

2022 ASCFG Seed Trial Report



John Dole and Judy Laushman

Elizabeth Harlan

Each year we collect samples of the latest and greatest new cultivars from several seed companies, then lovingly sort, repack, and mail them out to make their way to our Trialers around North America. Like any good parents, we hope they all do well. And many do, which are the ones we will highlight in this summary. Alas, while many are tested, not all are stars. Some are solid performers at least somewhere in the U.S. and Canada and others are great, but not different enough from other cultivars already on the market.

This year is the 30th year that John Dole has been involved in the trials (Happy Anniversary!). Allan Armitage launched the first Seed Trial in 1992 and John took them over in 1993. Since 1993, the program has evaluated over 1100 varieties! Most of the major cultivars for each species have been introduced to the industry through the ASCFG Trials.

One quick way for an interested grower to determine if a cultivar is particularly good is to check the “Grow again” rating for each entry; this score indicates that the Trialer would take the time, money, and space to actually grow the variety 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 the truth be told, unless that variety is truly spectacular, most growers don’t have the time to develop a market for a new species/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., 3-5 or 4-5, the plant was a winner for most of the respondents and is likely to do well for you.

Comments on all cultivars are worth reviewing carefully. As you read them, you might see a wide range of opinions. It's not unusual for one Trialer to love a cultivar and another to hate it. Color is a common source of disagreement. For instance, in last year's report, regarding *Salpiglossus* '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 be regional. 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. Growers on the West Coast and in some northern locations are able to grow gorgeous stock and larkspur.

This year we were thrilled to have new zinnias in the Trial. Zinnias are the most commonly grown cut flower in the United States and Canada according to NC State research.



Trial Field

Barbara Jewell

Note that we did not say the most valuable, as that honor goes to tulips and lilies due to their higher dollar value. Zinnias are popular because of their broad range of colors (everything but true blue), flower sizes, and general reliability in most areas of the continent, except for particularly cool locations. Unfortunately, diseases are their Achilles' heel, with powdery mildew, various leaf spots, and occasional postharvest meltdown their major problems—not to mention that Japanese beetles also love zinnias.

In 2008, zinnia 'Uproar Rose' debuted in our Seed Trial. It was universally loved for its productivity, uniformity, and decent disease resistance (Note the wishy-washy language about disease resistance—decent is about as good as it gets with cut zinnias). Shortly after its release, growers started asking for more colors. Well, 14 years later they have arrived. Syngenta has released



'Uproar Rose Improved'

John Dole

'Uproar Deep Yellow', 'Uproar Scarlet', and an improved version of 'Uproar Rose'. All three were similar in productivity, with an average of 7 stems per plant that were 18-19 inches long. Several Trialers reported stems up to 28 inches long, which is quite nice for zinnias, and other had up to 20 stems per plant by the end of the season. Growers loved their large heads, uniformity, and degree of doubleness. It was noted by a number of Trialers, however, that flower size tended to get smaller with later harvests from the same plants.



'Uproar Scarlet'

Elizabeth Harlan



'Celway Purple'

Barbara Jewell



'Sunday Red'

John Dole

As with the original 'Uproar Rose', the new varieties appear to have some resistance to mildew and leaf spot, but those diseases would eventually develop through the season. All three colors are clear and bright, which many folks liked. Regarding 'Uproar Rose Improved' one Trialer wrote, "Can't say enough about this cultivar. My customers LOVED it, and so did the butterflies and hummingbirds!" Of the three varieties, 'Uproar Deep Yellow', and 'Uproar Rose Improved' made it into the Top Ten of the 2022 Trial.

Also in that Top Ten are celosia at number seven, with over 60% of growers producing them. The versatile flower comes in three main types: crested, plumose, and wheat. Having said that, a myriad of new varieties are blurring those lines. This year we had two classic wheat varieties which produced a bumper crop of, well—wheat-sized flower spikes on long straight stems. **'Sharon'** (Takii Europe/Sahin) was a soft silvery pink and produced close to 10 stems per plant that averaged 20+ inches.



'Sharon'

John Dole



'Xantippe'

John Dole

'Xantippe' (Takii Europe/Sahin) had similarly long stems, and Trialers reported harvesting an average of 7 stems per plant. Several Trialers mentioned that both varieties dried well, adding to their value. Many people commented positively on the pale silvery color of 'Xantippe', while others weren't impressed. One saw it from both sides: "I was skeptical about the color, but ended up loving it. The color really made it stand out in dried bouquets. It shined!!"

Two celosias were classic plume types: **'Sunday Red'** and **'Sunday Cherry Improved'** (BloomStudios), which produced an average of 4-5 stems per plant, with a few growers getting 8 to 10 stems per plant. Stem length averaged 17 inches for both cultivars, but one Trialer reported 18- to 36-inch stems! 'Sunday Red' scored the highest, possibly due to the color: "Beautiful rich wine-red blooms on dark red stems with dark leaves—this is a dramatic and eye-catching combination".

The final two celosias, **‘Celway Orange’** and **‘Celway Purple’** (BloomStudios), are midway between plumed and wheat celosias with long straight stems, topped with a central spike surrounded by short spikelets. Both cultivars produced an average of 6 stems per plant that were 19-21 inches long. One Trialer grew stems up to 36 inches, and another up to 40. However, a few people reported the stems were short. Both cultivars were well-liked for their “upright architecture” and “sturdy stems”. **‘Celway Orange’** got more compliments on its color; “Stunning!” according to one.

Number six on the most-grown list is lovely, lovely lisianthus. As you can tell, we have a soft spot for this cut flower. In many ways it has become the queen of local cuts for its lush flowers in large array of colors and bicolors, and long postharvest life. We had six cultivars in the trials and the clear favorite was **‘Voyage 3 Champagne’** (Sakata). One Trialer summed it up as follows: “Versatile and attractive color—deeply ruffled layers of petals in shades of peach and pink. Excellent bloom quality. Tall plants with straight stems.” Plants produced an average of 3 stems per plant that were 21 inches long. A couple of growers produced stems up to 36 inches long, to the envy of all.

We had a nice array of soft colors in the trial lisis this year, from **‘Rosanne 2 Clear Green’** (Sakata), which was well named; **‘Arena III White’** (American Takii) to **‘Corelli 3 Yellow Improved’** (American Takii), and **‘Mariachi Light Pink’** (Sakata), all rounded out the pastel color palette. **‘Voyage 2 First Love’** (Sakata) flowers were interesting in that they opened white and aged to a blush pink. All lisianthus scored well, if not at the same level as **‘Champagne’**. As in most years, all of the lisis were reported to have a long postharvest life averaging 10 to 14 days, which we confirmed in our testing at NC State.

For new growers reading this report, we feel we need to mention that lisianthus can be a bit finicky to grow. It is best to start by buying plugs rather than growing your own seedlings. Be sure to transplant promptly, avoid allowing the young plants to dry out, and use a well-drained soil, as they are prone to root and crown rot. If plants are happy, you might get a second and even a third flush of flowers, albeit with shorter stems. Lisianthus generally does better in tunnels but some growers are able to get gorgeous crops outdoors.



‘Voyage 3 Champagne’

John Dole

If lisis are the cut flower queens of our industry, then the kings may well be ornamental cabbages and kales. Their large striking heads command attention in the field and in arrangements or bouquets. They’re best grown in areas with long springs or cool summers, where the stems can get tall and heads large, if desired. Two cultivars did particularly well this year: **‘Crane Ruffle Red’** and **‘Crane Ruffle White’** (American Takii). Both cultivars had an average stem length of 19-20 inches and many Trialers reporting some stems up to 30 inches long. Ornamental kales can produce large heads if given enough room. Tight spacing will generally give smaller heads and at least one grower said these “responded well to close planting”. Both cultivars scored well, not only for their production characteristics, but also for their appearance: “Super fluffy and ruffly,” and “Beautiful form and color. The round ruffled shape was perfect for design work and bouquets”.

Another species best grown in areas with long springs or cool summers is stock. **Stock ‘Quartet Deep Yellow’** (Sakata) was noted for sturdy stems that averaged 18 inches long, although one super



‘Rosanne 2 Clear Green’

John Dole



‘Mariachi Light Pink’

John Dole



Barbara Jewell

grower got 30-inch stems. Most growers handled them as a one and done cut, but a few folks got more than one stem per plant. Trialers noted the “lovely fragrance”, high percentage of double flowers, and “beautiful rich buttery yellow”. New growers should keep in mind that true yellow is not common in stock, so take the ‘Deep Yellow’ name of this cultivar with a bit of horticultural license.

Continuing to climb the popularity chart is the marigold; there were eight in the 2022 Trial. As more cultivars are released, it gets harder and harder for a new one to stand out. The top-ranked marigolds this year were **‘Kanthong Deep Gold’** and **‘Maesa Deep Gold’** (Homeseeds), each averaging 8-9 stems/plant that were 18-19 inches long. However, a few growers had 24-inch, and one had up to 36-inch, stems. Notable comments on ‘Kanthong Deep Gold’ included: “Very uniform orange blooms with excellent quality. Sturdy and straight stems form attractive bunches.” and “My favorite of all the marigolds I have ever grown.” ‘Maesa Deep Gold’, on the other hand, was the favorite for another grower: “‘Maesa Deep Gold’ was the longest and strongest stem, great colour, this was my fav.” To be honest most of the marigolds did



Marigolds

John Dole

well, as befitting the attention this group is getting from plant breeders. Vase life was quite nice, ranging from 10 to 13 days, on average.

Didiscus is one of those species that has been used as a cut flower for decades but has never been widely grown. It was great to have two cultivars in this year’s program, the first in over 20 years. **‘Lace White’** and **‘Lace Pink’** (Takii Europe/Sahin) reminded us why didiscus should be more commonly grown. Both cultivars had charming lacy flowers, ‘Lace White’ with pure white flowers and ‘Lace Pink’ in lovely pale pink. One Trialer summed up their thoughts as follows: “Such a pretty flower that really stands out in a bouquet, used in wedding work, so soft and dainty and romantic, even the spent umbels were pretty, lasted a long time in the cooler then still good life in arrangements”.

Alas, no flower is perfect and didiscus had problems with petal shattering, short flowering period, and branchiness. Didiscus flowers start dropping tiny petals when they are



John Dole

fully open. This would be a good candidate for postharvest work. In regard to short flowering period, the plants grow and flower very fast, which is certainly nice, but then the plants tend to die fairly fast as well. One of our Trialers solved that problem by succession planting. And finally, the plants can be too branchy. There are two ways to reduce excessive branching: pinch plants, best done when plants are young and have only a few leaves; and close spacing, which will also tend to increase stem length. Close spacing works for species that produce enough foliage to “close the canopy”. In other words, branching will be reduced and stem length will increase when there is a complete canopy of foliage, which then greatly reduces the amount of light reaching the base of the plant.

Another species in the fast to flower, fast to finish category is *nigella*. Of the several species grown commercially, we evaluated two cultivars of *Nigella damascena*, ‘**Albion Black Pod**’ and ‘**Albion Green Pod**’ (Takii Europe/Sahin). While the flowers are attractive and intricate, the pods are the stars. ‘Black Pod’ had a “burgundy-purple tone”, and as advertised, ‘Green Pod’ was entirely green. Both cultivars produced about 5 stems per plant, which averaged about 15 inches long. At least one Trialer had stems over two feet long and more than 10 stems per plant, which must have been spectacular. *Nigella* generally does best when direct seeded.

Since we have a theme going of fast flowering, we should discuss *Limonium bonduelli* (Takii Europe/Sahin). This productive statice species was early and uniform with an average of 10 wiry stems on each plant that were 18 inches long. Here at NC State, we got 15-20 stems per plant. All the stems were ready at once and each plant made one nice dried bunch for us. The petals held their color well. Alas, it comes in only one color—a bright yellow that several Trialers thought was a “harsh bright color”. Others noted that the plant was too short.

The second limonium in the trial, ‘**QIS Mix Improved**’ (BloomStudios), produced about 6 stems per plant, which averaged about 19 inches long. It has a wonderful mix of colors—the light blue was specifically mentioned. Trialers noted long stems and one mentioned “Awesome dried flower, holds color perfectly”. The biggest downside was lack of uniformity among the colors, with some Trialers noting they prefer to grow the colors individually. There was also a lack of uniformity across the trial sites—while most Trialers had flowers, at least one reported getting only healthy rosettes of foliage but no flowers. Some varieties of *Limonium sinuatum* flower best when the plants are exposed to a few weeks, generally three to six, of temperatures in the 50s (F). One or two gibberellic acid sprays of 150 ppm can also be used to encourage flowering.



Limonium bonduelli

John Dole

The Cut Flower Quarterly



Barbara Jewell

Based on the combined ratings score (market appreciation + repeat again + ease of cultivation), the top ten cultivars will be nominated for the ASCFG Cut Flower of the Year: Celosia ‘Celway Orange’, celosia ‘Sunday Red’, kale ‘Crane Ruffle Red’, kale ‘Crane Ruffle White’, lisianthus ‘Voyage 3 Champagne’, marigold ‘Kanthong Deep Gold’, marigold ‘Maesa Deep Gold’, stock ‘Quartet Deep Yellow’, and zinnia ‘Uproar Deep Yellow’, and zinnia ‘Uproar Rose Improved’.

Acknowledgments: Thank you to each of the 27 evaluators who returned their Trial reports! We very much appreciate the time it takes to do the Trial. We want to especially thank Claude Gauthier, Floriculture Gauthier, Inc., for being the first Trialer to return her evaluations! Thank you to the seed 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. A special thanks to Jen Kalinowski for growing our transplants this year.

Photos: Thank you to Elizabeth Harlan and Barbara Jewell, who provided several wonderful photos. We included as many as possible in this report. Thank you, thank you!

Participating Trialers

Shannon Algieri
Stone Barns Center for
Food and Agriculture
Tarrytown, NY
Zone 6

Cathy Bartolic
Perennial Petals
Stouffville, ON
Zone 5b

Connie Dam-Bijl
William Dam Seeds
Dundas, ON
Zone 6

John Dole
NC State University
Raleigh, NC
Zone 7b

Michelle Elston
Roots Cut Flower Farm
Carlisle, PA
Zone 6b

Cole Etheredge
Mississippi State University
Mississippi State, MS
Zone 8a

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

Marie Fowler
Little Pond Flower Farm
Belchertown, MA
Zone 5b

Aislinn Gandy
Woodland Flower Farm
Cedarville, NJ
Zone 6a

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

Elizabeth Harlan
Belvedere Farm
Fallston, MD
Zone 7a

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

Morgan Hopkins
Mimo Davis
Urban Buds:
City Grown Flowers
St. Louis, MO
Zone 6b/7a

Barb Jewell
Island Meadow Farms
York, PEI
Zone 5b

Shannon Jones
Broadfork Farm
River Hébert, NS
Zone 4b

Joy Longfellow
Johnny's Selected Seeds
Fairfield, ME
Zone 5a

Jennie Love
Love 'n Fresh Flowers
Philadelphia, PA
Zone 7

Elaine Madansky
Elawa Farm Foundation
Lake Forest, IL
Zone 5b

Erin McMullen
Rain Drop Farms
Philomath, OR
Zone 8b

Tracey Parriman
Tracey Rae Farmer Florist
Midland, OH
Zone 6a

Laura Beth Resnick
Butterbee Farm
Pikesville, MD
Zone 7a

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

Jamie Sammons
Jayflora Designs
Fonda, NY
Zone 5

Beth Van Sandt
Scenic Place Peonies
Homer, AK
Zone 4

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

Susan Wright
Shady Grove Farm
Vilas, NC
Zone 6a

Participating Companies

American Takii
Salinas, California
www.takii.com

BloomStudio
West Chicago, Illinois
www.bloomstudios.com/en-us

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

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

Syngenta Flowers
Gilroy, California
www.syngentaflowers-us.com

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



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

Celosia ‘Celway Orange’

(BloomStudios)

Good Qualities: Good terracotta color (9), that is desirable right now, this isn’t your typical orange celosia, the color was the perfect bronze burnt orange and my clients loved it; Very easy to cut and process (3); Straight upright stems (2); Easy to grow (2); Dries well (2); Vigorous and healthy plants, upright plant architecture. Stems are sturdy; Great form; Good number of stems per plant, tends to reflush with shorter stems; Really easy to sell; It’s not quite as tall as ‘Terracotta’ and certainly not as tall as purple in the Celway family, but it’s stocky and abundant, the color is not really orange—it would be helpful to rename this variety to ‘Celway Coral’, it would sell much better and be more accurate!; Good and even germination, seedlings were about 1 in. tall after 2 weeks, good for use in fresh bouquets, long vase life; Nice size flower heads; We were getting requests for it constantly, this one is definitely going on the must-grow list; Nice for fall bouquets, which is when they’re ready in our climate, the bronze-tipped foliage is nice; Good straight stems, healthy plant, no insect or disease issues.

Problems: None (2); Little on the short side compared to other celosias (4); Tasty to deer; Late to flower compared to other Celway varieties, reached maturity nearly a month later than ‘Celway Purple’ and approximately two weeks later than ‘Celway Terracotta’ and ‘Celway Red’; In general, we prefer larger feather plume heads, not the wheat type; Some of the plants didn’t branch out as expected after being pinched, not sure if some plants accidentally didn’t get pinched or if the plant doesn’t consistently branch with pinching; I kept

wishing that the orange had the same stem length as the purple!; Sensitive to cold; Not as productive as I would like; Tends to be on the shorter side for second cuts, not particularly fond of the flower shape of Celway series (they can look a little...rude, if you know what I mean); Needs to be pinched early on for better performance.

Similar Cultivars: Others in the same series (2); The bloom form and plant habit is consistent with the rest of the Celway series, and the color is closest to ‘Celway Terracotta’, although more orange; ‘Celway Terracotta’; No.

Postharvest Recommendations: Place directly into buckets of water, didn’t need any conditioning to work well in fresh bouquets, also dries well; We don’t store celosia in our cooler, we treat them similar to zinnias; Avoid the cooler.

Comments: This color holds well when dried, making it useful for dried fall and winter arrangements; Unfortunately, these plants were eaten by deer soon after transplanting them into the field; I find the colour too similar to ‘Terracotta’, and prefer ‘Terracotta’ because the shade is a little less vibrant, so it blends with more colours; Really nice color, in demand; Very vibrant color fresh or dried; I enjoyed using the flowers in design work; Great color for fall bouquets. worked really well with sunflowers and zinnias; Amazing color, was able to use in lots of design work, stems could have been longer but may have been our fault with a rough and dry season; Sowed May 16, do not allow to be root bound, I liked this celosia but honestly saw no significant difference from the Celway varieties I have been growing in the past, they were good healthy plants, I did not net but added a side support of string to keep from spilling out in the row, I like to avoid netting where ever possible to avoid the extra time required when harvesting and the labour to install and remove the netting, when planted in a sheltered location they stayed upright, the same with the other 3 celosias in the trial ‘Celway Purple’, ‘Sunday Cherry’ and ‘Sunday Red’, all performed consistently, in the Sunday



John Dole

series the ‘Bright Pink Improved’ and “Orange” still remain my favourites; I pinched once in June, when I planted in my field, and I should have pinched another time after to have more stems on each plant.

Celosia ‘Celway Purple’

(BloomStudios)

Good Qualities: Great purple/magenta color (5); Cut and come again (2); Tall/long stems (3); Productive (3); Easy to grow; Vigorous, healthy plants, this variety was the earliest to flower of the Celway series grown, sturdy stems, upright plant architecture; Plentiful branching, 3-dimensional filler that adds volume to a bouquet without bulk like a regular plume would; Long, strong stems; We loved ‘Celway Purple’! It’s very abundant, and though it doesn’t make a huge impact in design, it’s a useful texture, purple was a popular color this year in weddings, and we were glad to have this variety as part of our offerings, it sold out almost immediately!; Good and even germination, seedlings were about 1 in. tall after 2 weeks, good for both drying and in use in fresh bouquets; The plants were nice and tall. they were hardy; Great form, easy to harvest; The color was loved by my customers, and me.

Problems: ‘Purple’ was very short, Both



'Celway Purple'

John Dole

need to be pinched early on for better performance; Tasty to deer; Got leaf spots very early in the season, earlier than all other celosias planted at the same time; Flowers are a bit smaller than others; None!; Some of the plants didn't branch out after being pinched, Not sure if some of the plants accidentally didn't get pinched or if this variety doesn't consistently branch even when pinched; I did not care for the color and tended to avoid using it; Sensitive to cold; Too much foliage compared to flower heads; Slow to get started.

Similar Cultivars: The color and bloom form are similar to 'Ruby Parfait', but the 'Celway Purple' plants are taller and yield longer stems; One we used to grow, 'Cramers' Amazon'?; 'Celway Terracotta'; Celway series or 'Flamingo Feather'; Very similar to 'Flamingo' celosia, which we already grow successfully so not worth it for us.

Postharvest Recommendations: Place directly into buckets of water, didn't need any conditioning to work well in fresh bouquets, dries well too using typical drying techniques—strip leaves and hang upside down in a dark, dry environment.

Comments: Vibrant purple and lavender spike-shaped flowers on sturdy stems are easy to mix into bouquets and add a pop

of color without being overpowering. Unfortunately, these plants were eaten by deer soon after transplanting them into the field; It was early to bloom in spring when getting celosia to bloom can be tricky, however, the dark magenta/purple color would be better for late summer; Loved this colour and shape for contrast in arrangements so much, we'll be selling seed for it next season; Great for bouquet and grocery work; Vibrant color fresh or dried; We lost these under frost cloth! but we love Celways and have grown them other years, easy to germinate; I didn't find this one to be a standout variety, the color can be harder to work into designs, any celosia is a winner in my book so I will most likely grow again, I guess I'm just not a purple lover; I used it a lot in mason jar bouquets, the plume was unique and especially kids and students (we sell at a farmers' market in a college town) found it fun, once I pointed it out; There are so many celosias available in this purple color, the Celway series falls to the bottom of our list of ones we would want to grow because of its more bushy habit and less beautiful flower shape; I pinched once in June, when I planted in my field, and I should have pinched another time after to have more stems on each plant.

***Celosia spicata* 'Sharon'**

(Takii Europe/Sahin)

Good Qualities: Loved the silvery-pink color (7); Very tall usable stems (4); Uniform growth and colouring (3); Very productive (2); Sturdy (2); Supports itself - no need for netting (2); Good spike for bouquet filler; Very branchy; Dried well, re-flushed after initial cut; Flowers last a long time on the plant, which provided us with a long harvest window, good for drying and for use in fresh bouquets; Long flower plume, staking not necessary; Tall straight stems are easy to harvest and process blooms work great as fresh and dried flowers, one of the earliest celosias to flower in our trial; Cool-looking spikes; Healthy plant, no insect or disease issues, stayed upright with strong stems.

Problems: Poor germination (3), 63%, slower to grow once germinated, as a point of comparison, the Celway celosias that we tested were 1 in. tall 2 weeks after seeding, while 'Sharon' was 1/4 in. tall at 2 weeks; On the shorter side for us (2); More foliage on the stems than Celway celosia varieties meant that more leaves needed to be stripped off the stems before being placed in water and also preparing for drying; None noted; Plants didn't fill in well until the second flush.

Similar Cultivars: Similar to 'Flamingo Feather' (7); Similar to other wheat celosia.

Postharvest Recommendations: Worked fine being immediately being placed in water with no conditioning; Clean water and chlorine if holding more than 24 hours.

Comments: Love the two-tone pink, it's easy to use in all sorts of bouquets; Similar to other wheat celosia, did not stand out in comparison; Would get more stems by pinching, not sure how this is better than 'Flamingo Feather' except in stem length; Would grow again



'Sharon'

John Dole

if we didn't have access to 'Flamingo Feather', center head spikes were shorter than 'Flamingo Feather' so they didn't look as "dirty" from the bottom, but the side shoots took longer to mature so most of them had to be edited out when processing; The silvery-pink flowers are versatile and we used them in both mixed bouquets and dried arrangements, the color fades slightly when the blooms dry, but the cool colors are well-suited for winter arrangements; Sowed first time May 16, then again June, surprisingly they bloomed very close in days despite the 3-week difference in sow dates, the colour was quite soft and useful, I found when dried the colour faded, with the softer colour it would potentially make a good wedding item.

Celosia spicata 'Xantippe'

(Takii Europe/Sahin)

Good Qualities: Perfect blush or silver color (9); Long stems (4); It shined!; Dark foliage adds contrast to bouquets; I don't know of another celosia that is this lightly colored; Cute spires of flowers, nice color when cut early; We grew this right next to our 'Flamingo Feather' crop, and they are fairly similar but with one notable difference: 'Xantippe' is more willowy, we did not have netting on this bed and it flopped over before we could sell much of it, but 'Flamingo Feather' stayed upright; Good branching when pinched early, long harvest window, good for drying and fresh bouquets; Sturdy side stems; Very robust, got multiple stems even without pinching, long flower plume; Great for events, wedding design, personals, jewelry, etc. and dries nicely; 'Xantippe' flowered early and abundantly on productive and densely branching plants, each stem had multiple small 1.25 to 2.5 in. tall spike-shaped flowers on each stem; Not too pink like other feather celosia varieties; Cool-coloured foliage (red tinge); Good germination, strong healthy plants no obvious disease or insect pressure, I did not net this one the stems seemed strong and held up well.

Problems: Poor germination (5), similar to the Sharon variety ~62%, plants were 1/4 in. tall after two weeks as compared

*I love, love, love
this plant!
(Celosia 'Xantippe')
I definitely want to
grow it again, it was
beautiful and
incredibly productive,
we had an early frost
and lost all of our
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I harvested over 125
stems after the frost.*

to the Celway celosia varieties that were 1 in. tall at 2 weeks; Hard to catch the correct time to harvest and short harvest window (3), kept thinking flower heads would get larger, but they went to seed quickly, was not able to really catch the golden window; Compared to other similar varieties, 'Xantippe' is not all that great; Tendency to wilt.



'Xantippe'

John Dole

Pinched some of them, which created a spray type stem—bloom heads were smaller and color really faded quickly into a pale blah tone; Spike looks gray as it ages; I wish that the cultivar's spikes/florets opened up more or farther down the flower head; On the short side, browned quickly in the field; It's not as sturdy as some other celosias, it definitely needs netting; The color is too pale for us to consider growing in the future; Plants are densely branching, low on the plant, and shorter compared to varieties like 'Sharon' or 'Flamingo Feather', as a result the stems were too short and densely branching to use easily in mixed bunches and for our purposes this variety would be primarily used for drying, the flower size is small; Not a standout, shorter than we'd like; Plants did not do well in our climate, even in a tunnel; None!

Similar Cultivars: Similar to 'Flamingo Feather' (3), but more lightly colored; The color and bloom form are very comparable to 'Sharon', although the blooms are much smaller and the plant habit is more densely branching and shrublike compared to 'Sharon' (2); Similar to *Celosia spicata* 'Sharon', although more pale pink in color; A little like 'Flamingo Feather', but I like it much better; Similar to other wheat celosia.

Postharvest Recommendations: Like many other light color celosias it needs harvesting within a week or two of being ready to be picked, otherwise goes to seed and looks aged; Place in water after harvesting with no conditioning needed; Clean water and chlorine if holding more than 24 hours; We cut into water with a CVBN tab, stored in a cooler at 68 deg.

Comments: Very unique color, I can't think of any other flower that has the silvery tones like this variety, except perhaps lunaria, has the same effect in dried bouquets; Visitors to our trials like the little pink centres in the spikes; I liked the willowy, wild nature of 'Xantippe', I'd like to try again with support netting!; I love, love, love this plant! I definitely want to grow it again, it was beautiful and incredibly productive, we had an early frost and lost all of our celosia, but this "dried"

beautifully, I harvested over 125 stems after the frost; Similar to other wheat celosia, did not stand out in comparison; Love the robust plant, sturdy stems and height, the colour was very neutral (i.e. boring) and it dried brown/gray which is undesirable, if colour could be improved, I'd be all in, for now, I'll stick to 'Flamingo Feather'; Since the stems and plants were not as well-suited for mixed bunches, this variety is not as versatile for us as something like 'Sharon'. Did not love, flowers went to seed too quickly, it was a PITA to germinate and grow on to field; This was a very light-coloured celosia, fading to almost silver and wasn't particularly popular with my staff, it would make a good wedding/event stem offering neutral tones, I was disappointed in the colour when dried, however, if a light silver grey colour is required, this would be a good choice; Used some in bouquets, but due to the short stems, I ended up using the entire plant, unable to sell to florist.

Celosia 'Sunday Cherry Improved' (BloomStudios)

Good Qualities: Beautiful cherry color somewhere between pink and red (8); Was a standout in mixed bouquets (2); A showstopper! dried very nicely; We have grown this celosia before, and it's always a great addition to our fall crop offerings, the plume is more robust than other plumed celosias; Uniform plants and sturdy stems that are easy to harvest and process; Good head form; Even plumes throughout row, uniform colour—great summer shade; Fun for fall; The shape and size of the plume were nice; Stems are coloured; Fuller heads than other varieties trialed; Works well in multiple color palettes, our favorite Sunday celosia this year; Great cut flower, lots of side shoots that were cuttable as well.

Problems: Too short (5); Slow to get started, did not pinch, I think I should have, I had one good cut and then a second, but not really usable; A bit of a brash color for design work; Tasty to deer; The flower shape was irregular in this variety—many plants produced plume-shaped flowers that then transi-



John Dole

tioned to comb-shaped flowers as the blooms matured, this mix of flower shapes on the same flower made this variety more challenging to work with, this is inconsistent with rest of the Sunday series, which usually have a really nice plume-shaped flower; The cherry color is way too dark for our bright bouquets, might work well for some design work; I wish it was more branching; Sensitive to cold; Slow starter in the spring.



John Dole

Similar Cultivars: Similar to all plumed celosia; 'Sunday Purple'; Sunday series.
Postharvest Recommendations: None listed.

Comments: Really loved the nice clear hot cherry color; This celosia is shockingly bright!; Unfortunately, these plants were eaten by deer soon after transplanting them into the field; The color is beautiful and it's possible the strange flower shapes were a stress response from a hot, dry summer, plants were transplanted May 25, grown at 12 in. spacing and did experience heat and drought stress during the growing season; Due to drought, our celosias were shorter than usual, which has affected the stem length; We lost these under frost cloth in the spring, and our second planting was too late so we lost them to cold again, good choice for a hoop or greenhouse, love the coloured stems and will definitely try again; Loved both Sunday cultivars, 'Cherry' was slightly better for me.

Celosia 'Sunday Red' (BloomStudio)

Good Qualities: Beautiful rich wine-red blooms on dark red stems with dark leaves (7), this is a dramatic and eye-catching combination; Plants are uniform with sturdy stems that are easy to clean and harvest; Color was very popular, both fresh and dried; Great cut flower, lots of side shoots that were cuttable as well; Nice early and fast red; Well-filled plumes; I will absolutely grow this again! we sold out right away and I wished we had more! it's nice and tall, too; The foliage is beautiful, the contrast between the foliage and the flower is cool; Nice standard red plume; Large flower heads.

Problems: Slow and poor germination (2); None (2); Too short (2); Once planted, very slow to mature; Slow starter in the spring, 'Sunday Red' would do better with support; Tasty to deer; The flower shape was less plume-like compared to the other Sunday varieties, the flower shape tended to be a little more spike-like and less the feathery plumes I expect from the Sunday series, plants were a little shorter and later to flower than other Sunday varieties as well; Flowers

weren't as full as their sister cultivar, Cherry; Sensitive to cold.

Similar Cultivars: The color is comparable to 'Celway Red', but the bloom form and plant habit are different; 'Forest Fire Celosia', but more consistent and faster to bloom; 'Sunday Cherry/Improved'.

Postharvest Recommendations: None listed.

Comments: Once I finally had salable cuts, my customers really liked this, stems were pretty short and I got really only one good cut, not very productive; Loved both of these, 'Cherry' was slightly better for me; Unfortunately, these plants were eaten by deer soon after transplanting them into the field; This dark red color is great for late summer mixed bouquets, this variety also dries beautifully and plants hold their color well—great for holiday dried arrangements; This is a great source of red early in the season, which can be hard to get; Our whole patch was shorter than usual due to drought, which has affected stem length; The dark foliage was a lovely contrast in design work and bouquets; We lost these under frost cloth in the spring, and our second planting was too late so we lost them to cold again, good choice for a hoop or greenhouse, these have brilliant stems, and I will definitely try them again; This color was like fire engine red, it really put on a show and customers loved it, I've never seen anything so vibrant red before, florists loved it too, it's a must-grow for me!

Didiscus 'Lace Pink'

(Takii Europe/Sahin)

Good Qualities: Perfect blush color (2), attractive and versatile color; Very uniform lacy blooms; Dainty whimsical look, unique; Love the branching and lots of flower umbels.

Problems: Shatters easily (3); Short flowering period (2); 'Lace Pink' was grown alongside 'Lace White' and 'Lace Blue', 'Pink Lace' plants were shorter, less vigorous and less productive with shorter stems compared to 'Lace Blue'; Short stems; All my plants died on the same week because of too much rain.

Similar Cultivars: Bloom form and

plant architecture are very comparable to 'Lace White' and 'Lace Blue'; 'Lace White'.

Postharvest Recommendations: None listed.

Comments: This is a beautiful, versatile color well-suited to spring and early summer arrangements; Very pleasing to work with a soft pink lacy flower—a nice change from white, good candidate for pinching early; Such a pretty flower that really stands out in a bouquet, used in wedding work, so soft and dainty and romantic, lasted a long time in the cooler then still good life in arrangements; By the time I received the seeds, the temperatures must have been too high for germination, I planted the seeds, but didn't have any results, I still have a few seeds and intend to try planting some this fall; Attracted groundhogs and it was hard to keep them from being eaten, performed quite well given they were not growing in an irrigated bed.

Didiscus 'Lace White'

(Takii Europe/Sahin)

Good Qualities: 'Lace White' produced a uniform stand of bright white 1.5 to 2 in. wide flowers on well-branched plants, attractive color and bloom form, fast-growing plants and uniformity of flower form were the best qualities, the



'Lace Pink'

John Dole



'Lace White'

John Dole

delicate, lacy look to the blooms made this variety well-suited to early summer arrangements; Surprisingly easy to grow even with taproot; Great white whimsical accent flower, love the texture and shape; love the branching and lots of flower umbels; Nice addition to summer bouquets and bridal work, good producer and kept flowering when harvested regularly.

Problems: Shatters easily (3); Short stems (2); Short harvest window (2); This variety was grown alongside 'Lace Pink' and 'Lace Blue' and was the least vigorous stand and the shortest plants of the three varieties, lower yield and shorter stems compared to 'Lace Blue' and other blue varieties; Attracts groundhogs and it was hard to keep them from being eaten, also, the white looked a bit dirty with some browning; All my plants died on the same week because of too much rain.

Similar Cultivars: Bloom form and plant architecture are very comparable to 'Lace Pink' and 'Lace Blue', 'Lace Pink'.

Postharvest Recommendations: None listed.

Comments: Somewhat boring when you can get a similar lacy white look with orlaya or Queen Anne's lace with less mess—try the 'Pink Lace' didiscus

instead for something new, good candidate for pinching; Such a pretty flower that really stands out in a bouquet, used in wedding work, so soft and dainty and romantic, even the spent umbels were pretty, lasted a long time in the cooler then still good life in arrangements; Like any of the smaller blooms they require time to harvest, this one was good to germinate and grow, was healthy with no disease or insect issues, I succession planted this variety three times and had consistent results, if it was kept harvested regularly, I believe it would continue to produce, sometimes they get ahead of you, the seed pods when harvested early made an interesting addition to boutonnieres and bridal work, I will be planting again along with the blue and pink; By the time I received the seeds, the temperatures must have been too high for germination, I planted the seeds, but didn't have any results, I still have a few seeds and intend to try planting some this fall.

***Echinacea purpurea* 'Green'**

(Takii Europe/Sahin)

Good Qualities: Unique lime-green color (5), which blends well with other flowers for market bouquets; Good-sized cones for use with or without petals, strong plants that are sure to produce more blooms next season; Multiple blooms per stem, main bloom open and others still to bloom; Densely branched plants; Easy to start from seeds.

Problems: Wasn't productive for me this first year, I'm hoping it survives the winter and will be worth its space next year; Very short stems, however, this was their first year and this is a perennial crop, this stand of echinacea eventually got asters yellow and we pulled them all out; In this first-year planting the cultivar showed variability in height, vigor, bloom quality, and size, it is a little shorter and lower vigor and less productive than desirable, although it's possible in the second-season plants will be taller and more productive; Germination was less than 50%, as an annual the number of stems harvested would not make it worthwhile to grow commercially; Poor germination in 72

trays, we grew them inside a greenhouse and used heated mats and humidity domes for the first few days, the plants that made it were transplanted into the field after hardening off, there was slow growth throughout, both in the trays and in the field, we were not able to harvest any flowers from these seeds this year; Hard to keep out the bad weeds because it was very short on the first year, I hope they will survive the Canadian winter.

Similar Cultivars: This variety was planted alongside 'Green Twister' and was more vigorous and productive in a first-year planting, 'Green Twister' also blooms with some pink coloring on blooms while this variety is solid green, compared to 'Green Twister', this variety is superior in all respects, at least in the first year.

Postharvest Recommendations: I cut when fully open.

Comments: These plants bloomed first year from a seeding date of March 25, which is also remarkable; Flowered very late in our season (mid to late October) but perhaps because it was a first-year seedling, we also removed the petals to use just the cone in arrangements, good vase life; Densely-branching plants yielded 2.5 to 5 in. blooms with ray petals in shades of

*Echinacea 'Green'
was planted
alongside 'Green
Twister' and was
more vigorous and
productive in a
first-year planting,
'Green Twister' also
blooms with some
pink coloring on
blooms while this
variety is solid green.*

green, the center disk opens green and transitions to gold as blooms mature, the unique lime-green blooms stand out in a field of berry-colored echinacea varieties, ideally this variety would be more vigorous and productive in its first season, but the unique color makes it worth planting and observing in future years; Loved the colour and enjoyed the unique texture, I would think this would be best for a garden bed, as well the blooms last a long time on the plant and for this reason would make a good item for a mixed container, did not have any insect or disease issues, good healthy foliage, sturdy stems, one central stem and a couple of shorter sides, I am leaving in the ground to see if it overwinters, perhaps year two will offer more stems; The few plants we have in the field are still alive, but they are tiny and have not produced any flowers.

Kale 'Crane Carmine'

(American Takii)

Good Qualities: Bright purple color (3); I love all the colors in the Crane series and this was yet another awesome color to add to the lineup; There didn't appear to have much bolting, it was a nice height and size, some other varieties are too large for bouquet use, also with a better height it was easier to keep upright, we stripped the stems 3 times throughout the growing season, it was well adapted to close spacing required to help control size; Same quality as other Crane series; Excellent height, flower head size; Sturdy, stood well without staking needed, long lasting, closer plantings allowed for smaller more usable heads; Tight compact heads, florist loved them, good stem length without oversized stems.

Problems: As with all members of the brassica family, cabbage moths can be an issue; None; Heads were a bit larger than we needed, but was probably due to spacing; Cabbage worms (easily dealt with BTK solution, would also like to try a salt water treatment next year); Can be prone to caterpillars but somehow we didn't have any issues this year; Sadly we had a bumper crop of bunnies

this year, kale was candy for them, they munched the entire crop; Be careful, marmots (groundhogs) LOVE flowering kales! I will have to put a fence around my kales next year.

Similar Cultivars: We didn't see a huge difference between 'Crane Red' and 'Crane Carmine'; All the Cranes.

Postharvest Recommendations: Keep water clean, do not store in the same container as other flowers, harvest as required; Keep clean of debris or lower leaves, recut after a few days, used Florilife 2; Change your water often, because gets stinky after a few days.

Comments: Love this brilliant colour! surprised by the ease of germination, growth and how well it did in our poor-ish, un-irrigated field; This kale I found dark and lacked any spark, just seemed common and similar to other varieties, although it checked most of the boxes, with Carmine in the name, I was hoping for something a bit brighter, it was an OK variety, but a bit common, strong netting a must, unfortunately, our kale crop toppled over despite the support netting due to the September hurricane, nearly all stems bent and are not salable; Colour is not much different than 'Red' in our trials; Larger heads can be hard to work into bouquets, some call flowering kale a "gorilla" for bouquet work but with closer plantings you can achieve smaller more workable heads, it's great for late-season bouquets when there's not much else out there, I have been pairing it nicely with mums and fall foliage; I would definitely want to try this again, but I would most certainly need to put fencing around it; Loved everything about these, growing conditions resulted in varied stem length was evident, plants grown in the middle of the tunnel ranged from 18 to 24 in., plants grown on the side of the tunnel with rollups resulted in short 10 in. stems due to our very cold summer; Flower designers love to work with flower kales, but it has to be longer than 12 inches to be easy to work with.

Kale 'Crane Ruffle Red'

(American Takii)

Good Qualities: Beautiful lovely lacy ruffles and color (5), nice contrast to other tight Crane varieties with smooth leaves, shape was perfect for design work and bouquets, myself and my customers love the ruffled edges, it stands out more in a bouquet; It stayed a good size and responded well to close planting, the cabbage moth didn't seem to pay much attention to this one, even growth, good stems not overly thick; Additional texture for fall arrangements, 'Ruffle Red' has the most pronounced frills in the series; Excellent size; Tight compact heads, florist loved them, good stem length without oversized stems; *Problems:* Sadly we had a bumper crop of bunnies this year, kale was candy for

*Love this ruffly
bright cabbage
(‘Crane Ruffle Red’)!
it was perfect
for Canadian
Thanksgiving sales
in October.*

them, they munched the entire crop; None, except the usual cabbage worms; Cabbage worms, for which we used BTK; Can be very large to work with; Be careful, marmots (groundhogs) LOVE flowering kales! I will have to put a fence around my kales next year.

Similar Cultivars: Crane series.

Postharvest Recommendations: Cut as needed, keep water clean, and recut daily where possible; Keep very clean, remove debris and recut after 2-3 days; Change your water often, because it gets stinky after a few days.

Comments: Will grow again! (2); I really enjoyed the ruffled canes, they had the added lacy interest softening the set cabbage look, the colour still looks

amazing in the field today (Nov.), will grow again, 7 to 10 day vase life, much longer vase life if used in an outdoor arrangement; I would definitely want to try this again, but I would most certainly need to put fencing around it; Can't wait to see these seeds for sale; It's wonderful that there are more textures available for cool season floral design with this expansion of the series; Love this ruffly bright cabbage! it was perfect for Canadian Thanksgiving sales in October; Loved everything about these, growing conditions resulted in varied stem length was evident, plants grown in the middle of the tunnel ranged from 24 to 30 in., plants grown on the side of the tunnel with rollups resulted in short 10 in. stems due to our very cold summer; Flower designers love to work with flower kales, but it has to be longer than 12 in. to be easy to work with.

Kale 'Crane Ruffle White'

(American Takii)

Good Qualities: Beautiful ruffled round form (5); Color that included a fine green edge and some other subtle green accents (6); This was my favourite kale and fourth fav in the seed trial this year after the 3 zinnias, this worked well in bouquets and large arrangements, cabbage moth didn't seem too interested in this one, the neutral shade was popular addition in bouquets, the few remaining are still looking beautiful in the field today (Nov.); plant close as possible to keep heads from getting too large, this variety seemed to respond well to the close 4 in. spacing, definitely worth growing; Heads were smaller than the 'Ruffle Red', which were grown in the exact same location and at the same time; Excellent size, grew well in our poor-ish soil without irrigation; I think it stands out in fall mixes and winter mixes; Love all the Crane ruffles; Tight compact heads, florist loved them, good stem length without oversized stems; This one was a hit with our customers in the fall, great for fall/winter arrangements. *Problems:* Sadly we had a bumper crop

of bunnies this year, kale was candy for them, they munched the entire crop; Cabbage worms (2) for which we used BTK; Be careful, marmots (groundhogs) LOVE flowering kales! I will have to put a fence around my kales next year.

Similar Cultivars: Crane series.

Postharvest Recommendations: Harvest as required, seems to keep better growing in the field, keep water clean and change often, tell customers to pay extra attention in keeping water clean and fresh; Keep very clean of debris, recut stems after 2 to 3 days, use Floralife 2; Change your water often, because it gets stinky after a few days.

Comments: Love this one! (2); This was my fav kale, I always grow the Crane series every year, especially enjoyed the ruffles and colouring in the white, the edges of the leaves grown green contrasted nicely with the creamy white, the few remaining are still looking good in the field today. (Nov.), this kale responded well to the close 4 in. spacing, I sowed this May 26 directly into 200 cell Speedling trays, transplanted to the field late June, we stripped the plants 3 times during the growing season, strong support required to keep upright especially with the pressure of close spacing, avoid high nitrogen; I would definitely want to try this again, but I would most certainly need to put fencing around it; Great for design work and bouquets; Was useful for late summer harvest/filler, before the demand for strong autumn colours; Long-lasting vase life; Recommend planting 3 plants per plug at 6 x 6 spacing to keep them small enough to use easily in arrangements; Loved everything about these, growing conditions resulted in varied stem length was evident, plants grown in the middle of the tunnel ranged from 24 to 30 in., plants grown on the side of the tunnel with rollups resulted in short 10 in. stems due to our very cold summer; Flower designers love to work with flowering kales, but it has to be longer than 12 in. to be easy to work with.



Limonium bonduelli

John Dole

Limonium bonduelli

(Takii Europe/Sahin)

Good Qualities: Bloomed early (4), earliest of all limoniums in our trial; REALLY bright yellow (3)—which is great if you like the bright!; None; No insect issues; 100% germination!; Very uniform, the entire plot bloomed uniformly, clean stems are wiry and thin, without the thicker vegetative form of many statice varieties, this made them easy to harvest and clean; Excellent dried flower that holds color well, hard to use in design work because the yellow is such a harsh bright color.

Problems: These flowers did not open up quickly, so by the time the blooms opened, their yellow color was browning, we had to harvest them a little early, which resulted in them not having the bright color one would expect, the stems were spindly; The blooms were not as clean and defined as other colours of statice; REALLY bright yellow—which I didn't prefer, just too bright!; Not as full flowered as the other statices we grow, flower heads are not as long-lived in the field as our other statices before browning (so require faster picking and the bloom is already not as large or noticeably ready); Plants are very small and low vigor and while this variety

bloomed early and very uniformly, it also declined much faster than most other statice varieties and did not produce multiple flushes of blooms like other varieties; One big flush of blooms but only sent out fewer than 20 stems per week; Stopped blooming early because of too much rain.

Similar Cultivars: Color is comparable to other yellow statice varieties like 'QIS Yellow', although stem quality is different.

Postharvest Recommendations: None listed.

Comments: Many of the stems were too short (2); The flowers never looked that great, growth was inconsistent from seedlings through maturity, we would not grow this again; Interesting cultivar, slightly more delicate than the *L. sinuatum* types, but still not as airy as *L. sinense* (variety name Elegant, which may be off the market); This yellow statice has never been a favourite of mine as I find it a bit straggly, it was a very prolific plant with good stem length, I did not dry any stems, sowed this May 1, 2022 with good germination, 140 cell plugs bumped to 50 cell plugs and planted in field June 5; We started the seed too late to get usable stems (week 21); Bright yellow blooms that hold color well when dried; Thinner stems than sinuata statice; There was no specific colors on my seeds bag, and I got the surprise of having only yellow flowers on my lot!!

Limonium 'QIS Mix Improved'

(BloomStudios)

Good Qualities: Very tall stems (4); Great colors and range (4); Sturdy stems (2); 100% germination!; None noted; Light blue in mix is great, stress resistant, productive; Reliable stems—plant them and walk away!; Statice is great fresh or dried, such a versatile crop; Healthy plants; The flowers are pretty big, for what I have got!

Problems: We would rather grow in single colors, as opposed to a mix, and that is why it had a lower rating for us; This statice did not produce any harvestable stems, the plants stayed green and healthy with no sign of a stem until late

October; We experienced uneven plant development, within the same 72 tray, some seedlings flourished while others were stunted or died completely, this experience continued once the statice was transplanted into the field; Not entirely sure why it is “improved”? seems pretty similar to the regular QIS mix, which I also grew; Crop failure due to onset of (likely) botrytis; Variable stem lengths according to colour (yellow short, purple tall), mixes are a great way to see and trial new colours, but not desirable for production, we prefer to grow different colours separately; None; Overall was later to bloom than other single colours of the same series sown and planted at same time; One big flush to harvest and then less than 10 stems per week, fairly low performer; Stopped blooming early because of too much rain.

Similar Cultivars: Regular Limonium QIS (2); None noted.

Postharvest Recommendations: We consistently cut all of our flowers into water treated with AquaPlus and store them in a cooler for at least one day before use, we also strip off all leaves that would otherwise be submerged in the water, for the statice, it was important to refresh the water if they were stored for more than a couple of days; Clean water, with chlorine tablets; Fresh in Floralife 2, or dry for low season colour; Use fresh or hang to dry.

Comments: Would like to see if each straight color is also improved, the yellow in particular was extremely tall; This variety did not produce a stem, the plants remained green and healthy but was not inclined to initiate production, this seed was sown May 12, perhaps I should have started it earlier, our safe plant date here is June 10, I did not want them to become root bound, I directed seeded into 50 cell trays and they went to the field on June 14, statice in general, annual statice production was a disappointment this year and for that matter the past 3 years, it is very inconsistent with stem production, I have tried sowing early and giving it a cold treatment with mixed results, in my main statice crop (BallSeed) certain colours seemed to bloom—Apricot,



John Dole

Dark Blue, and some white and rose, but these were from an earlier planting and I would do the same next year, I am cutting my statice production by 2/3 for 2023 due to nil production; This was an unusual growing season for us, in previous years, we would harvest a lot of statice all around the same time, this year, all of our statice (this cultivar included) was harvested over a longer period of time, but never produced in the typical volume, this cultivar created a relatively small number of stems for three months; We started our seed too late in the season (week 21) we really didn't start to see it flower until end of September or beginning of October; We have never had good luck with statice—never; Grown in landscape fabric at 12 x 12 in. spacing, planted very late due to our late spring, this cultivar was the least resistant to stress and rootbound-ness of all statice varieties we grew this year, but still performed all right, I never thought we'd be able to sell the yellow, it's so neon, but surprisingly a few florists went for it; I've grown a lot of limonium over the last few years, but still quite impressed with this improvement, robust, healthy plants and stems with wonderful colours, there was a light denim blue with a white floret that was

particularly attractive, we grew these in poor soil (our test for everything!), and they still flourished—a winner!; We sell some fresh but we mostly save ours for dried wreaths, it's a customer fav! Long lasting and dries; Awesome dried flower, holds color perfectly; All the pink blooms in the mix didn't last on the plants, but the mauves were very nice.

Lisianthus 'Arena III White'

(American Takii)

Good Qualities: Nice pure white (5); Large flowers (4); Sturdy stems (2); Tall stems (2); Multiple layers of clean white petals, loosely layered, lightly ruffled blooms are attractive and elegant, most side stems are also long enough to be used as cuts, very uniform stand; High quality white lisis are always in demand for wedding work; I really haven't met a lisianthus I don't like, they bloomed a few weeks later than some other varieties, which was nice to keep white as a wholesale option for my florists, white was a popular wedding color this year (and every year); An improvement on Arena II with larger blooms, the form was very rose-like; Not as many branches as other varieties.

Problems: Thin and sensitive petals, blooms kept showing damage—possibly from rain or dew? I've never had this before, the tips of all the blooms were “wilty”, if I pulled the blooms in before they really opened and let them open in the barn then I didn't have a problem; Nothing specific to this variety, we find lisis to be a difficult crop; A little underwhelming compared to the others in the trial; I tried to cultivate in hoops and outside in the field, and effectively, it has to be grown in a hoop, because in a field in stays very short.

Similar Cultivars: 'Croma 3 White'; 'Arena 4 White'; 'Arena II' for colour and form; Appears consistent with other Arena III varieties for bloom form and plant habit; Not much difference to others.

Postharvest Recommendations: Clean water, chlorine tablets if holding more than 24 hours.

Comments: Very long lasting; I really liked this variety until I started cutting

it and then just couldn't get the blooms "perfect", all the lisianthus I grow are in the field so wondering if I had put them under a low tunnel if I would have been able to eliminate the damage—maybe the petals are just too thin to handle the dew and rain; We don't see a lot of difference in cultivars, they either do well or they don't, as there are so many things that can go wrong with lisis, any lisianthus of the needed color is a good seller, if high quality; We were growing outdoors without cover and the colour remained pure white, perhaps this is a positive thing in a drought where most of the irrigation was at the roots!

Lisianthus 'Corelli III Yellow Improved' (American Takii)

Good Qualities: The light creamy yellow color (3) is versatile and blends well with a wide range of other flowers and colors; Large, ruffly blooms, many blooms per stem; Very double, frilly form; Great plant, slightly fewer buds compared to others in the trial; Deeply frilled blooms have multiple layers of petals—very full and excellent quality; Nice color for weddings.

Problems: Had a lot of dieback, probably due to inconsistent drip irrigation; The color of light yellow is "beurk"—the yellow should be darker to match with other colors, I tried to cultivate in hoops and outside in the field, and effectively, it has to be grown in a hoop because in a field it stays very short.

Similar Cultivars: 'Voyage Yellow' (3); 'Croma 3 Yellow'; The deeply ruffled blooms are similar in form to the Voyage series and this variety is comparable in color to 'Voyage 2 Yellow', although later to flower and plants are shorter and slightly lower vigor than the Voyage series; We don't see a lot of difference in varieties.

Postharvest Recommendations: Clean water, chlorine tablets if holding more than 24 hours.

Comments: Just a good, solid yellow lisianthus option, it didn't wow me as the 'Mariachi Light Pink' or the 'Voyage 3 Champagne', but I still used every stem I could grow; Long lasting; This fluffy flower was irresistible! I simply had to



'Mariachi Light Pink'

John Dole

have it in bouquets where it looked like a scoop of lemon sorbet, it was especially lovely with 'Voyage Champagne' and 'First Love'; Lovely plant and flower; Excellent bloom quality and versatile color; Lisianthus of the right colors (for the weddings that week) are always in demand, if high quality, lisianthus is a necessary focal flower, for late summer and fall, they are a hassle, but important; 'Corelli Yellow' is our favorite lisianthus currently, large, ruffly flowers are beautiful and blend well with all other lisianthus colors, the dark centers of the 'Corelli Yellow' in particular are eye-catching.

Lisianthus 'Mariachi Light Pink'

(Sakata Seed America)

Good Qualities: Beautiful pale blush pink blooms (5); Tall, healthy vigorous plants (2); Attractive flower form—loosely packed layers of petals have a light ruffle on the petal edges; good medium-size heads; Lots of buds per stem; Early to bloom, open form is lovely; Strong stems.

Problems: Stems were slightly weaker and snapped easier compared to other varieties; Not as fancy as the more frilly or multi-petalled varieties; Seed can be hard to grow, needs to be planted early; My designers don't really like

this boring color, not enough petals, the flowers are simple and not as big as the champagne or the blue ones, I tried to cultivate in hoops and outside in the field, and effectively, it has to be grown in a hoop because in a field it stays very short.

Similar Cultivars: Color and form are comparable to 'Corelli 2 Light Pink', however, the color is slightly darker than Corelli; 'Corelli Light Pink' (both could be considered blush with my designers except the Corelli have the dark centers where these don't).

Postharvest Recommendations: With flower food, buds opened pale pink, without flower food, buds opened white.

Comments: It adds layers of shading to a pink pink colour scheme; This was my favourite lisianthus I think I have ever grown, I am definitely going to try it again! it was so pretty and "romantic", it looked gorgeous on its own, with just greenery, or mixed with just about anything, the designers just loved it since they were still looking for a lot of blush this year, the stems also were slightly less 'bulky' than a Voyage stem yet the blooms did have a bit of a ruffle to them, the stems also seemed to be a bit stronger than some of the other Mariachi lisianthus, I've tried, holding the blooms taller, just perfect; Very long lasting.

Lisianthus 'Rosanne 2 Clear Green'

(Sakata Seed America)

Good Qualities: Unique pistachio-green color (6), more green than 'Rosanne 1 Green', which has a more lemon/lime hue; Excellent bloom quality—multiple layers of lightly ruffled petals are densely packed in 2-3 in. wide blooms; I loved it!; Medium double blooms are easy to use in arrangements; Sturdy stems and blooms, colour that makes market bouquets pop, it was also one of the first of my lisianthus to bloom, I would grow it again just to have a good early variety; Nice compact form and small flower shape; Lots of petals and full flower; The color has a special effect in a bouquet.

Problems: I didn't have a huge market for it, the color was cool but most people want "color" rather than green,



'Voyage 2 First Love'

John Dole



'Rosanne 2 Clear Green'

John Dole



'Voyage 3 Champagne'

John Dole

which blends in with green foliage; this colour was not popular with the wedding designers; It was almost too green for my customers to appreciate; Lots of aborted blooms, short, probably a result of inconsistent drip irrigation; Very dense flowers; Not all my customers that like that color, it is nice when mixed with white, but that is about it, I tried to cultivate in hoops and outside in the field, and effectively, it has to be grown in a hoop because in a field in stays very short.

Similar Cultivars: Habit and form are comparable to the rest of the Rosanne series; however, the color is a brighter, cleaner green than 'Rosanne Green'; 'Roseanne 1 Green', but '2 Clear Green' is much brighter green, '1 Green' has more yellow tones in it.

Postharvest Recommendations: Make sure blooms are dry before storing in cooler; Clean water, chlorine tablets if holding more than 24 hours.

Comments: Very long lasting (3); This is a really beautiful green variety—the bloom quality is excellent and the color is fresh and unique, this was a great addition to high-season summer mixed bouquets; This bloom really adds energy and vibrancy to bouquets—keeps them fresh looking; At first I wasn't sure about

this colour since I think I like to lean towards softer colours, but the florists kept scooping up any that I had and asking for it when they didn't see it, they loved it; We loved this one, but it was not as popular as pinks, yellows, and purples; It's a good green, for the rare occasion of needing green flowers, probably, low on our priority of varieties to grow; Looked like cabbages, very dense, thick flowers lisianthus are usually very romantic pretty flowers, the colour was too green for my liking, they were blooming in late fall so maybe if this was planted and blooming earlier then I would like to use in arrangements.

Lisianthus 'Voyage 2 First Love'

(Sakata Seed America)

Good Qualities: Unique color—white petals are brushed with blush pink (5), PERFECT BLUSH COLOR; Lots of ruffles, lots of petals and full flower (4); Attractive large 2.5 to 4 in. wide flowers, consistent with the rest of the Voyage series. Tall, vigorous, and healthy plants; Good size bloom—same as other Voyage varieties, early bloomer; Beautiful strong flower, almost a bicolor or picotee type, but more refined; Beautiful blooms, first to flower of the trial varieties.

Problems: We were not crazy about the rimmed bicolor form, but some of our customers loved it; None, other than typical lisianthus problems; Very dense flowers, huge flowers on the stem with short distance between blooms so difficult to use without removing flowers. **Similar Cultivars:** The plant habit, bloom form and bloom timing are consistent with the rest of the Voyage series—excellent bloom quality, large blooms and healthy, vigorous plants; 'Voyage White'.

Postharvest Recommendations: Clean water, chlorine tablets if holding more than 24 hours.

Comments: Blush is hard to come by, so this variety is much appreciated, a must for wedding work; Very dense thick flowers, colour was perfect for wedding work but had to remove branches of the stem and flowers because they were too huge and close together, good vase life; It was pretty but very, very little pink showed up in the blooms so not a whole lot different than 'Voyage White', but did bloom earlier then the white, it did pair nicely with pink zinnias and sweet William to make a fast market bouquet, the wedding designers didn't seem interested in it so used all of the stems for

market bouquets; It's the perfect ruffled blush color, it is already ordered for next year's plantings I love it so much; AMAZING!

Lisianthus 'Voyage 3 Champagne'

(Sakata Seed America)

Good Qualities: Versatile and attractive color—deeply ruffled layers of petals in shades of peach and pink (7). Champagne was outstanding size (2); Strong stems (3); Excellent bloom quality, tall plants with straight stems; Amazing! beefier plants than '2 Champagne', more ruffled flowers too, will definitely grow again; More double and frilly than '2 Champagne'; Very full stems; 'Voyage Champagne' has been a staple in our lisianthus production for several years now, glad to have a group 3 now available in the series to extend the harvest; Beautiful blooms; Good for weddings and bouquets.

Problems: None (2); I tried to cultivate in hoops and outside in the field, and effectively, it has to be grown in a hoop because in a field it stays very short.

Similar Cultivars: Appears identical to 'Voyage 2 Champagne', only flowers slightly later and on slightly shorter stems in our trial, bloom quality and plant habit are consistent with the rest of the Voyage series—excellent bloom quality and large fully double blooms; 'Voyage 2 Champagne'—very similar but the 3 was less ruffly and a little softer in colour.

Postharvest Recommendations: Clean water and chlorine tablets if holding more than 24 hours.

Comments: This actually bloomed earlier by five days vs. '2 Champagne', transplanted into high tunnel 5/12 and '3 Champagne' bloomed 7/15 and '2 Champagne' bloomed 7/20; Excellent for wedding work, good seller to florists; Beautiful! love the ruffles and color, customers loved it too; The colour intensifies with lower light and cooler conditions, it has beautiful full form!; One stem looked like a whole bouquet—I had some florists who could not get over how full the stems were! I liked this variety better than 'Voyage Champagne 2', I

had both growing and didn't find any difference in bloom time and I thought this was a "prettier" option; Very long lasting; Opens pale yellow and ages to a lovely pink; AMAZING!

Marigold 'Angka Deep Gold'

(Homeseeds)

Good Qualities: Beautiful golden color (3); Great germination rate, we harvested these for 8 weeks, they created long-lasting stems with a nice usable size, they are smaller than the 'Giant' marigolds, but that smaller size made them easier to market and use in arrangements, the color worked well with several color palettes, we sold many of these to designers over the season and to customers at farmers' markets; Uniform plants with good bloom quality, sturdy stems; Large, beautiful blooms, multiple blooms per stem.

Problems: The only potential problem was that the plants get a bit overly-branched after you've been harvesting from them for a few weeks, this was not a surprise, but at some point, the somewhat crazy branching shape of the stems made them unusable; Plants are late to flower compared to other comparable marigold varieties in trial; Crop destroyed by deer and groundhogs; We

have an insect issue that appears every August and lasts for about 6 weeks: small gnats congregate to mate and love marigolds for this activity, they completely smother the flowers and bury deep into the petals making the blooms unsalable, all marigold cultivars were susceptible to this issue; I corralled the plants rather than netting them, and they tended to fall over, next time, I will use netting; Stems were very short.

Similar Cultivars: This cultivar is similar to the other deep gold variety in this year's trial set; Color is comparable to 'Coco Gold', height and habit is more comparable to 'Angka Yellow' than 'Angka Orange'; Other gold and deep gold cultivars in this trial.

Postharvest Recommendations: Stems should be handled carefully, flower heads can get heavy and snap stem; We cut all of our flowers into water treated with AquaPlus, we remove all leaves that would otherwise be in the water and we store the flowers in a cooler for at least one day before selling, nothing special was done with the marigolds; Clean water and chlorine tablets; Very breakable necks, always pick extra to account for this; We used CVBN in cold water and held at 65 degrees; Trim stems and keep them in clean water.

Comments: We loved this flower and would certainly grow it again, the quality was so good and so consistent that our market customers were willing to pay more for it and purchased it repeatedly, designers and florists also purchased it repeatedly, the deep gold marigolds were so stunning in the field that they were memorialized in an oil painting; This variety is consistent with the other Angka varieties for a late flowering date, as a result, I would choose another comparable earlier variety before I would grow this one again; We have put a fortress around marigolds, due to deer and groundhogs; We need help with managing marigolds... We had hoped to find a cultivar in this trial that would prove to have stronger necks and be less susceptible to broken heads, but didn't find any that fit the bill! Our customers learned to love marigolds this



John Dole

year, after having trouble moving them in past years, people came looking for them, the scent is polarizing, with some folks loving it and other quite repulsed, when I told my staff we were growing a marigold trial with over 10x more bed feet than past years they were horrified, but it worked out and we sold plenty, wish our harvest could have gone longer into the season, but our August insect issue stopped us from harvesting between late August and the end of September, our second succession bloomed late September till late October; Let me be honest: I love marigolds, I love growing them and designing with them I even love the fragrance, I planted some marigolds in June and others in early August, in hope of having plenty to sell for the Day of the Dead. The early plants were still going strong in mid-October, and the late-planted ones were beginning to bloom well; Loved growing these marigolds, haven't had much luck with marigolds in the past.

Marigold 'Angka Orange'

(Homeseeds)

Good Qualities: Attractive dark orange blooms (3); Great germination—100%, this plant got extremely tall, like 5 feet tall and was very sturdy, no netting was necessary; Tall and vigorous plants—one of the most vigorous marigolds in our trial, the tallest of the Angka varieties in trial; Nice uniformity of stems; stems start low on plant so less waste; Nice head size, long stems; Large, lovely blossoms with multiple (5 to 7) blossoms per stem.

Problems: As with the other Angka marigold varieties, after harvesting the stems for a few weeks, the plant became branchy and assumed a somewhat unusable shape, also, during the last two weeks of harvest, the stems would sometimes break at the point where the plant branched off in a new direction; Very late to flower compared to other tall orange and gold marigold varieties, while bloom and stem quality are nice, I would grow a comparable variety that flowers earlier before growing this variety again; Crop destroyed by deer and groundhogs; Insects such as Japanese



John Dole

beetles and earwigs; Not specific to this cultivar, but insect issues and weak necks were issues we had with all our marigolds; A rabbit ate all my plants from this variety in May in my field.

Similar Cultivars: This cultivar is similar to 'Giant Orange' marigold that we typically grow, but the flowers are significantly smaller, the smaller size worked better for us, also, the stems on these marigolds were longer and of better quality than 'Giant Orange'; Color is comparable to 'Giant Orange', although nearly two weeks later to flower; 'Angka Deep Gold'; 'Jedi Orange', 'Coco Orange'.

Postharvest Recommendations: Stems should be handled carefully, flower heads can get heavy and snap stem; Clean water and chlorine if holding more than 24 hours; Strip clean, use only water; Breakable necks, pick extra stems to account for this; We used CVBN in cold water and held at 65 degrees; Clean water and trim stems.

Comments: These flowers sold well at market and to our designers, this is a traditional orange marigold color, it's not quite as exciting as the deep gold varieties, but it was a great producer and we'd definitely grow it again, post-harvest life was especially long the first six weeks of harvesting; This was the tallest of the Angka varieties in trial and

seemed a little out of place with the rest of the series as this variety was taller and more vigorous, although bloom time of all the Angka varieties was quite late compared to the rest of the marigolds in trial; Marigolds get eaten by deer and groundhogs if not grown in a fortress; Favourite marigold of the trial due to its intense pumpkin orange colour, stronger necks than some varieties, thin plant shape which is great for close and economical planting, could be used in a large spray with no pinching; Weak necks wreaked havoc on all marigolds! our customers learned to love marigolds this year, after having trouble moving them in past years, people came looking for them, the scent is polarizing, with some folks loving it and other quite repulsed, when I told my staff we were growing a marigold trial with over 10x more bed feet than past years they were horrified, but it worked out and we sold plenty, wish our harvest could have gone longer into the season, but our August insect issue stopped us from harvesting between late August and the end of September, our second succession bloomed late September till late October, all plants were pinched 1 to 2 times, planted at 12 x 12 spacing in bare soil, no fabric; Let me be honest: I love marigolds, I love growing them and designing with them, I even love the fragrance, my favorite things about this cultivar is the way the stems branch, I planted some of marigolds in June and others in early August, in hope of having plenty to sell for the Day of the Dead, the early plants were still going strong in mid-October, and the late-planted ones were beginning to bloom well; Rabbits ate all of my plants from this variety in May in my field; Not as buggy as 'Angka Deep Gold', nice cultivar, looked great in mixed bouquets.

Marigold 'Angka Yellow' (Homeseeds)

Good Qualities: Attractive bright yellow blooms (4); Great germination in 72 trays inside a greenhouse, this plant thrived during germination and after being transplanted into the field; Sturdy stems, blooms are fully double and uniform; Uniform branching that starts low,

mild honey scent; Nice head size (4 in.); Complex and dense blossom.

Problems: This color is almost fluorescent and somewhat difficult to blend with other flowers; The plant habit was slightly shorter and more compact compared to other yellow varieties like ‘Cana Yellow’ and ‘Giant Gold’, it was also later to flower in our planting compared to most other marigold varieties, while blooms are good quality, I would probably choose a comparable earlier flowering variety to grow again before I would grow this again; Crop destroyed by deer and groundhogs; Insects such as earwigs and Japanese beetles; Yellow marigolds were the least popular with our customers; ‘Angka Yellow’ seems a little less robust than

the other Angka cultivars, the plants didn’t grow as tall; A rabbit ate all my plants from this variety in May in my field; No noticeable problems.

Similar Cultivars: Color and bloom form is similar to ‘Cana Yellow’ and ‘Giant Yellow’, although later to flower

than both varieties; ‘Angka Deep Gold’ or ‘Orange’; Reminds me of ‘Jedi Gold’; Other yellow cultivars.

Postharvest Recommendations: Stems should be handled carefully, flower heads can get heavy and snap stem; Clean water and chlorine if holding more than 24 hours; Strip clean, use fresh water only; We used CVBN in cold water and held at 65 degrees; Breakable necks,

really stocky plants; Long graceful side branches, I also like the slightly more compact flowers; Tall stems.

Problems: Harsh bright yellow color was hard to use in design work; Late-season disease onset; Insects such as Japanese beetles and earwigs; Like other marigolds, weak necks; Very brittle.

Similar Cultivars: ‘Angka Yellow’ (2); This variety is similar to ‘Giant Yellow’ in color and bloom form, although later to flower; Similar to other yellows.

Postharvest Recommendations: Stems should be handled carefully, flower heads can get heavy and snap stem; Clean water and chlorine if holding more than 24 hours; We used CVBN in cold water and held at 65 degrees; Breakable necks, pick extra

When I told my staff we were growing a marigold trial with over 10x more bed feet than past years they were horrified, but it worked out and we sold plenty, wish our harvest could have gone longer into the season.

pick extra stems to account for this.

Comments: Classic yellow perfect for sunny bouquets; reliable and sturdy stems; Marigolds get eaten by deer and groundhogs if not grown in a fortress; We’ll probably grow minimal yellow marigolds in the future, folks prefer the gold and orange it seems, we dried some to experiment with plant dyes in the future; Let me be honest: I love marigolds, I love growing them and designing with them, I even love the fragrance, I planted some of marigolds in June and others in early August, in hope of having plenty to sell for the Day of the Dead, the early plants were still going strong in mid-October, and the late-planted ones were beginning to bloom well; Rabbits ate all of my plants from this variety in May in my field; Not as buggy as ‘Angka Deep Gold’, nice cultivar, looked great in mixed bouquets.

stems to account for this.

Comments: Holds bright yellow color well as a dried flower; The color is highlighter yellow and was not a good seller; Marigolds get eaten by deer and groundhogs if not grown in a fortress; Weakish heads—suitable to clip for



‘Angka Yellow’

John Dole



‘Cana Yellow’

John Dole

Marigold ‘Cana Yellow’ (Homeseeds)

Good Qualities: Bright lemon colour (3); Upright and sturdy plants, 2 to 4 in. wide blooms are uniform and densely packed; Long bloom period,

garlands, larger green center; Let me be honest: I love marigolds, I love growing them and designing with them, I even love the fragrance; 'Cana Yellow' was my favorite of all the marigold cultivars I tested, I planted some of marigolds in June and others in early August, in hope of having plenty to sell for the Day of the Dead, the early plants were still going strong in mid-October, and the late-planted ones were beginning to bloom well; We'll probably grow minimal yellow marigolds in the future, folks prefer the gold and orange it seems, 12 x 12 spacing, two pinches done to these plants; Really liked the color and large blooms, very prolific, did well at the farmers' market, we cut multi-branched stems.

Marigold 'Kanthong Deep Gold'

(Homeseeds)

Good Qualities: Very nice color (4), gold is in style, so used a lot for weddings; Sturdy stems (2); Very uniform blooms with excellent quality, straight stems form attractive bunches; My favorite of all the marigolds I have ever grown; Prolific producer, strong necks; Heads were a little smaller than some other cultivars, so they were less prone to breaking; Production was amazing!; Good length; Very consistent straight stems of single flowers, less likely to

branch than other marigold varieties.

Problems: Late-season disease onset; Insects; I only corralled the plants, and I regret not netting them; My florist didn't want marigolds after a few weeks, saying that her customers were not interested in them, I used them all summer for market bouquets; stems not as strong as 'Maesa'.

Similar Cultivars: 'Angka Deep Gold' (2); 'Kanthong Deep Gold Extra' (2), but shorter and bloomed earlier; The color of this variety is similar to 'Maesa Deep Gold' although this variety flowers earlier, the color is also comparable to 'Coco Gold', with a similar bloom time; Similar to other golds; 'Devi Deep Gold'; 'Cracker Jack' is stronger.

Postharvest Recommendations: Stems should be handled carefully, flower heads can get heavy and snap stem; Strip off the foliage for less of the marigold scent; Clean water and chlorine if holding more than 24 hours; We used CVBN in cold water and held at 65 degrees; Breakable necks, pick extra stems to account for this.

Comments: This one would probably excel if pinched; Marigolds get eaten by deer and groundhogs if not grown in a fortress; This was a huge marigold trial for us, we grew a few others that weren't part of the ASCFG trial as well

as our usual ones, I liked the Kanthong series, this cultivar was one of the earliest to bloom, which helped us get a jump on the insect issues we experience; Let me be honest: I love marigolds, I love growing them and designing with them,

I even love the fragrance, these were the first study marigolds to bloom, I planted some of marigolds in June and others in early August, in hope of having plenty to sell for the Day of the Dead, the early plants were still going strong in mid-October, and the late-planted ones were beginning to bloom well; Since the stems were very consistent with single flower heads, if growing this for the foliage it may not be the best candidate; I feel like the stem is too thin for the big flower that it produces: it breaks very easily; Very prolific! Looked great in mixed bouquets, was a workhorse all season.

Marigold 'Kanthong Deep Gold Extra'

(Homeseeds)

Good Qualities: Highly uniform plants with excellent sturdy stems and good bloom quality, bright orange flowers are 2 to 3 in. wide and fully double, well-suited for cut flowers; Quite ruffly, strong necks.

Problems: The stems got weaker and shorter as the season went on; Crop destroyed by deer and groundhogs; Insects.



'Angka Deep Gold'

John Dole



'Kanthong Deep Gold Extra'

John Dole



'Lanchang Orange'

John Dole

Similar Cultivars: ‘Angka Deep Gold’; Plant habit, timing and bloom size are very comparable to ‘Maesa Deep Gold’ but the color of ‘Kanthong Deep Gold Extra’ is slightly darker; ‘Kanthong Deep Gold’, but taller and bloomed later.

Postharvest Recommendations: Stems should be handled carefully, flower heads can get heavy and snap stem; We used CVBN in cold water and held at 65 degrees; Clean water and chlorine if holding more than 24 hours.

Comments: My second favourite of the marigold trial, can be cut as large spray, more orange than gold, sturdy plant and flower head; Let me be honest; I love marigolds, I love growing them and designing with them, I even love the fragrance, I planted this cultivar in early August, and it had just started to bloom when the plants were killed by freezing temperatures, I planted some of marigolds in June and others in early August, in hope of having plenty to sell for the Day of the Dead, the early plants were still going strong in mid-October, and the late-planted ones were beginning to bloom well; Loved growing these marigold, haven’t had much luck with marigolds in the past, marigolds get eaten by deer and groundhogs if not grown in a fortress.

Marigold ‘Lanchang Orange’

(Homeseeds)

Good Qualities: Rich, true pumpkin orange colour (3); Densely packed 2-4 in. wide flowers are fully double, vigorous, healthy, upright plants, straight stems make attractive bunches—overall well-suited for cut flowers; Long, strong stems, very ruffly, nice scent!; Smaller head, making it less prone to broken stems.

Problems: A little shorter, but still an acceptable stem length; Crop destroyed by deer and groundhogs; Insects; Seeded 2 x 72 in cells, but 0% went out.

Similar Cultivars: This variety is similar to ‘Giant Orange’ with respect to timing and plant habit, color is also comparable, although ‘Lanchang Orange’ appears slightly lighter in color than ‘Giant Orange’; ‘Angka Orange’; Other orange cultivars.



‘Maesa Deep Gold’

John Dole

Postharvest Recommendations: Stems should be handled carefully, flower heads can get heavy and snap stem; Clean water and chlorine if holding more than 24 hours; We used CVBN in cold water and held at 65 degrees; Breakable necks, pick extra stems to account for this.

Comments: In top 3 for marigold trial!; Marigolds get eaten by deer and groundhogs if not grown in a fortress; Let me be honest: I love marigolds. I love growing them and designing with them—I even love the fragrance, I planted this cultivar in early August, and it had just started to bloom when the plants were killed by freezing temperatures, until then the plants had grown well, I planted some of marigolds in June and others in early August, in hope of having plenty to sell for the Day of the Dead, the early plants were still going strong in mid-October, and the late-planted ones were beginning to bloom well; I struggled to find a favourite in the marigolds, there were no duds or standouts, curious to see how others fared, we’ll be growing several again next year, and this one will be on the list due to it blooming slightly earlier than most other cultivars; Seeds didn’t grow.

Marigold ‘Maesa Deep Gold’

(Homeseeds)

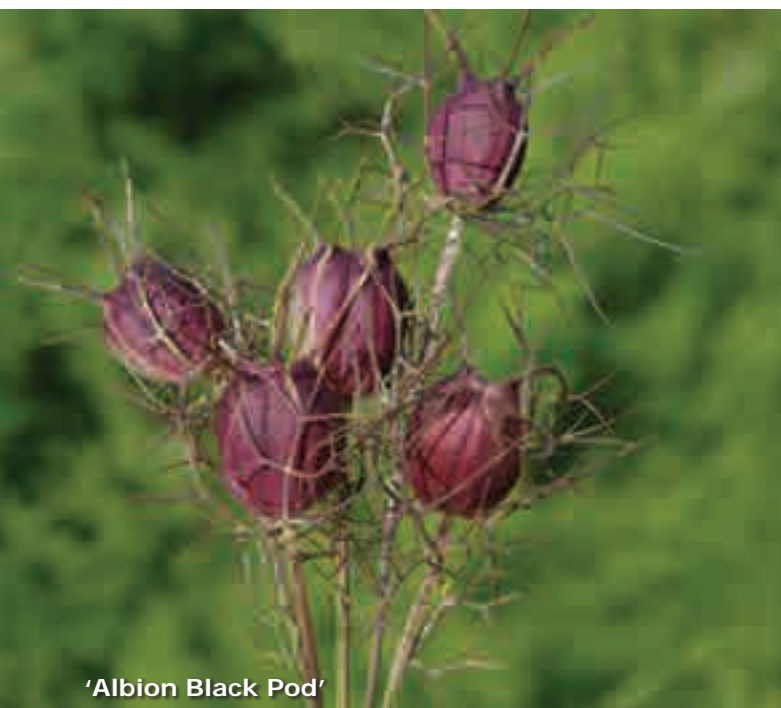
Good Qualities: Vibrant colour (5); Great germination, strong tall stems; Tall, vigorous, and very uniform plants, produced uniform stems and bunches, blooms are uniform and full; Large flower heads; Smaller, less fragile heads, a slightly more yellow tone than some of the other gold marigolds; Easy to grow; ‘Maesa Deep Gold’ had the longest and strongest stem, this was my favorite.

Problems: Crop destroyed by deer and groundhogs; insects, weak necks; Less productive than some, though not conclusive as we had to stop harvesting due to our August insect issues; ‘Maesa Deep Gold’, unfortunately the blooms were a little too big and heavy later in the season; Hard to start from seeds, the flowers are very heavy so the stems are easy to break when in blooms.

Similar Cultivars: These plants were very similar to the ‘Angka Deep Gold’ (2); Color and bloom form is comparable to ‘Coco Gold’, although ‘Maesa Deep Gold’ flowers later; Other gold cultivars.

Postharvest Recommendations: Stems need to be handled carefully, flower heads can get heavy and snap stem; Clean water and chlorine if holding more than 24 hours; We used CVBN in cold water and held at 65 degrees; Breakable necks, pick extra stems to account for this.

Comments: The ‘Maesa Deep Gold’ flower was actually a very similar color to the ‘Angka Deep Gold’ (because this would make sense), we loved this deep gold color, it inspired our market customers to pay a higher price for marigolds this year and we sold several hundred stems to designers, postharvest life was especially long the first six weeks of harvesting; Marigolds get eaten by deer and groundhogs if not grown in a fortress; An average good marigold; Let me be honest: I love marigolds. I love growing them and designing with them—I even love the fragrance, planted this cultivar in early August, and it had just started to bloom when the plants were killed by freezing temperatures, the plants were very robust before the freeze, I planted some of marigolds in



'Albion Black Pod'

John Dole



'Albion Green Pod'

John Dole

June and others in early August, in hope of having plenty to sell for the Day of the Dead, the early plants were still going strong in mid-October, and the late-planted ones were beginning to bloom well; Loved growing these marigold, haven't had much luck with marigolds in the past; The smell of the marigolds is special, you love it or you hate it, but this one stops smelling when it's been in the fridge for a few hours.

Nigella 'Albion Black Pod'

(Takii Europe/Sahin)

Good Qualities: Vigorous and uniform variety, attractive purple pods are an interesting shape and color; LOVE it, pods are a nice burgundy-purple tone, which dry excellently and are a nice element in dried bouquets, etc., for fresh use they also were a great color contrast in bouquets, although grown mainly for the pods, flowers were also really nice and usable; The pods have a good vase life and work well in flower bouquets as well as dried; Great fresh blooms, lots of blooms per stem; Quick to develop pods, consistent purple colour: a favourite filler of our staff; Nice colouring on both varieties—green pods looked especially fresh when they were growing, flowers nice for both, green pods were noticeably early than the black pods.

Problems: Flowers fade and shatter quickly—seed pods are more versatile with a longer fresh and dried vase life; Poor germination in the field as compared to the variegated variety that we also grow (I'm not sure of the variety name, we collect the seeds every year); Planted out seedlings in high tunnel in late February, cold and/or rodents killed the crop; Although we were harvesting, the plants shut down very early, haven't grown nigella for a few years but thought they would continue growing for a longer period of time; Too short, impossible to work with, I won't try again, I scrapped all my plants because nobody wanted some because too short. **Similar Cultivars:** Very comparable in form and habit to 'Albion Green Pod'. **Postharvest Recommendations:** These pods work well put straight into water and not conditioned; Clean water and chlorine if holding more than 24 hours. **Comments:** While the flowers pass quickly, the pods are excellent for fresh or dried use, dried pods hold their shape and color well and add unique texture and geometry to dried arrangements; We prefer to grow variegated nigella seed pods rather than solid-colored ones; Should have established in fall or waited until mid March to plant out; Fresh flowers were so pretty that I had to remind

myself that I needed to let some go to pod, good vase life; We could either harvest the whole plant, or pick a stem at a time, because they dry, they have a very long postharvest life, but if using in fresh arrangements the length of time was limited to molds forming on the stems; I have grown quite a lot of nigella, but I plant it in the fall, by the time I received the seeds, the temperatures must have been too high for germination, I planted the seeds, but didn't have any results, I still have a few seeds and intend to try planting some this fall.

Nigella 'Albion Green Pod'

(Takii Europe/Sahin)

Good Qualities: Vigorous plant growth and very uniform variety, attractive green pods are interesting for both fresh and dried use; Nice plump pods! great germination and although grown for the pods, flowers are cute and very usable, pods dry well; The pods have a good vase life and work well in both fresh and dried bouquets; Great fresh blooms with lots of blooms per stem; Set pods quickly, but the bloom was also beautiful; Nice colouring on both varieties, 'Green Pod' looked especially fresh when they were growing, flowers nice for both, green pods were noticeably early than the black pods

Problems: Very poor germination in 65 degree greenhouse, used heating pads and humidity domes for the first few days; Flowers fade and shatter quickly—seedpods are more versatile with a longer fresh and dried vase life; Green pod color is just ok—nothing remarkable about the pods in general, I didn't use them at all for fresh use because they were just blah, but as dried they provide much more interest; Poor germination in the field as compared to the variegated podded variety that we also grow (I'm not sure of the variety, we've been collecting its seeds for years); Planted out seedlings in high tunnel in late February, cold and/or rodents killed the crop; Although we were harvesting, the plants shut down very early, haven't grown nigella for a few years but thought they would continue growing for a longer period of time; Too short, impossible to work with, I won't try again.

Similar Cultivars: Very comparable to 'Albion Black Pod', except seed pods are green rather than purple.

Postharvest Recommendations: These pods work well placed directly into water and not conditioned, clean water and chlorine if holding more than 24 hours.

Comments: These plants did not grow well in the 72 trays or in the field—they just sat there; While the flowers pass quickly, the pods are excellent for fresh or dried use, dried pods hold their shape and color well and add unique texture and geometry to dried arrangements; We prefer to grow variegated nigella seed pods rather than solid-colored ones for our bouquets; Should have established in fall or waited until mid March to plant out; Fresh flowers were so pretty that I had to remind myself that I needed to let some go to pod, good vase life; Because of the green colour, we needed to harvest more quickly than the 'Black Pod' because the freshness of colour was evident; I have grown quite a lot of nigella, but I plant it in the fall, by the time I received the seeds, the temperatures must have been too high for germination, I planted the seeds, but didn't have any results, I still have a few seeds and intend to try planting some this fall.

Stock 'Quartet Deep Yellow'

(Sakata Seed America)

Good Qualities: Sturdy (6); Beautiful rich buttery yellow blooms (6); Highly uniform variety (2); Tall (2); Lovely fragrance (2); 2/3 were doubles, nice consistent stem length, full heads with dense florets at the top of the stem, no bald spots!; Really full fluffy blooms and singles are compact, very cute, and very usable!; Stems that did not need staking, tolerated wind and dry soil; Just a few singles, colour is a deeper pale yellow than 'Cheerful Yellow', full and vertically compact flowering heads; 70% double blooms, high performer, healthy; Pretty good length for a double stock, I will try again next year, but I will grow them under a hoop, maybe it will grow taller.

Problems: Shorter than the many other stock varieties we grow (4), though still usable certainly; Not exactly a "deep yellow", average typical yellow stock colour (2); The spray-type habit was a little more challenging to harvest and clean than the single-stem stock varieties and yielded shorter-than-desired stem lengths; None noted; Particular about light exposure/temperature; Not as hardy as the other stock varieties planted at the same time, slower to grow and less heat tolerant.

Similar Cultivars: Similar to other yellow matthiola: Katz, Cheerful, Iron. (2); The color is similar although slightly darker than 'Katz Yellow' and 'Iron Yellow'; Darker than 'Yellow Cheerfulness'.

Postharvest Recommendations: Cut when 1/3 of florets open, store at 4C, change water, recut stems if storing for more than a couple days; Clean water and chlorine if holding more than 24 hours.

Comments: We didn't pinch these or select for doubles, planted at 9 x 9 spacing with two plants per cell, nothing too special about these, maybe should have tried pinching?; We included this variety in a spring and a fall tunnel planting and performance was consistent between the two planting slots, these plants produced one taller central stalk (18 to 24 in.) with several smaller secondary sideshoots typically closer to 12 to 16 in., it's possible this variety should have been pinched to encourage longer and more uniform sideshoots; Definitely worth growing, probably the best quality stock we've grown; More creamy or soft yellow than "deep yellow", very sweet colour that goes with anything, growth slowed in high summer but regained as nights cooled in August, love this one!;



Barbara Jewell



Barbara Jewell

We had terrible growing conditions for stocks, and Quartet still bloomed; I've grown stock prior but never had such great results, this cultivar was beautiful, strong and had very few singles, everyone loved it, including me—so easy to grow; The smell is impressive.

Zinnia 'Uproar Deep Yellow'

(Syngenta)

Good Qualities: Bright, bold yellow color (13); Large flowers (11); Sturdy stems (3); Tall (2); High degree of doubleness (3), no single blooms; Dahlia-type heads; Extremely uniform plant habit and bloom size, blooms are 2.5 to 4 in. wide, plants produced flushes of high quality blooms throughout a hot dry growing season; Rebloomed vigorously, great for grocery and market sales, so nice!; None; This was the winner of all the seed trial varieties this year; This was a star!, by far the most impressive in the trials this year were the Uproar zinnias, I have grown 'Uproar Rose' every year since it was developed and have been looking forward to new colours, was not disappointed with this yellow!, had no insect or disease issues, a bit of mildew very late in the season, sowed May 12 and planted to field June 14, there were blooms on every plant by July 10, the first blooms were too short to harvest typical of any zinnia, they grew quickly

and continued to produce throughout the season creating a showpiece—I would stop and gaze every time I went by, my favourite new flower for 2022, look forward to acquiring seed as it comes commercially available; Very prolific; They seemed to hold up longer than the 'Scarlet'; Sturdy stems; Easy to match with other colors for the florist designers.

Problems: We could only harvest from this patch for 4 weeks and then it succumbed to downy and powdery mildew, they did not branch like Benary's Giant zinnias and were somewhat spindly; The large bloom size made these a little challenging to incorporate into mixed bouquets, but worked well as single-variety bunches; Typical zinnia problem—powdery mildew; weaker stems than Benary; Shorter than Benary series, more prone to disease, the color was *too* yellow! like ketchup and mustard yellow, it was not a popular color, beetles really loved it too; The degree of doubleness of the blooms was quite variable; Yellow zinnias were not a favorite with my customers, in fact, most mixed bouquets that contained yellow zinnias were the last to sell, if at all; Powdery mildew resistance was same as other cultivars in the trial; It grew super fast and tall and then blew over in first wind storm; Like we have experienced with 'Uproar Rose', the flower quality

diminishes significantly by the third flush or so, flowers get smaller with far fewer petals and stems are less hardy, Benary seem to produce well for longer, but the yellow available from Benary Giants is not nearly as bright and lovely as the 'Uproar Yellow'; Slugs did some damage after transplanting but they rebounded; Unfortunately, the Scarlet variety got alternaria leaf spot early on shortly after it was transplanted and gradually infected the 'Rose' as well, 'Deep Yellow' kept growing strong even though the disease was all around it; Lots of diseases when rainy season.

Similar Cultivars: Comparable bloom form and quality to the 'Benary's Giant Yellow' (5), although plant habit was more uniform; The color was similar to Benary's Giant Yellow (2), but this cultivar did not produce nearly as many stems; 'Benary Giant Golden Yellow', but slightly larger blooms; Strong necks, large head size similar to the Benary series so we will most likely grow again; Not as nice as this one.

Postharvest Recommendations: CVBN and Chrysal #2; We store them in a cool room, but not in cooler; Did not prefer cooler; We avoid keeping zinnias in the cooler for too long.

Comments: These plants were rock-solid in a hot, dry summer producing high quality and very uniform blooms; This was by far the nicest yellow zinnia that we've ever grown, the color was so pure and the heads were really nice; While I liked these, I found them a bit weaker than Benary varieties—even the foliage was a softer green as opposed to dark green, not likely I would spend the extra on these seeds; We did not get a good sense of customer reaction to this flower because we did not have enough of them to sell; Least diseased of the zinnias we trialed (but still more than other varieties of zinnias we grew); With the exception of sunflowers, yellow is not a popular color with my customers, so no offense to 'Uproar Deep Yellow', I thought the color was great, but I wouldn't grow again; Had a good long bloom time starting from a month after transplanting, through the whole summer to mid-



John Dole

September; I find that 'Benary's Yellow' is a very prolific and early bloomer, I didn't see much difference in this variety in comparison, except the blooms on the Uproar were probably larger on average, but this variety blew over in our first storm right before I was ready to do my first cut, the 'Benary Yellow' did not since they weren't quite as tall, I just don't see this variety as worth the extra seed cost but maybe if that storm had missed us I would be raving about the Uproars (shrug); Did not net but staked and used string to keep upright and prevent spreading to path, would allow lots of room for this zinnia to grow as it does become a very large, vigorous plant, overall height by mid August was 4 feet, consistent large blooms on strong stems, amazing zinnia! Five stars; I'm not a huge yellow fan but these were really pretty and lasted most of the season; The bright yellow was superb: disease resistant, huge heads, kept flowering all season; Good vase life; This was my favorite of the Uproar series by far, I tend to prefer the size of the Oklahoma series for my CSA bouquets, I don't sell to any florists, but I would imagine that they would prefer the size of the Uproar; Customers love that color and it is super nice with sunflowers!

Zinnia 'Uproar Rose Improved'

(Syngenta)

Good Qualities: Wonderful bright rose pink (14); Bloom size is quite large (9); Long stems (3); Sturdy (3); Super productive (3); Maintains brightness, consistent and endless blooms, healthy plants, good germination, very popular colour, the best bright rose zinnia; Re-bloomed vigorously, great for grocery and market sales, just a really nice zinnia; Many doubles, straight stems, coordinated well with other colors, great in market bouquets, was a butterfly magnet, kept producing, much longer than other Benary zinnias; No singles; Blends well with other zinnia colors for a market bouquet; Extremely uniform plant habit and bloom size, high quality large fully double blooms, plants produced flushes of high quality blooms throughout a hot dry growing season; Great germination; Pretty flowers; Stopped us in our tracks in the field; Super nice big, huge flower, easy to match with other flowers in bouquets, long lasting in a vase; Hot-ticket item at farm market.

Problems: We could only harvest from this patch for 3 to 4 weeks and then they succumbed to downy and powdery

mildew, even though we pinched them, these plants did not branch as well as Benary's Giant zinnias, the plants themselves were spindly; Necks break easily, prone to powdery mildew later in the season though better than some other zinnia cultivars, vase life can be uncertain ranging widely without reason; Grew too tall and whole row went over in the first crazy wind/rain storm (Benary zinnias in the row beside did not go over, or at least to the degree that this variety did); Unfortunately, 'Scarlet' variety got alternaria leaf spot early on shortly after it was transplanted and gradually infected 'Rose' as well. 'Deep Yellow' kept growing strong even though the disease was all around it, Great colour and strong stems; Weak stems; A lot of deformed flowers, of the three Uproar trial colors this was our least favorite and we cut the least number of marketable stems from these plants; The large bloom size made these a little challenging to incorporate into mixed bouquets but worked well as single-variety bunches; Not necessarily a problem, but I didn't prefer the more open petal form of this flower; Powdery mildew; More prone to disease than Benary, beetles loved it over Benary series,



John Dole



'Uproar Scarlet'

Elizabeth Harlan

shorter than Benary; Leaves were more diseased than the variety next to them; First flush is absolutely beautiful, but subsequent flushes have steep decreases in quality and plants slow down much faster compared to Benary cultivars; Did get spotty towards the end of August, much like Queen series, also did not like the drought; None.

Similar Cultivars: 'Benary's Giant Dahlia Flowered Wine', though 'Uproar' is better; Similar to 'Benary Bright Pink', but the color of 'Uproar' is a much deeper, clearer rose; 'Benary's Giant Coral'; 'Benary' and 'Magna Wine'; Benary's Giant; Comparable bloom form to the Benary's Giant Series, although plants were slightly shorter and bloom quality was more consistent across the season; 'Benary Wine', 'Carmine Rose', 'Purple'; I prefer the 'Uproar Rose' (not Improved) that we've grown, though we didn't trial them side by side this year so there may have been other influencing factors; Not as nice as this one.

Postharvest Recommendations: Avoid holding cold (below 40F); CVBN and Chrysal #2; Typical zinnia care, fresh water in bucket after harvesting, keep in cool place, not in cooler; We used

CVBN in cold water and held at 65 degrees; Does not prefer cooler.

Comments: I have always grown 'Uproar Rose' since whenever it was first introduced, it is superior to any other zinnia variety for consistent production and bloom size, healthy plants, watch for mildew later in the season, keeping good air flow, stems harvested regularly, along with preventive sprays when weather conditions are favourable for mildew, I did not net but used support stakes and twine, be sure to give ample room for the Uproar series as they are vigorous, overall height of the plant was 4+ ft, large size blooms in this series are wonderful in creating mixed market bouquets, would highly recommend the Uproar series for cut flower production, sown direct to 140 plugs, bumped up to 50 cell and then field planted June 9, first blooms July 10; We did not get a good sense of customer reaction to this flower because we did not have enough of them to sell; Would love to see more colors!; Grown in landscape fabric at 9 x 9 in. spacing, planted very late due to our late, cold, wet spring, lost several plants due to weather conditions and stressed plants, but they still performed acceptably, they are often more productive than they were this year, pinched twice before blooming on usable stems; wish this seed was more readily available unpelleted/uncoated as we are certified organic and are not able to use pelleted seed and this cultivar often is, we love this cultivar and wish it came in more colours!; I almost found that they grew too well, fell over, then proceeded to get brown spots, I think I would have to almost string this variety to guarantee that I can keep it usable and not sure it's still profitable with the extra work and the extra expense of seed, the storm hit the patch right before my first cutting, and there were a ton of perfect blooms that would have been ready! I'm thinking if the storm had missed me, I might have been way, way more positive about this variety; These plants were rock-solid in a hot, dry summer producing high quality and very uniform blooms; Didn't use many of these as fresh cuts, as I didn't prefer the more open petal structure

compared to a Benary's which is more compact, however, I dried most of them and found them to be really awesome—the deep rich colors and wide bloom made for great, large dried heads; I've heard rave reviews of 'Uproar Rose', but we were underwhelmed, 'Benary Wine', 'Carmine Rose', 'Purple' or 'Dark Pink' are easy competitors in our fields, it is not likely I would spend the extra money for the Uproar seed; In photos this variety didn't really stand out to me but once seeing it in person, it's so much more vibrant and eye catching, the rose magenta color just pops and the petals grew so symmetrical, the heads are large and they are a showcase in bouquets; Variability of doubleness of flowers and less super full ones than the 'Uproar Scarlet' and 'Deep Yellow'; Stunning with other summer flowers in arrangements, nice bushy plants when pinched; The stems are strong and high, by chance, because the flowers are very big!; Very popular at the market; Can't say enough about this cultivar, my customers LOVED it—and so did the butterflies and hummingbirds!!

Zinnia 'Uproar Scarlet'

(Syngenta)

Good Qualities: Fire engine vibrant red (13), it was incomparable to the other red zinnias in the field, this one was much more Fire Engine!; The size of the bloom is very big (8); Strong stems (6); Long stems (2); Fully double blooms (2); Extremely uniform plant habit and bloom size, plants produced flushes of high quality blooms throughout a hot dry growing season; Super productive, great germination; Rebloomed vigorously, great for grocery and market sales; More chartreuse green foliage than Benary series; Somewhat stress resistant; No singles, colour was great for fall bouquets; This was a good healthy plant, the bloom size consistent with the 'Rose' and 'Deep Yellow', a nice addition to mixed bouquets; Customers liked these in straight bunches: Prolific, was a hot-ticket item at farm market.

Problems: Lots of diseases in the rainy season; This was the first Uproar zinnia to get diseased, we cut this flower

for only approximately 2 weeks and it was taken over by powdery mildew; the large bloom size made these a little challenging to incorporate into mixed bouquets but worked well as single-variety bunches; Color was a little too orangey-red for my use, would prefer a more deep rich red; Powdery mildew; Necks break easily, prone to powdery mildew later in the season though better than some other zinnia cultivars, vase life can be uncertain, ranging widely without reason; Bugs loved it and ate the petals, more prone to disease over Benarys, shorter than Benarys; Leaves more diseased than the variety grown next to it, variability of doubleness of flowers, were a bit stunted compared to the other zinnias we grew; Some of the plants had blooms that were more on the orange side of 'Scarlet'; Not a popular summer colour; Not very productive; Not a fan of the color, looks like tomato soup and is hard to use in design work, stems were shorter than other Uproar varieties but we also had a drought; Short bloom duration on plant; Unfortunately, the 'Scarlet' variety got alternaria leaf spot early on shortly after it was transplanted and gradually infected the 'Rose' as well, 'Deep Yellow' kept growing strong even though the disease was all around it, great colour and strong stems; Some deformed flowers in the first few cuts but got better as the season went on; Did get spotty towards the end of August, much like Queen series.

Similar Cultivars: Scarlet Benary's Giant (8), but this cultivar did not produce flowers for nearly as long and did not branch well; Comparable bloom form to the Benary's Giant Series, although plants were slightly shorter and bloom quality was more consistent across the season.

Postharvest Recommendations: Zinnias don't like cold water in a vase; We used CVBN tabs and Chrysal #2, stored in warm cooler at 45-48 degrees; Typical zinnia care, fresh water in bucket after harvesting, keep in cool place, not in cooler; Avoid temps under 40F, best if harvested at night, condition in cool water and use the following day; We used CVBN in cold water and held at 65 degrees.



Barbara Jewell

Comments: Looks like bugs love this variety—I don't know why!; These plants were rock-solid in a hot, dry summer producing high quality and very uniform blooms; Didn't use many of these as fresh cuts, as I didn't prefer the more open petal structure compared to a Benary's, which is more compact, however, I dried most of them and found them to be really awesome—the deep rich colors and wide bloom made for great, large, dried heads; Interesting tid-bit that these threw quite a few double- and triple-headed blooms throughout the season; This did not win me over—I will stick to the tried and true Benary series; Grown in landscape fabric at 9 x 9 in. spacing, planted in later succession for late summer/fall, quite stressed when planted but they still performed acceptably, pinched twice before blooming on usable stems, would love to see more of this series, have grown 'Uproar Rose' regularly and was excited to see new colours, need availability of unpelleted/uncoated seed to be able to grow in organic production; Stunning with other summer flowers in arrangements, nice bushy plants when pinched; Our staff loved the bright colours of the zinnias and we cut them often; I was impressed with how many "perfect" and large blooms were on each plant, as like my other Uproar varieties, a storm took out

a lot of my plants as well as the 'Scarlet' but the 'Scarlet' seemed to be a bit sturdier? or shorter? and stayed a bit more upright meaning I didn't have to wait as long for it to recover; The 'Scarlet' was definitely the most reliable of the Uproar colors I planted, all of the Uproar varieties seemed to have a short window of suitability for cutting, I cut three times a week, and found that I was deadheading a lot of blooms, I probably could have cut longer stems on all of the Uproar varieties, but just as long as I needed for market bouquets; I had anticipated that it would be a bright yellow red but found it more towards a darker orangey red, it was very consistent blooming with the other two colours in the series, an excellent choice for bouquets, sown May 12 and first bloom on July 10, I found the blooms consistent in size and they kept producing until a hurricane Sept 24 ended the season prematurely, same overall height as the other Uproars, I hope Syngenta will soon make seed available for the cut flower market, the Uproar series would also make very showy choice for a taller border in an ornamental garden, the Uproar zinnias were definitely the winners in the 2022 trial; Good vase life; Really liked the tomato soup color, very popular at market; Looks like bugs love this variety, I don't know why!

Table 1. 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 (stems/plant)	Stem length (in.) ¹	Market appreciation rating ²	Ease of cultivation rating ²	Grow again rating ²	Average postharvest life (days)
Celosia Celway Orange	5.7 1-14	19.0 6-36	4.1 3-5	4.2 2-5	4.4 3-5	8.5 7-14
Celosia Celway Purple	5.7 2-16	20.8 6-40	3.7 2-5	3.8 1-5	4.5 4-5	8.4 6-14
Celosia spicata Sharon	9.6 1-88	20.9 12-33	3.8 2-5	3.8 3-5	4.4 2-5	9.5 7-14
Celosia spicata Xantippe	6.9 1-15	21.3 12-40	3.3 1-5	3.1 1-5	4.1 1-5	9.1 7-14
Celosia Sunday Cherry Improved	4.3 1-10	17.0 6-24	3.5 1-5	3.5 1-5	4.1 1-5	8.8 7-10
Celosia Sunday Red	5.2 1-12	17.0 6-36	3.9 1-5	4.1 1-5	4.1 1-5	8.9 7-10
Didiscus Lace Pink	5.8 1-12	13.9 8-24	4.0 1-5	4.1 1-5	3.4 1-5	7.0 5-9
Didiscus Lace White	5.8 2-14	13.1 6-24	3.7 1-5	3.5 1-5	3.5 1-5	7.3 5-10
Echinacea purpurea Green	2.1 1-5	13.8 8-20	2.8 1-5	2.7 1-4	3.1 1-4	14.0 14
Kale Crane Carmine	1.0 1	19.9 6-30	4.0 1-5	3.8 1-5	4.3 1-5	11.5 7-14
Kale Crane Ruffle Red	1.0 1	19.8 6-33	4.2 1-5	4.2 1-5	4.2 1-5	11.0 7-14
Kale Crane Ruffle White	1.0 1	19.2 6-30	4.5 1-5	4.2 1-5	4.5 1-5	11.2 7-14
Limonium bonduelli	10.1 5-20	18.4 5-27	2.8 1-4	2.6 1-4	3.9 2-5	44.3 7-14
Limonium QIS Mix Improved	6.3 3-12	19.0 6-34	3.6 1-5	3.0 1-5	3.5 1-5	10.3 7-14
Lisianthus Arena III White	2.8 1-6	18.5 8-32	4.1 3-5	3.9 1-5	3.3 2-5	14.0 14
Lisianthus Corelli III Yellow Imp	2.9 1-6	18.8 8-32	3.5 1-5	3.8 2-5	3.5 2-5	14.0 14
Lisianthus Mariachi Light Pink	3.2 1-8	19.7 14-30	4.3 3-5	4.2 3-5	3.0 2-4	14.0 14
Lisianthus Rosanne 2 Clear Green	2.3 1-4	18.1 6-28	3.7 2-5	3.7 2-5	3.1 2-5	9.5 5-14

Species and cultivar	Yield (stems/plant)	Stem length (in.) ¹	Market appreciation rating ²	Ease of cultivation rating ²	Grow again rating ²	Average postharvest life (days)
Lisianthus Voyage 2 First Love	2.3 1-4	20.3 13-30	4.0 2-5	4.1 2-5	3.5 2-5	14.0 14
Lisianthus Voyage 3 Champagne	3.1 1-8	21.4 13-36	5.0 5	4.9 4-5	3.4 2-5	14.0 14
Marigold Angka Deep Gold	9.5 2-20	17.4 6-30	3.5 1-5	3.6 2-5	4.1 2-5	12.8 7-21
Marigold Angka Orange	6.7 1-20	21.6 6-36	3.6 1-5	3.9 2-5	4.4 2-5	13.0 7-21
Marigold Angka Yellow	7.6 2-20	18.3 6-36	3.3 1-5	3.9 3-5	4.4 3-5	13.0 7-21
Marigold Cana Yellow	6.3 3-12	19.8 6-36	3.0 1-5	3.4 1-5	4.0 1-5	12.0 7-21
Marigold Kanthong Deep Gold	8.8 2-24	18.9 6-36	4.0 3-5	4.4 4-5	4.6 3-5	12.2 7-21
Marigold Kanthong Deep Gold Extra	7.9 2-20	21.5 6-36	3.0 1-4	4.0 3-5	4.5 3-5	8.5 7-10
Marigold Lanchang Orange	4.6 1-9	18.3 6-36	3.0 1-4	4.0 2-5	4.2 2-5	10.5 7-14
Marigold Maesa Deep Gold	7.6 1-20	18.2 6-24	3.4 1-5	4.1 2-5	4.4 2-5	11.4 7-14
Nigella Albion Black Pod	5.0 1-10	15.6 8-23	3.2 1-5	3.3 1-5	4.0 2-5	8.3 7-10
Nigella Albion Green Pod	5.0 1-10	15.0 8-24	2.8 1-5	3.1 1-5	4.0 2-5	8.3 7-10
Stock Quartet Deep Yellow	1.7 1-7	18.2 6-30	4.5 4-5	4.3 3-5	4.3 3-5	8.5 5-14
Zinnia Upoar Deep Yellow	7.3 1-16	18.1 8-28	3.7 1-5	3.7 1-5	4.4 2-5	7.2 5-11
Zinnia Upoar Rose Improved	6.5 2-18	19.1 6-28	4.2 2-5	3.9 1-5	4.5 2-5	7.3 5-11
Zinnia Upoar Scarlet	7.0 2-20	18.6 6-28	3.9 1-5	3.6 1-5	4.2 1-5	6.4 5-11

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.