

The Woodies-Part IV

The Lutea Hybrids -Nate Bremer-

This article and others were a part of a series about woody peonies which recently appeared in the American Peony Society's Bulletin. This article does not include images that were printed with the edited feature articles. For complete articles with images, please become a member of the American Peony Society for published version access.

The lutea hybrids are new kids on the block, compared to other hybrids within the woody peony group. Most are of American and European hybridizing efforts and are now becoming more widely available to the gardening specialist. The lutea hybrids are my favorite group of peonies for their tremendously beautiful flowers, but also for their endlessly interesting plant variations. How this beautiful hybrid group escaped my recognition is difficult to understand and make me hope reincarnation exists!

The lutea hybrid cross

Lutea hybrids arose from a cross of *Paeonia delavayi x Paeonia suffruticosa*. The name 'Lutea hybrid' is somewhat confusing since *Paeonia lutea* is no longer recognized as a valid species, but was the name of record when the cross was first made. Paeonia lutea has now been reclassified as a variant of P. delavayi, which might make this group of hybrids more correctly referred to as delavayi hybrids. Historically P. lutea is the yellow form of P. delavayi and the remaining color variants had a variety of other names. Much confusion exists today due to the continued use of P. lutea as a separate species. These references are counterproductive and are best viewed as a way to attach a particular P. delavayi color variation to a name. We do know the first lutea hybrids were derived from the yellow form(s) of delavayi. Red and other color variants of P. delavayi were later brought into hybridizing schemes or did not produce wanted results early on.

Paeonia delavayi is a key player in this group of woody hybrids and brings some very different characteristics versus other woody peonies, i.e., plant habit, foliage, hardiness, culture, flower color, flower form and flower carriage. (read previous article on species)

Unlike Japanese P. suffruticosa cultivars, P. delavayi often imparts poor flower carriage to hybrid offspring, in the form of nodding blossoms. Many of first generation hybrids (F1's) have a curve in the flower stem, which causes a downward carriage, often referred to as the 'lutea hook', directly inherited from P. delavayi. This has been a major impediment to enjoying the large voluptuous flowers in many of the hybrids, as they face down, are hidden in the foliage or touch the ground. The cultivar 'Souvenir de Maxime Cornu' has flowering habits of that exemplify these characteristics, as do many others to an equal or lesser degree. (see Dardevil)

Lutea hybrids that have the yellow form of delavayi in their ancestry carry yellow pigments that are often expressed in yellow or blends with other colors. The yellow coloration in woody

peonies and intersectional peonies can all be attributed to this lineage. Those with red or other color variants of P. delavayi also express a wide range of colors, including reds, peach and blended tones. The unique coloration and patterns within the hybrid group are often stunning and are quite unique. Flower color in many of the hybrids can be highly variable from year to year, making them difficult subjects to identify through this characteristic. Registration and catalog descriptions may describe plants as being one color, but upon blooming in the garden they express a variation that is quite different. This often causes confusion to the gardener, only to be rectified a year or more later when plants exhibit a better match to the description. An interesting exercise that supports this observation is to do a search of images on the internet. Invariably a wide range of colors will be seen for a number of selected cultivars. Incorrectly tagged images will also be seen, which further complicates a search for a good representations. Many wonderful patterns and colors are to be found within this group, not to be found elsewhere. Corals, red-pink blends, veining, unique flare configurations, divergent petal color within the same flower and a myriad of other combinations exist. One of the more recent developments is the expression of lightly colored outer petals which surround more deeply pigmented inner petals. This color pattern is quite appealing, but may not be stable from year to year due to climate. A number of cultivars have presented good stability, but the possibility remains that climate may impact expression. Examples: Coral Nebula, Beach Comber.

The production of orange pigmented blooms has long been strived for in this group, but has not yet been perfected. While images presented by some hybridizers show wonderfully formed orange flowers, the fact is that these plants may express this color occasionally, but most often bloom as apricot/pink blends or red variation. Again, this is a good example of the lutea hybrid's variable color expression due to climate and soils. However, work continues, and should as many seedlings are beginning show promise in this area. Examples: Copper King mutation, Fire Down Below.

Another interesting and often beautiful aspect of flowers in this group are the reproductive structures, other than the petals. Flower petals are the big show, but the stigmas, filaments, anthers and sheaths are accents. Stigmas can be prominently colored, often matching the petal color or be a completely different brilliant pigment. Filaments (the small stem-like structures that carry the often yellow anthers can be a multitude of colors and supply intrigue. The sheath (membrane that covers the immature carpels) is present as flowers open and is often brightly colored and supplies contrast on fresh flowers. A number of the sterile hybrids will produce waxy yellow or even white thread-like filaments and anthers, adding pattern and interest (see From the Deep or others).

While suffruticosa cultivars lack fragrance, the lutea hybrids often have a spicy or citrus scent. P. delavayi cultivars may or may not be fragrant, thus fragrance may be inherited or not, depending on the parent. We have noted a greater increase in fragrance in advanced generation lutea hybrids, indicating that reshuffling and pairing of genes is necessary to restore the fragrance trait, where present. Fragrance in the lutea hybrids is quite different than other peonies, in that the scent could be described as citrus and/or vanilla. Examples: Aquarius. P. suffruticosa cultivars have notoriously short lived flowers, especially during warm bloom seasons. Flower segments of lutea hybrids are heavier in substance than P. suffruticosa cultivars and lasting qualities are greater. The waxy outer layer of the petals appears to be of assistance in this regard-another positive from the P. delavayi parent.

P. delavayi hails from warmer climates than many of the other woody species and supplies reason for lesser stem and root hardiness in its hybrids. Stems of these hybrids are often lost after winters with extended temperature periods less than o°F. Fortunately, P. delavayi is a vigorous grower and this characteristic has been imparted to its hybrids, resulting in rapid regeneration of stems after loss. Unlike suffruticosa cultivars, which most often bloom on buds from older wood, lutea hybrids are quite capable of blooming on new stems arising from below ground. Stems are not particularly long lived, even in good conditions, but are replenished with ground shoots. F1 hybrids, which express greater influence from the P. delavayi parent, often are heavy ground shoot producers and lack stem hardiness. Some of the more advanced generation hybrids have moved beyond this habit and are beginning to express hardier, longer lived stems. The plants themselves generally show hybrid vigor and can be expected to produce flowers regularly after their third year of being grafting or divided. Height ranges from 2 to 6 feet in Wisconsin, but most cultivars are in the 3 to 4 foot range. Older plants are generally wider than tall and often create a mound shape. Due to their excellent plant habits they make handsome plants out bloom, advancing them as candidates for use as landscape specimens.

Roots also lack hardiness compared to P. suffruticosa cultivars, are not generally harmed in our fields since <u>soil</u> temperatures seldom fall below 15°F in our area. Colder winters that lack insulating snow cover may cause more damage, especially if soils are droughty (allows for greater cold air penetration). Lutea Hybrids, like P. delavayi, grow roots in the warm soil conditions of late summer and early autumn. In comparison, herbaceous peonies root in much cooler soil temperatures. This is key when transplanting 'own root' lutea hybrids, in that, late planting will not result in establishment in cold soils, as other peonies do. Plants that are grafted have herbaceous roots which are adapted to grow in colder soils and are more likely to prosper with late planting in the autumn. Grafting will be addressed in a future article.

An interesting side note: We have imported woody peonies from New Zealand, which arrive as dormant plants in our spring (plants are in an opposite state of growth due to hemisphere change). The New Zealand plants are divisions on their own roots and are immediately planted here in Wisconsin. The plants remain dormant for a period of 4 to 12 weeks (sometimes remain dormant until the following year) and make little leaf or stem growth, if they initiate growth at all during the first summer. However the roots do make growth starting in the middle to late summer as the sun shifts to a more southerly track. The following year most of these spring planted lutea hybrids are established and growing well. Own root plants of the same size and configuration, which are planted in the cold soils of autumn often struggle and take extra years to become viable specimens. Thus grafted peonies may be a better choice in northern climates where fall planting takes place.

Foliage is wide ranging in form among the lutea hybrids, with narrow finely divided leaves, broad plate-like leaves, small leaflets on long petioles and a range of other configurations. Often leaves are dark in color and last through the summer season better than P. suffruticosa cultivars.

P. suffruticosa cultivars generally have quite identifiable foliage, whereas any given lutea hybrid cultivar may have characteristic foliage of any of the woody groups. Foliage variation in the lutea hybrids is testament to the influence and diversity in P. delavayi and P. suffruticosa gene pools. Examples: From the Deep, Black Panther, Hephestos, Eternal Spring, Golden Era.

Culturally lutea hybrids tolerate greater moisture during the growing season than P. suffruticosa cultivars. P. suffruticosa cultivars typically show disease stresses in wet seasons, while lutea hybrids seldom do. The tolerance of excessive moisture in the air and soil is another characteristic donated by the delavayi heritage.

Like its species parents, lutea hybrids do best when sited in a sunny location. Plants will tolerate shadier locations, but the amount of bloom and vigor of the plant is often sacrificed. In areas that receive spring frosts during bloom season, it is advisable to site plants where they receive morning shade, as this allow blooms to thaw slowly-avoiding sun damage.

Progression of Hybridizers

French hybridizers, Lemoine and Henry, were the first documented hybridizers and utilized the yellow form of delavayi crossed with presumably Chinese suffruticosa cultivars (no record of exact parental material). Lemoine created the still popular lutea hybrids: Alice Harding and Chromotella, among others; Henry produced Souvenir de Maxime Cornu and Madame Louis Henry. All of these older French hybrids lack stem hardiness and flowers nod with pronounced lutea hooks. The use of heavy double flowered Chinese P. suffruticosa cultivars combined with the nodding flowers of P. delavayi created beautiful blooms, but poor carriage traits. Another negative with these hybrids is their lack of stem hardiness compared to more recent introductions. Chinese P. suffruticosa are not well adapted to continental climates and this has shown through where they were used in hybridizing lutea hybrids. Nonetheless, the above mention cultivars a quite beautiful and make great cut flowers for floating in a bowl.

In the 1940's and 50's A.P. Saunders developed an entirely different population of lutea hybrids. Here again, he used yellow form(s) of delavayi, but explored the red variants to a greater degree. Of significance, Saunders used Japanese P. suffruticosa cultivars to produce offspring in his crosses rather than the Chinese P. suffruticosa. Japanese P. suffruticosa impart superior traits for flower carriage, color, disease resistance and hardiness. The resulting lutea hybrid offspring had better carriage (not perfect), but the lutea hook was still inherited without the additional dose of poor stems from the Chinese P. suffruticosa. Saunders F1 generation plants were a step in the right direction, but more work was and is still needed concerning flower carriage. His originations are definitely hardier and more vigorous than those with Chinese P. suffruticosa in their pedigree. Most of the F1 hybrids were infertile and a number of fertile cultivars went unnoticed in his hybridizing program. Saunders knew that creating F2 and further generations was paramount in restoring fertility to the lutea hybrid cross, but the task was daunting. In his years of work he was able to produce 2 or perhaps 3 F2's (seedlings F2A and F2B and Heart of Darkness). Heart of Darkness is not completely validated as an F2, as there is a general lack of information to confirm it as one. Many of the Saunders' cultivars are still in commerce and held in high regard for their outstanding qualities.

As Saunders aged he gifted the F2A and F2B plants to William Gratwick for further work. Gratwick, turned over the effort of producing lutea hybrids to his interested friend, Nassos Daphnis. There is much more to this piece of history, which is very interesting, but would require greater space than available (see past APS articles). Daphnis undertook an elaborate hybridizing program, seeking to restore fertility in the lutea hybrids and to create new generations using a variety of hybridizing paths. New F1's, backcrosses with suffruticosa cultivars, sibling crosses and variety of intergenerational crosses were produced, which were all built upon to create more advanced generations. Many more infertile plants were produced, but a few with much greater fertility were grown from the crosses. Daphnis produced nearly 375 numbered seedlings, of which, approximately 46 can be found in the American Peony Society's registry. A number of other unregistered seedlings and garden named plants from his work are also seen from time to time. The lutea hybrids in which Daphnis registered were regarded for many years as the pinnacle of hybridizing, many remain available and continue to be popular plants for the gardener and hybridizer.

As the Daphnis' hybridizing program began to wind down, Bill Seidl and Dr. David Reath began to work with lutea hybrids. Reath developed lutea hybrids that were more fertile than most of Daphnis' introductions and had Saunders and Daphnis to thank for supplying some of the parental material. Reath also was able to create a few very good additional F1 hybrids that possessed some fertility.

Bill Seidl, a friend of Dr. Reath, began his work after becoming acquainted at an APS function in Milwaukee, Wisconsin. Bill quickly purchased fertile lutea hybrids from the Reath Nurserv and other sources and began his own program. Bill Seidl concentrated more heavily on making advanced generation lutea hybrids by crossing lutea hybrid x lutea hybrid, in contrast with his predecessors who developed F1's, F2's, a variety of backcrosses and a few advanced generation lutea hybrids. I suspect that Saunders, Daphnis and Reath would have pursued the lutea hybrid x lutea hybrid cross to a greater degree, had fertility been greater in the plants they had to work with. Bill was able to produce nearly 250 numbered seedlings, of which 23 were named and registered with the APS. Had Bill not run out of room on his one acre lot, I am sure we would have seen many more introductions from his program. In a way, we have seen more from Bill's program in the form of the Australian and New Zealand lutea hybrid cultivars. During the late 1980's through the 1990's Bill sent many hundreds of advanced generation lutea hybrid seeds to these countries, of which Derek Irvine and Jane and Trevor Sutherland registered over 200 selections. The Austrialian seed was grown and then used to make further advanced generation hybrids by Bernard and Lucy Chow, none of which are registered with the APS, but are being distributed under garden names.

Bill passed the hybridizing bug to me and I have further expanded the lutea hybrid cultivar registry with 17 of my own introductions, selected from hundreds of seedlings. Fertility in a number of the advanced generation lutea hybrids has increased, given a compatible partner. 'Compatible partner' is key and probably always has been, but we've seen that many of these advanced generation hybrids have high fertility with certain partners and not at all with other fertile hybrids. Many believe that this may indicate differences in ploidy (number of chromosomes), but there is the possibility that chromosome size, gene configuration and other variations in chromosome structure are involved. Paeonia, as a genus, expresses rather unusual

breeding habits and lutea hybrids may be the ultimate in 'fickle fertilities', with much further research required. Continuation of all forms of crosses would seem to be advisable, since each generation expresses new characteristics in flowers and plant habits.

Advanced generation lutea hybrids are 'loosely' grouped as plants that are beyond the F3 generation. With each generation more fertility has been observed, in at least some of the offspring. This has been an import step in producing more plants in which to make improvements in hybridizing programs. A number of selections in the group have produced hardier stems, a much needed characteristic for cold climates. Flower characteristics have also improved, with greater doubling, carriage, form and lasting qualities. Future generations hold promise for improvement in all areas and hold intriguing possibilities for new hybridizers.

As this article was being written, it struck me how unique the path of advancement in the lutea hybrid was and how few people were involved. One hybridizer passing their life's work to another for advancement is quite different from the development of the herbaceous hybrid which involved numerous contributors. While there have been other players in the development of the lutea hybrid, the hybridizers cited have certainly impacted the future of this group the most. More people have probably avoided, or became frustrated hybridizing these plants due to poor fertility and their particular needs for a compatible mate. I doubt anyone that has grown to maturity a number of lutea hybrids from seed would feel frustrated as the percentage of good looking flowers is high.

Seeds

Fertility, as previous mentioned, has been an ongoing challenge with this group. We do not consider a cultivar fertile until actual seedlings are grown from seed. Many people report producing seed from difficult crosses, but no further substantiation in the form of plants is produced, thus my rather harsh treatment given to the fertility definition. As with many peonies, different results can be had due to environmental conditions that are expressed in various locations, not to mention parental compatibility. Further exploration of once thought sterile cultivars may yield viable seeds and should be encouraged, but caution should practiced before claiming fertility.

Problematic for many that do attempt this cross is recognizing what a viable seed actually looks like. I've heard many people state that they have collected numerous seed from their lutea hybrid plant's carpels in the fall and their excitement is undeniable. Unfortunately, any seed that has a dent, wrinkle or other imperfection is likely not a viable seed. Lutea hybrids are masters at producing soft seeds that will not grow (they are hollow if you dissect them). Each seed that we collect gets a hard pinch between the thumb and index finger, if the seed is firm it will likely be viable, if it 'gives' any amount, the seed is discarded immediately. If you do the sink or float test, the results will invariably show that hard seeds always sink. We know from experience that seeds that are not nearly spherical, have imperfections or are incomplete will not grow. Bad seeds far out-number those that will grow. Interestingly enough viable seeds may be found nested among numerous 'clinkers' in a carpel and they are easy to differentiate to the trained eye. Viable seed will be larger, have a healthy sheen and often are not dark black like the bad seed. All lutea hybrid seeds have coats that start out cream colored and then as they ripen

turn to red and finally black. Black seeds mixed with cream or red seeds are an indicator that there is a mixture of viable and incomplete seeds, good seeds not being black until more ripening happens. No hybridizer or gardener should expect large numbers of viable seeds within a carpel like they would find in P. suffruticosa and P. rockii crosses.

Growing the seeds is somewhat different than the other woodies as well. A longer initial warm period appears beneficial compared to others and they do not tolerate the very cold temperatures that suffruticosa and rockii seed does. We have experimented with outdoor planting of the lutea hybrid seeds in the fall, as we do for the other woody hybrids and the germination rate is in stark contrast. P. suffruticosa and P. rockii hybrids almost always germinate, while lutea hybrid seed rots. Failure for lutea hybrid seed to make their initial root in the fall is likely due to an overly short period of warmth, which is required to reduce dormancy. Lutea hybrid seeds are also the last to reach maturity in the woody peony complex and less time after harvest is available for outdoor germination. The seeds are also larger and fleshier, which likely makes them more susceptible to frost damage and fungal/disease attacks. Therefore, all of our lutea hybrid seed is started indoors in wooden boxes filled with soil. The indoor planting allows us to control the amount of time they remain warm and the degree of chill that is received during their second reduction in dormancy. Even with controlled treatment, lutea hybrid seeds germinate at different rates and it is not unusual to see the small plants produce their first leaves over a year's period. Once the seedlings have begun growth they can be successfully transplanted to the garden in the spring and throughout the summer. A few losses will occur in the first winter of outdoor planting, but this is mother nature removing the least adapted plants from our gene pool.

Our gardens have just under 200 registered lutea hybrid cultivars at this time and more are added as we find them available. Unfortunately, there are few sources of these plants within the United States, likely due to the multiple steps and complexity of propagating them, as well as, a long drought in demand. Prices are high, like all woody peonies, but considering the time and effort expended to produce them they are an excellent value. Plants can be expected to live indefinitely given proper care and are almost always productive, making them an excellent choice for the patient long term gardener. Of the plants we grow, there are a number that stand out, like all peonies. The following is a listing of some of our favorites, but **many** more could easily be added.

- 1) **Hephestos.** Daphnis. Deep red semi-double flowers of large size cover the deep green mounded plants just after the suffruticosa cultivars complete their bloom. Flowers are carried singly on stems that have a slight hook, but presentation is outward and quite attractive. Hybridized by the famed Nassos Daphnis, it is one of the most popular of all lutea cultivars. Plants are good growers, but do lose stems to very cold temperatures here in Wisconsin, only to be quickly replaced the following spring. As the buds develop their pointed ends look much like a rose before opening. For the hybridizer, it has thus far been sterile. I have heard and read reports of getting seed, but these claims go unsubstantiated. 3 to 4 feet in height and 5 feet in width in Wisconsin.
- 2) **Age of Gold.** Saunders. A mound shaped plant in our gardens and field, which grows vigorously. It is an F1 hybrid and typically produces numerous ground shoots. It is one of the few lutea hybrids that we can depend on for divisions, and have no reason to graft

it. The semi-double flowers are on the small side and have many petals, creating an ornate display. Petals are nicely ruffled and have attractive notches along their edges. Flowers have a slight lutea hook and face outward and a bit downward, still an acceptable presentation. Two to three buds per stem can be expected on established plants. Foliage is nicely divided and could be described as fern-like. A.P. Saunders hybridized this plant and was not aware of it potential to produce seed. Bill Seidl discovered that Age of Gold will produce the occasional seed after many pollinations and that the offspring are almost always of great beauty. This was Bill's favorite lutea as evidenced by the large number he grew on his lot. 3 ¹/₂ feet high and 4 feet wide in Wisconsin.

- 3) **Fuchsia Ruffles.** Seidl. If you are looking for a rare and exotic color incorporated with a ruffled/round flower, this one is your ticket. Flowers are an unusual violet-fuchsia coloration, carried on good stems that have very little hook. Facing outward and somewhat upward, the display is better than average. Bill Seidl hybridized this rather short growing lutea hybrid and it is in high demand by adoring gardeners. Fuchsia Ruffles will produce seed reluctantly and has no pollen. Plants are somewhat slow growing, but quite hardy and have withstood very cold and taxing conditions here in Wisconsin. It will grow to 30 inches in Wisconsin, probably more in less strenuous climates. Plants are best grafted for increase of stock, as plants often produce a large central woody stem.
- 4) Aegean. Bremer. A recently registered cultivar that is a backcross of lutea hybrid x suffruticosa. Aegean blooms earlier than most of the other lutea hybrids, likely due to a greater influence of suffruticosa. Blooms often reach 10 inches in diameter and are highly ruffled semi-double in form. Light baby ribbon pink at opening, the flowers quickly fade to white with light pink flares. Carriage is exemplary, with flowers facing upward without a noticeable hook. Pollen is produced, as are the occasional seed, but viability of either has not yet been determined. The stems and foliage are an interesting blue green and lack any red coloration. I love to watch this plant as the massive buds develop, which seemingly take forever before they fully open. They do open easily and put on a consistent show each year. Plants produce heavy woody stems and ours grow to around 2 ¹/₂ feet in height, perhaps in more conducive climates Aegean will reach greater heights.
- 5) **Theresa Ann.** Seidl. Bill Seidl hybridized this incredibly beautiful pink-cream blended cultivar. The flowers are semi-double to double and have heavily ruffled petals that arrange themselves in wonderfully variable layers. Stems have a slight lutea hook, but carriage is upward and outward. Plants are mound shaped, to about 3 ¹/₂ feet in Wisconsin, with excellent deep green foliage that has red edging early in the season. As an advanced generation hybrid, the foliage is a bit heavier and broader than the F1's. It produces large numbers of ground shoots and may be a candidate for division in climates that are less rigorous than ours. Fortunately it has been easily grafted and the young grafts are fast growers. Theresa Ann produces no pollen, but will produce seed with a compatible pollen donor. A number of exhibitors have shown this flower at recent APS conventions with outstanding results.
- 6) **Cathedral Echo. Irvine/Sutherland.** This is an example of Bill Seidl's work that was sent as seed to New Zealand. Cathedral Echo is a wonderful plant with outstanding

foliage and stems that have thus far shown better hardiness than many other lutea hybrids. Flowers carried singly on each stem face to the side with a slight hook, but stems are strong and hold them in position very well. The round flowers are very full semi-double in form and have a wonderful deep lavender color. Dark maroon flares are nearly hidden by petals that are heavily ruffled. Plants reach 3 ¹/₂ to 4 feet in height and 5 feet in width in Wisconsin. Fertile both ways. It does not appear to be a good candidate for division due to heavy woody stems, but is easily grafted.

- 7) **Iphigenia.** Daphnis. A backcross of lutea hybrid x P. suffruticosa. Iphigenia is one of the finest of all the lutea hybrids for plant habit, flower carriage and bloom production. Plants grow to 4 feet in height and 5+ feet in width in Wisconsin. Stem hardiness is better than average. Foliage is always healthy, deep green and wide in structure. The semi-double flowers are deep medium red and produced in an outward carriage. It is one of the most floriferous of all lutea hybrids, a goal that all hybridizers of this plant should strive to repeat. Unfortunately it has proven to be sterile, thus no breeding potential exists at this time.
- 8) **Beach Comber.** Bremer. An advanced generation hybrid registered in 2019. Very large semi-double to double old rose with cream outer petals. Petals highly ruffled, creating a full looking flower. A good example of some of the new characteristics in flower color/pattern that can be developed in advanced generation hybrids. Excellent outward carriage of flowers on strong stems. Up to three buds per stem creating a long bloom season. Fertile both ways easily. Plants to 4 feet in height and equal width in Wisconsin. Beach Comber has broad large deep green leaves which are dissected and pointed. Woody stems have exhibited better than average hardiness and longevity. An exciting plant for both the gardener and hybridizer.
- 9) **Lois Elaine Lanning.** Laning. A great example of an 'Age of Gold' offspring backcrossed to a suffruticosa cultivar. The large full formed semi-double rose-pink flowers have a copper cast to them, making a unique color scheme. Flowers have dark maroon flares adding depth and interest. One to 3 buds per stem can be expected. Foliage is a medium green and rather wide compared to many lutea hybrids. Plants reach 4 feet in height and 5 feet in width in Wisconsin. Some susceptibility to botrytis his been noted on this cultivar during cold and wet spring seasons. Vigorous in growth, Lois Elaine Laning is gaining popularity as more gardeners are introduced to her beauty. No fertility, a problem noted in backcrosses to date.
- 10) **Autumn Harvest.** Seidl. One of the best of the yellow lutea hybrids, Autumn Harvest has wonder double form ruffled flowers. Its carriage is outward and could use improvement, but is superior to other yellow cultivars. Plants tend to form a large woody central stem and stems arising from this are often winter killed, however, they are quickly replaced by basal shoots that often produce flowers immediately. Foliage is a deep blue-green and is fairly broad. A vigorous grower to 3 feet in height and as wide in Wisconsin. Flowers are subtle yellow-gold with red blush and petals with a red picotee. Seed can be produced with effort and there is pollen to be collected between petals.
- 11) **Manchurian Promise.** Bremer. This is an exceptional cultivar and provides some good examples of flower color differences that may be experienced from year to year in lutea hybrids. The plant has deep green foliage with excellent endurance and stems that have better than average hardiness. The large semi-double flowers are most often a

yellow base overlaid heavily with a coral apricot blend, but in some seasons may be nearly light yellow and others be a cream overlaid with baby-ribbon pink. Each petal, on all color variations have deep maroon flares, are notched, ruffled and crinkled along the edges. Plants may produce up to three buds per stem. Plants are productive bloomers and present the flowers in all positions around the shrub. Plants reach 4 feet in height and 5 feet in width in Wisconsin. Fertile. Manchurian Promise is a vigorous grower and plants may be both divided and grafted easily.

- 12) **Daredevil.** Saunders. A perfect example of an F1 lutea hybrid that has characteristic flower carriage of the P. delavayi parent. Daredevil is a deep red single flower that has somewhat narrow petals and inconsistent form, but has many positive attributes. Foliage is very finely dissected and could be described as coarse fern-like. Its stems are not particularly hardy, but plants possess hybrid vigor and anything lost is due to winter conditions are quickly replaced. Flowers are carried on long stems that cascade outward, but do face downward. Bloom season is relatively long due to the production of 3 to 4 buds per stem. Not a perfect plant, but one that I would not be without.
- 13) **Savage Splendor.** Saunders. Tremendously beautiful, Savage Splendor can put on a big show after mild winters. Stem hardiness is not one its positives, but vigor is. Plants easily replace winter killed stems and always produce some nice flowers each year. Flowers have a cream base that is overlaid with varying amounts of pink and usually has a nice matching picotee edge to the petals. Petals twist and turn and have wonderful dark maroon basal flares. Annual stem growth can reach 3 feet and foliage is large and deep green. Our plants generally reach 3 feet in height and 5 feet in width in an open field situation. It typically blooms well after the other lutea hybrids in our garden, whether this is due to the loss of stems from winter or simply a later bloom season is unknown. It is sterile, but very much worth growing.

The lutea hybrids include a wide variety of plant and flower configurations and there should be something for every gardener. They are highly adaptable and can be grown in USDA Hardiness Zones 4 through 8, perhaps with some protection in the coldest areas. Gardens in colder zones may also grow these plants with the same protection given to tea roses during the winter. For more information about the many cultivars visit the APS Peony Cultivar Registry at http://www.americanpeonysociety.org/cultivar-registration/peony-cultivars or inquire with growers of these interesting and treasured plants.

DATE	BULLETIN	Pg. No.	TITLE	AUTHOR
01/12/1967	No. 187	10	Introducing Nassos Daphnis	
01/06/1969	No. 193	28	Daphnis F1 Hybrids	Daphnis, Nassos
01/12/1975	No. 216	8	Daphnis Hybrid F1's	Daphnis, Nassos
01/03/1985	No. 253	4	Creating the Daphnis Hybrids	Daphnis & Massey
01/03/1985	No. 253	15	The Daphnis Breeding Program	Hughes, Peter E.
01/03/1985	No. 253	18	Heirs Fit For A King	Miller, Julie Ann
01/06/1997	No. 302	23	Nassos Daphnis, Life and Originations	Good, Walter

Table courtesy of APS registrar Reiner Jakubowski

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