

2020 ASCFG Perennial Trial Report



John Dole, Nathan Jahnke, and Judy Laushman

Photo Nathan Jahnke

With two cycles of Perennial Trials, we have a lot to talk about. In 2020, we evaluated 13 varieties in their second year, and it was the first year for twelve. Next year, we'll report on how those twelve performed in their second season.

Yarrows are great plants: they grow fast, spread quickly without being invasive, and are easy to manage. Of the five cultivars in the trials, **'Sassy Summer Sangria'** (year 2) and **'Sassy Summer Lemon'** (year 1) scored highest for their long, strong stems and productivity. **'Sassy Summer Sangria'** produced the longest

stems, around 17 inches, and about 13 stems per plant in the second year. In the first year, the same plants produced 8 stems/plant that averaged about 14 inches long. **'Sassy Summer Lemon'** also produced long stems, around 16 inches, and about 7 stems/plant in the first year. Trialers loved the colors and noted that they held up well.

Astilbe 'Purple Candles' (year 1) did well in the first year, with 16+ inch stems and around 3 stems per plant. The soft plumes add wonderful texture and color to bouquets and designs. At least one grower noted that they use the dark green foliage as well. The flower color stood out, with one trialer commenting "I have several different astilbe varieties and the color on this one is special!"



Photo Morgan Hopkins



Photo John Dole

The iconic clematis are known for their intensely colored flowers and wonderfully fuzzy seed heads. However, most clematis are vines, making production a bit complicated, and the flowers and seed heads are produced on short stems, making them difficult to use. With that in mind we were excited to try **clematis ‘Stand by Me’** (year 2) which is billed as an upright, non-vining plant. Last year the stems were on the short side, around 10 inches, but this year they averaged around 19 inches long, with over 8 stems/plant. This cultivar did so well that it is one of the top-ranked entries. One trialer wrote that it had “The most darling bell-shaped blue flowers. I had a second flush of flowers in September which were so perfect. I have been needing more blue flowers in the fall!” As with many other clematis, the white seed heads were also well received.

Kniphofias make dramatic statements in bouquets and arrangements with their bright yellow to orange colors. Of the four in the trials, **‘Backdraft’** (year 2) scored the highest for its vivid reddish orange that ages to yellow, and strong, pest-free growth. In its second year, stems averaged 15 inches long, with some getting up to 24 inches, while yield averaged 15 stems per plant. One problem with all kniphofias is that the lower florets turn brown as they age, making it tricky to harvest when the spikes are well colored but before the lower florets turn brown. If flowers get a little old, a quick shake of stems while harvesting can dislodge some of the brown ones.

Both **veronica ‘Blue Skywalker’** and **‘Lavender Lightsaber’** (year 2) scored well again. In their first year, these cultivars produced 3-4 stems/plant that averaged 10-13 inches long, while in 2020 the



Photo Rachael Ackerman



Photo Rachael Ackerman

mature plants produced 10 to 12 stems/plant (at least one trialer harvested 20-25 stems/plant!) that averaged 13 to 17 inches long. As in the previous cycle, trialers commented on the lovely colors and unique texture they bring to designs.

Stay tuned to *The Cut Flower Quarterly* for next year’s report on year two of the new cultivars in the trials.

Based on the combined ratings score (market appreciation + repeat again + ease of cultivation), the following top-ranked cultivars will be nominated for the ASCFG Cut Flower of the Year: *Achillea* ‘Sassy Summer Lemon’ and ‘Sassy Summer Sangria’; *Astilbe* ‘Purple Candles’; *Clematis* ‘Stand by Me’; *Kniphofia* ‘Backdraft’; and *Veronica* ‘Blue Skywalker’ and ‘Lavender Lightsaber’.

Interpreting the trial results: The numbers reported are averages of all the respondents, and many factors will affect the success of any cultivar. Our participants grow and harvest trial plants using several methods. After looking at the average, check the range of responses listed below each number to see how the cultivar performed at its best and its worst. If the range of responses in the ratings is narrow and high, i.e., 3-5 or 4-5, the plant was a winner for most of the respondents and is likely to do well for you. The ‘Repeat Again Rating’ is particularly important because it indicates if the trialer would take the time, money, and space to actually grow the cultivar again. Review the trial results carefully. If a variety sounds interesting, but did not appear to do well, try it anyway; it may work well for you.

Acknowledgments: Thank you to each of the 13 evaluators who returned their trial reports! We very much appreciate the time it takes to do the trials. We want to especially thank **Laura Beth Resnick** from Butterbee Farm for being the first trialer to return evaluations for Year One, and **Janet Foss** from J. Foss Garden Flowers for being the first for Year Two. Thank you to Walters Gardens for providing the plant materials. In preparing the report we did a bit of editing of the comments for space and clarity; our apologies if we've altered the tone or content of anyone's comments.

Photos: This year trialers Rachael Ackerman and Renee Clayton sent us photos. We included as many as possible in this report. Some of them were just spectacular—thank you, thank you!



Photo Renee Clayton

Participating Company

Walters Gardens
Zeeland, MI
www.WaltersGardens.com

Participating Trialers—Year One

Rachael Ackerman Blue Sky Flower Farm Lakeville, MN Zone 4	Jennie Love Love 'n Fresh Flowers Philadelphia, PA Zone 7
Shannon Algieri Stone Barns Center for Food and Agriculture Tarrytown, NY Zone 7a	Jeanie McKewan Brightflower Farm Stockton, IL Zone 5a
Renee Clayton Wild Scallions Farm Timberlake, NC Zone 7	Erin McMullen Rain Drop Farms Philomath, OR Zone 8b
Mackenze Burkhart Michelle Elston Roots Cut Flower Farm Carlisle, PA Zone 6b	Rebecca Perry Sabatia Flower Farm West Barnstable, MA Zone 6b
Morgan Hopkins Urban Buds St. Louis, MO Zone 5	Laura Beth Resnick Butterbee Farm Pikesville, MD Zone 7
Nathan Jahnke/John Dole NC State University Raleigh, NC Zone 7b	Jamie Rohda Harvest Home Flowers Waverly, NE Zone 5
	Teresa Tibbets Dandelion Farm Lander, WY Zone 4

Participating Trialers—Year Two

Rachael Ackerman Blue Sky Farm Lakeville, MN Zone 4	Jeanie McKewan Brightflower Farm Stockton, IL Zone 5a
Hedda Brorstrom Full Bloom Flower Farm Sebastopol, CA Zone 9b	Rebecca Perry Sabatia Flower Farm West Barnstable, MA Zone 6.5
Renee Clayton Wild Scallions Farm Timberlake, NC Zone 7	Teresa Tibbets Dandelion Farm Lander, WY Zone 4
Mackenze Burkhart Michelle Elston Roots Cut Flower Farm Carlisle, PA Zone 6b	
Janet Foss J. Foss Garden Flowers Chehalis, WA Zone 7	
Nathan Jahnke John Dole NC State University Raleigh, NC Zone 7b	

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Summary of Comments. The number in the parenthesis is the number of trialers who made the same comment. Comments from different individuals are separated by a “;”. Note: many respondents did not make specific comments on each cultivar, and in a few cases, comments have been shortened because of limited space.

Year 1 Results

Achillea ‘Firefly Diamond’

Good Qualities: Beautiful bright white (2); Nice strong stems; Robust, fast-growing plant, minimal weeding and no staking needed; Holds color, no browning; We liked that this cultivar had a thicker stem than most other white yarrows, it gave us a longer vase life comparatively; This cultivar is extremely cute, and very useful being a dainty white variety, I found it in year one to be very short, I have grown similar types and they bloom with more stems and stem length year two; Robust, drought-tolerant plant; Large flower heads.

Problems: Short (4); Ivory white color, not popular with the farmers’ market crowd and a little on the short side, might work better with weddings; Weak grower, not much bloom; It is annoying to harvest; Not convinced this white is better than the wild yarrow varieties I grow, second year yield will be informative.

Notable Insects and Diseases: None (5); Gophers.

Similar Cultivars: ‘Moonshine’ yarrow; Yes, similar to the “wild” yarrow that comes up naturally in Wyoming.

Postharvest Recommendations: Chill for 1 hour after cut and before use; Plain water; Be sure to cut when the pollen has begun to show, strip all leaves, use holding solution and a bleach tab.

Comments: I’d like to see it produce a second year, maybe it would be taller and produce more stems; We really liked this yarrow and were impressed that it held its color and did not brown, it would be a great asset for wedding design work; Planted in a high exposed field row, hoping to see better performance in year 2; I really wanted to like this one as it was similar to

another I had grown some years back, perhaps I didn’t give it enough water and I was so surprised the gophers ate it, I’ve never seen them eat yarrow before.



Photo John Dole

Achillea ‘Peter Cottontail’

Good Qualities: Bright white flowers (2), similar to a feverfew; Robust, heavily-branched grower, with a most unusual flower for an achillea, looks more like a baby’s breath, holds out of water, could be great for wedding work; No browning, timing was different than feverfew, so could be used to extend availability of small white flowers for spring; Great vigorous grower, incredibly prolific bloomer all season long, low maintenance needs (no trellising, etc.), drought resistant, pest resistant; Unique flowers, large flowers for a yarrow, drought tolerant, dries well; Clean dark green foliage.



Photo John Dole

Problems: Short stems (3) - hoping they will gain length next season, looks a lot like feverfew, but not as prolific; Short in comparison to *Achillea* ‘Firefly Diamond’ and ‘Firefly Amethyst’, though not unexpected for first-year growth; Wasn’t visited by pollinators; Stems were floppy, needs support.

Notable Insects and Diseases: None (5).

Similar Cultivars: Baby’s breath (2); Similar look to feverfew or achillea ‘The Pearl’; feverfew ‘Tetra White’; feverfew ‘Ball’s Ultra’.

Postharvest Recommendations: Chill for at least 1 hour before use; Plain water; We used Chrysal #2 and a gerbera tablet at harvest.

Comments: Could be a very useful little flower to have around, also has a long harvest window, stems keep blooming (and steadily getting taller), for later harvest, just pinch out the faded center bloom; We liked it for design; Our favorite! we found that it also makes a great dry flower; Plants are very new, but I think these will be really useful and productive next season!

Achillea ‘Sassy Summer Lemon’

Good Qualities: Strong, sturdy stems (6); Soft yellow color (5), paler than the ‘Moonshine’ cultivar that we grow, holds color and does not brown, had great length for a first-year yarrow; More productive and hearty in the same vein as ‘Moonshine’; Robust, strong grower, minimal weeding needed; Consistent-sized heads; Clean foliage, upright stems; Useful in market bouquets.

Problems: None! (2); We liked this one; Pale cool yellow color, not terribly popular at farmers’ market, could be good for pastel weddings; Not an easy color to sell in our market, used



Photo Morgan Hopkins

pollen is showing, we cut into Chrysal #2 and use a Gerb pill; Harvest like other yarrow, once all the blooms are open. *Comments:* We liked this variety. We grow 'Moonshine' because it holds its color so well, but would consider growing this in the future as well; If only yellow was more popular with our customers!; Unlike the muted yarrows, this one is stiff and sturdy, a good replacement in work that needs a neon pop for billy balls, I am sure some florists around here would think it is too bright, but it's a lovely plant; Quick to flower, vigorous plants.

Astilbe 'Maggie Daley'

Good Qualities: It held up well in less than ideal conditions for astilbe, exceptionally hot and dry this summer; Very fond of the color and the spired shape is valuable; I am in love with Astilbes! the foliage is useful as greenery, the stems were short, but the dark pink color was nice.

Problems: Short stems (2), but this is its first year so probably taller next year; Growth was not vigorous.

Notable Insects and Diseases: None.

Similar Cultivars: None listed.

Postharvest Recommendations: Chill in the cooler for at least 1 hour before using.



Photo Walters Gardens

mostly for bouquet work; I was so surprised when gophers ate them all after they bloomed, I have never had gophers eat yarrow before.

Notable Insects and Diseases: None (4); Gophers.

Similar Cultivars: Achillea 'Desert Eve'; Other bright yellow yarrows.

Postharvest Recommendations: We remove all of the leaves, we cut when

Comments: They REALLY struggled during the drought, some of the plants produced one to two short flowers, but many of them appeared to die before producing anything, it will be interesting to see how many come back next year; We didn't actually harvest/sell any of this since it was its first year and the

number of stems ready at any one time was so low; Definitely need shade in arid west.

Astilbe 'Purple Candles'

Good Qualities: Beautiful lavender color! (6); A nice plumed flower shape, favored by the pollinators; I have several different astilbe varieties and the color on this one is special!; Texture and spired shape of astilbe were appreciated by our floral team; Very tall; Nice, dark green foliage can be used as greenery, nice to use in event work; All of the florists love astilbes, very floriferous even in the first year.

Problems: Not a vigorous grower; Small stage of harvest range; Not all the plants bloomed, stems on the short side, the browning on the bottom of the flower over time takes away from its beauty in arrangements, less tolerant than 'Maggie Daley' to dry conditions—wilted a lot in our dry summer climate; Other than the cultural requirements, if those are met, the plants are beautiful.

Notable Insects and Diseases: None (6).

Similar Cultivars: All astilbe.

Postharvest Recommendations: Chill in refrigeration for at least 1 hour before use; We cut when the flower spikes were 1/3 to 1/2 open and buds were colored; Tips tended to wilt.

Comments: Also hoping they establish and take off next year, I would love to have more stems to work with!; They REALLY struggled during the drought, some of the plants produced one to two short flowers, but many of them appeared to die before producing anything, it will be interesting to see how many come back next year; We didn't cut or sell any of these since there were so few stems ready to cut at any given time; Very uniform in color, somewhat outrageous and florists loved it; Definitely need shade in arid west; Astilbes are always tricky unless they have their exact cultural requirements; Similar color as 'Maggie Daley', but much longer stems and flowered later.



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Baptisia 'Plum Rosy'

Good Qualities: Grew a nice amount of foliage, rather low to the ground, but a good sign for next year; The plants survived a very hot, dry summer without irrigation or attention; Not sure! the plants took a long time to establish, foliage really filled out by the end of the season.

Problems: Slow to establish—no flowers first year; Wasn't happy as a row crop.

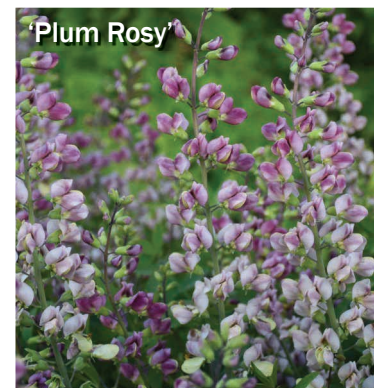


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Notable Insects and Diseases: Grasshoppers; None.

Similar Cultivars: None listed.

Postharvest Recommendations: None listed.

Comments: This one didn't flower in year one (5), which is normal for us with baptisia, we'll wait to see what happens in the spring of year 2!; It takes about three years in our zone for baptisia to establish; Plants arrived in June and it was really too late to plant them and get much data this year; We will give baptisia more time in the nursery before planting out next time, we will be moving these plants into ornamental spaces for better growth and use in 2021.

Kniphofia 'Lucky Lemons'

Good Qualities: Robust grower, minimal weeding needed; We barely looked at it all season, and it still flowered, so pretty easy to grow!; Drought tolerant; Clean foliage, no specific pest or disease issues; Love the yellow color!

Problems: This is just not a popular flower with our customers—the yellow

color and the shape of the flower are maybe novelty but not things that our customers will buy weekly; Pale lemon yellow not easy to work into farmers' market bouquets, and works only for weddings with a compatible palette, bloomed rather short this year; Lower petals degraded before the flower was in its prime; Color is nothing special, not a lot of call for pale yellow this season; Only

one stem per plant first year—likely won't survive the winter.

Notable Insects and Diseases: None (4).

Similar Cultivars: Very similar to Kniphofia 'Flashpoint'.

Postharvest Recommendations: For best vase life pick when flowers are just starting to open; We cut when flowers are 1/3-1/2 open, we use Chrysal #2 and a gerb pill.

Comments: Not highly productive in our zone its first year, doesn't fit our style, can't trust the bloom with degrading lower petals.

Kniphofia PYROMANIA 'Flashpoint'

Good Qualities: Unique ivory and light yellow color (2); Vigorous grower, sturdy stems, foliage looked good all year; Clean specimens, no insect pressure; It is yet to bloom, but folks love it in design work, it gives things a tropical feel

and is easy to grow in a border and takes little water; Smaller flower heads were easy to design with, drought tolerant, of all the kniphofias I have tried, this is the first I felt might be worth growing and overwintering because the color and smaller flowers were easier to design with, used every stem even though they were short, flowers last out of water; Really flourished despite drought, strong plants.

Problems: Just didn't grow that much; This variety had a shorter stem length compared to 'Lucky Lemons'; Color is nothing to write home about, especially since there were no weddings this year, so no call for pale colors; Slow to grow; On the short side, wish they had more stems; We find that by the time the flower is fully developed the lower level of petals have browned, the plants also do not produce very many blooms their first year.

Notable Insects and Diseases: None (6).

Similar Cultivars: Kniphofia 'Lucky Lemons' (2).

Postharvest Recommendations: Chill in cooler for one hour before use; We cut when flowers are at least 1/3 to 1/2 open; I've grown many other varieties of this and my florists love it! from this size plant, though, it normally takes 3-4 years before we have any blooms, once they do bloom, we get about a week of vase life, fragile stems for transport as some varieties snap.

Comments: These plants arrived 2 months after all the others, and they grew and some flowered, but significantly smaller than the other variety of kniphofia...though strangely the same color...is that right?; Very pleased with the plant and will expand into our ornamental gardens; We find that kniphofia are just not conducive to our style and type of production, in this zone they are not productive their first year, and aren't worth the space.



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Penstemon 'Onyx and Pearls'

Good Qualities: Unique dark burgundy foliage (4); Loved the color, super dramatic; Robust grower with gorgeous foliage, minimal weeding, pollinator favorite when in bloom; Understated, but complex colored flowers, beautiful in bouquets; Huge florets and many on each stem; Very useful color in wedding work, unique flowers perfect for the "wildflower" look, very drought tolerant; Really cool seed heads too!

Problems: Didn't get tall or many stems from it year one; Not a terribly long vase life, maybe best as an event flower, but great for the wildflower wedding look; Not productive in its first year; Petal shed can be an issue, as the florets open over a period of time, so it can be necessary to remove spent flowers as newer ones are harvested; First year was not very

floriferous; Not all plants flowered, stems on short side, however, this is typical for first-year penstemon in our climate. *Notable Insects and Diseases:* None (5); Japanese beetles. *Similar Cultivars:* Similar to 'Huskers Red' but flowers are much larger and more showy. *Postharvest Recommendations:* We cut when flowers were 1/3 to 1/2 open.



Photo John Dole

Comments: Also, used the seeds heads as cuts (3), they last forever, and are a gorgeous burgundy cluster of seed pods, especially nice in arrangements; This one was a surprise for us, the dark foliage was gorgeous and our customers loved it, the few stems that didn't get sold for flowers were sold at the end of the season for the seed pods, which were really cool!; It was difficult for us to judge this plant's performance as a first-year perennial, they

really only produced a single stem and didn't get very large, it was also a difficult drought year; <12 inches; Hoping for a great show next year; They produced only a few stems this season.

Phlox LUMINARY 'Opalescence'

Good Qualities: Nice full focal flower for the summer, pale pink flower; No mildew; Long, strong stems, nice color and scent.

Problems: Bloomed too short to be very useful (2).

Notable Insects and Diseases: Cucumber beetles; 15% of plants died, or seemed to, others just didn't grow much.

Similar Cultivars: None listed.

Postharvest Recommendations: We used Chrysal t-bags in the water.

Comments: Phlox is not productive during its first year in our growing zone.

Phlox 'Fashionably Early Crystal'

Good Qualities: Gorgeous white/blush color (4); Nice large flower head fills out an arrangement (2); The plants that did bloom bloomed early, and did not get mildew; Clean foliage; Easy to use in design work, lovely scent.

Problems: Pretty short the first year (4), flower heads dwarfed the stems; I would use only in event work, as the petals shatter easily, harvest window is short; Not very strong, does not compare to the vigor of 'Fashionably Early Flamingo'; Worth it for the color.



Photo John Dole

Notable Insects and Diseases: None (4).

Similar Cultivars: Flower heads look a bit like a large sweet William.

Postharvest Recommendations: We cut when flowers were 1/2 open.

Comments: I am very interested to see what it will do next year, I was a little disappointed it didn't grow more, especially since it was planted in March; I like the color of the short blooms that the plants produced this year, looking forward to harvesting next year!



Photo John Dole

Phlox 'Glamour Girl'

Good Qualities: Fabulous saturated coral color (3), I loved this color!; Long, strong stems, nice scent; Clean foliage, strong upright stems.

Problems: Plants didn't seem to grow much, and those that did flower bloomed very short; The color is hard to move in the market, used mostly for grocery and farmers' market bouquets, which was great especially for the scent; First year all plants did not flower, flowers were huge for the length of the stem; The majority of the trial plants have died, plants remain short, with not many useable stems; First-year yield was low and the color is a super saturated pink that it hard to incorporate in arrangements.

Notable Insects and Diseases: 15% of the plants seem to have died—maybe a leaf rust, they just fizzled up, other plants seemingly unaffected; Cucumber beetles; Clean foliage, no problems to speak of; None.

Similar Cultivars: ‘Flamingo’.

Postharvest Recommendations: We cut when flowers were 1/3 to 1/2 open.

Comments: I am very interested in what this does next year as well, they had a long growing season this year, but just didn’t grow much; The plants did produce a few short stems of blooms and the color was absolutely amazing! looking forward to seeing this one produce next year!

Year 2 Results

Achillea ‘Sassy Summer Sangria’

Good Qualities: Strong red color (5); Sturdy stem (2); Very tall, productive, holds color well; Uniform height and bloom time, Nice flower shape, good shelf life; Easy to grow, large flower heads, drought tolerant, and useable stems to dry.

Problems: None (2); No rebloom; Stems ended up requiring staking, they bloomed taller this year, but the stems were rather spindly, the plants produced up to 20 stems per plant, but many were unharvestable after flopping over; Stems on the short side for yarrow, not as robust of a plant compared to other varieties.

Notable Insects and Diseases: None (5).

Similar Cultivars: Strongest true red color that I have seen in the trade; ‘Moonshine’ yarrow.

Postharvest Recommendations: We cut when pollen was showing, color a bit dull, and removed all of the foliage, flowers held up well in bouquets, we did not store in the cooler more than a few days for preparation to assemble bouquets; Plain water.

Comments: We love this variety, we typically do not grow colored yarrow besides yellow, but this particular variety is very worthwhile, customers love the color, the stem length is great, and the way it holds its color vs. other yarrows is impressive; We liked the color of this yarrow and the reblooming nature; I will trellis these next year.

Achillea ‘Sassy Summer Sunset’

Good Qualities: Bright orange/terra cotta color (2); Strong stems (2), did not need support; Plants all bloom over a period of 2 weeks, good drought tolerance; Dries nicely, easy to grow in dry conditions; Vase life was good, flower shape and ease of growing and reblooming were desirable.

Problems: No rebloom; Tend to be consistently shorter than

our other yarrow, the color was not great, flower seemed never fully open, wish the stem length was longer.

Notable Insects and Diseases: None (4).

Similar Cultivars: Very similar to other Sassy cultivars, stronger color than other terra cotta cultivars; ‘Moonshine’ yarrow.

Postharvest Recommendations: We remove all foliage, harvest when pollen is showing and the flower color is beginning to dull; Plain water.

Comments: Bloomed over a month, and the stems rather trickled in—based on how robust the basal growth appeared, I rather hoped for more stems.



Photo Walters Gardens

Baptisia ‘Lemon Meringue’

Good Qualities: Lovely easy spike flower in May, the plants didn’t have that many shoots, but each shoot branched and ended up quite bushy, these really grew into a little hedge, and grew robustly enough to need little maintenance; Nothing to report.

Problems: Length of time to produce blooms; Small, difficult to establish; Not that many flowers, but based on the rate of increase over last year, there could be lots next year.

Notable Insects and Diseases: None (2); Plants appear to have less disease than ‘Pink Lemonade’.

Similar Cultivars: None listed.

Postharvest Recommendations: None listed.

Comments: None of these survived their first season; Baptisia takes a minimum of three years to establish in our zone, we have lost nearly all of this variety, we have two plants remaining, compared to 8 plants of ‘Pink Lemonade’, they are much smaller than ‘Pink Lemonade’ and did not flower this year; I have tried to grow the wild type before, and was really shocked and pleased at how much more robust this selected and improved variety was!

Baptisia ‘Pink Lemonade’

Good Qualities: Higher survival rate than baptisia ‘Lemon Meringue’; The flowers age to a superb antique pink.

Problems: Long time in the field to wait for production.

Notable Insects and Diseases: None to speak of other than the voles love it; It does show signs of disease at the end of the season, but an amount that is to be expected.

Similar Cultivars: None listed.

Postharvest Recommendations: None listed.

Comments: I am still impressed how it went from a delicate little plant the first year, to this robust hip-high hedge this year,

I am excited to see what year 3 brings; None of these plants survived their first season; While the plants are alive, they aren't wonderful or vigorous and they haven't flowered; Baptisia takes a minimum of three years for us to establish, we did not harvest any of this variety this year, but the fact that we have lost only 4 plants is impressive, even with the most reliable varieties that we grow ('Twilight Prairie Blues', *B. australis*) are difficult to establish and have required several re-plantings.

Clematis 'Stand By Me'

Good Qualities: White seed pod puffs (3); Fabulous blue color (2) so difficult to come by in the Midwest region; The most darling bell-shaped blue flower, I had a second flush of flowers in September which were so perfect, I have been needing more blue flowers in the fall!; Easy to grow (with support), quite drought tolerant in part shade, long vase life, unique blooms; Stems are very long and branched—we sold them as

one long stem with multiple branches or we cut the smaller stems and sold larger bunches with shorter stems; People liked it, nice straight stems.

Problems: Even though it is a "bush" clematis, the plants still require staking or trellis to support the stems (4); The flowers are downward facing and difficult to use for our purposes (2); None, some powdery mildew late season.

Notable Insects and Diseases: None (4); A foliage disease, maybe a bacterial leaf spot, wiped out the foliage of the first round of flowers, the plants almost died back in the summer, but resprouted in fall with a much better crop of flowers!

Similar Cultivars: Platycodon is a better choice for this color; No, very unique; Yes, some species of clematis are similar.

Postharvest Recommendations: Plain water; Pick flowers when they are only half open, buds open in the vase nicely, but petals fall off easily from fully open blooms, foliage lasts much longer and was beautiful!; Holds well in cooler for up to 2 weeks with preservative; We use Chrysal Prof #2 and a CVBN tablet.

Comments: A very fun design element, even if it has some trouble with disease, it is worth babying this one some; It is a little short for me, but I still ended up using almost every stem, I was surprised how well it did with only weekly watering in our arid climate.



Photo Rachael Ackerman

Echinacea 'Coral Craze'

Good Qualities: Nice hot pink color (6); Large bright cone; The shape and stem length were desirable; Perfect for farmers' market bouquets, harvested stems for a month in June; Very large globe-like cones, thick stems, drought tolerant, bright color of cones and petals.

Problems: Much shorter stems than most cut flower varieties (2); None to speak of; Not many stems per plant, like many echinacea, hard to keep alive for us; Japanese beetles love it; Wish more of them survived; Difficult to establish, not very productive, blooms tend to brown out quickly.

Notable Insects and Diseases: None (3).

Similar Cultivars: We grow several echinaceas which we like very much.

Postharvest Recommendations: We used Chrysal #2; We removed most of the leaves, held in water with Chrysal #2 and CVBN tablet; Chrysal holding solution and gerbera tablet.

Comments: Customers liked it, I liked it too, but I'm not sure it liked our growing conditions; Still my favorite from this trial!; I would grow this for the glowing gold cone, even though it is one the short side.



Photo John Dole

Kniphofia 'Backdraft'

Good Qualities: Vivid color (2) stood out, was eye catching, and sold quickly; Bright, productive, bloomed early in the season when product is needed; Clean plants, strong bloomers, strong stems; The length of the flower was great; Bloomed

over the month of June, and the stems just kept coming, when combined with other bright colors, made for fun bouquets, basal growth also very robust, minimal weeding required; Extremely drought tolerant.

Problems: Could have been taller (2); Need to really check them each day for ready product; None to speak of; The color and shape make it a little challenging to integrate with other



Photo John Dole

flowers; Blooms are best for event work, don't look that great as the flower ages in the vase.

Notable Insects and Diseases: None (4).

Similar Cultivars: None listed.

Postharvest Recommendations: We used Chrysal #2; We harvested when flowers were at least 1/2 open with a strong bright color, we usually harvested once per week so some flowers were fully open; Plain water; Harvest stems young.

Comments: I didn't think they would sell, but customers liked them; We liked these very much; I really ended up loving these flowers way more than I expected; These plants survived the winter in our unheated, very dry, hoophouse in Zone 4b, where they received winter moisture, the survival was very low, I would definitely treat these as an annual in our zone.

***Kniphofia* 'Orange Blaze'**

Good Qualities: The bright orange color with almost purple undertones is stunning! (4); Productive blooms before most annuals, customers like it; Strong stems, good form; As with other kniphofias, we like the shape of the flower; Drought tolerant.



Photo John Dole

Problems: Blooms fast and can get past prime age fast, must carefully monitor; None to speak of; We were less happy with this color, think another year in the ground might produce longer stems as they were short this year; Plants in general smaller and less robust than the other variety of kniphofia; Color is more of a hunter orange and hard to use in designs, did not overwinter well for us.

Notable Insects and Diseases: None (4).

Similar Cultivars: The two kniphofias were very similar.

Postharvest Recommendations: We used Chrysal #2; We use Chrysal #2 and a CVBN tablet; Harvest the flowers young.

Comments: Bloomed over the month of June and combined well with bright colors. We overwintered some in our unheated, very dry hoophouse, would treat as an annual in Zone 4b.

***Panicum* 'Apache Rose'**

Good Qualities: Unique blush color (3); Very easy to grow, low maintenance, drought tolerant; It can be picked while green with nice rosy panicles, or later when the seed heads and grass are golden, nice long harvest window, and adds a nice airy look to any arrangement; Long straight stems; Easy to grow, drought tolerant, dries well.

Problems: Nothing special, weak stems, not a particularly noteworthy flower; Stems are slender, and it takes A LOT to make a nice-sized bunch, I didn't always have the patience to pick it; I wish the seed heads were a little bigger, stems thicker, and stem length longer.

Notable Insects and Diseases: None (4).

Similar Cultivars: None listed.

Postharvest Recommendations: Harvest before stems dry or else they fall apart; As with any grasses, change water frequently.

Comments: We use this primarily for wedding DIY bulk buckets, it would be a pain to use in wholesale bouquets; These did not survive the first season so never produced any results for me to observe; Nice material to have around; Plants were much more robust in year 2.

***Pennisetum* 'Puppy Love'**

Good Qualities: Gorgeous fluffy blooms of black and bright green (2); Very low maintenance, we haven't lost a single plant, drought tolerant; People like ornamental grasses, it adds interesting texture to our bunches.

Problems: None to speak of; Still has not produced great stem lengths the second year; The flowers are weak, short, and not particularly pretty on this variety of pennisetum, much prefer straight *P. alopecuroides*; All the plants died over the winter!; Was not very robust in year 1, very few survived winter, didn't bloom for me either year.

Notable Insects and Diseases: None (2).

Similar Cultivars: *Pennisetum rubrum*, 'Hamlin', *P. alopecuroides*.

Postharvest Recommendations: We use CVBN tablets in the water, we harvested when fully open and bushy; Plain water.

Comments: We like this grass, but typically use it only for design work, or wedding DIY bulk buckets, it has a nice unique texture and burgundy color, which has fit well with wedding trends of the past few years.



Photo Rachael Ackerman

***Phlox* 'Fashionably Early Flamingo'**

Good Qualities: Beautiful bright color (4); Tall, sturdy, large head size, vigorous plants, conveniently early in the spring, would say this is the best phlox we have attempted to grow;



Photo John Dole

We like phlox but are always hesitant to deal with powdery mildew issues; Nice large focal flower in a bright color in mid May and a pollinator favorite; The florets were a nice size and of substantial thickness.

Problems: While it was convenient in the spring, I would not necessarily say it was worth the space that it takes up as a perennial, we cannot grow phlox as an annual here and get any serious yields; Spent florets need to be shaken off or are ugly; Super saturated, almost fluorescent pink color was hard to design with (we tend to get saturated color in the Rocky Mountains), flowers shatter easily; Still somewhat short.

Notable Insects and Diseases: None (4); It was impressive that it had no mildew issues.

Similar Cultivars: None listed.

Postharvest Recommendations: Plain water; Would use a flower food to help the buds that continue to open to keep some color, otherwise the new buds open very pale.

Comments: These bloomed just after the peonies and were just what I wanted for mixed bouquets.



Photo John Dole

Veronica 'Blue Skywalker'

Good Qualities: Lovely blue purple color (4); Unique texture and shape for design work; Strong stems, good rebloom; We like veronica very much, so the long flower spike is desirable, these veronica did not display the typical diseases so common in the species; Bumblebees loved the blossoms! for me, they bloomed

for Mother's Day, I can never have enough material for Mother's Day!; Grows well in part shade, bloomed all summer into fall and takes a light frost.

Problems: Still fairly small plants, it seems like it will take several years to fully establish; None so far; We wish the stems were longer.

Notable Insects and Diseases: None (4).

Similar Cultivars: We grow veronicastrum, which is very prolific and a great spike-shaped flower.

Postharvest Recommendations: We cut when flowers were 1/3 to 1/2 open; Plain water.

Comments: We liked this color better than the lavender, and these plants achieved a usable stem length on the first cutting that the lavender did not; There was also a small flush of flowers in the fall—very useful; Loved this variety for event work, it's hard to find flowers with blues in them.

Veronica 'Lavender Lightsaber'

Good Qualities: Lovely lavender color (4); All of our plants have survived; Clean foliage, bees love it; The spike flower shape very desirable; Also bloomed in May in time for Mother's Day, another bumblebee favorite; Bloomed all summer into fall, good for event work.

Problems: Very short for a second year (4), not many stems were of a useful length; Perhaps with time the flower stems will become longer, the plant is advertised as 28-30" tall.

Notable Insects and Diseases: None (4).

Similar Cultivars: None listed.

Postharvest Recommendations: We cut when flowers were 1/3 to 1/2 open; Plain water.

Comments: If the plant does not improve in terms of stem length next year, we would not keep growing it; Also had a small flush of flowers in the fall.



Photo Rachael Ackerman

Table 1. Year one results for plants received 2020. The first row of data for each cultivar is the average, and the second row is the range of responses. Note when only one response is shown in the range line, all respondents gave the same rating.

Species Cultivar	Plant survival and flowering (%)	Yield (stems/ plant)	Stem length (in.) ¹	Market appreciation rating ²	Ease of cultivation rating ²	Grow again rating ²	Postharvest life (days)
Achillea	93	5.1	12.4	3.2	3.4	4.7	6.3
Firefly Diamond	60-100	1-15	4-18	2-5	2-5	3-5	3-10
Achillea	97	5.1	11.9	3.3	4.0	4.5	7.7
Peter Cottontail	80-100	1-15	6-18	3-4	3-5	3-5	3-10
Achillea	100	7.1	15.8	3.8	4.2	5.0	8.0
Sassy Summer Lemon	100	1-15	12-20	2-5	3-5	5	3-11
Astilbe	74	1.9	12.3	4.5	4.0	4.0	7.0
Maggie Daley	20-100	1-3	10-16	4-5	3-5	2-5	7
Astilbe	81	3.2	16.3	4.8	4.2	4.0	6.0
Purple Candles	20-100	1-8	10-27	4-5	3-5	2-5	4-7
Baptisia	17	-	13.5	-	5.0	4.0	-
Plum Rosy	0-100		4-20		5	3-5	
Kniphofia	93	2.6	15.0	3.7	2.7	4.8	7.0
Lucky Lemons	80-100	1-8	10-18	3-5	1-4	4-5	7
Kniphofia	86	2.1	15.8	4.7	3.2	4.8	6.8
PYROMANIA Flashpoint	50-100	1-5	10-29	4-5	1-5	4-5	5-7
Phlox Fashionably	92	2.2	11.8	3.0	3.0	4.0	6.5
Early Crystal	50-100	1-6	8-18	3	3	3-5	5-7
Phlox	86	2.3	11.8	3.0	2.4	3.8	7.0
Glamour Girl	50-100	1-8	8-22	2-4	1-3	3-5	7
Phlox	88	2.8	12.3	3.0	2.3	3.5	6.0
LUMINARY Opalescence	50-100	1-6	6-24	3	1-3	2-5	6
Penstemon	78	3.0	15.2	4.0	3.8	4.5	5.5
Onyx and Pearls	20-100	1-8	5-36	3-5	2-5	4-5	4-7

¹Data shown are from the respondents who harvested stems. Some trialers may have not harvested stems because they were too short. The stems, not the trialers.

²1 to 5 scale with 5 being the best; market appreciation ratings are based on sales to wholesalers, retailers, and/or final consumers.

Table 2. Year two results for plants received 2019. The first row of data for each cultivar is the average, and the second row is the range of responses. Note when only one response is shown in the range line, all respondents gave the same rating.

Species Cultivar	Plant survival after winter (%)	Plant flowering (%)	Yield (stems/ plant)	Stem length (in.) ¹	Market appreciation rating ²	Ease of cultivation rating ²	Grow again rating ²	Postharvest life (days)
Achillea	40	100	12.9	17.1	4.75	4.6	4.6	8.2
Sassy Summer Sangria	0-100	100	8-25	9-25	4-5	3-5	3-5	7-10
Achillea	28	100	10.8	13.9	4.0	3.3	4.8	6.8
Sassy Summer Sunset	0-100	100	6-15	6-18	3-5	1-5	4-5	3-10
Baptisia	4	25	3.0	17.0	2.0	3.0	3.7	8.0
Lemon Meringue	0-10	0-100	3	10-24	1-3	1-5	2-5	8
Baptisia	37	38	3.0	22.0	2.5	3.0	4.5	5.0
Pink Lemonade	0-100	0-100	3	20-24	1-4	1-5	4-5	5
Clematis	40	97	8.4	18.8	4.4	4.0	4.6	6.7
Stand by Me	0-100	85-100	4-12	12-24	3-5	4-5	3-5	5-10
Echinacea	24	83	5.8	12.9	4.8	3.7	4.0	7.7
Coral Craze	0-100	50-100	1-12	10-16	4-5	1-5	2-5	5-10
Kniphofia	50	100	14.9	15.1	4.4	4.0	5.0	7.0
Backdraft	0-100	100	6-20	8-24	3-5	2-5	5	5-8
Kniphofia	52	97	12.6	12.9	4	3.75	4.6	6.8
Orange Blaze	0-100	85-100	4-20	8-18	2-5	2-5	3-5	5-8
Panicum	43	83	52.2	28.3	3.8	4.0	4.8	9.0
Apache Rose	0-100	0-100	15-150	18-43	2-5	1-5	4-5	7-14
Pennisetum	53	64	23.9	16.4	4.0	3.0	4.0	12.0
Puppy Love	0-100	0-100	6-50	10-30	3-5	1-5	1-5	7-21
Phlox	36	100	22.4	13.7	3.8	3.7	4.2	6.3
Fashionably Early Flamingo	0-100	100	1-12	10-24	1-5	1-5	3-5	3-7
Veronica	19	100	12.4	17.3	5.0	4.5	4.8	7.3
Blue Skywalker	0-100	100	6-25	8-25	5	2-5	4-5	5-10
Veronica	18	100	10.2	13.3	4.6	3.7	4.7	7.4
Lavender Lightsaber	0-100	100	3-20	4-20	4-5	2-5	4-5	5-10

¹Data shown are from the respondents who harvested stems. Some trialers may have not harvested stems because they were too short. The stems, not the trialers.

²1 to 5 scale with 5 being the best; market appreciation ratings are based on sales to wholesalers, retailers, and/or final consumers.