

2023 ASCFG Seed and Calla Trial Report

BY JOHN DOLE AND JUDY LAUSHMAN

This is a twofer year—two trials in one report. As with most years, we held our classic Seed Trial, but this year we also conducted a calla trial, thanks to Express Seed/InFlora. The callas were grown in greenhouses or tunnels. See the scores and comments below among the Seed Trial results.

While many new cultivars are improvements or variations of previous cultivars, occasionally new cultivars redefine a category—think what the Amazon series did for dianthus and Sunfinity for sunflowers. That may be happening for sorghum with the release of Prairie Pearls (Express Seed/InFlora). Four colors were submitted as experimentals, which are now named the Prairie Pearls series. Sorghum is grown for its large seed heads, which can be used fresh or dried. Typically, sorghum plants are also large, reaching 8- to 9-foot tall when grown in their happy places. Prairie Pearls, on the other hand, is a series of dwarf cultivars, topping out at half the height of typical varieties. These stocky plants are much less prone to lodging (farmer term for falling over) and much easier to schedule into the field as they do not shade neighboring beds. Most trialers harvested one stem per plant, but several harvested more. In fact, one grower in Zone 6 reported harvesting 4- to 6-stems per plant, which they were “still producing” at the time they submitted their data in November and called them a “cut-and-come-again-and-again” plant! Lengths varied from 15 inches to 6 feet with Cream and White the tallest, and Red and Orange the shortest. Not surprisingly for a grass, the vase life averaged about two weeks, with many getting up to three. One grower loved them enough to report that they were “the best crop” in the trial. Of the four colors, ‘Prairie Pearls Red’ was liked the best and scored as one of the top cultivars in the entire program.

On the negative side, several growers found the large heads too big to use. Others had some germination issues and unintended harvesting by animals. And finally, many commented that the colors were less distinct than the names would indicate. Lori Hernandez’s photos show well the range of differences among the colors (both the sorghum and the photos are gorgeous, we might add). The Cream seems to be more green than cream. Note that two more selections from the series will be included in the 2024 Seed Trial.



(Top): *Sorghum* Prairie Pearls colors, including White, Orange, and Cream *Photo: Lori Hernandez*
(Bottom): Lorie Hernandez with both traditional sorghum and *Sorghum* ‘Prairie Pearls

Best In Callas

It was great to have a calla trial year. One of the premium specialty cuts, the array of stunning colors is outshined only by dahlias. Of the five cultivars, **‘Captain Romance’** (Express Seed/InFlora) (see photo on page 45) was top ranked; in the words of one grower: “Beautiful color. Favorite variety out of all of them. Longest stem length.” Its dark, wine-purple flowers were on 18-inch stems and each plant produced an average of five stems. All the Captain cultivars were fairly similar in vase life, averaging about nine days, and in time to flower about six to nine weeks, depending on when they are planted by growers.



CALLA ‘HOLLYWOOD’ AND ‘ROMANCE’ TOGETHER IN A BOUQUET. PHOTO: JEN SYME

We had a minor milestone in the trial this year—the first cultivar to get a perfect score (5 out of 5 for all three categories): ***Helianthus* ‘Sunrich Provence Summer’ (Sunflower)** (American Takii). To be fair, some of the other cultivars had more than twice as many responses (16). Why did ‘Provence Summer’ do so well? One grower summed it up: “Easy to grow, easy to harvest, nice, sturdy upright-facing stems, clean (pollenless).” Another said, “Feels like the classic sunflower, but more sun-drenched, so the color is richer. Slightly rounded petals make this a pretty cut flower.” No problems were noted, but one trialer noted a vase life of only five days. As with most single-stemmed sunflowers, ‘Provence Summer’ produced one stem per plant and the length was around 45 inches.

***Helianthus* ‘Solano Double’ (Sunflower)** (Express Seed/InFlora) also scored well and is not a classic sunflower. It is heavily double, like ‘Teddy Bear’, but with long outer petals. Stems averaged only 35 in., but a number of growers harvested stems four feet or longer.

Who would have thought a gomphrena, ***Gomphrena* ‘Strawberry Fair’** (Takii Europe/Sahin) in this case, would end up as one of the top cut flowers in the trial? In fact, one grower said, “I love this flower, and will definitely grow more of it in the future.” Gomphrena is both praised and reviled for its productivity, which in combination with its “tangly” growth as described by one trialer, makes harvesting a pain. However, another grower noted that ‘Strawberry Fair’ had “less of a spray habit than other gomphrenas, which made this easier to harvest and strip.” Many positive comments were made about the color and the fact that it does very well as a dried flower. Growers averaged about nine stems/plant that were 19 in. long, although one reported 12 stems/plant at 30 in. long. That must have been some nice gomphrena!

Filler flowers rarely get the respect they deserve, but ***Matricaria* ‘Campagne Improved’ (Feverfew)** (Express Seed/InFlora) certainly got a lot of attention this year for its productivity, reblooming for multiple harvests and, of course, having attractive white-and-yellow daisy-like flowers. Two comments from growers highlight its charms: “LOVE IT! Distinct airy petal formation that looks like miniature daisies. Robust tall stems.” And, “I think this was my favorite out of all the trials. It was the perfect small daisy feverfew with good height and lots of harvestable stems. Be sure to cut it back for another flush in the fall!” For the stats: plants produced an average of six stems each, which were around 20-inches long.



***HELIANTHUS* ‘SUNRICH PROVENCE SUMMER’** PHOTO: JOHN DOLE



***HELIANTHUS* ‘SOLANO DOUBLE’** PHOTO: JOHN DOLE



***GOMPHRENA* ‘STRAWBERRY FAIR’** PHOTO: RACHEL RYALL



MATRICARIA 'CAMPAGNE IMPROVED' (FEVERFEW)
PHOTO: JAMIE SAMMONS



CALLISTEPHUS 'NINA PLUS PURPLE' (ASTER) PHOTO: JAMIE SAMMONS



EUSTOMA CAN CAN CARMINE ROSE' (LISIANTHUS)
PHOTO: LORI HERNANDEZ



TAGETES 'INTANON DEEP GOLD EXTRA' (MARIGOLD)
PHOTO: JOHN DOLE

Two sides of the same coin, two sides to every story, yin and yang, the good and the bad—all these clichés describe impressions of the new **Tweedia Bridal series (*Oxypetalum*)** (Ball Seed). Some trialers loved them; some hated them. On the positive side: “A beautiful flower with a long vase life,” “Loved the new colors,” and “Seems to grow well without any special attention.” The negative side could be best summed up with the comment from one grower: “Never again.” Reasons for the negative view included short stems, milky sap, hydration issues, and, probably the most important one for a cut flower—failed to flower by the end of the season. Trialers harvested about six stems/plant that averaged 16 inches; several achieved two-foot stems. All three cultivars were quite similar in terms of production. Colors included pure white, bright pink, and clear blue.

It was quite a year for asters, which seem to be making a comeback. (Side note: we are referring to *Callistephus*, which should not be confused with the perennial *Aster*, which is also grown as a commercial cut flower). The trial cultivars represented a range of flower sizes, from the small spray type, **Nina Plus series** (Express Seed/InFlora), to the mid-sized **Optimo series** (American Takii), and the large-flowered **Azumi series** (Express Seed/InFlora). Both of the latter series can be grown as sprays or single flowers on a stem. Of the four Nina Plus cultivars, the favorite was ‘**Nina Plus Purple**’, which one grower said was, “Easy to grow, lovely filler flower, sweet. Makes a bouquet special.” The Nina Plus cultivars generally produced about three stems per plant that averaged 18 to 19-inches long. Vase life was a nice eight to nine days. The Optimo and Azumi series had similar statistics but were generally a little taller. It should be noted that asters are modestly photoperiodic and should be given 14+-hour-long days for the first four to five weeks to encourage long stems.

We had a healthy array of lisianthus (*Eustoma*) this year, ranging from the small-flowered **Solo series** (Sakata) to the large-flowered ‘**Can Can Carmine Rose**’ (Ball Seed), **Corelli Sugoi series** (American Takii), **Celeb 2 series** (Ball Seed), and ‘**Voyage Light Pink**’ (Sakata). The Solo cultivars had sprays of small, single flowers in blue picotee, pink picotee, violet, and white on tall, strong stems. On the downside, at least a couple trialers would have liked to see double flowers. The Corelli Sugoi, Celeb 2, and ‘Voyage Light Pink’ cultivars had large, ruffled doubled flowers, while ‘Can Can Carmine Rose’ also had double flowers, but the petals were not ruffled. This year there was a little something for every lisianthus grower. All the cultivars produced about two stems/plant that ranged from 19 to 20 inches for the Corellis to 21 to 24 inches for the Solos and Voyage, to 23 to 25 inches for the Celebs and Can Can. One of the key advantages of lisianthus is the long vase life. All did well, ranging from an average of 10 to 12 days for Solo up to 14 days for the Celeb 2 cultivars. Check out the pictures of the gorgeous lisianthus grown by our trialers!

The high level of breeding attention given to marigolds (*Tagetes*) in the last few years has been paying off with increasingly high-quality cultivars. Two marigolds in this year’s trial scored among the top cuts: ‘**Intanon Deep Gold Extra**’ (Homeseed) and ‘**Anka Deep Gold Extra**’ (Homeseed).

Both averaged 9 to 10 stems/plant and around 22-inch stem lengths. A couple growers harvested 36- to 48-inch stems. Vase life averaged about 10 days with some getting more than two weeks. Both cultivars were noted for their productivity, strong stems, and beautiful flowers. Problems were relatively few but included Japanese beetles and the need for netting. We normally get comments on the foliage smell. This year one grower gave the following backhanded compliment to Anka: “Only minimally stinky foliage.” We will add that more trialers are mentioning that they use the heads for garlands, so be aware of that potential market in your area.

Two snapdragon (*Antirrhinum*) cultivars scored in the top ten cuts in the trial, **‘Costa Summer Lavender IV’** (Express Seed/InFlora) and **‘Orleans 4 White Improved’** (Express Seed/InFlora). Both had long stems, averaging about 25 to 27 inches, more than eight days of vase life, and three to four stems per plant. Several growers reported 36—even 40-inch stems. Stems were strong, and heads were full. In terms of problems, insects, rust, and the need for netting were noted. Costa’s color produced an array of descriptions; the one we liked the best was “Really lovely blue-ish lavender color with soft yellow throat—unique!”

Stock (*Matthiola*) is one of the mainstays of the cut-flower industry and for good reason. For new growers, we thought that comments from two trialers summed up the virtues of stock quite nicely: Carrie Kling (Windy Acres Horticulture) said, “I love all stock, due to the ease of cultivation, from germination to harvesting, to holding, and sale. They never disappoint. They are a singularly beautiful flower with a lovely scent. They can be cut sequentially as needed within a window of time (for example, when fully developed and elongated, or earlier, if needed). If only all were doubles, I’d be in stock heaven.” Missy Bahret (Old Friends Farm) asked, “What’s not to love about stock? Smells like Necco wafers. Easy to strip. Long lasting. Edible.”

Of the four cultivars in the trial, **‘StoX Deep Rose’** (Ball Seed) made it into the top ten due to its beautiful color, strong stems, and large flower heads. Stem length averaged about 20 inches with at least one person getting 30 inches. The downside is that this series produces about half doubles and half singles. The singles can be used in bouquets to add fragrance, but doubles are definitely preferred. This series is a selectable stock, meaning that the seedling foliage will be produced in two shades of green: light and dark. Growers can remove dark-leaved seedlings (singles) and plant only the light-green-leaved plants. The color difference can be subtle, but is enhanced if the seedlings are grown cool, at 41°F for four to seven days. Check out the photograph of seedlings from Rachel Ryll.

One of the things that we have always loved about the specialty cut flower industry is that growers are entrepreneurial and not afraid to try anything when it comes to plants. With that in mind, even salpiglossis, in this case, ***Salpiglossis Royale Mix*** (Syngenta/Floranova), has found a home, despite being relatively short (only 16 inches on average), sensitive to hot, dry weather, having sticky stems and foliage, and saddled with a name that sounds like a part of our throat. One must only look at its gorgeous flowers,



TAGETES ‘ANGKA DEEP GOLD EXTRA’ (MARIGOLD)

PHOTO: JOHN DOLE



ANTIRRHINUM ‘ORLEANS 4 WHITE IMPROVED’ (SNAPDRAGON)

PHOTO: JAMIE SAMMONS



NICOTIANA ‘WHISPER APPLEBLOSSOM

PHOTO: JOHN DOLE

some which have elaborate markings along the veins, to see why we overlook these issues. One grower reported “Of all of the trial varieties I shared on our social media, this one got the most comments and messages from customers. The flowers are iridescent and seem to glow.” Other growers mentioned the “cut-and-come-again” nature of the plant and short crop time. Vase life averaged about eight days.

Since we are talking about plants with sticky foliage and stems, we can bring up another “specialty” specialty cut flower, *Nicotiana* ‘**Whisper Appleblossom**’. This one, however, is much taller, a little more than two feet, with at least one grower reporting 44-inch stems. While the lovely soft-pink, fragrant flowers hang down, that has not deterred some growers, one of whom called it “whimsical, romantic, photogenic.” Plants produced an average of 12 stems with at least one grower getting 50 stems, who, not surprisingly, referred to it as a “blooming machine.” Vase life was about a week.

PERSONAL NOTE FROM JOHN: As I write this, Judy will be retiring in one month after 35 years at the helm of the ASCFG. During most of this time, she was also co-coordinator of this trial program, which has been ongoing for almost as long as the ASCFG itself. As of this year, we have evaluated 1,470 cultivars, mostly in the Seed Trial, but also in perennial, woody, and greenhouse/tunnel trials. We love doing the trials and we love seeing everyone’s comments and photos.

I will add that the trials are also a major effort that Judy, with help from Linda and others in the office, accomplished each year. Each program starts with emails to companies and trialers—so many, many emails—then transitions into the shipping phase in which all the seed is sorted into “orders” and mailed to the trialers. In the case of the other trials, lists are sent to companies so they can directly ship the plants. There is a lull during the summer, then the process starts in earnest again in the fall, first with reminders to the trialers to submit their results and photos (many, many more emails—are you sensing a theme here?), following by starting the planning for the next year’s trials.

On behalf of all our members who found prized and profitable plants, and companies who have launched successful new varieties through the ASCFG Trial Program, I want to say thank you, thank you to Judy.

PERSONAL NOTE FROM JUDY: John provides an apt description of the process of the trials program and is absolutely correct that it involves an inordinate number of emails. What he conveniently left out is that John is the one who creates the online form for data submission, receives thousands of points of data, including trialer comments, which range from puzzling abbreviations to run-on sentences; then compiles and analyzes all these data to magically create the reports, including the charts, photos, and, of course, candidates for the ASCFG Cut Flower of the Year.

The important difference is that the ASCFG Trial Program was one of my responsibilities as executive director. I have always enjoyed it, but I was also paid for the work. John has performed this role voluntarily—for the sheer love of cut flowers and research—for nearly 35 years. He accomplished this while serving NCSU (North Carolina State University) as professor of horticulture, director of the graduate program, horticulture department head, associate dean, and interim dean, as well as contributing to countless other horticulture trade associations and programs. He has been compensated only with tacit thanks from the growers, breeders, and suppliers who have benefitted from his years of dedicated service. Please take a break from reading this page to write John at jmdole@ncsu.edu to express your gratitude for his unselfish support of this monumental project.

Cut Flower of the Year Nominees

Based on the combined ratings score (market appreciation + repeat again + ease of cultivation), the top ten cultivars (okay, it is actually 11, due to ties) will be nominated for the ASCFG Cut Flower of the Year: *Calla* 'Captain Romance' (4.5), *Gomphrena* 'Strawberry Fair' (4.5), *Matricaria* 'Campagne Improved' (Feverfew) (4.8), *Tagetes* 'Intanon Deep Gold Extra' (Marigold) (4.5) and *Tagetes* 'Anka Deep Gold Extra' (Marigold) (4.5), *Sorghum* 'Prairie Pearls Red' (4.5), *Antirrhinum* 'Orleans 4 White Improved' (Snapdragon) (4.5) and *Antirrhinum* 'Costa Summer Lavender IV' (Snapdragon) (4.6), *Matthiola* 'StoX Deep Rose' (Stock) (4.5), and *Helianthus* 'Solano Double' (Sunflower) (4.5), and *Helianthus* 'Sunrich Provence Summer' (Sunflower) (5).



CALLA 'CAPTAIN ROMANCE'
PHOTO: LINDA BRADLEY

Interpreting the Results

One quick way to determine if a cultivar is particularly good is to check the "Grow again" rating. This score indicates that the trialer would take the time, money, and space to actually grow the cultivar again. The other ratings, "Market appreciation" and "Ease of Cultivation" will help provide a complete picture of the cultivars. More than one trialer has reported that they personally like the cultivar but couldn't sell it or couldn't grow it. And truth be told, unless the cultivar is truly spectacular, most growers don't have the time to develop a market for a new species or cultivar or figure out how to grow it.

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., three to five or four to five, the plant was a winner for most of the respondents and is likely to do well for you.

The comments on interesting cultivars are worth reviewing carefully. As you read through them, you might see a wide range of opinions. It is not unusual for one trialer to love a cultivar and another to hate it. Color is a common source of disagreement. For instance, in a previous year's Trial Report, regarding *Salpiglossis* 'Café au Lait' one trialer reported, "I absolutely loved the color of this one; it went so well with the popular rusty hues that clients are asking

for," while another had a different opinion: "UGLY brown color!" As the cliché goes—beauty is in the eye of the beholder! Most substantive differences tend to appear due to areas of the country. In North Carolina we have a hard time getting good results from spring-planted stock and larkspur as the summer heat comes on quickly most years. In areas such as along the West Coast and in some northern locations, gorgeous stock and larkspur can be grown.

Acknowledgments: Thank you to each of the 30 evaluators who returned their trial reports and/or provided photos! We very much appreciate the time it takes to successfully complete the evaluations. We want to especially thank Erin Small, from the Virginia Cooperative Extension Service, for being the first trialer to return evaluations for the seed trial, and Jen Syme (Syme Family Farm) for the calla trials! Thank you to the companies 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: Thank you to Linda Bradley, Melissa Fischbach, Lori Hernandez, Carrie Kling, Robin Lang, Jamie Sammons, Jen Syme, and Rachel Ryall who provided many wonderful photos. We included as many as possible in this report. Thank you, thank you!

Participating Seed Companies

American Takii
Salinas, CA
www.takii.com

Ball Seed
West Chicago, IL
www.ballseed.com

Express Seed/Inflora
Oberlin, OH
www.expressseed.com

Homeseed Limited Partnership
Chiang Mai, Thailand
en.thaihomeseeds.com

Sakata Seed America
Morgan Hill, CA
www.sakata.com

Syngenta Flowers/Floranova
Gilroy, CA
www.syngentaflowers-us.com

Takii Europe/Sahin
De Kwakel, Netherlands
www.takii.eu

Participating Calla Company

Express Seed/InFlora
Oberlin, OH
www.expressseed.com

Participating Seed Trialers

Missy Bahret
Old Friends Farm
Amherst, MA
Zone 6a

Jennifer Barnard
Millay and Meadowlark Flower Farm
Missoula, MT
Zone 5

Amie Bengston
BackCountry Blooms
Lumby, BC
Zone 4/5

Stacy Chapman
Westwind Flowers
Orange, VA
Zone 7a

Connie Bijl
William Dam Seeds
Dundas, ON
Zone 5

David Blue
Farmer Blue
Seabrook, SC
Zone 9a

David Delbo
Dave's Flowers
Catawissa, PA
Zone 6

John Dole
NC State University
Raleigh, NC
Zone 7b

Liz Faucher
Leap Frog Flower Farm
Earlsville, VA
Zone 7a

Jennifer Feddema-Gerryts
Wendalane Farms
Wellandport, ON
Zone 5

Melissa Fischbach
Wild Hollow Farm
Ashland, WI
Zone 4

Beth Foose
Little Bluestem Farm
Carthage, MS
Zone 8a

Janet Foss
J. Foss Garden Flowers
Chehalis, WA
Zone 7

Claude Gauthier
Floriculture
Gauthier, Inc.
Trois-Rivieres, QC
Zone 4b

Janis Harris
Harris Flower Farm
St. Thomas, ON
Zone 6a

Heather Henson
Boreal Blooms
Cold Lake, AB
Zone 3b

Lori Hernandez
Three Acre Farm
Byron Center, MI
Zone 5b

Christian Ingalls
Daisy Dukes Flower Farm
Papaaloo, HI
Zone 12b

Barb Jewell
Island Meadow Farms
York, PEI
Zone 5b

Carrie Kling
Windy Acres
Horticulture
Gasport, NY
Zone 6b

Rebecca Kutzer-Rice
Moonshot Farm
East Windsor, NJ
Zone 6b

Robin Lang
WILD THING
ferme florale
Stanstead, QC
Zone 4b/5a Canadian,
4a USDA

Priscilla Leitch
Anchored Roots Farm
Hollywood, MD
Zone 7b

Erin McMullen
Rain Drop Farms
Philomath, OR
Zone 8b

Virginia Rudnicki
Flora Berry Farm
Berry, KY
Zone 6

Rachell Ryall
River and Sea Flowers
Delta, BC
Zone 8a

Jamie Sammons
Jayflora Designs
Fonda, NY
Zone 5

Erin Small
Virginia Coop.
Extension
Farmville, VA

Brenda Visser
Flowers of the Field
Prescott, ON
Zone 4b

Susan Wright
Shady Grove Farm
Vilas, NC
Zone 6

Participating Calla Trialers

Linda Bradley
Purple Tuteur Farm
Columbia, SC

Claude Gauthier
Floriculture Gauthier, Inc.
Trois-Rivieres, QC

Jen Syme
Syme Family Farm
Broad Brook, CT

The first row of data for each cultivar is the average and the second row is the range of responses. Note that when only one response is shown in the range line, all respondents gave the same rating.

Species and cultivar	Yield (stem/plant)	Stem Length (in.) ¹	Market Appreciation Rating ²	Grow Again Rating ²	Ease of Cultivation Rating ²	Postharvest Life (days)
Aster 'Azumi XL Blue'	3.6 1-12	19.9 4-28	4.0 2-5	3.9 2-5	4.2 2-5	9.3 5-15
Aster 'Azumi XL Red'	3.5 1-12	19.7 4-28	3.4 2-5	3.2 1-5	3.6 1-5	8.5 5-15
Aster 'Azumi XL Rose'	3.3 1-12	21.0 12-28	3.8 2-5	3.8 3-5	4.0 2-5	9.0 7-15
Aster 'Nina Plus Blue' EXP	1.9 1-12	17.8 12-26	4.1 3-5	4.3 3-5	4.0 2-5	8.6 5-14
Aster 'Nina Plus Pink' EXP	2.9 1-12	18.6 10-27	3.9 2-5	4.2 3-5	3.8 2-5	9.3 5-14
Aster 'Nina Plus Purple'	2.9 1-12	18.8 12-26	3.9 3-5	3.9 3-5	4.0 2-5	8.3 5-14
Aster 'Nina Plus White'	3.4 1-12	19.2 12-26	3.9 1-5	4.1 1-5	3.9 1-5	8.3 5-14
Aster 'Optimo Deep Purple'	3.1 1-12	19.2 12-26	4.0 1-5	3.6 1-5	4.1 1-5	8.6 5-14
Aster 'Optimo Light Blue'	1.9 1-6	19.2 12-24	3.3 1-5	3.3 1-5	4.0 1-5	6.8 5-14
Aster 'Optimo Red'	3.4 1-15	19.5 12-30	3.8 1-5	3.7 1-5	3.9 1-5	9.1 5-14
Celosia 'Asuka Select Green'	4.6 1-20	20.3 12-48	2.6 1-5	3.2 1-5	3.6 1-5	9.7 5-16
Celosia 'Bright Sparks Cream'	5.8 1-9	12.0 6-24	2.8 1-4	2.7 1-5	4.1 1-5	8.0 7-10
Celosia 'Delhi Pearl'	6.9 1-20	20.4 8-36	3.9 1-5	3.8 1-5	4.3 1-5	9.4 7-16
Craspedia 'Drumstick'	5.4 1-16	19.8 12-24	3.8 1-5	2.9 1-5	3.3 1-5	14.0 10-18
Dianthus 'Amazon Lavender Magic'	5.0 1-15	17.6 8-35	3.4 2-5	3.6 1-5	4.4 3-5	9.6 5-14
Didiscus 'Lace Blue'	3.2 1-7	19.1 12-25	3.3 1-5	3.1 1-5	3.4 1-5	6.7 5-8

Species and cultivar	Yield (stem/plant)	Stem Length (in.) ¹	Market Appreciation Rating ²	Grow Again Rating ²	Ease of Cultivation Rating ²	Postharvest Life (days)
<i>Gomphrena</i> 'Strawberry Fair'	8.6 1-25	18.5 14-30	4.4 4-5	4.5 3-5	4.5 3-5	10.4 7-14
<i>Lisianthus</i> 'Can Can Carmine Rose'	2.2 1-5	24.0 12-36	4.0 1-5	4.2 1-5	2.8 1-4	10.3 7-14
<i>Lisianthus</i> 'Celeb 2 Extra Pink'	2.4 1-6	25.3 16-36	4.0 1-5	3.4 1-5	3.6 3-5	13.5 10-14
<i>Lisianthus</i> 'Celeb 2 Salmon Pink'	2.0 1-5	23.4 16-36	4.4 2-5	4.3 2-5	2.8 1-4	14.0 14
<i>Lisianthus</i> 'Corelli Sugoi II White'	1.9 1-5	19.7 10-26	4.5 1-5	4.6 1-5	3.6 1-5	12.0 10-14
<i>Lisianthus</i> 'Corelli Sugoi III Light Pink'	1.9 1-5	19.4 10-36	4.4 1-5	4.4 1-5	3.4 1-5	13.0 10-14
<i>Lisianthus</i> 'Solo Blue Picotee'	1.8 1-4	24.4 12-44	4.0 1-5	3.5 1-5	3.5 1-5	11.3 7-14
<i>Lisianthus</i> 'Solo Pink Picotee'	1.9 1-5	23.1 12-44	3.9 1-5	3.4 1-5	3.1 1-5	10.2 7-14
<i>Lisianthus</i> 'Solo Pure White 2'	1.6 1-5	21.3 12-36	3.7 1-5	3.7 1-5	3.0 1-5	10.3 7-14
<i>Lisianthus</i> 'Solo Violet'	2.0 1-9	23.0 12-44	4.2 1-5	4.0 1-5	3.3 1-5	11.3 7-14
<i>Lisianthus</i> 'Voyage Light Pink 642'	2.1 1-5	21.5 12-32	3.5 1-5	3.2 1-5	3.0 1-5	12.0 10-14
<i>Lobelia erinus</i>	0.0 0	13.0 12-14	1.0 1	1.0 1	2.3 1-3	- -
Marigold 'Angka Deep Gold Extra'	9.0 4-20	21.8 10-48	4.5 4-5	4.4 3-5	4.8 3-5	9.7 5-15
Marigold 'Intanon Deep Gold Extra'	10.0 3-20	21.8 10-48	4.4 1-7	4.2 3-5	4.8 4-5	10.2 5-15
Marigold 'Maewang Yellow Extra'	10.1 3-30	22.9 10-40	4.2 1-5	4.1 1-5	4.6 1-5	10.1 5-15
<i>Matricaria</i> 'Campagne Imp'	6.2 1-15	20.3 12-30	4.8 4-5	4.8 4-5	4.6 4-5	9.3 5-14
<i>Nicotiana</i> 'Whisper Appleblossom'	12.2 3-50	26.7 12-44	3.9 3-5	3.7 1-5	4.3 1-5	7.3 5-14

Species and cultivar	Yield (stem/plant)	Stem Length (in.) ¹	Market Appreciation Rating ²	Grow Again Rating ²	Ease of Cultivation Rating ²	Postharvest Life (days)
<i>Orlaya grandiflora</i> 'White Lace'	4.2 1-8	18.3 8-30	3.9 2-5	4.4 1-5	4.4 3-5	6.7 5-7
<i>Sorghum</i> 'Prairie Pearls Cream'	1.8 1-6	46.9 18-72	3.9 1-5	3.9 1-5	4.9 4-5	13.8 7-21
<i>Sorghum</i> 'Prairie Pearls Orange'	1.7 1-6	38.9 15-60	3.5 1-5	3.8 1-5	4.5 1-5	13.2 7-21
<i>Sorghum</i> 'Prairie Pearls Red'	1.9 1-6	44.7 15-72	4.2 1-5	4.5 1-5	4.9 4-5	14.2 7-21
<i>Sorghum</i> 'Prairie Pearls White'	1.8 1-6	42.9 15-72	3.9 1-5	4.1 1-5	4.9 4-5	13.8 7-21
<i>Salpiglossis</i> Royale Mix	5.4 1-20	15.9 6-48	3.4 1-5	2.4 1-5	3.0 1-5	7.8 5-14
<i>Scabiosa</i> 'Black Knight'	9.4 3-20	20.3 10-30	4.2 1-5	4.3 1-5	4.2 1-5	5.9 5-9
Snapdragon 'Costa Summer 4 Lavender'	3.6 1-9	26.8 14-36	4.5 2-5	4.6 2-5	4.6 4-5	8.1 7-14
Snapdragon 'Orleans 4 Rose'	3.5 1-8	26.2 14-36	4.1 1-5	4.1 1-5	4.5 4-5	8.4 5-14
Snapdragon 'Orleans 4 White Imp'	3.5 1-9	24.8 14-36	4.4 2-5	4.5 3-5	4.7 4-5	8.8 5-14
Snapdragon 'Orleans 4 Yellow'	3.7 1-9	25.6 14-36	4.0 1-5	3.5 1-5	4.7 4-5	7.5 5-14
Stock 'Peachy Pink'	1.0 1	12.1 5-22	2.7 1-5	2.9 1-5	4.1 1-5	7.0 7
Stock 'StoX™ Champagne'	1.0 1	17.4 6-30	3.9 1-5	3.3 1-5	4.6 4-5	8.3 7-14
Stock 'StoX™ Deep Rose'	1.0 1	20.2 14-30	4.5 4-5	4.3 1-5	4.6 4-5	8.1 7-14
Stock 'StoX™ White'	1.0 1	19.3 14-30	4.3 3-5	3.4 1-5	4.1 1-5	8.1 7-14
Sunflower 'Solano Deep Orange'	1.0 1	44.9 20-108	4.0 2-5	4.3 3-5	5.0 5	7.3 5-10
Sunflower 'Solano Double'	1.1 1-7	34.8 17-55	4.3 1-5	4.2 1-5	5.0 5	8.0 4-14

Species and cultivar	Yield (stem/plant)	Stem Length (in.) ¹	Market Appreciation Rating ²	Grow Again Rating ²	Ease of Cultivation Rating ²	Postharvest Life (days)
Sunflower 'Solano Early Orange'	1.2 1-3	42.6 7-108	3.8 1-5	3.7 1-5	4.7 2-5	6.2 3-9
Sunflower Special Cut Flower Formula	1.0 1	31.4 12-62	3.3 1-5	2.9 1-5	4.4 4-5	6.6 5-10
Sunflower 'Sunrich Provence Summer'	1.0 1-7	44.8 14-54	5.0 5	5.0 5	5.0 5	8.9 7-14
Tweedia 'Bridal Diana'	5.5 1-10	16.0 6-28	3.1 1-5	2.4 1-5	2.6 4-5	9.3 7-14
Tweedia 'Bridal Victoria'	6.5 1-12	15.7 6-28	2.9 1-5	2.6 1-5	2.6 4-5	9.3 7-14
Tweedia 'Bridal White'	5.8 1-2	16.4 6-28	3.1 1-5	2.4 1-5	2.3 1-5	9.3 7-14

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.

SEED TRIAL REPORT: *Calla Trial Results*

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 and cultivar	Yield (stem/plant)	Stem Length (in.) ¹	Time to flower from planting (days)	Ease of Cultivation Rating ²	Market Appreciation Rating ²	Grow Again Rating ²	Postharvest Life (days)
'Capt. Hollywood'	6.3 2-9	10.6 6-13.7	64.3 50-79	4.7 4-5	3.0 1-4	2.7 1-4	9.5 7-14
'Captain Promise'	4.5 4-5	19.0 17.5-20.5	53.5 43-64	4.7 4-5	4.5 4-5	4.0 3-5	7.3 7-14
'Captain Romance'	4.7 3-6	18.3 13-23	59.3 43-71	4.7 4-5	4.7 4-5	4.0 3-5	9.5 7-14
'Captain Shelby'	6.0 2-8	12.2 8-16.6	62.7 50-74	4.7 4-5	3.7 1-4	2.7 5	9.5 7-14
'Captain Solo'	7.5 4-12.5	10.8 6-15	58.7 43-71	4.7 4-5	4.0 4	3.7 3-4	9.5 7-14

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.

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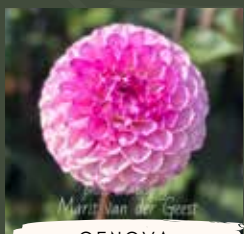
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The number in the parenthesis is the number of trialers who made the same comment. Comments from different individuals are separated by a “;”. **Note:** many respondents did not make specific comments on each cultivar and in a few cases, comments have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

Asters (*Callistephus*)

Aster Azumi series

See individual colors for specific comments.

Good Qualities: Clear, vibrant colors (2); I love the Azumi series, I think they are less prone to aster yellows, and they get much taller than the other asters, you can harvest the whole plant for one large stem or cut shorter stems from the plant; Easy to grow, long lasting in the vase, one main bloom with several smaller side shoots offers flexibility to use as whole plant bouquet or divide up into multiple usable stems.

Problems: Mildew; to get long stems, these need to be disbudded, those that were left alone bloomed at 12 in.; Customers don't always love the yellow centers; Did not compete well with environmental factors, short stem length made it difficult for vase designs; Loved by deer; Some blooms started to fade before harvest; Some blooms were oddly shaped, oval instead of circular, plants needed support, most flopped over, some disease issues (*Fusarium* and possibly rust?).

Similar Cultivars: Somewhat similar flower form to Princess asters; Bonita series.

Postharvest Recommendations: Take off all the leaves that will be in the water; Immediately place in water once cut.

Comments: Low germination rate (3); Provide support in vase for stem, stem does not provide much structure to support flower in arrangement; Not cold tolerant, would have grown better in a high tunnel or planted later in the growing season, would recommend net support and multiple methods of weed control; Netted most of this crop but the few Azumis that were not netted were sturdy and didn't fall over, overall, for the Azumi asters, I would consider growing the Blue again, but probably not the Rose or Red, they are nice-sized blooms though!

Aster ‘Azumi XL Blue’

(Sakata, submitted by Express Seed/InFlora)

Good Qualities: Bright, saturated color (4); Long stems (3); Long vase life (2); Large blooms (3); Fun cushion form with tubular central petals; Flat form, yellow center adds sparkle, strong side shoots; We used this one a ton and it sold well; Strong stem.

Problems: Not the most popular color with farmers' market customers or florists; Some stems seem a bit thick.

Similar Cultivars: Other aster varieties in trial, grew better than the ‘XL Red’.

Postharvest Recommendations: Nothing special.

Comments: I liked the blue the most out of the Azumi asters, we netted 90% of them, but the ones that were not netted were sturdy enough to stay up without it for the most part—strong plants!; We cut the whole plant and then used it to fill bouquets; I likely won't grow these again as they had a “grocery store flower” vibe, they may be an excellent fit for other growers, but not for our farm where we choose to grow flowers that are the antithesis of grocery store blooms.



Aster ‘Azumi XL Red’

(Sakata, submitted by Express Seed/InFlora)

Good Qualities: Intense magenta (2); Strong stems (2); Stem length good, interesting tubular petals in cushion flower form; Long stems, long vase life; Last one standing in the fall; Nice head size, good color for bouquet; Large bloom; Color went well with sunflowers blooming at the same time.

Problems: The centers are a contrasting color (yellow, but still have the tubular form of petals), which was harder to blend with other flowers, color not popular with florists and farmers' market customers; The color wasn't a big hit and very similar to the rose variety of this cultivar; Germination was only 30%, and plug formation of the ones that germinated was lousy, early September side shoots were usable but not ideal.

Comments: Netted most, but the few that were not netted were sturdy enough to stay upright, strong plants; I usually abhor red flowers, but this one grew on me, this is the first red flower that I would willingly choose to grow again, they do have a bit of boring “grocery store flower” feel, but I was able to incorporate them into arrangements that looked “farm fresh.”



Photos by Jamie Sammons

Aster 'Azumi XL Rose'*(Sakata, submitted by Express Seed/InFlora)*

Good Qualities: Dark-pink color (3); Strong stems (3); Good stem length, interesting tubular petal form; Large bloom; Good height; Really nice, uniform flowers for bouquet and mass merch sale.

Problems: Centers are a contrasting color, which can be hard to blend with other flowers, not the most popular color with florists and farmers' market customers; Not the highest in-demand color, but very nice; Heavy rains damaged petals, worth another try on a more typical year (it was a season of atypical rainfall and many heavy downpours), germ was only 49% (but some of the asters had good germ, same conditions!).

Comments: Nice, but didn't fill a need for us so we didn't use it very much; Our asters were direct-seeded June 21 and provided us with excellent early fall color; The 'Azumi XL Rose' was slower to grow and bloom than 'Azumi XL Red' and 'Azumi XL Blue', while I was not huge fan of the bright pink color (a bit garish to me), I can see that they would be very attractive and eye-catching for farmers' market bouquets.

Aster 'Nina Plus Blue' EXP*(Express Seed/InFlora)*

Good Qualities: Long-lasting, nice spray for bouquet work; I liked the color and so did our customers; Nice purple spray; Great as a filler flower, good tones of lavender to accent bouquets; Early September regrowth produced usable stems.

Problems: Not a favorite color for florist clientele, variable stem sizes/bulkiness (we didn't pinch) meant grading was necessary at postharvest, some farmers' market customers liked it, but not a favorite color; Color similar to 'Nina Plus Purple'; Can be a challenge as it's very bushy, but it does fill out a bouquet nicely, all colors are similar in this vein; Loved by deer.

Similar Cultivars: None I know of, I haven't grown a spray aster before; We used it in a similar fashion as we do the Bonita series asters.

Comments: It was later to mature than other regular aster types we grew, cute filler in mixed bouquets!; I initially cut these flowers as a spray, the later side shoots were long enough to be useful in a market bouquet, this seed trial was my first experience at growing asters, and I will likely try again; We never used it much, not sure why!; The dainty single blooms work great as a replacement for tanacetum.

Aster Nina Plus series*See individual colors for specific comments.*

Good Qualities: Easy to grow, lovely filler flower, sweet, makes a bouquet special, appears to be resistant to disease and insects; Easy to harvest the whole plant/bunch, easy to start from seed, even tolerated early spring snow thaws and minor flooding; The color was nice for mixed bouquets; I liked the small aster heads and I harvested the whole plant and used it as a spray in bouquets, it filled out bouquets nicely for a long-lasting accent flower; Gorgeous midsummer filler flower, extremely uniform across all of the colors—all blooms were ready to harvest at once, we got tall stems in the tunnel despite a relatively late transplant date for asters (June 2), each plant made multiple sprays of flowers, added a lot of bulk to market bouquets, but would be nice texture in wedding work (especially the white), we had fewer issues with *Fusarium* on these than other aster varieties, excellent vase life and sweet perfume-y scent!

Problems: Mildew; The plants themselves were not very heat/drought tolerant; Required support netting for straight stems, lots of pest issues (thrips and especially leafhoppers), blue, purple, and pink were very saturated colors—great for market bouquets but less on-trend for wedding work; Saw some disease.

Similar Cultivars: Serenade series; Smaller, more daisy-like flowers than Matsumoto series.

Postharvest Recommendations: Cut into holding solution and conditioned overnight, these held up great; Take off all the leaves that will be in the water, need a net to grow straight; Holding solution and cooler; We use Cvbn pretty much for everything.

Comments: I think there would never be enough of this cultivar for bouquet making!



Photo by Jamie Sammons



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Aster 'Nina Plus Pink' EXP (Express Seed/InFlora)

Good Qualities: Pretty different-looking aster; Good spray form; Bright-pink color, dainty single blooms.

Problems: Kind of short; Loved by deer; Poor germination.

Comments: Hot-pink color that customers never really gravitated to; This color had the most issues with aster yellows, causing malformed flowers; I initially cut these flowers as a spray, the later side shoots were not long enough to be useful in a market bouquet, this seed trial was my first experience at growing asters, and I will likely try again, I had relatively poor germination with these seeds, I set out only six plants.



Aster 'Nina Plus Purple' (Express Seed/InFlora)

Good Qualities: Deep-purple shade (3), made a great contrast to autumn colors like orange and yellow; I liked the shape of the flower; Sweet, makes a bouquet special, easily takes the place of feverfew, very nice filler flower, easy to harvest the whole plant/bunch, easy to start from seed, even tolerated early spring snow thaws and minor flooding, appears to be resistant to disease and insects; Good spray form.

Problems: None really; Loved by deer; Kind of short; Very poor germination.

Comments: I cut these flowers as a spray, otherwise, the individual stems would have been too short to be used in a market bouquet; Wasn't really noticed by customers; Our asters were direct-seeded and received no additional irrigation, which may have affected stem length.

Photos by Jamie Sammons



Aster 'Nina Plus White' (Express Seed/InFlora)

Good Qualities: Small flowers are a dainty filler (2), great replacement for tanacetum; Pretty different-looking aster; Each plant is a bouquet, can use single stems as well, sweet plant, better than feverfew for a lovely wildflower look; Spray type, loved it, second cut was side shoots that weren't as much of a spray, still usable, germinated great (same conditions as the other trials that didn't germ well!).

Problems: White color can become brown or spotted (2), if grown without cover outdoors; None really; Loved by deer, side branches not as usable, short stem length.

Comments: I had relatively poor germination with these seeds; Really loved the flower but shorter stem length was a bit of an issue; This is a good option for wedding filler, also, after we cut the plant, new side shoots formed flowers, if we had started earlier in season, perhaps we could have had two flushes; Dreamy start to finish.

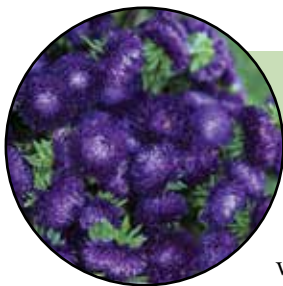
Aster Optimo series *See individual colors for specific comments.*

Good Qualities: AMAZING colors, so saturated, didn't pinch, bloomed in a spray; The size of the bloom was nice for a small, round element in an arrangement or bouquet, because we did not pinch the plants, it was time consuming to use them as the staggered height of the side stems was not usable because they were too low, so the entire stem had to be stripped, below the terminal stems bud/bloom, loved the color and size of the light blue and deep purple, 'Optimo Red' was extremely difficult to pair with a color palette that we felt happy with.

Problems: Too short, grew in tunnel and bloomed stunted, no more than 6 inches [tall], grew in unheated tunnel from late spring into early summer; Mildew; Loved by deer; We grew them inside the greenhouse, and, unfortunately, the crop was infested with spider mites before we had a chance to mitigate them aggressively, they also required netting for support, which made harvesting difficult because of the branching stems.

Postharvest Recommendations: Take off all the leaves that will be in the water; Used holding solution; Floralife #2.

Comments: I did not pinch these plants, in hindsight I wish I would have, that would have resulted in more marketable stems, this crop was unfortunately infested with spider mites, therefore, we did not sell these cuts; Didn't pinch the plant, allowed to bloom in a spray, did get some short side shoots after the main stem was cut out, amazing color! We LOVED them, the purple was so saturated.



Aster 'Optimo Deep Purple' (*American Takii*)

Good Qualities: Deep velvety color is great (3), as an autumn jewel tone; Sturdy stems (2); This one was a hit, the form was great, the stem length was nice, used in bouquets and for wholesale; Planted about mid-April and began harvesting in early July, easy to start from seed, cut mostly single stems, but could cut sprays, mum-like, large flower, about 3 to 3½-inches in diameter, a nice addition to bouquets, I liked all three colors.

Problems: Rain can cause discoloration of petals; None, planted in an area that wound up flooded due to sudden snow melt and cultivar did well despite this.

Similar Cultivars: Matsumoto series; Tower series.

Comments: Beautiful aster form and color; My customers love the deep-purple color, anything I grow in this color is a hit, I love the fluffy centers; Definitely a keeper! Purple variety is a dark, clear purple.

Aster 'Optimo Light Blue' (*American Takii*)

Good Qualities: A great lavender color (4); We used it all for wholesale sales and a little bit in grocery bouquets; Lots of side shoots; Long lasting and great for corsages!

Problems: Name of color could be lavender instead of light blue; Prone to aster yellows.

Similar Cultivars: 'Tower Silver'; 'Lady Coral Lavender'

Comments: Our asters were direct-sown on June 21 with blooms in September, we harvested the whole plant and used multiple side shoots to fill bouquets.



Aster 'Optimo Red' (*American Takii*)

Good Qualities: Vibrant color (4); The stems were nice for bouquets; Planted about mid-April and began harvesting in early July, easy to start from seed, cut mostly single stems, but could cut sprays, mum-like, large flower, about 3 to 3½-inches in diameter, a nice addition to bouquets, Red is not jarring, I liked all three colors; First aster to bloom; Really full blooms, strong stems; Large blooms.

Problems: The color was a hard sell for design work; Germination wasn't great; None, planted in an area, that wound up flooded due to sudden snow melt and cultivar

did well despite this; If you use as a single-cut spray, it can be pretty big and overwhelming, snipping off the single shoots is totally an option but doesn't get as long a stem length as the spray; Some blooms are incurved and others have a more open form; Harder color to blend.

Similar Cultivars: Tower series.

Comments: Definitely a keeper!; I haven't grown asters in many years and this was a good reminder why they are amazing and so beautiful! Will definitely add them back to my growing list!

Calla (*Zantedeschia*)

Calla Captain series

Good Qualities: Easy to grow, abundant stems, good vase life, purple and dark pink were extra-long, and that was really appreciated by the florist.

- 'Hollywood': Pretty color, not quite a red, not quite a pink, somewhere in between with some orange tones as well.
- 'Promise': Very nice color.
- 'Romance': Beautiful color, favorite variety out of all of them, longest stem length.
- 'Shelby': Gorgeous deep, dark color, one customer commented that this flower color was a "mood," almost black.
- 'Solo': Gorgeous, bright yellow that contrasted nicely with the others in the trial.

Problems: Darker colors showed spotting on petals making some stems unusable.

- 'Hollywood': Too short.
- 'Romance' (left): No problems.
- 'Shelby': Shorter stems than I care for, wish they were longer.
- 'Solo' (right): This was the shortest one in the trial, barely 6-inches tall, seemed more suitable for sale as a potted plant instead of a cut flower; Too short.

Postharvest Recommendations:

Fresh clean water, water never looked dirty but changed after about a week, great vase life!

Comments: For whatever reason, callas are not popular with our florists and event planners, the public likes them, however, and they are happy to see them in our bouquets.

- 'Shelby': Loved the color so much you overlook the fact that it has a shorter stem.
- 'Solo': Great bright color, but too short.



(Left) Callas 'Hollywood' and 'Romance' in a bouquet. (Right) Calla 'Solo' Photos by Jen Syme.

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Celosia (*Celosia*)

***Celosia* 'Asuka Select Green'**

(*Myoshi*, submitted by Ball Seed)

Good Qualities: Bright-green color goes with everything (7); Easy and faster than other celosias; We tried both pinched and unpinched plants—both made very large heads, but pinched version made four to five stems each vs. unpinched which made single stems, large heads were great for market bouquets, got a lot of compliments from farmers' market customers!; No good qualities; I did not pinch this plant, but it branched and produced many stems, it grew quickly and outperformed all my other celosias in my tunnel; Strong stem; Large head, could use like foliage.

Problems: Short stems/stunted plants; Massive plant, lime green looks dirty quickly, prone to fasciation; Very large heads even on pinched plants might be difficult for design work (but were great for retail!), less uniform head size and stem length than the Act series; Too big of heads and weak stems, color was undesirable; None.

Similar Cultivars: 'Act Green' (Asuka made larger heads and responded well to being pinched; unlike Act which is a single-stem variety); Unaware.

Postharvest Recommendations: Floralife #2.

Comments: MUST pinch!; This was my husband's favorite of all the trial flowers!; I grew this for drying and it was the best celosia I have trialed, it's not easy to get a lot of good usable stems in my cold climate; This made a good filler for market bouquets, I kind of wished the heads were bigger but I think the problem is probably more with me and where I had planted them and they might have needed a bit more nutrients; We planted these seedlings a little stressed and while most cultivars in this succession were okay, these were not, possibly would do better planted in a tunnel for some extra heat in our PNW climate, I wanted them to work out as the color and form seems fun, but not a success for us this time.



***Celosia* 'Bright Sparks Cream'**

(*Syngenta/Floranova*)

Good Qualities: We loved the soft-yellow creamy color! (4); Well-filled plumes (2); Very on-trend and useful for design work as well as market bouquets, we tried this as both a pinched plant and an unpinched plant in the high tunnel, grown as a single stem, plants were taller (24+ inches) and more useful for retail bouquets, when pinched, plants produced multiple shorter stems (8 to 18 inches), which would be more useful for design work, excellent germination, long harvest window, seems to fill a gap for a softer color of plume celosia; Produces abundant side shoots when pinched; None; Would be a nice bedding plant; Head size was good too; Feathery shape; Good workhorse celosia in an unusual color.

Problems: Too short! (8); It seems like it may work best as a bedding plant than a cut flower, but unpinched stems were marketable for us; Weaker than most; Too chunky, not useful at all as a cut flower; I had a few tips go brown, not sure if I was harvesting it too late?; Didn't do well with heavy rains; it looks dirty when it's a little older on the plant, harvest stems when they are on the younger end.

Similar Cultivars: 'Sunday Yellow' and 'Sunday Gold' are much bolder colors than this soft cream, similar to 'Sylphid' however a warmer cream than the cooler 'Sylphid'; Sunday series; Any celosia plumes; 'Sylphid' and 'Pampas Plume Gold'.

Postharvest Recommendations: Floralife #2; Clean water; When it's cool.

Comments: The color is intriguing, it just needs more height; We really loved the color and shape of the plume/spike; Extremely short, as a result mostly unusable and not suitable for market bouquets; I did use it for shorter market bouquets but was disappointed with how short it was; We already grow other types in this form and color that are tall enough, we pinched them but new growth was still short.



Celosia 'Delhi Pearl'
(Myoshi, submitted by Ball Seed)

Good Qualities: Very beautiful pinky-blush-coral color (9), mixes well with many

color schemes, a nice peach/

salmon shade that works well with market bouquets and is still a popular color for the wedding designer sales; Many side shoots (2); Beautiful form (2); Strong stem; Long-lasting in the vase, versatile production methods; I pinched half of the plants and left the others unpinched, unpinched plants produced one to two large flowers on 36-inch stems, pinched plants produced about six to eight smaller flowers on 24-inch stems, both sizes of flowers were useful in different situations, I liked being able to control the size of the blooms; Great as an edible flower; Thin fan, easy to use in bouquet work.

Problems: Heads were too small (2); Too short/stunted (2); Not as uniform as some of the other crested celosias; Older blooms look seedy quickly, probably due to pale color, foliage is an unhealthy green color; Took a long time to mature to be harvestable.

Similar Cultivars: Hmmm, there are Instagram posts about “new varieties” from the flower farmers’ “own breeding” that look similar; No, this color along with its shape is fabulous.

Postharvest Recommendations: Floralfire #2; Harvest when cool.

Comments: Responds well to early pinching, but we left some unpinched, which also were nice, usable stems; ‘Delhi Pearl’ is not as big and flashy as some of the other crested celosia varieties, which is why I’m so drawn to it, if you want the sturdiness and longevity of celosia without the gaudiness, you will love ‘Delhi Pearl’ celosia; I’m curious if others got bigger, better stems, I think I’m the problem because my gut says that they could even be better if I planted them in a richer soil, but still loved them; I am going to grow this again, it is that good, hopefully, I will get longer stem length.

Photo by John Dole

Craspedia (*Craspedia*)

Craspedia 'Drumstick'
(Takii Europe/Sahin)

Good Qualities: Nice bright yellow (4); Nice usable size with heads ¾ to 1-inch [diameter] (3); Great for drying (3); Loved by all for its unique form (2); Strong stems (2); Fun pop of color and texture; long vase life; Blooms sooner than species; Straight stems; Lots of harvestable stems; Handled summer heat; Nice large head, good fresh or dried; Compact, healthy plants; Loved by florists.

Problems: Small flower heads (3), smaller than commercially-grown craspedia that I have seen; Poor germination (2); Weak stems, wish I could have gotten the bloom a little larger; Not drought-resistant; I think this does better as a cool-planted annual, we planted out in late spring, around our last frost date, and got just a few very short stems; Not enough blooms for us; Less vigorous than ‘Sunball’ in plant habit and flower size; Slow growing in seedling stage to transplant in field, short stems; The price has to be very low per stem, because the blooms are very small; None noticed; Kind of tangly and so difficult to harvest.

Similar Cultivars: We also grew some of the tissue-culture strains of craspedia at the same time (e.g., ‘Paintball Pop’), those were so superior in terms of stem length and head size that we will probably not grow the seed strain again; ‘Sunball’; I also had ‘Sunball’ growing and couldn’t tell the difference.

Postharvest Recommendations: None reported.

Comments: We loved this variety, it seemed to have thicker stems than the craspedia we grew last year, but that might be because we grew this one outside and last year we grew a different variety in the greenhouse, they were healthy plants and we loved them; Love the form but it is the second time we’ve tried it and it is just “meh” for our sandy conditions; Craspedia adds cheer to any bouquet, and is also a fun shape and color to add to winter decorations, it keeps its color and form for several years; I had no germination with these seeds; Seed heads were too small and stems were too short to incorporate into bouquets, harvested and used as dried flowers, amazing as dried, dried color was still great; Not worth field space for production bouquets, good niche crop for designers though!; I don’t have a ton of experience with craspedia so not sure if this variety was large or small compared to others—they seemed nice to me, lol, I also had a number of plants wilt/die after planting so not sure if I had a fungus problem; Not super-productive at one time, usually had some to use but never too many, still growing in the heated greenhouse and producing “drumsticks” late in the season, yellow aphids were attracted to the sticks; Easy to dry; Hasn’t flowered yet; Small head, still well received.

Dianthus (*Dianthus*)

Dianthus 'Amazon Lavender Magic' (Ball Seed)

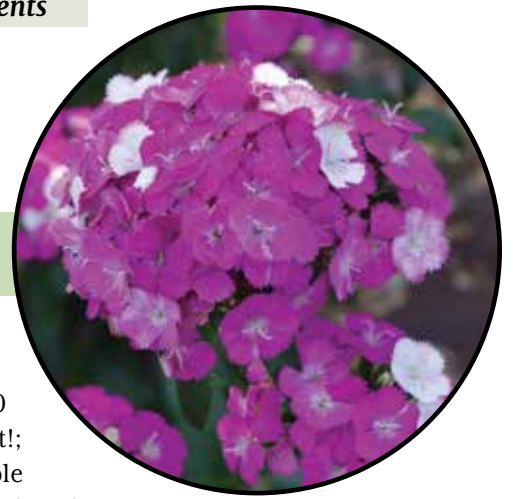
Good Qualities: Nice cheerful color (3), though definitely more pink than lavender; Strong stems (4); Nice full heads (3); Productive (2); Long vase life (2); Long flowering time (2); Super-tall robust plant, central stem nice and big, and five to seven lateral stems are fully usable and long enough; Useful as green cuts before plants opened all the way to full bloom, we typically grow dianthus as a fall-planted hardy annual, but this did surprisingly well planted in late spring (May 1), blooming less than 60 days after transplant, nice for retail markets as well as design work, stems held up well out of water for boutonnieres, installations, etc., stems were shorter as temps got hot, while we often have thrips issues with field-planted sweet William, this was surprisingly pest free, great fragrance; Good rebloom; Interesting floret pattern; If you pinch and keep cutting from the plant, it will send up a second succession; Both the plants and the blooms are resilient; Easy to grow; very nice in mixed bouquets, uniform flowering and stem length.

Problems: More of a dark pink and not lavender at all (3); Too short (2); Late planting resulted in short but still usable stems; Not a usable color for us; Stripping the lower leaves was tedious, we had to pull them off individually; Hard to tell the difference from 'Rose Magic', colors very similar; Color is hard to work with—too bright and undesirable; None; The issue with this cultivar was most plants did not produce side shoots, we got one relatively short stem per plant.

Similar Cultivars: Very similar to 'Amazon Rose Magic' (4), which for us usually has taller stems than 'Lavender' did, 'Lavender' was a slightly lighter, cooler color but still very pink, I will probably stick to 'Amazon Rose Magic'.

Postharvest Recommendations: Holding solution, cooler.

Comments: These little treasures are still producing!(11/15) I set out 70 plants, and they all did great!; We sold this plant as an edible flower to a restaurant we work with and they loved the flowers for cakes and salads; Wasn't loved or hated so not likely to grow again; I like this color combination better than 'Amazon Rose Magic', because the colors are softer and it is easier to blend it in bouquets; Gotta give a special award to any flower that made it through the monsoons of this year without a problem, this one surely prevailed in that department!; Great when used as an edible flower; We used it in smaller bouquets and mason-jar arrangements.



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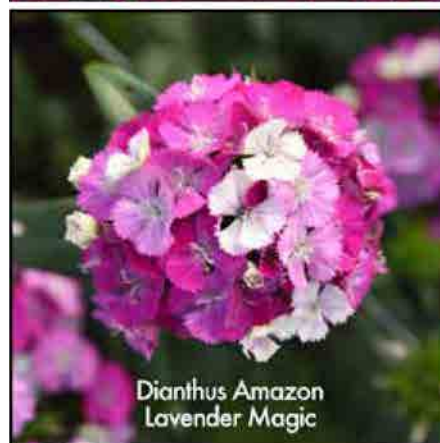
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Lisianthus Evanhi
Purple



Dianthus Amazon
Lavender Magic

Didiscus (*Trachymene*)

Didiscus 'Lace Blue' (Takii Europe/Sahin)

Good Qualities: Loved, loved, loved the color (5); Delicate blooms; Beautiful pop of blue and fun addition to both market bouquets and design work, surprisingly long vase life for a delicate flower; Good dome shape to flower; Amazing, tall, hearty, holds up well, such a winner; Sturdy plants with delicate form, slightly bigger plants and flowers compared to the other blue didiscus we'd sourced seed for and grew alongside.

Problems: Really tangly sticky stems, annoying to work with and stems pretty fragile; We did not pinch our plants and they produced only one stem each, we planted them out late (around our last frost date) and I think they would perform better planted earlier, the plants died back when temps got warm and did not continue to produce stems; Small and weak; Hard to germinate; It took a long time for the plant to produce another cuttable stem after the first cut, we did not pinch them, "pinching" was our first cut; Not great at competing with weeds, sensitive to being rootbound before transplanting.

Similar Cultivars: I have never grown didiscus before and was expecting something similar to ammi in shape, however I found the blooms most similar to annual scabiosa; 'Blue Murex', 'Blue Lace'.

Postharvest Recommendations: These seem to do best if cut when half open and put into hydrating solution, no issues with wilt but we did have some issues with shattering if harvested when too mature; Kind of fragile; We stored it at 65°F and observed that the florets shattered after four to five days of being in water at that temperature, cooler storage was seven to eight days, after that we didn't feel confident using them because of shattering.

Comments: We direct seed this item, but it never germinates prolifically like ammi, orlaya or daucus; I got no germination, I have tried to grow didiscus in the past, without any success, there must be some secret to getting the seed to germinate that I don't know; It's such a unique periwinkle blue that is difficult to find in a cut flower, we observed that this species can easily translate between different aesthetic styles of arranging: "cottage," "bohemian," "romantic," "wildflower"—it's very versatile; We'll keep growing a small patch of this, and will try and keep on planting it on time, possibly with a tiny trial patch in the tunnel to see how that goes, florist customers loved it!

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Feverfew (*Matricaria*)

***Matricaria* ‘Campagne Imp’**

(*Evanthia*, submitted by Express Seed/InFlora)

Good Qualities: Prolific bloomer (2); Clean-white daisy flowers (2); Regrowth blooms again for continued harvest (2); I think this was my favorite out of all the trials, it was the perfect small daisy feverfew with good height and lots of harvestable stems, be sure to cut it back for another flush in the fall!; Bright and cheery, excellent filler, complements many color schemes; Great stem length, full heads; Nice wildflower look, blooms two flushes through the season and some stragglers, could almost always get a bunch if needed; LOVE IT! Distinct airy petal formation that looks like miniature daisies, robust tall stems; They have a more wild look than ‘Magic Single’ with fewer, more spaced-out petals, the yellow center is more prominent, strong plants.

Problems: Too PRETTY! HA; None; A few days later to mature than ‘Magic Single’.

Similar Cultivars: Other *matricarias* (3); Similar to ‘Magic Single’ (2) but petals are more defined; ‘Tetra Single’; ‘Vegmo Single’.

Photo by Jamie Sammons

Postharvest Recommendations:

Strip all lower leaves/foliage, change water and recut stems after a week, if stored in the cooler longer than a week, Use cvbn; Irrigate before harvest when warm out, get into cooler for 24 hours asap.

Comments: It's the summer filler for many of our bouquets, so cheerful!; Fantastic filler that's endlessly useful for market bouquets and arrangements, cheerful, productive and attractive; Everyone loves the single feverfew and this one was well loved, I couldn't really see any difference between this variety and the other single variety I had growing, sold every stem to wedding designers, in market bouquets, and in straight bunches at market; I made the mistake of planting these next to my existing feverfew patch and could not find a tag to identify the Campagne from the older perennial patch, point being, I couldn't tell the difference between these and the variety that was already there; Hasn't flowered yet; Every year I grow as many varieties of *matricaria* I can get my hands on and this was a definite favorite this year, petals did not overlap at all, giving a light and delicate bloom, really loved it; We didn't pinch and got some beefy central growth, we didn't irrigate this patch after harvesting, but we could have gotten a second flush if we had.




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Gomphrena 'Strawberry Fields' in a bouquet.
Photo: Robin Lang

Gomphrena (*Gomphrena*)

Gomphrena 'Strawberry Fields' (Takii Europe/Sahin)



Good Qualities: Vibrant showy red (10); Large head size (3), larger than other varieties that I have grown; Long stems (3); Sturdy stems (4); Great pops of color for market bouquets (2); I would have liked to squirrel them all away entirely for dried flowers for the holidays, but they were so lovely that I used a fair amount fresh at the market; Nice plump bloom, didn't shed as quickly as other red varieties I have grown; Added a lot of color and interest to our fall market bouquets, less of a spray habit than other gomphrenas, which made this easier to harvest and strip, perfect germination from the seed and the plants held up to hot, dry conditions; Goes well with fall colors; Good plant habit, lots of blooms per plant; Color that blends well with other flowers and provides an airy quality to an arrangement; Held red color when the flower heads were dried; Long-lasting, can dry, edible, bloomed for several months; Tolerates dry sandy soil; Fantastic crop, we grew it in an unheated high tunnel for the first time and it continued through 11/17/23, we had to add netting, long-season bloomer and great drying capability.

Problems: None (2); Has to be grown in successions; Like all gomphrena, takes forever to harvest; Not specific to this cultivar, but it can get tangly and fall over if not supported; Stems can sometimes be prone to breaking, not branching like some other cultivars, just one bloom per stem; Despite being planted ultra late, we were still able to harvest a good amount off them, I am sure they would have gone gangbusters had they been given more time and heat.

Similar Cultivars: 'QIS Red'; Orange gomphrena; 'Strawberry Fields'.

Postharvest Recommendations: Like anything else, keep leaves out of the water, ideally also wait for the heads to fill out nicely and for the little crown? florets? polleny bits to open up, at least a few, to avoid any neck drooping; Wilted if not cut when fully mature; Take off all the leaves that will be in the water; Took a little extra care to harvest, but easier to harvest than the QIS varieties.

Comments: Harvest only in full bloom because the buds don't last; We loved using this as accents in bouquets, also, they dry well and are perfect for natural Christmas décor; I got pretty good germination, but I wished for more, I love this flower, and will definitely grow more of it in the future; Total crop loss due to rodents; Really liked the red pops for market bouquets, held color when the flowers were dried; This cultivar didn't really seem any different than other red gomphrena varieties; Poor germination, overshadowed by other plants, weeds, limited growth; While red is often a hard color to sell with our customers, the nice pop these give wasn't too hard to work into bouquets.

Photo by Rachel Ryall

Lisianthus (*Eustoma*)



Lisianthus 'Can Can Carmine Rose' (Ball Seed)

Good Qualities: Beautiful dark-rose color (5), color tone faded within the petals—a really beautiful fade that sets it apart from other rose-toned lisi; Great form (2); Double flower did not seem to show petal injury from humidity; Excellent sturdy stems; 2- to 3-inch-wide blooms; Long stems, medium-size flower.

Problems: Not robust

Similar Cultivars: 'Jolly Pink'.

Postharvest Recommendations: Cooler and holding solution.

Comments: Later blooming, which was nice; We were impressed that the pink color didn't bleach in summer sun; Slightly smaller flower that plays well with others!



Lisianthus 'Celeb 2 Extra Pink' (Sumika, submitted by Ball Seed)

Good Qualities: Classic bubblegum pink (2); Large, full blooms (3); Easy to work with, long vase life; Sturdy field-grown stems, gorgeous ruffles; Huge frilly flowers.

Problems: Flower heads were full and heavy. Had to handle with care to avoid snapping heads off; Was expecting a dark pink, but it turned out to be a good light pink; Diseased badly; The flowers are too big, they don't last as long as the other varieties, being very big, the flowers are too heavy for the little stems they have.

Similar Cultivars: Voyage series, Corelli Sugoi series.

Postharvest Recommendations: Flower heads are large and heavy. Handle carefully to avoid snapping stems; Cooler and holding solution.

Comments: Large, full blooms fill out bouquets quickly; Loved by all!; Should be grown under cover to avoid spotting on petals from weather conditions; Just beautiful!

Photos by Lori Hernandez






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Lisianthus 'Celeb 2 Salmon Pink'

(Sumika, submitted by Ball Seed)

Good Qualities: Unusual antique salmon-pink color (5); that complements a variety of warm-toned color schemes; Gorgeous fluffy petals (3); Strong stems (2); Long vase life, multiple blooms per stem, sometimes up to five blooms; Large blooms; Really full and beautiful blooms, 3 to 4-inches wide.

Problems: Slow growing—but all lisianthus are!; Diseased badly.

Similar Cultivars: Voyage series, Corelli Sugoi series.

Postharvest Recommendations: Cooler and holding solution.

Comments: I vowed I would never start lisianthus from seed ever again, but this variety might make me change my mind; Loved by all!; Should be grown under cover to avoid spotting on petals from weather conditions; Germination was decent; Just beautiful!



Lisianthus 'Corelli Sugoi II White'

Good Qualities: Beautiful, fresh white (5); Ruffly (3); Very double (2); Strong stems (2); Great germination; Fringed flowers; AMAZING! Gorgeous fringed FULL blooms (4-inches wide), so many layers of petals in a crisp white, really a winner; No issue with rosetting, high bloom-per-stem count on strong stems, plants were vigorous and would have put on a second flush if we did not have to flip the bed; Tall stems, provided a continuous supply of flowers in the tunnel, held for a long time on the stem and in the cooler.

Problems: N/A; Disease; Some petal damage due to humidity/moisture in the tunnel seen on all cultivars—a grower issue rather than a cultivar issue; Hard to tell the difference from 'Rose Magic', colors very similar; Slow to germinate.

Similar Cultivars: Voyage series; Similar in shape to some of the Celeb series lisianthus, but for us Corelli Sugoi had stronger stems.

Postharvest Recommendations: Clean water; Cooler and holding solution.

Comments: We didn't pinch the trial lisis, but they would have had a much-higher stem count if we had; Excellent for many purposes; Should be grown under cover, not in field, to avoid spotting and browning of flowers; Didn't get planted out so stem length and number was decreased but flowered very pretty in the tray, still able to use in arrangements; Despite the moanings and groanings about starting lisianthus from seed, they were relatively easy to start from seed, the big issue I see is you can't catch a break from growing if starting seed in January, and barely finishing the previous season in late November/December, although, if I could have only one flower in my life, it would be lisianthus!

Lisianthus 'Corelli Sugoi III Light Pink' (American Takii)

Good Qualities: Classic mid-pink tone (4), not too light or dark—a really nice gentle pink; Gorgeous ruffly (4); Strong stems (3); Fully double lisianthus (2); No issue with rosetting, high bloom-per-stem count, plants were vigorous and would have put on a second flush if we did not have to flip the bed; Tall stems, provided a continuous supply of flowers in the tunnel, held for a long time on the stem and in the cooler; Great germination; Blooms are 3 to 4-inches wide.

Problems: Disease; N/A; Some petal damage due to humidity/moisture in the tunnel seen on all cultivars—a grower issue rather than a cultivar issue; Slow to germinate; Hard to tell the difference from

'Rose Magic', colors very similar; Color is beautiful, but doesn't really stand out from other mid-pink lisi.

Similar Cultivars: Voyage series; Similar in shape to some of the Celeb series lisianthus, but for us Corelli Sugoi had stronger stems.

Postharvest Recommendations: Clean water; Cooler and holding solution.

Comments: Love the peachy buds in arrangements, we should have covered our lisianthus to avoid browning of blooms due to moisture; Despite the moanings and groanings about starting lisianthus from seed, they were relatively easy to start from seed, the big issue I see is you can't catch a break from growing if starting seed in January, and barely finishing the previous season in late November/December, If I could have only one flower in my life, it would be lisianthus!; Didn't get planted out so stem length and number was decreased but flowered very pretty in the tray, still able to use in arrangements; We didn't pinch our lisi trials but should have, this one would have had fantastic stem count likely.

Photos by Melissa Fischbach; Lori Hernandez

Lisianthus Solo series

See individual colors for specific comments.

Good Qualities: Strong stems (2), which could handle being grown outside well in the wind/rain; Used the whole stem in bouquets, good for floral jewelry, head crowns, but also for market bouquets; Tons of blooms per stem (I think 8 to 10 nice open ones at a time or even more), long harvest window, I thought the blooms didn't show age very quickly, strong/tough petals, didn't damage very easily, it has a different look than other lisianthus I grow, with its smaller but multiple blooms that it made mixed bunches of lisianthus for market visually interesting, the no pollen was cool.

Problems: The flowers are smaller than the other varieties, but more blooms on a stem than the other ones, too bad that they are single blooms, I would go for the same flowers, but double; Disease; So tall, it fell over despite side rails and one layer of netting, two layers of netting would have been better; My wedding designers had zero interest in this color.

Postharvest Recommendations: Clean water; Cooler and holding solution.

Comments: I liked the Solo series because they were uniquely different from the typical large, frilly type, there is a use for them both, I would just plant fewer of the Solo series.



Lisianthus 'Solo Pink Picotee' (Sakata)

Good Qualities: Gentle pink edge on crisp-white petals (3); I would describe the shade of pink on the bloom edges as "cute!" (2); Long stems, great for bouquet work, smaller flowers were well received by design customers; Use in bouquets, personal items; Spray type, smaller flower; Slender compact plant form; Color held in all weather conditions.

Problems: Color wasn't the most desirable, but it sold well; Shorter stem; Not in love with picotee in general, and this shade felt a little too baby-pink to me.

Similar Cultivars: Similar to Doublini in shape.

Comments: One of the plants was a solid pink color, I really liked blending the pink picotee into bouquets to add subtle color; I have never enjoyed picotee lisianthus of any variety but I have to admit that I actually liked mixing these into my market bouquets, the pink in the picotee wasn't too "in my face" lol, I was also at first turned off by how stiff the stems were and the very "tall narrow" feel to the stems, but they did grow on me as the season progressed for the different look they had compared to my other larger, fluffier lisianthus, it ended up making market bouquets faster by using this lisianthus along with a larger lisianthus.

Lisianthus 'Solo Blue Picotee' (Sakata)

Good Qualities: Spray type, smaller flower (2); Tall (2); Slender plant form, blooms are compact single layer of petals, white with bright-purple edges; Petite flower size works beautifully as a blending or filler flower in bouquets, uniform banding on blooms; My customers loved this one for its uniqueness.

Problems: Shorter stem; Not a big fan of the picotee, plant structure was a little too thin/compact, making for a not-very-impressive presence in a market bouquet.

Similar Cultivars: None listed.

Comments: I liked the "blue"/purple rim; While customers seem to like the purple edging, we growers don't care for it!; The bicolor blooms add a fresh novelty to bouquets, the flowers are also ideal for corsage and floral crowns; Not my favorite color or cultivar, I love the double fluffy lisi rather than these single-petaled small blooms, they definitely have their place, though, I made good use of them in wearables; I have never enjoyed picotee lisianthus of any variety, so not sure if my lack of love for this variety is because of that, but my market customers did enjoy the "new" look that these added to my bouquets, so maybe I need to cave and add a few to my beds next year. I was also at first turned off with how stiff the stems were and the very "tall narrow" feel to the stems, but they did grow on me as the season progressed for the different look they had compared to my other larger, fluffier lisianthus, it ended up making market bouquets faster with using this lisianthus along with a larger lisianthus.



Photos by Jamie Sammons

Lisianthus 'Solo Violet' (Sakata)

Good Qualities: Rich velvety-purple color (3); Lots of blooms and buds on each stem (2); Single layer of petals on slender, compact plant form; Very tall, sweet, smaller flower, with shorter side stems, used the whole stem in bouquets, good for floral jewelry, head crowns, but also for market bouquets.

Problems: Shorter stem; Compact plant form wasn't very impressive or practical for a market bouquet; Needs to be grown under cover to prevent streaking from weather.

Similar Cultivars: Doublini? but not for summer culture.

Comments: Customers loved the rich purple color; Needs to be grown under cover to prevent color streaking from weather conditions, such a great flower to tuck into a bouquet for additional layers of color; Out of all the Solo varieties in the trial this year, this one I probably had the easiest time using, I ended up letting them open in my field for quite long into the season and they ended up being perfect for my fall bouquets, the purple mixed great with the orange/fall colors, I usually don't like violet/purple varieties for field growing lisianthus but I found this variety didn't show nearly as much rain/dew/water damage as I've seen on other larger-bloomed varieties in the past; I liked the dark purple color.



Lisianthus 'Solo Violet' combined with 'Solo Blue Picotee.' Photo by Jamie Sammons

Lisianthus 'Solo Pure White 2' (Sakata)

Good Qualities: Very pure white (2); Sweet, smaller flower (2); Long stems (2); Very elegant single layer of pure-white petals, almost calla-lily looking in its simplicity of petal structure, blooms are 1½ to 2-inches wide; Spray type, excellent for wedding work; Petite size is excellent for all kinds of applications; Can never have enough white lisi in all shapes and sizes.

Problems: Pretty small blooms which are very elegant but not sure it justifies the bed space and use for market bouquets, seems like a flower size/structure with a specific use; Shorter stem; Take forever to grow.

Similar Cultivars: None listed.

Comments: Not suitable for market bouquets but perfect for event work; I think I didn't do a good job at showing this variety to my wedding designers, I think it might work well for small wedding work like the bouts/corsages/crowns etc., the blooms were small, cute, and pollenless which I think would be perfect, but I don't do weddings myself so can't say that I tried them; The winner in our lisianthus trial this season! We kept picking stems for bouquets, but could also see them being used in corsages and floral crowns.

Lisianthus 'Voyage Light Pink 642' (Sakata)

Good Qualities: Beautiful soft pink color (3); Large ruffly double flowers (2); Very strong stems (2); Slightly shorter than some other lisianthus but makes up for it in strength, relatively fast germination and no issues with rosetting seedlings, great, very early blooming, despite being "group 2" was one of our first to bloom; Good size of blooms.

Problems: N/A; Disease; The color is hard to match.

Similar Cultivars: Corelli Sugoi series.

Postharvest Recommendations: Clean water.

Comments: Loved by all!; The color was more of a blush-yellow than light pink.

Lobelia (*Lobelia*)

Lobelia erinus (*Syngenta/Floranova*)

Good Qualities: None listed.

Postharvest Recommendations: None listed.

Problems: Too short for cut flower production, rarely produced flowering stems, lots of buds but nothing opened properly.

Comments: I was interested in seeing if a *Lobelia erinus*, which I know from bedding plants and baskets, would work as a cut flower, but it didn't grow like that species at all, more like the Starship series; No data to report; I set out 30 plants, which I thought was a pretty fair germination rate for lobelia, but within days they had all disappeared. I am not sure what happened.

Similar Cultivars: Looks like perennial type lobelias—Starship series?

Marigold (*Tagetes*)

Marigold 'Angka Deep Gold Extra' (*Homeseed*)

Good Qualities: Large blooms/nice-size flower (7); Long stems (6); Bright orange (5); Productive (4); Strong/sturdy stems (4); Nice greens; Persisted through heavy weed growth, cold tolerant, multiple blooms per stem; Only minimally stinky foliage; Everything! Color of foliage; Flowers are full and beautiful; Easy to work with; Very nice marigold, bloomed and bloomed from early on until frost; Blooms in fall, pest resistant; Florists loved them.

Problems: Recommend adequate spacing, fungus was prevalent when plants did not have enough air flow; Loved by Japanese beetles; Size of bloom can be too large for the stem, but we experienced this less with this cultivar when grown in the field compared to growing it inside a high tunnel, the spider mites found this crop inside the high tunnel and were merciless! we were grateful to have it planted outside as well; They required netting; None that I could think of.

Similar Cultivars: Similar to 'Maewang Yellow Extra'; I couldn't tell the difference between the two trial varieties this year—this was extremely similar to the 'Intanon Deep Gold Extra'; Coco series; Standard marigold.

Postharvest Recommendations: The vase life is longer when water is changed, and stems are recut every two days; Holding solution and cooler; We cut into cold water, with postharvest holding solution and put them in the cooler; Immature blooms will droop and need a period of rehydration; Cvbn; Harvest early; Deadheading is very helpful.

Comments: Not sure this one needs to be pinched as it produces nice straight stems; I have so much good to say about this plant! I loved the deep gold color, we used many of these blooms to string and dry for garland and the color retention was phenomenal, it paired amazingly with dark-red amaranth or red shiso or aromatto basil! We loved that color combination and it was available in the transition from summer palettes to fall palettes; I loved all three of them, I didn't pinch the seedlings, and the central blooms were very large—really too large for the stem to reliably support them, I cut all of the central blooms, and the side shoots were gorgeous, they were long and graceful, and they were strong enough to support the smaller blossoms, I would grow all of these cultivars again!; Pinching and netting are required; Just a great standard marigold, I had no problems with it and it mixed very well into my fall bouquets; Should have pinched; Great flower, long vase life and life in the fields.



Photo by John Dole.

Marigold 'Intanon Deep Gold Extra' (Homeseed)

Good Qualities: A stunning color (4); Sturdy/strong stems (4); Long stems (4); Prolific flowering (3); I loved the size of bloom (3); Pest resistant and persisted through heavy weed growth, cold tolerant; Great firm blossoms suitable for garlands, sturdy necks; Large flowers; Good round double form; Flowers are full and beautiful; Easy to work with; All the marigolds were super nice; Blooms in fall, pest resistant; Florists loved them; Easy to plant (Earthway) and long harvest window.

Problems: None (2); They required netting (2); Loved by Japanese beetles.

Similar Cultivars: Other marigold varieties; 'Coco Deep Gold'; I couldn't tell the difference between the two trial varieties this year—this was extremely similar to the 'Angka Deep Gold Extra'; Coco series; Standard marigold.

Postharvest Recommendations: Change water and recut stems every two days to prevent bacterial growth in water; Cooler and holding solution; Harvested stems with multiple blooms, some would be immature blooms, immature blooms will droop and need hydration period; Cvbn; Harvest early when not fully opened; Deadheading is very helpful.

Comments: Produced a nice stem length; Still trying to educate customers about the value of marigolds! Hot, bold orange that doesn't necessarily play well with other flowers, benefits from pinching; I loved all three of them, I didn't pinch the seedlings, and the central blooms were very large—really too large for the stem to reliably support them, I cut all of the central blooms, and the side shoots were gorgeous, they were long and graceful, and they were strong enough to support the smaller blossoms, I would grow all of these cultivars again!; Will need to be pinched and netted; I had a hard time selling any marigolds to my wholesale customers because of smell they said, and there were lots of dahlias, which were looking awesome in September, which filled their bloom need, I really loved the size of this marigold and I found it naturally gave me great stem length on even the plants I didn't pinch; Should have pinched to get longer stems; Great flower, long vase life and life in the fields; Hardy, harvested up to the week of Thanksgiving and they were grown outside (7b).

Marigold 'Maewang Yellow Extra' (Homeseed)

Good Qualities: Nice cheery yellow without being harsh (8); Strong stems (4), we did not support these and they held up on strong stems all summer, even through a tropical storm; Tall/long stems (5); Bloomed consistently all summer and fall (2); Nice-size bloom (not too big nor too small) (2); Very nice (2); Persisted through heavy weed growth, cold tolerant, multiple blooms per stem, and provided color variation when compared to the deep gold variety; Sweet scent; Potentially less daylength sensitive than other marigolds are for us; The flowers are full and beautiful; Easy to work with; Beautiful form; Blooms in fall when others aren't, lots of blooms per plant, pest resistant, great edible bloom; Florists loved them.

Problems: Recommend adequate spacing and a pre-emergent herbicide to prevent grass competition; Some Japanese beetles; We grew this cultivar inside a high tunnel, which is not recommended, the stems grew very tall and thin and could not support the weight of the bloom, it was also susceptible to spider mite infestation, it was a nightmare to cut from the support netting; They required netting; Small flower heads, skinnier stems.

Similar Cultivars: Was a functional yellow, but didn't stand out as better or worse than others; Similar to 'Angka Deep Gold Extra'; 'Chedi Yellow' has similar but slightly lighter color and larger blooms; Coco series; Standard marigold.

Postharvest Recommendations: Cvbn; The vase life is longer when water is changed, and stems are recut every two days; Harvest before they haven't opened very much; Deadheading is very helpful; Harvested stems with multiple blooms, some would be immature blooms, immature blooms will droop and need hydration period.

Comments: These were very nice, although the market we sold in was crowded with marigolds; Overall great performance and would grow again; Still trying to educate customers about the value of marigolds!; We were not able to use them, also, we did not love the color, it was too washed out for summer and fall; I loved all three of them, I didn't pinch the seedlings, and the central blooms were very large—really too large for the stem to reliably support them, I cut all of the central blooms, and the side shoots were gorgeous, they were long and graceful, and they were strong enough to support the smaller blossoms, I would grow all of these cultivars again!; Will need to be pinched and netted; I loved the yellow marigold but I found more of my



Photo by John Dole.

wholesale customers not wanting it for the smell or the bright yellow color, just used it in market bouquets and no one complained there, I'm sure there are similar marigolds—I feel like there are so many marigolds out there now that I can't keep them all straight lol; This had bountiful, high-quality stems, easy to strip; I should have pinched for longer stems; Great flower, long vase life, and life in the fields.

Nicotiana (*Nicotiana*)

***Nicotiana* ‘Whisper Appleblossom’** (*Syngenta/Floranova*)

Good Qualities: Lovely shades of pale pink and white (5); These are blooming machines (2); Really nice mid-size blooms (2); Lovely scent (2), especially in the evenings; Big showy blooms, tall, pairs well with tropical flowers; Starts blooming short and continues to grow and get tall, which is the best for selling; Nice airy form, easy to harvest; Dreamy and whimsical, no way we could have kept up with harvesting, cut and come again, but we stopped cutting after a few weeks, despite being ignored for two months, they still kept blooming; excellent stem length, attracted hummingbirds, which were fun to watch while harvesting!; Could be sheared back with complete regrowth six weeks later; Whimsical, romantic, photogenic; Regrowth was great (end of July was regrowth); Unusual flower shape, a nice floating flower in mixed bouquets; Our trial favorite! We transplanted it late (June 19) and it started blooming just one month later! It bloomed vigorously from July until frost, more than three months of continuous blooms, beautiful and romantic in market bouquets, great for weddings and design work, very tall, strong stems, after being conditioned, held up very well at all-day farmers’ markets on 100°F summer days, plants continued to bloom during both summer heat waves/droughts and very cool, wet conditions in the fall, no pest issues, multiple colors of blooms on a single stem from white to darker pink.

Problems: Sticky stems (7); Wilt prone, doesn’t hold up in arrangements that are out in the heat; We had some issues with wilting before figuring out the right conditioning procedures, and then it was rock solid; Tends to look wilted in market bouquets; Not a huge fan as a cut because they are so sticky and tangly; Blooms are fragile and easily damaged, likely better for wedding work than market bouquets; Some snapped in the middle when we cut them; Tomato hornworms love this plant; Germinated over many days, yielding unevenly formed plugs (same conditions as Virginia nicotiana and it germinated evenly and at the same time), got too tall for tractor cultivation, a couple weeks earlier than other “standard” cut flower nicotiana.

Similar Cultivars: This was sturdier and more prolific than any other nicotiana we have grown; Not that I know;

Any smallish nicotiana; Similar to other nicotiana I’ve grown, but florets are smaller and shorter, making them more usable.

Postharvest Recommendations: Wilt prone, won’t use in high heat (outside events, etc.), harvest in cool temps, keep hydrated; Harvest when half the blossoms on the stem are open, cut early in day into hydrating solution and condition overnight in cooler, cut deep (at ground level) so that plants continue to produce tall stems; We use Cvbn pretty much for everything; In water immediately to avoid wilt, I left it in for 24 hours to drain the sap; Blooms are fragile and easily damaged, handle with care.

Comments: Good color; I enjoyed having these growing in the garden and selling for cuts, the green type is better but it’s nice to have some variety; nicotiana is not a popular bloom around here with florists, I loved it and used it in market bouquets; Really loved it in the field but doesn’t work well as a cut; The plants were so productive that even 30 plants was too much to handle, the blooms have a playful airy quality perfect for wedding work; Whisper is a great landscape plant, and also an interesting filler flower; Definitely susceptible to tobacco hornworm, maybe more so than other nicotianas; This was my first experience at growing nicotiana as a cut flower, I have long enjoyed its fragrance and growth habit, but hadn’t tried it as a cut flower, I love it, and it will be a staple on our farm; Didn’t get great germination, what I did get is lovely, and I’m sure has a use for certain florists who crave the unique, overshadowed by other plants, weeds, limited growth; While red is often a hard color to sell with our customers, the nice pop these give wasn’t too hard to work into bouquets.



Photo by Lori Hernandez

Orlaya (*Orlaya*)***Orlaya grandiflora* ‘White Lace’**
(Takii Europe/Sahin)

Good Qualities: Nice lacy full bloom heads; A great filler flower for spring when customers are always asking for baby’s breath and white flowers, delicate, light, and airy, perfect for event work; I usually direct sow orlaya in the fall and was surprised by how well these did as a transplant in the spring, stems were short but still usable and bloomed much later than our fall-sown plants, more useful in design work than in market bouquets, the seed pods are also usable and add a neat texture; Fancier looking than ammi as a lacy filler; This was a very hardy cultivar of orlaya, the stems were strong and wilting was rarely a problem, the florets opened uniformly; Good quick spring crop, flower heads were good size and clear white with no discoloration; It was taller than other varieties I have grown in the past, it was easy to direct sow in early spring, it’s a really beautiful flower and the flower heads were a nice size, when I managed to harvest them at just the right time they were lovely and added a lot of romance and flutter to bouquets and arrangements, the green seed pods are neat and dry well, if you were not harvesting for fresh blooms but for dried, you could clip a lot of little 8-inch side shoots off as they go to seed and end up with an even more productive crop, I did find that remaining stems stretched out nicely when harvesting low in the plant; Sturdy stem and a large flower head, directly sown from plug stage, very cold hardy, withstood hail damage without any structural support or cover; Really beautiful form, sturdy and long-lasting; More blooms than ammi.

Problems: Bloomed out quickly, should do multiple successions (2); Hard and long to harvest; Prone to wilting if not harvested properly; Not very remarkable—looks just like other orlaya varieties I have grown, wasn’t sure what was distinct about this one, stem length not very usable; Tendency to wilt on hot market days in late spring, short stems, we did have some issues with thrips on these plants; Can droop if not properly hydrated; The slugs and/or snails really seemed to like the emerging seedlings when not a ton of other juicy tender plants were out, so I lost a fair amount initially from my little trial plot, but it sort of acted as natural selection thinning out the plants for me, the remaining plants grew tall and

sturdy, we had insane amounts of rain and where plants with leafier structures succumbed to the weight of the rain and ended up mostly horizontal with a kinky neck these guys happily stood tall and upright; Main stem was not as long as we had hoped; End-of-season seed heads stick to everything; None.

Similar Cultivars: Queen Anne’s lace (2); Ammi; I like to have an umbelliferous flower to use at every point in the season, I have a train of “lace flowers” both grown and harvested from neighbors’ fields where they grow wild to use at one point or other through the season, I always fail with ammi, but these guys fit nicely into the roster when I managed to harvest without them dropping afterwards, I use cow parsley and wild daucus and my sown daucus and bishop’s weed blooms, among a few others I am forgetting, to ensure I have lacy white elements and froth whenever I need it.

Postharvest Recommendations: Cut early in the morning, be sure flowers are fully open as they are prone to wilt if harvested too early, we cut side shoots off, they wilt postharvest; Wilts if cut before mature—we cut when the umbels tip downward and put into holding solution; Keep hydrated to prevent drooping; I occasionally used quick dip if they began to wilt right away; Immediately put in water and cut in the morning.

Comments: I like to use them as seed pods, as a nice green textural element, the blooms themselves are beautiful on the plants and I find if I let one go to seed and then harvest when the next one is open I have fewer crashing blooms, but it seems to be hit or miss with me and oralyas in general as far as nabbing them at just the right time to avoid crashing or shattering, the sweet spot often seems to elude me.



Photo by Robin Lang



Customers loved the unique colors of *Salpiglossis* Royale Mix. Photo: Lori Hernandez

Salpiglossis (*Salpiglossis*)

Salpiglossis 'Royale Mix' (Syngenta/Floranova)

Good Qualities: Really beautiful rich colors (7), gorgeous streaking throats of deep plum, gold, and purple; Cut and come again (2), blooms for weeks if harvested regularly; Of all of the trial varieties I shared on our social media, this one got the most comments and messages from customers, the flowers are iridescent and seem to glow, no pest issues, quick to bloom from transplant (around 50 days), very unique blooms and a lot of potential as a local specialty cut to both florists and retail markets; Nice regrowth (first flush was end of June/early July) then usable regrowth early August; Long, strong stems, nice-sized blooms.

Problems: Sticky stems (5); Short stems (5) shorter than generic grandiflora types that were sown for comparison; I like solid colors for bunching, they sell best for me, we were able to get enough of each color for bunching; I think this would perform best if planted earlier in the spring, potentially in the tunnel, plants died back as soon as temps got hot, based on comments from other growers, I expected the vase life on this to be exceptional, but it lasted only around five days for us despite experimenting with different stages of harvest and postharvest treatments; Unusual colors didn't match my bouquet color schemes; My 75 plants died because too much rain in the field; Too much yellow in the mix!; Poor germination, grew in high tunnel so it petered out in the heat, would situate in the field next time.

Similar Cultivars: Not that I know; I've grown the *Salpiglossis* Superbissima mix for years and vastly prefer that mix of colors to the Royale mix. The Royale had dark moody jewel-tone colors that were difficult for me to use in my arrangements.

Postharvest Recommendations: Fragile blooms, handle with care (2); We use Cvbn pretty much for everything.

Comments: I do love these in a limited amount, growing a few is good and adds variety, but growing too many can be overwhelming; This might be an excellent choice for you-pick gardens, where customers are looking for extra-colorful and unusual blooms; The stems were too short for cut flower use, but the blooms were large and a beautiful burgundy, we direct seeded these, and for whatever reason only one color instead of a mix, the flowers were slightly larger than generic versions; Used in bridal bouquet, pretty rich color, short so it was tucked in the front of the bouquet; Little insects get caught in the sticky furry stems and sepals, not the best when you look closely at it; The dark burgundy should be isolated and sold separately, it's absolutely stunning and is a less full, much easier-to-grow option over chocolate cosmos if you're trying to obtain that color for design, we loved this cultivar, but would say that there is too much yellow in the mix!!; I got fair germination, but the plants died pretty quickly in the heat and humidity; Would prefer single colors as the yellow was not as beautiful; Hasn't flowered yet.

Scabiosa (*Scabiosa*)

Scabiosa ‘Black Knight’

(Takii Europe/Sahin)

Good Qualities: Lovely dark color (8); Prolific (5), almost too productive as it was hard to keep up with harvesting; Harvest all season until hard frost (3); Loved by customers; Great germination, added a nice element in market bouquets and would be useful for florists; Love the size, they had a great second flush after the weather cooled off in early fall; Good form, strong plants; Larger head size than other varieties we’ve tried, ‘Black Knight’ also seems to be more productive than other colors.

Problems: Floppy (2); All scabiosa is a tangled mess to cut (2), this was no different; Like all annual scabiosa, wiry stems and smallish heads, these heads seemed especially small and a lot of blooms were required to make a sizable “bunch,” relatively short stems, likely due to late planting (May 1 rather than earlier in spring), dark color is better for fall, but the plants were most productive in early summer; Flower sturdiness is weak; Not all plants bloomed.

Similar Cultivars: ‘QIS Purple-Black’; Some other scabiosa are similar color, but this one is the best; Scoops are so much better (but this one is better with stem count).

Postharvest Recommendations: Band them in bunches when you cut them so that they are easier to handle, otherwise they tangle easily, especially if you don’t cut off any side stems; Use cvbn; Harvest when blooms are on the younger side; They get tangled easily, so keep in their own bucket; Cooler and holding solution.

Comments: Must be harvested frequently; We love scabiosa in all stages: buds, blooms, and seedpods, pollinators love them too; I direct seeded on 3/10, most plants didn’t mature enough to bloom, I harvested only five or so blooms, fairly soon after that our temps got high, and the plants didn’t last very long; It’s affordable to grow blooms over a long time; Scoops are so much better (but this one is better with stem count); Unique! Fantastic for fall wedding work, they really shine in bouquets! Florists loved them up to Thanksgiving (Zone 7b, grew in an unheated tunnel); Desired by florists for that unique bit of whimsy that elevates designs, lovely in market bouquets as well.

Snapdragon (*Antirrhinum*)

Snapdragon ‘Costa Summer 4 Lavender’

(Evanthia, submitted by Express Seed/InFlora)

Good Qualities: Really lovely blueish-lavender color with soft yellow throat—unique! (8); Strong sturdy stems (6); Great stem length (4); Solid, strong blooms all the way to the tips, really a standout all around, excellent variety!; Uniform through all plants, straight stems; Good late summer bloomer; Very productive; Full stems; Multiple florets; Got a second flush, stayed straight despite not being netted.

Problems: None (2); Gets rust but about the same as all snaps (2); Weaker than most, unusable color; We got aphids, but they were easy to get rid of; Height requires two layers of support as it grows very tall in tunnel; So vigorous and beefy that the foliage was hard to strip.

Similar Cultivars: ‘Maryland Lavender’; ‘Potomac Lavender’; ‘Opus Lavender’.

Postharvest Recommendations: Clean water; Cvbn; Holding solution and cooler.

Comments: This was a winner; Customers really liked it, mixes well with other flowers; Snaps need staking to produce best results; Snaps are fun and nice, great producers; Nothing really to add except that these grew great and I loved them—sold every stem; Not enough time for a second cut; Lovely color that complemented cool-toned arrangements; We seeded two per cell and TP to five rows 9-inches apart and 9-inches apart within each row, pinched with no netting, the whole patch got rust late summer, so missed out on harvesting some of the second succession.

Snapdragon 'Orleans 4 Rose'*(Evanthia, submitted by Express Seed/InFlora)*

Good Qualities: Bright mid-pink (7), not too bright and just the right cheerfulness; Strong stems (3); Tall stems (2); I got two harvest periods for the same plant, but the second harvest had smaller blooms; Reliable; Each plant produces lots of stems; Thick stems; Full blooms; Very productive; Easy to design with.

Problems: We got aphids, but they were easy to get rid of; Tips can be little thin, floppy, and fragile; Weaker than most; Rust; this cultivar was pretty bright for a "rose"; Aphids; Height requires two layers of support as many fell over in high tunnel.

Similar Cultivars: 'Monaco Rose'; 'Potomac Cherry Rose'; Many.

Postharvest Recommendations: Clean water; Cvb; Holding solution.

Comments: The pink ones were very perfumed, since we grow our snaps in a hoop, the quality is a lot better and the blooms last longer than when cultivated in a field, always use a net to keep the stems straight; True bubblegum pink—we prefer more nuanced coloration; Great pink for all those Barbie bouquets!; Easy to germ in ¾-inch soil blocks, transplanted to 98s well—unfortunately, we tried to grow these for a late-season bloom, but seedlings were impacted by extreme weather (heat) and didn't survive; Mixed these with 'Appleblossom' for a quick market bunch—sold every stem; Greenhouse grown in spring; Great germ, great color and stem strength.



Photos by Melissa Fischbach

**Snapdragon 'Orleans 4 White Imp'** *(Evanthia, submitted by Express Seed/InFlora)*

Good Qualities: Very bright-white clean color (8); Sturdy/strong stems (4); I got two harvest periods for the same plant, but the second harvest had smaller blooms; Fluffy blooms; Reliable; Compact blooms with easy to strip stems, nice thick top buds that don't snap/break easily; Bloomed earlier than my other snaps; Great germination; Straight stems, despite not being staked, well filled spikes; VERY tall stems, very productive.

Problems: We got aphids (2), but they were easy to get rid of; Gets rust but about the same as all snaps, really the only problems we have with snaps is rust; Weaker than most; Head a little smaller than other snaps; Height requires two layers of support.

Similar Cultivars: Other white cultivars (2); 'Potomac White'.

Postharvest Recommendations: Cvb; Clean water; Holding solution.

Comments: Since we grow our snaps in a hoop, the quality is a lot better and the blooms last longer than when cultivated in a field, always use a net to keep the stems straight; Easy to germ in ¾-inch soil blocks, transplanted to 98s well—unfortunately, we tried to grow these for a late-season bloom but seedlings were impacted by extreme weather (heat) and didn't survive; Snaps are fun and nice, great producers, got to have some, we succession plant and space far from the last crop to get snaps without rust for a couple week harvest; Classic white snap for commercial production; There was nothing unique about this variety for me, it grew well and to me looked like a nice, standard-white snapdragon, I feel like my customers still prefer the double varieties as opposed to the standard ones so didn't sell many to wedding designers but sold most in mixed bunches at market; Greenhouse grown in early spring; Classic white snap is always useful in the garden and bouquets, for our snaps, I think we might have had longer vase life if we had staked and fertilized them, maybe I need to cave and add a few to my beds next year.

Snapdragon 'Orleans 4 Yellow'

(*Evanthia*, submitted by Express Seed/InFlora)

Good Qualities: Sturdy/strong stems (4); Bright color (3); Long stems (2); I got two harvest periods for the same plant, but the second harvest had smaller blooms; Reliable; Tight blooms make them easy to transport without damage; Early blooming, nice medium stems; Very productive; Full stems; Incredible germination; Nice stems.

Problems: Terrible color (4), I find all bright yellow snaps to be highlighter colored and hard to blend; We got aphids, but they were easy to get rid of; Looks a lot like the toadflax weed; in some temperatures, the color changes to a more whitish tone; Height requires two layers of support as it grows very tall in tunnel, all Orleans varieties bloomed at the same time which was early summer; Thinner stem than other snaps grown in the spring; Rust.

Similar Cultivars: Many.

Postharvest Recommendations:

Holding solution and cooler; Cvbn.

Comments: Full blooms, interesting yellow; Easy to germ in ¾-inch soil blocks, transplanted to 98s well—unfortunately we tried to grow these for a late-season bloom but seedlings were impacted by extreme weather (heat) and didn't survive; Since we grow our snaps in a hoop, the quality is a lot better and the blooms last longer than when cultivated in a field, always use a net to keep the stems straight; Couldn't get the weed association out of my head!; This tone of yellow is hard to add to pastel bouquets, and is a little too green to add to autumn-colored arrangements; This variety bloomed first for me in the snapdragon patch so I did enjoy them, even though I don't usually love a bright yellow, the stems were not as large as the rose and lavender that were also in the trial but still a very useful size for field grown snaps; Not enough time for a second cut; Greenhouse grown in the early spring.



Sorghum (*Sorghum*)

Sorghum Prairie Pearls series

See individual colors for specific comments.

Good Qualities: Hearty (2); Easy to grow (2); Sorghum is always awesome, harvest it at many stages; Interesting color and perfect for fall; Useful when underripe, was ready to cut for Canadian Thanksgiving and we were concerned about frost; Strong producers, cut-and-come again and again; "White" was our favorite color in the group—a very clean bright white, red was less of a classic grain than the other colors, all three colors were much shorter than normal sorghum, making cultivation easier and no worries about these shading other plants, excellent for market bouquets! Long harvest window, a lot of fun; I loved it, it was usable as a grass and then as a berry-type of cut; Got ready, interesting, nice fall cut; Easy to harvest; The red ones are nice in fall colors, I personally used the foliage as fillers; Dries well.

Problems: Poor germination (2): The colors are less distinct than each name would have one believe, they run up and down the caramel/brown spectrum, certainly there was no white or no oranges, more like light brown and dark brown; The cream, orange, and the white are

not very nice colors, the white ones were shorter than the other colors grown; Animals early, long bloom time.

Similar Cultivars: Broom corn, but not as bulky and unwieldy; Not that I know.

Postharvest Recommendations: We enjoyed harvesting the immature stalks before they made seed pods all the way to mature grains; We use Cvbn pretty much for everything; Dry.

Comments: We really liked the unique cream/white colors in this series, however, it was too spotty on germination for us to grow reliably; Planted into field "later" than should have but still put up a seed head, didn't mature before the risk of frost, useful immature; I love these experimental sorghums and they all sold well; Makes excellent dried product, white flower seed pods held color and didn't brown during drying process.



Photos by Melissa Fischbach; John Dole

Sorghum 'Prairie Pearls Cream'

(Express Seed/InFlora)

Good Qualities: Great height of stems, not too short or tall, was able to withstand high winds; Good for big installations; Interesting color; Great color for fall arrangements, long harvest window, great height for bouquets or dried décor; Very easy to grow, had good height, seed heads add volume to fall bouquets.

Problems: Longer growing season than expected; None (3); Hard to find good use for this plant, very heavy and big; Late to form seed heads, quite tall at 5-foot plus.

Similar Cultivars: Pinto sorghum.

Comments: Was able to dry some and they turned out beautifully, cream color stayed true and didn't brown in the drying process; I love these experimental sorghums and they all sold well, all the colors were interesting and useful; I got good germination, these seed heads were relatively small, and I used some of them, but in general I didn't care for them; Great "set it and forget it" plant, I direct sowed the seeds on June 29, after removing hardy annuals from the bed, plants were ready to harvest in mid-October, might be best to plant earlier for earlier harvest when customers get the itch for fall décor; Cream has a different seed head than all the other colors (we were trialing black varieties too), it may be that it was still immature; Tallest and least favorite of the sorghums.

**Sorghum 'Prairie Pearls Orange'**

(Express Seed/InFlora)

Good Qualities: Nice shading of color (3), tinge of orange on shells; Full seedheads; Plants are vigorous but manageable height.

Problems: Stunted growth, didn't form seed heads, barely a stem; N/A; Seeds shatter quickly compared to the other sorghums

Similar Cultivars: Red Exp.

Comments: I got poorer germination than with the other sorghum cultivars; Loved the color; This one had the seed eaten quickly; I had expected the color to be more vibrant, but it is still interesting.

**Sorghum 'Prairie Pearls Red'**

(Express Seed/InFlora)

Good Qualities: Attractive rosy pink-red color (4); Tight clusters, strong stems held up in high winds, stem thickness appropriate strength for heavy seed heads, long period of harvest as seed heads didn't blow open or discolor quickly;

Stem-to-flower-head ratio strength good; Grew smaller in the fall, which was a more usable stem than during the summer, which was big like a corn stalk; Full seedheads.

Problems: None (2); Requires longer growing season; Seed pods didn't color evenly—western side of the head took two to three weeks longer to color up.

Similar Cultivars: Orange Exp.

Comments: We cut it to the ground after the first flush to replant with something else, and some grew back, this stuff is awesome, both fresh and dried, the best crop in these tester seeds that I hadn't already grown before, I think this crop has really great potential for both fresh and dried applications; I got good germination, but I just didn't have any use for the seed heads, they were too big for mixed bouquets, I probably should have tried to sell them as growers bunches; Great for dried flower, colors stayed true; 'Red' was the shortest of the sorghum varieties, I was surprised by the variety of heights within the Exp varieties and also with others in the trial, 'Black Falcon' was much taller (8 feet) but 'Panda' was about 5 foot, all plants appeared to be healthy and bloomed at similar times; Our favorite sorghum of the trial; loved by customers.



Photos by Lori Hernandez



Sorghum 'Prairie Pearls White' (Express Seed/InFlora)

Good Qualities: Interesting color and perfect for fall; Bright-white seed pods, tight clusters, strong stems held up in high winds, stem thickness appropriate strength for heavy seed heads, long period of harvest as seed heads didn't blow open or discolor quickly; Good for big installations; Nice color; Excellent uniformity in size and color, dries to a similar shade; Long vase life.

Problems: None (2); Requires longer growing season; Hard to find good use for this plant, very heavy and big.

Similar Cultivars: Pinto berry sorghum.

Comments: I got pretty good germination, but I didn't use the seed heads, I wish I could have sent to someone who does dried flowers; Makes excellent dried product—white flower seed pods held color and didn't brown during drying process; There is a difference between 'White' and 'Cream', both colors being useful and lovely, they also dry well for winter use; Taller than the orange or red varieties which meant the seed heads developed later, great architectural stems.

Stock (*Matthiola*)

Stock 'StoX™ Champagne' (Evanthia, submitted by Ball Seed)

Good Qualities: Really ruffly with peach/yellow center (4); Strong thick stems (2); Full stems (2); Growing habit was very consistent with other stock varieties grown (number of florets, stem thickness, fragrance); Loved by florist; By week 18 leaf color was obvious (if someone was selecting for doubles—we use both singles and doubles); Very pretty!

Problems: None; Spotty germination, Some seedlings were very yellow upon germination and never really outgrew it; Plugs didn't seem to form well compared to 'Peachy Pink' with the same greenhouse conditions; High percentage of singles, but they were usable!; Very short and branched.

Similar Cultivars: Iron series; 'Katz Apricot'.

Postharvest Recommendations: Holding solution and cooler; Change water regularly.

Comments: Because of the similarity to the variety we currently grow, we feel more confident about continuing with our current variety.

Stock 'Peachy Pink' (Syngenta/Floranova)

Good Qualities: Unique two-tone flower (4); Super ruffly and gorgeous! Flower column is half of the plant height!!! AMAZING!; Great plugs formed (compared to 'StoX White' and 'StoX Champagne'), really nice color!, The height and earliness makes it a real winner for pre-season mouse weddings, though they tend to be stingy spenders; Nice perfume, too pale, my customers prefer the dark colors or the white.

Problems: Too short (3); Same conditions as other stock varieties but this one formed buds at week 16 and were fully flowered at week 18; Couldn't get it to germinate; Only 50% of the plants are double blooms and the customers don't want single blooms; Disease; About 40% single.

Similar Cultivars: 'Katz Apricot'; 'Iron Apricot' (similar color).

Postharvest Recommendations: Take off all the leaves that will be in the water; Clean water.

Comments: Another interesting quirk about these was that there was no leaf color difference between the singles and the double flowers (other varieties we notice a difference in the leaf color even with regular tunnel conditions), 40% single; It was a waste of early season bed space as the extremely short stems made them unharvestable; Hasn't flowered yet; I set out 71 plants, I was so excited because this was my first experience at growing stock from seed, and it is a flower I adore, the next day I went out to check on them, and they had all been eaten, I will definitely try again next year, Thanks for the opportunity to try something new!; Greenhouse grown in the early spring; We grow a lot of stock and this simply got planted too late to judge properly, we planted it out at our last frost date (May 1), in the field, stock does best for us planted much earlier (fall or winter), in the tunnel, very nice color and would try it again!

Stock 'StoX™ Deep Rose'

(*Evanthia*, submitted by Ball Seed)

Good Qualities: Bright rose color (6); Strong stems (2); Nice perfume; Growing habit was very consistent with other stock varieties grown (number of florets, stem thickness, fragrance); Full stems, double flowers; High percentage of doubles! Super ruffly petals, center color is lighter and nice contrast to bright outer petals; Large flower heads; Leaf color was obvious early on (for selecting doubles).

Problems: None (2); Only 50% of the plants are double blooms (2) and the customers don't want single blooms; Floret color wasn't our favorite (yellow center); Not a very strong seedling.

Similar Cultivars: Iron series.

Postharvest Recommendations: Take off all the leaves that will be in the water; Holding solution and cooler; Plain water; Change water regularly.

Comments: The only StoX I would grow again, for the color; Need a net to grow straight.



Seedling tray of Stock 'StoX Deep Rose'. Note color difference for singles vs. doubles.
Photo: Rachel Ryall

Stock 'StoX™ Champagne'

(*Evanthia*, submitted by Ball Seed)

Good Qualities: Crisp-white color (2); Full stems (2); Strong stems (2); Growing habit was very consistent with other stock varieties grown (number of florets, stem thickness, fragrance); Loved by florist; Pretty average white stock; Obvious leaf color difference from early on (if wanting to select for doubles); Really ruffly doubles; Larger flower spike than other white stock I grew.

Problems: None (2); Germination was spotty (2); Only 50% of the plants are double blooms (2) and customers don't want single blooms; Some seedlings were very yellow upon germination, figured that they were a selectable for doubles cultivar and planted them all anyways, yellow seedlings never outgrew it and remained stunted; Plugs didn't form all that well comparatively, bloomed 3 to 4-inches shorter than other StoX; Not super tall!

Similar Cultivars: 'Iron White'; Other whites; 'Hi Double White'; 'Canetto White'.

Postharvest Recommendations: Take off all the leaves that will be in the water, need a net to grow straight; Holding solution and cooler; Change water regularly.

Comments: Because of the similarity to the variety we currently grow, we feel more confident about continuing with our current variety.

Sunflower (*Helianthus*)

Sunflower 'Solano Deep Orange'

(*Evanthia*, submitted by Express Seed/InFlora)

Good Qualities: Beautiful classic color (3); Easy to grow (2); Traditional-looking sunflower (2); Pollen-free (2); Large sunflower; persisted through weeds and environmental conditions, stem lasted five days without significant deterioration; Easy to harvest, nice sturdy upright-facing stems; Good depth of shade in each bloom, consistent throughout row.

Problems: None; Flower began dropping petals at day three significantly, by day four, there was a notable change in the leaves—they began wilting and shriveling; Large heads, sometimes too big for my use.

Similar Cultivars: 'Sunrich Provence Summer' (2); 'Procut Orange'; Other sunflower varieties grown in the trial.

Postharvest Recommendations: Keep cool, add nutrients to water, and recut stems every day; Harvest when first petals are coming up.

Comments: I usually grow 'Vincent's Choice', this cultivar is much larger and not as useful in mixed bouquets, but they make a gorgeous single variety bunch; I like these better than Procut; Sown June 21, in full bloom end of August; 6-inch spacing.

Sunflower ‘Solano Double’*(Evanthia, submitted by Express Seed/InFlora)*

Good Qualities: Consistent (3); Many petals (2), really full blooms; Beautiful color (2); Easy to grow (2); Large sunflower; Outward facing; Easy to harvest, nice sturdy upright-facing stems; Blooms are evenly double, good medium size for use in bouquets; Persisted through weeds and environmental conditions, stems lasted significantly longer than other varieties grown; Pretty standard sunflower; Fit into our successions well, it’s a single stem double, the first I’ve known of, even had a handful of harvestable side shoots weeks later.

Problems: Stems had rot or insect damage inside, which was unattractive, otherwise, plants were healthy looking; Flower began dropping petals at day five significantly, by day four, there was a notable change in the leaves—they began wilting and shriveling; Had to learn proper harvest stage, needs to open up more than regular suns; The petals are too long.

Similar Cultivars: ‘Teddy Bear’ (4); ‘Double Quick’ (2); ‘Vincent’, ‘SunKing’; Other sunflower varieties grown in the trial.

Postharvest Recommendations: Holding solution and cooler; Keep cool, add nutrients to water, and recut stems every day; Change water often, strip foliage well.

Comments: This is an unusual sunflower, but it plays nicely with more traditional sunflowers in a single variety bouquet; 6-inch spacing; Sunflowers failed to get enough water, so were variable in height and head size; Longer stems than ‘Teddy Bear’; Having double blooms in mixed bouquets adds interest, people always comment on the doubles, like they are cute:); We’re looking forward to growing this one again! A nice manageably-sized double sun good in straight bunches and mixed bouquets; Looks like the ‘Teddy Bear’ variety, but with a few longer petals—customers don’t like them because they don’t look like a normal sunflower.

Sunflower ‘Solano Early Orange’*(Evanthia, submitted by Express Seed/InFlora)*

Good Qualities: Beautiful deep-orange petals, brown/black center (4); Easy to grow (2); Stem length and head size good, was first to bloom in its succession by a couple of days compared to Sunrich and Procuts, not significant though; Pretty standard sunflower; Medium-sized blooms; Easy to harvest, nice sturdy upright-facing stems, earlier than others; Uniform growth and bloom size, good classic sunflower shape; Large sunflower; Persisted through weeds and environmental conditions.

Problems: None (2); The petals are too long; Would not grow again, the florets grew in clusters and were not attractive, usable stems were far and few between.

Similar Cultivars: ‘Procut’ and ‘Sunrich Orange’; ‘Sunrich Provence Summer’; This cultivar produced florets with a different growing habit than any other sunflower variety in the trial.

Postharvest Recommendations:

Change water regularly and strip all leaves; As petals open; Keep cool, add nutrients to water, and recut stems every day.

Comments: Nice dark-yellow petals, slightly deeper tone close to center, would consider growing again in first, second or last successions of our sunflower program; Sturdy stems can be heavy but also less prone to neck/head wilt; Was five days earlier than ‘Solano Deep Orange’, sown June 21 and harvested Aug 23; 6-inch spacing; I got much poorer germination with this cultivar than with ‘Solano Deep Orange’.

Sunflower Special Cut Flower Formula *(Takii Europe/Sahin)*

Good Qualities: Great mix of colors and bicolors (2), for informal bouquets; Easy to grow (2); Easy to harvest; Persisted through weeds and environmental conditions; This was an excellent workhorse mix.

Problems: Too variable within this mix, maybe good for a home-scale cut flower garden but not for production; Hard to predict blooms, animals love sunflowers; Stems only lasted five days without serious deterioration, flowers began dropping petals at day four, by day four, there was a notable change in the leaves—they began wilting and shriveling.

Similar Cultivars: Other sunflower varieties grown in the trial.

Postharvest Recommendations: Same as any other sunflower, strip all foliage except top leaf, harvest as the first petals are lifting or at the

latest when the first ring of disk florets are opening, if I am not mistaken these guys had a mixture of singles, doubles and semi-singles, which at times makes harvesting trickier and the optimal window can be missed; Keep cool, add nutrients to water, and recut stems every day; Standard for sunflower.

Comments: I got very poor germination with these seeds; I rarely grow mixes of anything; A mix of existing varieties?; I think a portion of the plants succumbed to botrytis early on because we had so much rain and happy spores floating around waiting to joyously prey upon any vulnerable plants, so I am not sure that I got the true experience of them, and the range that the mix was supposed to be, some of the forms I did see were neat, but I think they were planted in a bed with sub-optimal soil, or the weather they were subjected to at the date of transplant was really not great as I planted some Solano in the same bed and in another and those performed far better in the other plot; Really loved the mix!; 6-inch spacing.

Sunflower 'Sunrich Provence Summer' *(American Takii)*

Good Qualities: Vibrant deep-orange color (3); Easy to grow (2); Sturdy, upright stems; persisted through weeds and environmental conditions; Upright, outward facing, consistent; Easy to harvest, nice sturdy upright-facing stems, clean (pollenless); Quick blooming, produced perfect medium-sized blooms at close spacing; Uniform plant habit.

Problems: None (2); Stems only lasted five days without serious deterioration, flower began dropping petals at day three, by day four, there was a notable change in the leaves—they began wilting and shriveling.

Similar Cultivars: 'Sunrich Orange' (2); Other sunflower varieties grown in the trial.

Postharvest Recommendations: Cut as the petals are lifting from the center for least pest pressure and longest vase life; Keep cool, add nutrients to water, and recut stems every day; Cut early, holding solution, cooler; Water.

Comments: Easy to sell! Beautiful, vibrant with deep, dark centers; I love the Sunrich series and these are even better—why grow Procuts?; Feels like the classic sunflower, but more sun-drenched so the color is richer, slightly rounded petals make this a pretty cut flower.



Photo by John Dole

Tweedia (*Oxypetalum*)

Tweedia Bridal Series

See individual colors for specific comments.

Good Qualities: Larger flowers, rounded petals, robust stems, more flowers per stem than the conventional variety; A beautiful flower with a long vase life; Excellent germination; Loved the new colors; Seems to grow well without any special attention.

Problems: None (2); Milky sap, hard to hydrate, only good for event design, short stems, might get better stem length in a tunnel?; Got zero stems, the plants were planted out in midsummer and did not withstand hot temps; Stunted growth due to early hot weather in June, bloomed out with short stems, possibly due to growing in a raised bed; Never again; Stems are a little thin, could break easily if not careful.

Postharvest Recommendations: Harvest in the evening and let sit overnight in cooler, if weather is hot, sear ends with a torch, then place in cool water overnight; Early morning harvest, directly into clean water, let sit to clear out latex and then plunge into treated water for storage and transport; Be careful if sensitive to saps, it bleeds like milkweed; Sear ends if harvesting in warm weather, then place in cool water in cooler overnight.

Comments: Will try tweedia again as an earlier spring annual!; I got pretty good germination with all three tweedia cultivars, but most of my plants never bloomed, the plants are nice and tall and still look good even after a freeze, but there is nothing to cut, the white cultivar produced the most flowers (5), and the pink variety produced only two; Hasn't flowered yet; Germination was good (followed instructions), started in ¾-inch soil blocks, transplanted to 98s where they stagnated; No reliable data to report as few stems that grew were short and unusable; Didn't branch, maybe we could have pinched it, sticky saps irritant to skin, leaves smell awful, blotchy petals in field, buds that open in cooler are unblemished, not worth the stink and itch.

Tweedia 'Bridal Diana' (GreenWorks, submitted by Ball Seed)

Good Qualities: The pink color was amazing (2); My customers loved them.

Problems: Can be a challenge in postharvest, following above process, we still had 20% failure, some due to human error, stems not put in water fast enough, cut too late in the day.

Similar Cultivars: This color doesn't exist in the standard tweedia.

Comments: This is a huge improvement from the standard variety of tweedia, the beautiful pink color is a wonderful addition to any bouquet or arrangement; Internet photos look like a light pink, ours bloomed a true hot pink color.



Tweedia 'Bridal Victoria' (GreenWorks, submitted by Ball Seed)

Good Qualities: Very nice blue color (3), which is unusual and welcome in this area (local university colors are blue and orange), long life in the field; Plants are nice and tall (but I haven't gotten any flowers); The shape of the flower is much more open and super desirable.

Problems: Doesn't grow very tall but tends to spread out; No flowers.

Similar Cultivars: Tweedia 'Heavenly Blue'; Milkweeds.

Comments: Huge improvement from 'Heavenly Blue', I would grow only this variety in the future.

Tweedia 'Bridal White' (GreenWorks, submitted by Ball Seed)

Good Qualities: Clean, crisp, white was in high demand with my designers, could have planted and sold three times as much! The open flowers are so nice!; Special requests for this from florists for bridal work.

Problems: Same hydrating/postharvest issues with all the colors.

Similar Cultivars: Unaware of any.

Comments: This would be so perfect in a wedding bouquet, I think florists would go crazy for it. ■

