

The Little Shrub With Big Flowers

- Slide 1 The Little Shrub With Big Flowers...Title Page
- Slide 2 The genus 'Paeonia' is basically divided into two major groups: Herbaceous peonies and Woody Peonies. Each section has a number of species. While this wonderful piece of art shows only two species of 'Woodies', there are more than 10 species. Suffruticosa is a man-made species group that has been hybridized for thousands of years.
- Slide 3 In cultivation we find herbaceous, woody and intersectional (Itoh) peonies. Intersectional peonies are hybrids between the woody and herbaceous sections. (herbaceous x woody).
- Slide 4 The Woody Peonies...Species (delavayi, decomposita, jishanensis, cathayana, rockii, qiui, rotundiloba), Lutea hybrids (hybrids involving delavayi x suffruticosa), P. rockii hybrids (hybrids involving rockii x suffruticosa), Japanese suffruticosa (man-made species hybridized in Japan), Chinese suffruticosa (man-made species hybridized in China).
- Slide 5 Paeonia suffruticosa is a man-made species. Many species were originally crossed in China over the millenia and then the offspring were crossed over and over to create a species race created by man. Paeonia suffruticosa was imported to Japan by monks and were further hybridized. The Chinese and Japanese suffruticosas differ in plant habit and flower form due to selective breeding.
- Slide 6 The run down on Chinese suffruticosas. They are not typically plants that do well in the United States. Most were selected in China to prosper in semi-arid conditions with a somewhat warmer climate than the northern tier of the United States.
- Slide 7 For thousands of years the Chinese suffruticosas were only allowed to be grown by the emperors. Today they are a major export of China.
- Slide 8 Many Chinese suffruticosas (the most commonly available woody peony) have large double flowers that often hang down on weak stems. The plants can be challenging to grow and are not as productive as their Japanese relatives.
- Slide 9 'Hua Hei Die'. A Chinese suffruticosa has smaller flowers than many, but can be grown in Wisconsin in a protected garden.
- Slide 10 'Lan Bao Shi'. A Chinese suffruticosa does well in a protected garden with much humus in the soil. It resents clay soil, cold and too much water.
- Slide 11 'Zi Er Qiao'. A Chinese suffruticosa that has preformed poorly in Wisconsin and did not live through the winter of 2013-2014. Flowers were never very nice and it bloomed sparsely during the time in our gardens.
- Slide 12 'San Bian Sai Yu'. A cultivar that will bloom double on older plants, but is single on young less established plants. Ours never bloomed double and did not survive its third winter.
- Slide 13 'Dou Lou' and divisions. Chinese suffruticosas are often short plants and that produce many ground shoots. Because of their growth habit, they lend themselves to division. Most Chinese

suffruticosas are sold as divisions.

- Slide 14 The run down on Japanese suffruticosas. The Japanese suffruticosas, while close relatives of those from China, are better suited for the United States. The plants were selectively bred in more rigorous conditions and those available withstand our cold winters more easily. Plant habit is more erect, flowers tend to be carried on sturdy stems and in greater abundance and flowers tend to be semi-double.
- Slide 15 The Japanese suffruticosas are truly woody and have attractive/interesting buds as they unfurl in the spring. Foliage is often tinted red early in the season. Japanese suffruticosas are almost always sold as grafted plants, as they do not lend themselves to division due to their growth habit.
- Slide 16 'Hana Kisoi'. A Japanese suffruticosa that is easy to grow and highly productive in northern tier climates. The creped flowers are among the most beautiful of the suffruticosas.
- Slide 17 'Yoshino Gawa'. A dwarf Japanese suffruticosa that blooms profusely with apple blossom pink flowers. Plants typically have a vase shape to 2 ½ feet. Flowers are 6" to 7" in diameter.
- Slide 18 'Shima Nishiki'. The flowers are often variegated red and white, but can be pink and white, all white, all red or all pink. The plants' flowers are truly schizophrenic. It is an easy plant to grow and has excellent foliage throughout the growing season.
- Slide 19 'Seidei'. Large flower double flowers of deep pink are spectacular. Plants are of relative ease to grow. Flowers can be 9" in size here in Wisconsin.
- Slide 20 'Shintenchii'. A gorgeous flower that is difficult to capture on film. Flowers open a deep pink and then fade over time. It has darker pink flares on the petals at the center. Has been used extensively in hybridizing for its varied genetic makeup.
- Slide 21 'Renkaku'. White Japanese suffruticosas are abundant and many look much the same. Most are of easy culture and are productive bloomers. Renkaku is very hardy and produces nice 7" flowers, sometimes flushed in pink as they open.
- Slide 22 'Rimpo'. This cultivar is a heavy bloomer that produces large, bright magenta flowers. The buds look like roses as they open. Some people have reported this cultivar as difficult to grow. It has proven easy for us to date. Plant height for us has been around 3 feet.
- Slide 23 'Muramatsu Zakura'. A very large brilliant pink flower. Semi-double to single in form it is of great beauty, but does not bloom with the profusion of some of the other Japanese suffruticosas.
- Slide 24 'Hakubanryu'. Another beautiful white Japanese suffruticosa. Note that the flowers do not look all that different than Renkaku.
- Slide 25 'Schichifukujin'. A wonderful vase shaped plant that can attain heights of 5 feet. Flowers are large and are carried on sturdy stems. Pink in color the petal edges fade more quickly than the rest of the flower giving it a nice frosted affect.

- Slide 26 'Shimane Chojuraku'. This plant is characterized by very large semi-double lavender flowers with dark maroon basal flares. One drawback to the plant is that its flowers can be killed by late frosts. The buds remain green, but never enlarge to produce flowers when damaged. Plants can grow to 5 feet in a protected garden.
- Slide 27 'Princess Chiffon'. American's have gotten in on the act of hybridizing suffruticosas as well. The American selections are even better adapted to our gardens and are of great beauty. This is a Roy Klehm introduction, out of Song Sparrow Nursery, Avalon, Wisconsin. She's a beauty with wonder bright pink flowers.
- Slide 28 'Ruffled Pink Petticoats'. Another American suffruticosa hybridized by Roy Klehm. Flowers are very large and are loose semi-doubles. Plants grow to 2 ½ feet for us and are covered in gorgeous large blooms each year. We have our display plant located under a Canadian lilac to protect the flowers from intense sun. The plants would like to be in full sunlight, but woody peony flowers last longer with a bit of shade.
- Slide 29 'Shimane Chojuraku'. Most woody peonies are grafted, meaning that a woody stem is bound to a herbaceous peony's root. The herbaceous peony's root serves as a nurse root until the woody peony stem can produce its own roots. In the image at the left, the nurse root is below the red line and woody peony roots are above the red line. Nurse roots can be cut off after sufficient woody peony roots have been grown. When planting grafted plants it is important to bury at least 4 to 8 inches of the woody peony's stem. This allows the woody stem to produce its own roots. Two to three years later the plant may be dug up and the nurse root can be removed. If the nurse root is allowed to grow on it will become large (the size of a basketball) and become a barrier for the woody peony roots to grow.
- Slide 30 'Iphegenia'. The lutea hybrids are a relatively new arrival on the peony scene. It is a true hybrid and flower colors range from yellow, pink, red, coral and multiple blends. Plants typically reach 3 feet in Wisconsin. Stem hardiness is somewhat less than the Japanese suffruticosas, but any loss to winter is quickly regrown from basal shoots the following spring.
- Slide 31 *Paeonia delavayi* (lutea). This species is now known as *Paeonia delavayi*, but the 'lutea' name has stuck to the hybrid group. *Paeonia delavayi* comes from China and has small nodding flowers of about 2" in size. Up to 6 flowers per stem can be produced. Foliage is finely cut. Flower color is wide ranging from yellow to red to orange. When crossed with *P. suffruticosa*, many new colors, shapes and plant habits have been obtained. Unfortunately *Paeonia delavayi*, itself, is not particularly hardy in northern gardens. By crossing it with *suffruticosa*, hardiness has increased significantly as has disease resistance.
- Slide 32 *Paeonia delavayi* x *Paeonia suffruticosa* produces a first generation lutea hybrid. In this case 'Age of Gold'. The F1 generations of lutea hybrids lack fertility and many hybridizers have spent significant parts of their lives trying to produce second generation (F2) hybrids. 'Age of Gold' will produce a rare seed, but does not have fertile pollen.
- Slide 33 Characteristics of lutea hybrids. The first (and many of the advanced generations) were plagued by flowers that hang downward on long stems. This is a characteristic of *Paeonia delavayi* and is easily inherited by its offspring. *Paeonia delavayi* also produces a hook in its flowering stem just before the bud, which causes the flowers to have a nodding appearance (causes flowers to face down). These two characteristics are seen as problems to hybridizers, since flowers are not presented at their best.

- Slide 34 The first lutea hybrids were produced by French hybridizers and then by American peony hybridizer A.P. Saunders. Almost all of the French hybrids are large double flowers that hang downward and are often hidden in the foliage. The French hybrids were likely the result of using large double flowered Chinese suffruticosas crossed with delavayi. 'Souvenir de Maxime Cornu' is a commonly available example of a French hybrid. 'Canary' and 'Daredevil' are A.P. Saunders' hybrids and were crosses with Japanese suffruticosas x delavayi. Flowers on these American hybrids have somewhat better carriage, but are not optimal. Flowers are also single in form and many gardeners prefer double flowers.
- Slide 35 'Satin Rouge'. An early French hybrid. Flowers are large and double, but always hang downward. Plants produce lush blue-green foliage that often hide the large flowers completely. It's a good cultivar for cutting and floating in a bowl.
- Slide 36 'Vesuvian'. An A.P. Saunders hybrid. Plants are short and form a gorgeous mound shape. Flowers hang down a bit, but also face outward. A beautiful plant that should be widely grown. Of very easy culture.
- Slide 37 'MME. Louise Henry'. A rare French hybrid with single flowers. A light pink/cream blend with dark maroon basal flares. Flowers hang a bit. Not a particularly easy plant to grow for us in the United States.
- Slide 38 'Hesperus'. Another A.P. Saunders F1 hybrid. Hesperus has wonderful coral colored flowers and has proven hardy.
- Slide 39 'Damask'. A difficult to find A. P. Saunders F1 hybrid. The straw pink flowers are presented well and foliage has much red in it.
- Slide 40 'Age of Gold'. One of the best A.P. Saunders hybrids, 'Age of Gold' has proven very hardy and productive in our gardens. The old gold/yellow flowers are double and are often produced with 3 to a stem.
- Slide 41 'Banquet'. A. P. Saunders produced many beautiful woody peonies and 'Banquet' is certainly one of them. This plant produces beautiful fine cut foliage, but it's flower production is somewhat sparse.
- Slide 42 Nassos Daphnis a Greek borne artist was interested in taking the Saunders' hybrids to the F2 generation. Unfortunately there were very few F1 plants to work with, as most were sterile. After years of work he was able to cross two of the Saunders' hybrids, which ultimately opened the doors for more fertile hybrids. Daphnis was very focused in his selections and paid particular attention to flower carriage. This also advanced the lutea hybrids to new heights.
- Slide 43 'Iphegenia' is a heavy blooming advanced generation lutea hybrid and is one of the best reds to date. One of the draw backs to many lutea hybrids is their overall lack of flower production compared to the Japanese suffruticosas. 'Gauguin', while not a heavy bloomer, has tremendously gorgeous flower color of pink, coral and tea. 'Gauguin' does not have very hardy stems and almost always need to regrow from basal buds each year.
- Slide 44 'Ariadne'. This is a short plant (2 feet at most), but has large cream flowers with pink flush and

dark basal flares.

- Slide 45 'Hephestos' and 'Leda' are both outstanding Daphnis hybrids. Both have very large flowers and present themselves well. Hephestos produces large mound shaped plants to 3 ½ feet tall and 5 feet or more in width. The buds of both look like roses as they open.
- Slide 46 'Terpsichore' will have flowers of different colors in different years. Some years she blooms coral/pink, while other years the flowers are cream/yellow with pink flush and picotee. A fertile plant, it has been used extensively in hybridizing advanced generation lutea hybrids.
- Slide 47 'Boreas' is a fast growing plant that produces wonderful deep red blooms. Plants can reach 4 feet if protected from the winter cold.
- Slide 48 'Zephyrus' is a gorgeous ruffled double. Plants are short and produce many stems from below the ground each year. It too is fertile and has been used to develop new lutea hybrids.
- Slide 49 William Seidl of Manitowoc, Wisconsin used many of the Saunders and Daphnis hybrids to produce new advanced generation hybrids during the 1970's, 1980's and 1990's. He realized that Daphnis and Saunders had not identified key fertile hybrids that were available for breeding. The Saunders hybrids 'Age of Gold' and 'Chinese Dragon' were key plants in the advancement of lutea hybrid. Many of Bill's hybrids have shown better fertility than those of earlier generations, allowing for further work to be completed more easily.
- Slide 50 'Autumn Harvest' was an early Seidl hybrid that proved to be fertile. Plants lack stem hardiness, but reliably bloom each year from basal shoots. Double flowers are a rich golden yellow with a pink picotee. Excellent.
- Slide 51 'Anna Marie', named for Bill's mother was his first lutea hybrid registration. It was the only lavender colored flower in the lutea hybrids for many years. Plants are extremely vigorous and showy, in and out of flower. It has occasionally produced seed and these seedling have been nothing short of spectacular (unfortunately all have been infertile to date).
- Slide 52 'Mother Teresa' is an offspring of 'Anna Marie'. It has large blush pink to white flowers. Foliage has much red in it. Plants have not proven to be very disease resistant however.
- Slide 53 'Theresa Ann', named for a close peony friend of Bill's, may be the finest woody peony produced from Bill's program and surpasses all that came before it. The double flowers are cream flushed and edged in pink. Plants are of easy culture and may attain a height of 3 to 3 ½ feet.
- Slide 54 'Ice Age' is a stem mutation of 'Age of Gold' that was isolated and grafted by Bill Seidl in the 1980's. The flower differs from 'Age of Gold' in the cream coloration of the flower. It has the same growth habit and flower form as 'Age of Gold'.
- Slide 55 'Mystic Mood' is an unusually colored flower of bright pink, red and cream. The plant reaches a height of 2 ½ feet and is fertile. This plant has not seen wide distribution, but should receive more attention.

- Slide 56 'Moonlit Castle Ruins' has proven to be quite interesting. Some of the plants have produced a variegated leaf mutation (pictured), which is very ornamental. The plants with variegated leaves are slower growing and prone to sun burn. Flowers are large and cream in color, but sparsely produced.
- Slide 57 'Brassy Lady' is one of Bill's more popular hybrids. The color is a brassy peach and the form is nearly double. It is not a heavy blooming cultivar, but the flowers it does produce are always large and of great beauty. It has been an excellent parent.
- Slide 58 'Door County Sunset' is perhaps the most in demand of all the woody peonies. The plant has seen little distribution due to the fact that it does not produce quality grafting material. It is a fast grower, but stem hardiness to cold is not good. The plant pictured to the right had it's best bloom after a warm winter season in Wisconsin.
- Slide 59 'Fuchsia Ruffles', another Anna Marie is a stunning color! What that color is I'm not sure, but it surely sticks out in the garden. Plants are short, but highly productive each year. This plant has some seed fertility, but getting the seeds to grow has been a challenge.
- Slide 60 Solaris Farms has now taken Bill Seidl's, Nassos Daphnis' and A.P. Saunders' programs to the next level and will be introducing new woody cultivars over the coming years. We are excited by the new plants and thankful that much of the hard ground work concerning fertility has been undertaken by others before us.
- Slide 61 'Aegean' was introduced to the peony world in 2016. Flowers are huge blush pink, fading to white semi-doubles. It is an Anna Marie offspring and is infertile.
- Slide 62 'Copper King' was registered earlier in 2016 and has been a stand out in our gardens since it's first bloom. Flowers cream/yellow overlaid with coral and pink. The plants have been highly productive and of easy culture.
- Slide 63 'Manchurian Promise', another stand out in our gardens produces beautiful coral colored flowers, but may also produce light cream flowers with pink highlights in some conditions. Foliage is large and healthy looking throughout the growing season. Stem hardiness of this lutea hybrid has been better than average!
- Slide 64 'Wisteria Reflections' was going to be registered as 'Water Spirit', but though a mix up ended up with the original name. This plant is set apart by it better than average stem hardiness and floriferous flowering habit. Excellent flower carriage is another plus!
- Slide 65 At any given time Solaris Farms has many seedlings under evaluation for future release. 'Fire Down Below' is a good one, registered in 2019, with a unique red-pink-orange blend color. The foliage is more finely dissected than other advanced generation lutea hybrids and is a floriferous performer. It already has received much attention from hybridizers breeding intersectional peonies.
- Slide 66 'Aquila'. It produces double to semi-double flowers tea pink coloration. Plants are relatively low growing and are heavy bloomers.
- Slide 67 'Tethys' is a taller growing plant, but has been prone to winter stem kill. The large double

flowers are carried just above the foliage and do not hang downward. Steps in the right direction and an exciting addition to the lutea hybrid gene pool.

- Slide 68 'Beach Comber', named for a friend's enjoyment of taking long walks along the Door County peninsula's beaches represents one of the finest lutea hybrids produced to date. The very large dusty pink flowers have outer petals that quickly fade to cream, framing the beautiful inner coloration. Plants have shown to have hardier than average stems and the overall height is greater than most hybrids in this group.
- Slide 69 *Paeonia rockii* is another species from China with a more northerly distribution, making it an excellent plant for northern hybridizing programs. The species has a long and storied background. We are lucky to have it readily available for our gardens.
- Slide 70 *Paeonia rockii* can grow to heights of 6 feet in Wisconsin, is very cold hardy and blooms heavily in early spring. The species is white or very light pink with maroon flares. It is of easy culture, adapting to many soil types and climate conditions.
- Slide 71 Many hybrids with *rockii* or one of its hybrids are now becoming readily available through specialty growers. There are many Chinese *rockii* hybrids, but careful consideration must be given to them for hardiness. The American hybrids are reliable and gorgeous. Flowers almost always have the characteristic dark 'rockii' basal flares.
- Slide 72 'Angel Emily' has large double flowers and is a heavy blooming cultivar. It is in high demand and has been slow to propagate through grafting, but is of easy culture. If allowed to grow to maturity, 'Angel Emily' may produce more than 100 flowers at a time.
- Slide 73 'Baron Thyssen Bornemisza' is a hybrid from the famous Peter Smithers (James Bond character was inspired). It is a *rockii* hybrid of great beauty and size.
- Slide 74 'Lavender Hill' was hybridized by Bill Seidl and is one of the premier *rockii* hybrids. The double lavender flowers are carried in profusion on beautiful plants. Demand has always surpassed production.
- Slide 75 #NB-SH55 is not a lutea hybrid, but rather a cross of Lavender Hill (*rockii* x *suffruticosa*) and Yukitoro (Japanese *suffruticosa*). Plants that have *rockii* lineage are superior for stem hardiness and flower production in Wisconsin. We would like to cross this plant with the lutea hybrids to bring more color and hardiness to the offspring, but genetically they are somewhat incompatible.
- Slide 76 Growing points. Woody peonies are not difficult to grow, they simply require different conditions than their herbaceous cousins.
- Slide 77 Woody peonies may be damaged during the winter months by rodents and rabbits. While this kills the mature stems, most will dependably grow from basal buds the following spring. The lutea hybrids often bloom on the very new wood, the others less so. The above image is a plant of *Paeonia rockii* that had its stems girdled by voles during the winter. The plant produce large amounts of growth from dormant basal buds in the spring and recovered nicely!
- Slide 78 Grafting is the main method of propagation for woody peonies. It is not a complex process,

but is labor and time intensive. This is the main reason that plants are more expensive.

- Slide 79 Grafting in Wisconsin is best done in Wisconsin from August 15 to September 1. This period of time is optimum for scion maturity (woody peony material) and herbaceous root growth. Herbaceous peony clumps are dug and 'robbed' of their roots for use as nurse roots. It is best to use *P. lactiflora* cultivars for nurse roots as they do not make adventitious growth. The nurse roots are washed clean of all soil and sanitized in bleach solution prior to being used to make grafts.
- Slide 80 Woody peony scions are cut with a 'V' at the bottom. This 'V' will be slipped into a slot cut in the nurse root. Flat surfaces are important so that contact is precise between scion and nurse root.
- Slide 81 The scion is slipped into the slot in the nurse root, then wrapped with a rubber band to bring the two surface together tightly.
- Slide 82 The graft is then wrapped with grafting tape, a pliable plastic and wax covering. This prevents contaminants from entering the cut areas and keeps the area from drying excessively.
- Slide 83 Grafts are then set in a soil pit-row and then covered so that the tops of the grafts are not less than 2' inches from the surface. Soil is firmed and mounded, then a layer of plastic is laid over the top to warm the grafts for two weeks. Grafts need temperatures at least in the upper 70s to mid 80's to heal and mesh woody peony to nurse root. The grafting bed is then uncovered and allowed to cool until fall. Just before the ground freezes a layer of wood mulch is applied and the bed again is covered in plastic for the winter. In very early spring, as soon as the soil allows, the plastic is removed or the young grafts will begin to grow beneath the plastic prematurely.
- Slide 84 Grafts will arise from the soil and produce a few leaves each. They often look stunted and rather weak the first year. A few may attempt to bloom this first year and it is advised to remove the buds to allow the plant to hold its stored energy. In the second year plants attain a greater size, and will likely not bloom. Third year plants often bloom well and are certainly ready for transplant.
- Slide 85 The grafted plant seen above (pictured earlier) is a nice young saleable plant. It should do well in anyone's garden that is willing to plant it correctly.
- Slide 86 All three of these plants are grafted, the one on the far right has had its nurse root removed.
- Slide 87 Peonies may be grown from seed. The structure that holds the seeds are called carpels. The carpels may appear to have seed in them, but often do not.
- Slide 88 A close up image of a herbaceous peony's carpels. There are likely no seed in these carpels.
- Slide 89 Lutea hybrid seeds are large, spherical and black in color. Seed is best collected fresh and planted immediately before drying. Lutea hybrid seed must be started in the house, as the young seeds do not fair well outside in Wisconsin. They may be started in bags of peat moss. Keep them warm (70 to 80 degrees) for 6 weeks, then keep them cool (38 to 45 degrees) for 6 weeks) and then another warm period will cause those that have germinated to grow their first

leaves. Not all seeds germinate, but don't throw them away. Plant them in pots and set them aside. They will often grow the following season.

- Slide 90 Suffruticosa and rockii seeds can be black or brown in color. Again fresh seed may be planted immediately. We plant them outside in beds. Plant them ½ deep and cover with mulch and then plastic. Leave the plastic on until early the next spring. Some seeds may have germinated and will produce leaves, but the vast majority will come up the following season. Notice that these seeds often have flat sides to them, no problem-they will grow nicely.
- Slide 91 Woody peonies produce a root after a warm period and entering a cooling period. They must have the cool period to break further dormancy for the leaves to emerge. A constant temperature will produce no germination.
- Slide 92 Young lutea hybrid seedlings in pots will be planted in the garden when the weather warms. Holding them in pots has not been a successful practice for us. They are made to grow out of doors.
- Slide 93 A comparison of yearly growth advancement of woody peonies. Most woody peonies take 3 to 5 years to produce their first blooms.
- Slide 94 Woody peonies blooming for their first time.
- Slide 95 '#56', a Seidl seedling probably worthy of introduction. Everyone should grow the woody peonies and not be afraid to experiment with them. Planted properly and in a good location they will out-live all of us.

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