

Woodies...A Look to the Future

1. Woodies...A Look to the Future
2. Quest for the Perfect Wood y Peony: Tall to 7 feet; Low and mound shaped plants; Finely dissected foliage; Displays flowers over entire shrub; Floriferous; Stem hardiness; Clear colors and unique patterns/forms; Ruffled, notched and fluted petals; Long blooming.
3. Top row: *Paeonia delavayi*, once called *Paeonia lutea*. The species comes in many colors and stems are often multi-flowered. Not particularly hardy here in Wisconsin. Bottom row is 'Hatsugarsu' and 'White Empress', *suffruticosa* cultivars from Japan. Hardy, but resent overly wet conditions and not particularly disease resistant.
4. Top row: 'Daredevil' and 'Age of Gold'; Bottom row: 'Chinese Dragon' and 'Waucedah Princess'. All of the above crosses are *delavayi* x *suffruticosa*. Fertility is low, but some success was found to produce F2 generations (2nd generation plants).
5. Top row: 'Cranapple' (Saunders F2B) and 'Daedalus'; Bottom row: 'Zephyrus' and 'Terpsichore'. The top row are F2's and the bottom are backcrosses.
6. Top row: 'Autumn Harvest' and 'Brassy Lady'; Second row: 'Rosalind Elsie Franklin' and 'Sedona'. All can produce seed and have pollen. 'Sedona' is the most fertile of the group and has produced outstanding seedlings. Note that flower forms and coloration are evolving with each generation. Fertility of the successive generations has also increased-yippee for the hybridizer! Due to their complex background, offspring from the group is highly variable in flower color, form and size. Plant habits are extremely variable as well.
7. **Aegean**. Bremer. 2016. Advanced generation lutea hybrid. Seedling number is #NB-SH72. Aegean has very large (9") semi-double flowers that open the lightest pink and quickly fade to white. Petals have pink feathered flares and are highly ruffled and crimped. The sheath is pink and stigmas are cream. Filaments are pink and tipped with waxy yellow anthers. Multi carpeled. Plants are short (2.5' to 3') and clothed in large glossy blue-green foliage, which has no red in it. Stems are heavy and woody, easily supporting the huge flowers. Flower carriage is upward and outward. Of easy culture. (Anna Marie x Stolen Heaven).
8. **Agean**. Whole plant in bloom. The plant has been relative short for us, of easy culture and easily propagated through grafting.
9. **Charon (Seidl #46 x Seidl #58)**. Single flowers of deep purple! We love this flower for the contrast of the dark filaments, yellow anthers and purple sheath. Plants produce stout stems, but the hardiness of these stems has been somewhat less than desirable. Has not produced abundant bloom for plant size. Fast grower.
10. **Copper King**. Bremer. 2016. Advanced generation lutea hybrid. Seedling #NB31. Large semi-double yellow overlaid in coral and pink, giving the flowers a copper coloration effect. Small maroon flares at petal bases. Petals are fluted, ruffled and lightly notched. Pink sheath, red filaments and yellow stigmas. Flowers are carried on sturdy stems, allowing them to face outward. Copper King has superior foliage with medium deep lobes and sharp leaflet tips. Good stem hardiness and fast growth. Height is approximately 4'. Please note that lutea hybrids typically do not grow over 4' in Wisconsin due to winter kill of stems, but reliably regrow and bloom on basal buds. They may grow taller in more reasonable climates. Fertile both ways, but seed is challenging. One of the most noticed lutea hybrids in our gardens over the last 5 years. (Autumn Harvest x Rosalind Elsie Franklin).
11. **Copper King**. First time bloom.
12. **Coral Nebula. (Sedona x Seidl #141)**. Semi-double with cream base flushed and picoted in pink. The dark basal flares set the flower off. Plants are vigorous and quick growers.
13. **Coral Nebula**
14. **From the Deep**. Bremer. 2016. Advanced generation lutea hybrid. Seedling #NB-SH51. Large single bluish lavender that becomes darker near the center of the flower. Interior petals are darker than the outer petals. Petals are narrow and very elongated with fluting and small rough notching along the outer edges. Petals also curl and twist. Sheath and filaments are violet-purple and stigmas are pink. Stamens are tipped with white twisted anthers. Stems may make annual growth of 3' or more, but are sometimes winter killed in Wisconsin, only to regrow from basal buds and bloom the same year. Leaves are very large and deep green, resembling oversized *P. ostii* foliage. From the Deep is a very unusual flower and plant that conjures up visions of creatures from the ocean depths. Excellent and a flower that we look forward to seeing each year. No fertility to date. Please note that lutea hybrids typically do not grow over 4' in Wisconsin due to winter kill of stems, but reliably regrow and bloom on basal buds. They may grow taller in more reasonable climates. (Anna Marie x Kamata Fuji).

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15. **From the Deep.**
16. **Grandmother's Symphony. (Seidl #135 x ?).** Cream heavily overlaid in rose, semi-double. No seedling number was ever assigned. An easily grown plant that we have begun to propagate. One flower to a stem. Flower carriage could be better.
17. **Manchurian Promise.** Bremer. 2016. Advanced generation lutea hybrid. Large semi-double coral-salmon-peach blend with dark maroon flares. Petals are highly ruffled, notched, crimped and those at the center face up. Color is reminiscent of our Manchurian apricot tree in bloom. Sheath is light pink as are the stigmas. Filaments are maroon tipped with waxy yellow anthers. Flower color can be variable from year to year presumably due to temperatures, but always attractive. Flower substance is quite heavy and are supported by sturdy stems. Carriage is outward. Foliage is large and tinted in red during the early part of the growing season. Blooms with other lutea hybrids. Plant height is 4' and may be greater in areas that have higher winter temperatures. Stem hardiness has been good thus far, with little winter damage. Manchurian Promise is one of the most popular 'woodies' during spring viewing at Solaris Farms. Seed fertility with effort, no pollen. Please note that lutea hybrids typically do not grow over 4' in Wisconsin due to winter kill of stems, but reliably regrow and bloom on basal buds. They may grow taller in more reasonable climates. (Sedona x Rosalind Elsie Franklin).
18. **Manchurian Promise.** First time bloom. Flower color is quite variable from year to year, a characteristic that is not unusual for advanced generation lutea hybrids. Presumably temperature and sunlight have much to do with coloration.
19. **Mimas** (Terpsichore x Rosalind Elsie Franklin) Soft cream with a flushed pink picotee. Plants have deep blue green foliage that remains unblemished throughout the growing season. Very good flower presentation and production.
20. **Mimas.** First year bloom. Flowers have been very consistent on this seedling, but we've forgotten to graft this plant over the last couple of year. We'll get it into production soon. Plants produce excellent scion wood for grafting, thus we believe it will be easy to produce more of.
21. **Tethys. (Brassy Lady x Sedona).** Very double flowers that are cream based and colored with pink, red, coral and yellow. Overall color is a pastel tea pink. This plant has been intriguing for its upright carriage of the very double flowers. Foliage is large and has saw tooth edges. Stem hardiness has been only fair, but has reliably bloomed from basal growth each year. Pollen but no seed to date
22. **Tethys. (Brassy Lady x Sedona).** Another view.
23. **Wisteria Reflections.** Bremer. 2016. Advanced generation lutea hybrid. Seedling number is #NB1. Semi-double lavender-pink flowers that become darker toward the center. The darker coloration leads to dark flares. 22 to 26 petals. Petals have wavy edges and show crimping. Stigmas pink, sheath is light pink and filaments are pink topped with golden anthers. Very floriferous for a lutea hybrid, rivaling the suffruticosas. Good stem hardiness with most stems flowering each year. Grows heavy woody stems and has excellent medium green lobed leaves. Height is around 4.5 feet in Wisconsin. (Sedona x Rosalind Elsie Franklin).
24. **Wisteria Reflections.** Whole plant in bloom. This plant has been very floriferous for us and meets that goal. Many of the lutea hybrids do not bloom with great abundance and improvement in need in that area.
25. **#NB3 'Harvest of Souls'.** A highly ruffled and fluted flower. Flowers have been somewhat inconsistent, so we are still watching. (Sedona x Rosalind Elsie Franklin)
26. **#NB5.** (Seidl #58 x) A soft baby ribbon pink semi-double flower has been somewhat variable in color from year to year. Form has been consistent and plants are good growers.
27. **#NB8. (Fuchsia Ruffles x Seidl #243)** A very ruffled and crinkled flower of cream and pink. Very consistent and vigorous plants. Plants are better growers than both parents and has flower carriage superior to #243.
28. **#NB8.** First year bloom. Again flower color and form is somewhat variable from year to year.
29. **#NB13. (Sedona x Loyola).** Highly ruffled tea pink flowers with cream base. This plant is a heavy bloomer and is rather mound shaped. While flowers are not held upward they do face outward and are not hidden by foliage. One of our favorites and is being heavily propagated.
30. **#NB13.** Whole plant with flowers of various ages. The oldest are faded to cream. Plants are good growers and reliably bloom from basal shoots each year. An important trait for our very cold winter conditions, which can cause stem loss on many woody peonies.
31. **#NB16. (Sedona x Loyola).** Beautifully creped flowers open a deeper pink/lavender and then fade to tea-pink in

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- coloration. Vigorous plants that produce side facing flowers.
32. **#NB16.** Newly opened flower. This is another plant that reliably blooms from basal growth after stem loss due to winter cold. Sedona, its seed parent, carries the same traits.
33. **#NB17. (Sedona x Pacific Wonderland).** A heavy double that doesn't face down. Flowers are multicolored in pink, cream and coral. A really stunning flower. Pacific Wonderland is from Bill Seidl seed sent New Zealand many years ago. Roy Klehm imported the plants and donated pollen to Bill some years ago to make some new crosses and we were the recipients of some of the pollen. What comes around goes around! Again, it blooms reliably from basal growth after winter stem loss.
34. **#NB23. (Exotic Era x Garden Sunshine).** Very simple single yellow flowers with red flares. Plants are large, but flowers nod. Not sure what we'll do with this plant.
35. **#NB26. (Seidl #58 x Rosalind Elsie Franklin).** This has been a very well formed semi-double with wonderful ruffling and notched petals. It fades to a straw color over time.
36. **#NB27. (Age of Gold x Seidl #16) x (Good Day Mate x Rosalind Elsie Franklin).** A slow growing plant that produces beautiful near white flowers with light pink brushed on basal flares. Petals are very wavy and have a very good arrangement.
37. **#NB29. (Seidl #243 x Rosina, Bernard Chow hybrid).** A heavy double, sometimes semi-double cream based flower with peach pink overlay. As it fades it becomes more peach in color.
38. **#NB30. (Garden Sunshine x (Sedona x Rosalind Elsie Franklin)).** A semi-double to double flower of bright yellow and small red flares. Plants are short for us, but present the flowers nicely-no down facing flowers.
39. **#NB30.** Large flowers on small plants.
40. **#NB32. (Age of Gold x Waucedah Princess).** A very heavy double of coral color that fades to yellow peach tones. Variable color upon opening from year to year. Unfortunately the flowers hang downward. On the positive side it has a gorgeous fragrance. The flowers of Age of Gold have fair carriage, but tend to hang down a bit. Waucedah Princess produces heavy blooms that are not well supported by the stems. Combining these two cultivars did not produce offspring with an advancement in flower carriage, in fact it produced plants with poor carriage. Stems have not been as hardy as we'd like, but
- it regrows after winter to bloom reliably from basal shoots. Tremendously beautiful flowers however.
41. **#NB37. (Autumn Harvest x Good Day Mate-Chow hybrid raised from seed by Bill Seidl).** A full double with yellow outer petals with smaller coral flushed inner petals and few larger yellow petals at the center. This one faces down badly, but has a beautiful citrus fragrance. Stems have not been as hardy as we'd like, but it regrows after winter to bloom reliably from basal shoots.
42. **#NB39. (Seidl #239 x Seidl #199).** Double flowers of a color that is difficult to describe. Opens a light pink over cream and quickly fades to peach color. Petals are wrinkled and creped. Good flower carriage and nice medium height plants. Nice citrus fragrance.
43. **#NB-SH67. (Seidl #58 x Seidl #35).** Single flowers of coral pink which are lighter in the center and then have black flares at their bases. Note waxy anthers, inherited from #58. No pollen.
44. **#NB-SH77. ((Ice Age x Autumn Harvest) x Rosalind Elsie Franklin).** Very double flowers that open pink, then outer petals fade to cream and interior petals stay pinkish-coral. An interesting plant that dies to the ground each year (no stem hardiness) and then regrows to produce one large double flower per stem. Stems do not support the huge/heavy flowers well. The seed parent (Ice Age x Autumn Harvest) produces heavy double flowers that face completely down on long stems which are often hidden by its foliage. This plant produces large amounts of pollen and we have used it on lactiflora cultivars to successfully produce seed. We will hopefully see seedlings germinate from the cross for the first time this spring (Wisconsin Cream x #NB-SH77). We'll remake this cross and use the pollen on a number of other lactifloras this coming year.
45. **#NB-SH80. (Sedona x (#137 x Sedona).** A semi-double of old deep old rose coloration. Perhaps not the best colored flowers, but the plant stood out on first bloom due to multiple buds (up to 6) per stem that opened over a long period. Unfortunately it has not proven to be very stem hardy and we nearly lost the plant after the winter of 2013-2014. Temperatures went to -32 a few nights that winter, fortunately we had heavy snow cover. We actually remove the dead stump from the plant in 2014 and did not see the plant that growing season. In 2015 it grew from below ground dormant eyes attached to remnant plant material where it was once grown.

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46. **#NB-SH91. (Pluto x Seidl #138).** This is a reminder that I am not a very good photographer and need to do better. We rarely produce seed from Pluto (2 seeds in 10 years of trying), but this plant makes me want to keep trying. #NB-SH91 produces deep blood red semi-double flowers of medium size. Carriage is perfect, held high on stems. Stem hardiness has been outstanding, withstanding the winters of 2013 through 2014-2015 (both colder than average winters). This plant has been difficult to graft due to its habit of producing few terminals and basal shoots. It tends to bloom on all stems produced and secondary buds do not mature early in the season. Fertility is the greatest of any advanced lutea hybrid we grow to date. All carpels of every flower were filled with seed last year when crossed with other lutea hybrid pollens. It blooms a bit later than many of the other lutea hybrids.
47. **#NB-SH92. (Brassy Lady x Seidl #137).** Flowers open deep pink and then the cream base shows up as the flowers age, creating pink edges on the petals. Petals are nicely ruffled and displayed on fairly short plants in an attractive out-facing carriage. Notice the lutea hook on the buds-something we'd like to rid the type of hybrid of. Produced some nice seed last year and has pollen.
48. **#NB-SH92. (Brassy Lady x Seidl #137).** Side view.
49. **#NB-SH92. (Brassy Lady x Seidl #137).** Yet another view.
50. **#NB-SH94. (Seidl #138 x #NB37)** This one bloomed for the first time last year and was impressive. Flowers were double and of a beautiful bright red. #NB-SH95 is a sibling seen in the next slide.
51. **#NB-SH95. (Seidl #138 x #NB37)** One of my very favorite new seedlings. The color is a rose red with an orange cast (if that is even possible). Petals are notched and there are many small waves along the petal edges. Flowers are semi-double and present themselves in an outward fashion. Up to three buds per stem extend the bloom season. Foliage is very finely cut and is distinctive. It has pollen, but we have yet to have any seed set. This is one of the most popular seedlings in our gardens for flower and foliage.
52. **#NB-SH97. (Seidl #137 x Seidl 'G'day Mate)** Yellow flowers flushed and picoteed in pink. Beautifully ruffled semi-double flowers.
53. **#NB-SH99. (Nike x Wisteria Reflections)** Yellow flowers flushed heavily and unevenly in coral. Single, but quite nice! Nike seldom produces seed
54. **#NB-SH100. (#NB-SH71 x Copper King)** Soft old rose coloration on high built heavy double flowers. Petal size decreases toward the center of the flower. Flowers hang downward, but are impressive. People that saw it in bloom wanted it, even though the carriage left something to be desired. #NB-SH71 is a down hanging flower, a trait that is difficult to rid a breeding line of.
55. **#NB-SH104. (Manchurian Promise x Copper King)** Garden named Dakota Girl, named for Linette Sorrentino. This plant produces very large semi-double flowers of lavender over a cream base. Petals have very dark basal flares that give the complex flower sinister appeal. Petals at the center reach upward and are darker in coloration than the outer petals. Plants are mound shaped and flowers are carried on long stems that unfortunately do not support the heavy flowers very well. Pollen fertility has been tested and is good, but no seeds have yet been produced. The plant was divided and grafted for the first time in 2015. One of the most stunning flowers in the garden or as a cut.
56. **#NB-SH105. (Sedona x Wisteria Reflections).** Very clear cream-white, flushed in pink. Stigmas are red and the filaments are a dark maroon, all complimentary in their contrast. Stamens/anthers are uniformly arranged in a nice circle around the carpels. One flower per stem carried on long sturdy stems. Nice deep green healthy foliage.
57. **#NB-SH105.** Whole plant.
58. **#NB-SH106. (Manchurian Promise x Seidl #137)** Flowers have heavy substance and are coral and cream blend. This is the first bloom on this seedling, thus much evaluation needs to yet take place.
59. **#NB-SH107. (Seidl #135 x Wisteria Reflections)** Lavender flowers with dark flares. Blooms are large and open quite flat. A very floriferous plant which may be inherited from Wisteria Reflections. Again, note that I need to work on my photography.
60. **#NB-SH108. (Seidl #1 x #NB30)** Bright yellow with dark maroon flares. This is a first year plant and not much data has been gathered, other than good color. Foliage has nice red tinting.
61. **#NB-SH110. (#NB30 x #NB26)** Bright yellow double flowers with coral-orange flush on inner petals. This plant is in its third season of bloom and has been consistent. Foliage is deeply dissected. The plant appears to be a low growing type. Fertile both ways.
62. **#NB-SH110.** Whole plant and flowers. A small hail storm occurred the day before.
63. **#NB-SH112. (Seidl #15 x #NB-SH80).** Small flat formed single pink with darker coloration toward the base of the

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petals. Red stamens. White sheath and stigmas. Three to four flowers to a stem spill out over the nicely cut foliage. A very attractive plant that blooms heavily and over long period of time due to the multiple side buds. Both parents have this trait.

64. **#NB-SH117. (Age of Gold x #NB30).** Double brilliant yellow flower with small red flares. Highly ruffled and notched petals. Red stamens. Greenish-yellow sheath and stigmas. Excellent carriage outside of the deep green well cut foliage. Stem hardiness is better than many of the lutea hybrids. Plants have reached four feet in height, which is fairly tall for a lutea hybrid in Wisconsin. This plant is a heavy bloomer with up to 3 side buds, extending the bloom season. Fertile both ways. One of the best performers in 2015, after a very cold winter.
65. **#NB-SH118. (Brassy Lady x Seidl #135).** Very large double creamy straw yellow with deep salmon coloration on ruffled central petals. Red filaments. A slow growing plant that bloomed for the first time in 2015 (5 years from seed). Foliage is large and deep green. Has pollen, but did not set seed.
66. **#NB-SH120. (G'day Mate x Autumn Harvest).** Large light yellow heavily ruffled double with very small maroon flares (not easily visible). Light red filaments and sheath. Pink stigmas. A taller plant that has better stem hardiness than either of its parents. Good stem strength that hold one flower each.
67. **#NB-SH52. (Kamata Fuji x Seidl MRV4).** Smallish light lavender fading to white with brushed lavender flares. Semi-double. Highly ruffled and feathered petals. Lavender sheath, stamens and stigmas. Plants have remained short, but productive.
68. **P. rockii x suffruticosa.** P. rockii is the hardiest of the woody peonies and is very adaptable. P. suffruticosa is the most commonly available woody peony group, but many have difficulties with our wet continental climate. Crossing the two can produce very good plants that take on characteristics of both parents. P. rockii is particularly helpful in that it passes on hardiness and disease resistance caused by wet conditions.
69. **Angel Choir.** A rockii x suffruticosa cross.
70. **Angel Emily.** A rockii x suffruticosa cross (same parents as Angel Choir).
71. **Captain Kate.** A rockii x suffruticosa cross. Vigorous and stunning.
72. **#NB-SH55. (Lavender Hill x Yukitoro).** Large white double with pinkish-red flares. Highly ruffled fringed petals. Cream sheath and stigmas. A tall hardy stemmed plant that carries its flowers upward. Attractive foliage with long leaf and large gaps between petioles. Rockii genes are responsible for its great plant habits. Like many of the rockii x suffruticosa advanced generation plants it produces few good terminal buds for grafting. Fertile both ways. Due to excellent plant and flower traits this plant is a candidate to be crossed with lutea hybrids. To date, I have not been able to cross rockii types with lutea hybrids successfully. Once that cross is successful then the fertility barrier needs to be overcome.
73. **#NB-SH57. (Angel Emily x Fujizome Goromo).** Deep brilliant lilac-purple with black flares. Black red stamens. The notched petals have small wavy ruffles. White carpels are tipped with red stigmas. A heavy blooming plant that is showoff during bloom season. Easily propagated through grafting. Plants resemble suffruticosa, while flowers are more reminiscent of rockii. Waxy anther-no pollen, but has seed fertility.
74. **#NB-SH65. (Angel Emily x Stolen Heaven).** Soft pink with small feathered deep red-pink flares. Fluted ruffles and fringed petals. Very light pink sheath and stamens. Light salmon stigmas. Plants are very woody and produce gorgeous deeply dissected foliage-very lacy. Fertile both ways. The pollen parent (Stolen Heaven) is a rare suffruticosa cultivar that has been difficult to grow, but has produced excellent offspring.
75. **#NB-SH79. (Captain Kate x Angel Emily).** Deep lavender-pink single with black glossy flares. Central petals face upward. Maroon stamens. White sheath and stigmas. Flowers are very large and carried on stems toward the top of the plant. Fertile, but what to cross it with?
76. **#NB-SH79.** Whole plant image. Tall with very large flowers. Nice fine long leaf. Very woody stems.
77. **#NB-SH85. (Lavender Hill x Angel Emily).** Medium lavender semi-double to double with purple-black flares. High ruffled, crimped and notched petals. Light lavender stamens. White sheath. Cream stigmas. Plants have much red in their foliage. Good seed fertility.
78. **#NB-SH63. (Angel Emily x Hana Kisoi).** Bright pink semi double flowers with light frosted petals toward the outside. Narrow feathered maroon flares. Petals are notched have many small wavy ruffles. Lavender stamens. Cream-white sheath and stigmas. Hana Kisoi has been an excellent parent when crossed to rockii types.

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79. **#NB-SH63.** A whole plant shot. Nice foliage and good bloom.
 80. **#NB-SH86. (Angel Emily x Seidl MRV11).** Bright white with black flares that bleed to reddish purple as they extend out on to petals. Lightly ruffled. Cream sheath and stigmas. Reddish stamens. Simple, but great color appeal. White flowers with dark flares are possible with any crosses with rockii in the ancestry. Are they anything better than a 'Rock's Variety'?
 81. **#NB-SH103. (Hana Kisoi x Angel Emily).** Very large light lavender flowers with maroon flares. The semi-double flowers have highly ruffled and fluted flowers. Sets seed, but has no usable pollen. A reverse of the prior cross.
 82. **#NB-SH103. (Hana Kisoi x Angel Emily).** Very large light lavender flowers with maroon flares. The semi-double flowers have highly ruffled and fluted flowers. Sets seed, but has no usable pollen. A reverse of the prior cross.
 83. Many plants are produced in a breeding program and for the most part, flowers are very nice. This is an example of a plant that was culled due to no particular outstanding feature. It would make a great garden plant, but isn't something for us to move forward with. This plant was sold for \$35.00 to a happy visitor, to be used as a landscape plant.
 84. Another cull. This plant was prone to disease and was not allowed to be sold. Composted.
 85. A suffruticosa seedling cull. This plant did not produce an abundance of flowers and stem hardiness was questionable. Compost.
 86. 8 year old cull.
 87. A group of rockii seedlings produced from open pollination. All were very pretty and had good plant habits. None were special enough to continue growing on. Donated to the Minnesota Peony Society auction in 2015. Many happy auction goers when home with wonderful landscape plants.
 88. Woody peonies are excellent landscape plants, both in and out of bloom.
 89. Lutea hybrid seeds are planted in fall, indoors, in vermiculite or peat. The initial growing media should be barely moist. Seeds are held at 70 to 75 degrees for three months until their first roots form. Seeds are then chilled for another 3 months (35 to 45 degrees). Then another warm period is given and leaves will begin to grow. The seedlings can then be planted out in the garden successfully. In the past couple of years we have begun planting lutea hybrid seeds in deep flats of soil and to carry them through the various temperature conditions.
- Since germination is often erratic with this group of seeds, it allows a greater time for plants to arise without disturbing them.
90. We plant all of our herbaceous and rockii/suffruticosa seeds out in the fall in cold frames. The cold frames supply extra heat in the fall and keep soil warm in hopes that roots will grow in the fall. Almost all of the herbaceous plants come up with their first leaves in the next spring. The rockii/suffruticosa seeds often require an extra season before leaves are seen. Generally this method of propagation has produced a high percentage of germination. After two to three years of growth the young plants are lined out in rows with more space for observation, evaluation and selection. Lutea hybrid seeds are not planted outside as this method has not proven successful with that group of woody peonies.
 91. Grafting of selected cultivars for propagation is done in mid August to September 1. In Wisconsin this is the best general period to graft woody peonies. Grafting done after September 1 produces rapidly declining results. This may be due to plant growth cycle or loss of soil temperature to heal grafts. Our grafts are buried outdoors and covered in plastic for 2 weeks to be heated by the sun. Plastic is removed for the soil to cool. Later mulch is added over the grafting bed and then grafting beds are covered again in plastic for the winter. In late March or Early April the plastic is removed and new grafts will arise.
 92. What first year grafts look like. These actually look very good, generally they are very weak looking and are only a few inches tall. Leaf color and size is often poor.
 93. In year two the grafts often look very good. Very few bloom during year two.
 94. By the third year in the grafting bed plants are large, blooming and crowded. Many will have begun producing their own roots and are ready to be sold or transplanted to be sold as 5, 6 or 7 year plants. The older plants become large and resent transplant more than 2 and 3 year old plants. In the case of a woody peony, medium-small is better than large! All woody peonies should be planted deeply, that is the graft union should be planted 5 to 8 inches below the surface. If the nurse has been removed, at least 4 to 6 inches of stem should be buried above the roots. In cold climates this affords the plants extra protection in the case of winter stem loss. Plants that completely lose their stems during a bad winter will renew themselves from below ground buds. In the case of lutea hybrids, many will actually produce

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bloom from this completely new wood! One drawback to deep planting is that the first year of growth is often rather slight, but be assured that much activity is going on below the surface.

95. This image was taken on March 2, 2016 of one of our grafting beds. Soil holding the plastic covering on is still frozen, but as soon as it thaws the barrier will be removed. First year grafts begin to emerge very quickly, as soon as the soil thaws. If the plastic is left on too long the little plants will begin growth and will be out of sync with normally exposed soils, making the young plants susceptible to spring frost damage. There is a mulch covering under the plastic layer that cannot be seen, this layer of about 3 inches will be left on the young plants for the duration of time they spend in this bed.
96. After 3 to 8 years of growth out of the grafting beds plants are large and produce many flowers. Many of our plants never attain full height due to heavy collecting of scions in August for grafting.
97. Planting a wide variety of woody and herbaceous peonies in a single garden keeps it relevant for many weeks. Here the early herbaceous hybrids, rockii hybrids and suffruticosas are in bloom. The luteas and mid blooming herbaceous hybrids will then follow. After that the late hybrids and lactifloras will follow. Many of the lutea hybrids will continue to bloom sporadically through mid June as new basal buds develop and side buds open.
98. Our first seedling test plot. It no longer exists, but the remnants are now large and quite stunning.
99. #NB6.
100. Giant size flowers with sculpting. WR1.
101. WR-6. Massive flowers to 10 or more inches.
102. Not fertilizing the plant, but rather, saying goodbye!



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