas those of the lesser transformed Japanese and anemone type flowers are often "flagged" and useless. These big flowers with the little carpels will often make a few seeds when pollinated. Yet, neither secondary flowers nor side buds on these two examples have been suitable for pollination. Thus, the current state of my observations identifies two possible approaches to using double peonies as seed parents that are amenable to planned efforts. In addition there are the catch-as-catch-can opportunities that follow from accidents of nature - the occurrence of useable carpels where none was expected and no specific efforts were planned.

Some full-double flowering clones that normally give neither pods nor pollen will produce useable pollen in reduced flowers, although useable carpels may not be recovered. '**Philippe Rivoire**' is said to be of this nature. I have not observed this personally, but Ben Gilbertson has a family of red-flowered Chinese peonies (including '**Atlas**' and '**Wine Red**') that are descended from the cross '**Kansas**' x '**Philippe Rivoire**'.

In 1976 I conducted pruning trials on several double flowered named clones and seedlings. The trials were defeated, for the most part, by the infamous May 3rd freeze of that year. However, mature plants of '**Big Ben**' shrugged off the freeze and gave a surprising number of good carpels on secondary stems. For the first time I had good success in hybridizing on '**Big Ben**'. A fine, full double seedling - no carpels or pollen previously evident - that failed the 1976 trial, gave in 1977, after transplanting, anemone type flowers with perfect stigmas and carpels from small divisions.

My March 1976 analysis of the genetics of doubling places semi-double types with the rose form and semi-rose form of the old classification system. These are seen as two-stage (or more) doubles of a flower-in-flower configuration, as contrasted to the single-stage single, Jap, anemone and bomb

types. By saving pollen of the semi-rose and semi-double forms and storing it until the following spring, it will be available to make the reverse cross — tetraploid hybrids (pods) x Chinese peony (pollens). Also, it is easier to stimulate satisfactory carpel and stigma production on the semi-doubles. Since these supposedly carry the genes for the preferred two-stage doubling, they are a logical choice for pod parents in the conventional cross-saving current season pollens of the hybrids to use on the Chinese peonies that flower later.

By way of emphasis, the foregoing observations are not merely "happy speculations" with me. They have formed the basis of specific plans and actions. This season I have added 60 divisions of Chinese peonies in 30 cultivars that reflect relatively advanced levels of doubling. These selections represent introduction dates ranging from 1861 to the present, including seedlings recently originated and not introduced. Twenty originators are represented. Some of these have been selected for preliminary observation of their potential for breeding. Others, the replications, have been added because, under preliminary observation, they were found to be amenable to treatment for fertility improvement. In the latter category, some examples are '**Karl Rosenfield**', '**Lady Alexandra Duff**' and '**Mary E. Nicholls**'.

Try some pruning trials on some of your double Chinese peonies next spring to see if a way can be found to enhance their use in breeding finer new hybrids.

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(Continuation of Bill Seidl's article, Ito Crosses: Five Successes)

In 1973 the following cross (labeled 73HT40) was made:

61L2 (white, cream-yellow stamenodes) x '**Alice Harding**'.

The seeds were planted the same fall in open ground at my home garden but no germination occurred in 1974. In 1975 one true hybrid appeared. My records do not show the number of pollinations, seeds, or seedling plants. It produced 3-4 leaves throughout the summer and was transplanted that fall to another spot in the home garden where it bloomed this year as a three-year-old. Labeled HT-4, it is a double medium yellow, darker flares, very similar to the Ito-Smirnow hybrids. The bloom stem was deformed and the flower only inches above the ground.

The fifth Ito seedling, HT-5, germinated this spring. Its parentage is 6lL7 (Rose Pompom) x Reath's A198; cross number 75HT54. The seeds were harvested and planted in 1975 in the sandy soil of a rented lot. Germination was delayed until this year when one true hybrid appeared. No other plants germinated. My records do not indicate the number of pollinations or seeds harvested. In early summer the initial leaf dried up in a dry spell but two more sprouted and I then transplanted it to my home garden in midsummer, the better to nurse it along.

Except for 6lL5, the lacti parents are rather small-flowered. They have been the earliest lactis to bloom and hence were used as pod parents when I had fresh lutea t.p. pollen available. I have used '**Vesper**', '**Dignity**', '**Moon of Nippon**', '**Bu-Te**', '**Battle Flag**', '**Garden Glory**', '**Westerner**', '**Christine**' and others without success, probably because my lutea pollen was getting old when these other varieties came into bloom. At least two true Itos were lost in the seedbed due to failure to protect against animal, bird, or insect pests. Maybe a cutworm. I fear also some, maybe many, were lost unknowingly when the sandy soil of the seedbed dried out too deeply after root growth was initiated in mid or late summer. I say this because not even a single "false" hybrid (and there are usually plenty of these) appeared in several 15-20 foot rows. I have made fewer and fewer Ito crosses the last several years (none this year) due to lack of time and the presence of a black-spot fungus disease in the lacti patch that has been aborting the development of seedpods. I blame the cause on close spacing of the plants and inadequate fertilization. This past season, few lactis even bloomed, probably due to the dryness of the 1976 season.

- Bill Seidl, 732 S. 19th Street, Manitowoc, Wis. 54220