

2008 ASCFG Cut

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Each year we get numerous new cultivars of various species but rarely are we able to directly compare them with standard, established cultivars or with cultivars from other companies. To address that issue, this year we conducted a comparison trial with seven zinnia varieties. The winner for growers was 'Uproar Rose', which garnered the highest ratings of all the cultivars and had the

longest stems. 'Uproar Rose' yielded 9.6 stems/plant, fewer than the Oklahoma series but higher than the 'Benary's Giants'. Trialers commented on the consistent flower color, high degree of doubleness and large flower size. The main limitation of 'Uproar Rose' is that it is currently a single cultivar. A couple trialers requested (begged) for more colors. It should be noted that 'Uproar Rose' is the ASCFG Fresh Cut Flower of the Year for 2009. However, the Benary's Giant cultivars also performed quite well, with yield and ratings only slightly below that of 'Uproar Rose'. Of course, the broad range of colors makes them an industry favorite. The Oklahoma cultivars had the highest yield but ratings were lower due to their smaller flowers. This series does particularly well as a

bouquet flower. 'Zowie Yellow Flame' had moderately high yield and many trialers adored the gorgeous bicolored flowers, but the small flower size and shorter stems reduced its appeal.

Zinnias are primarily a local flower, which is reflected in the low ratings for wholesale sales. Southern growers may wonder why the yield for all the zinnias was so low; this was due to the averaging of the results with the North, which has a shorter growing season. There was little difference in the reported vase life, with a high of 7.9 days for 'Benary's Giant Scarlet' and a low of 6.7 days for 'Zowie Yellow Flame', only a little over one day's difference.

Finally, we wanted to highlight the comments of one trialer which might be helpful to new growers of zinnias: "We have grown zinnias as part of our standard offering for several years. Nevertheless, we have learned



Flower Seed Trials

something new about this crop. The test zinnias were planted where the compost heap had been for a couple of years and the soil was very rich, loose, and moist. The other zinnias were planted partially in this really rich soil and partly in our ordinary soil. Some of the compost zinnias were eventually over five feet tall and all were very productive. The ordinary soil zinnias never took off and eventually the weeds took over. Zinnias really prefer soil with lots of organic matter. Also from now on we will be planting plugs and hopefully avoid a lot of weeding hassles. The cost of the plugs would be nothing compared to the cost of hand weeding direct-sown zinnias”.

“Beauty is in the eye of the beholder.”, “Silk purse out of a sow’s ear.”, “One man’s treasure is another man’s trash.”, “Either you loved ‘em or hated ‘em.” – believe it or not, we can’t come up with any more clichés to apply to *Panicum*

elegans ‘Frosted Explosion’. The grass garnered comments such as “The most popular flower in our ASCFG cut flower trials.” and “One of the most productive, in-demand crops I grew”. On the other hand, one trialer stated he or she had “crop failure” because it “was weeded out, this is a weedy annual grass here in Wisconsin”. Those who loved it enjoyed the 13+ stems per plant which averaged 18 inches and had a vase life of over 10 days. Certainly, the key to this cultivar will be the market. If you can sell grasses or the more unusual cuts, you definitely should try this one.

Sunflowers continue to be one of our most important field cuts and the number of available cultivars is increasing. This

year eight sunflowers were included in the trials and they illustrate that the bar is higher now for a cut sunflower to be successful than it used to be ten years ago. Several of the trialers made comments along the lines of “another good sunflower” for one or more of the cultivars. With so many varieties on the market now, a new one can be quite good but still not get noticed. The most



commonly grown cut sunflowers appear to be ‘Sunrich Orange’ (Takii), ‘Sunbright’ (Sakata) and ‘ProCut Orange’ (SeedSense), all with orange petals and a dark brown disk. A new introduction must be better in some way than these standards to get growers to switch to them. Five of the entries had the standard orange petals and dark centers; ‘Tavor Joy’ (Gloeckner) stood out by being one of the earliest to flower. ‘Tavor Joy’ is pollenless. A couple trialers also commented that it produced harvestable side flowers, which were great for bouquets. Chris Wien noted that in his trials at Cornell ‘Tavor Joy’ is a facultative short day cultivar, for those looking for greenhouse or high tunnel cultivars.

The two bicolored cultivars, ‘565’ (Gloeckner) and ‘Sun4U Bicolor’ (Kieft), garnered high praise for consistency of pattern and holding petals better than other bicolor sunflowers. Stems were long, with a medium-sized pollenless flower and relatively fast crop time. Some trialers mentioned good return flowering after the main stem was harvested. We noticed that the brown ring is well defined when the flower opens and appeared to fade as the flower ages – we wonder if this trait is climate related as growers in cooler climates did not mention the problem. We had difficulty telling apart ‘#565’ and ‘Sun4U Bicolor’ in our fields, and many of the trialers also mentioned the similarity.

It was interesting to us to read how different some of the cultivars perform among the trialers. For example, the color of ‘Arbel’ (Gloeckner) was described as “clear yellow petals against dark disk”, “standard orange sunflower” and “nice yellow orange, inner petals darker orange.” Head size and stem thickness also varied greatly. With ‘Arbel’ three trialers stated that the flowers and stems were too large while one said that the flowers were too small and stems not strong enough. When John checked the spacing each person used, all of those reporting large flowers gave their plants more space per plant than the one reporting small flowers. This illustrates nicely how responsive sunflowers are to spacing. If you want small flowers, space them more closely, and vice versa.



So, how are you as the reader able to sort out the various responses? Look for the overall tone of the responses, but be aware that the performance at your farm might be a bit different (sounds like a disclaimer on a grocery item: “Variations in color are normal and the contents may have settled during shipping...”). For ‘Arbel’, most considered it an orange sunflower with large heads when given plenty of space in the field.

As mentioned in previous year’s reports, lisianthus and snapdragons both perform their best under cover in high tunnels or hoopouses. The stems are long and the flower heads larger. Having said that, however, several cultivars of both species performed very well in the field trials. The entire Arena lisianthus series (Takii) got high marks for large, fully double flowers and long stems. The rankings were high enough to earn the series a nomination for ASCFG Fresh Cut Flower of the Year. Stem length of all three cultivars was close to 19 inches and trialers harvested an average of two to three stems per plant.

‘Rocket’ snapdragons are the classic series used by field cut growers. The durable selections are beloved for their reliable, durable nature and fragrant flowers. Greenhouse snapdragon growers have long had the luxury of being able to

select single cultivars from a broad array of colors. In the greenhouse these cultivars produce very long stems with large, sometimes too large, flower heads. Over the years we have started to test some of the greenhouse cultivars in the field and have obtained surprisingly good results. Certainly the stem length is shorter and the flower heads smaller on field-grown snaps than on greenhouse grown cuts, but the stems are wonderful for farmers’ markets and many florists. Most growers also keep field snapdragons after the main stem is cut, allowing the side shoots to be harvested later. This year, all four snapdragon cultivars in the trials performed quite well. In fact, ‘Opus Bright Red’ (Goldsmith), ‘Fresh White’ (Goldsmith), and ‘Calima Deep Rose’ (Sakata) scored high enough to be nominated for the ASCFG Fresh Cut Flower of the Year. ‘Opus Bright Red’ produced more than 6 stems/plant, with an average of 23 inches in length. Trialers also loved its bright vibrant red color. ‘Opus Bright White’ produced 5.3 stems per plant and a stem length of 22 inches. Stem yield was lower and length shorter for ‘Calima Deep Rose’ and ‘Pure White’ (Sakata). All four snapdragon cultivars showed unexpected durability in the field: here at NCSU, the snaps kept producing all summer long with a slight resurgence in the fall. Granted, the flowers heads were quite small during the summer but considering the heat of a Raleigh summer, the durability of the cultivars was quite striking.

Overall, we had 41 varieties from seven companies, up a bit in number from the previous year. Based on trial results, the top five performers are automatically nominated for the ASCFG Cut Flower of the Year. The rankings are based on the combined ratings score: market appreciation (average of wholesale, florist, and consumer) + repeat again + ease of cultivation. Thus, from the 2008 trials lisianthus Arena series (all the colors scored very high and we decided to nominate the entire series), snapdragons ‘Opus Bright Red’, ‘Fresh White’, and ‘Calima Deep Rose’ are nominated as Fresh Cut Flowers of the Year and will join other nominations from ASCFG members.

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

Acknowledgments: A hearty thank you to all of the evaluators who returned their trial reports and to the seed companies for providing such great cultivars. Congratulations to Laurie Hodges and Chazz Hesselein for being the first trialers to return their evaluations. I would also like to thank Ingram McCall for taking care of the North Carolina State University portion of the trials, Emma Locke, Erin Possiel, Erin Regan, Diane Mays, Brad Holland, and Tim Ketchie for assisting with the NCSU trials, and Ingram McCall for laboriously typing in the comments of several trialers. In preparing the report participants' comments have been edited for space and clarity; apologies the tone or content of anyone's comments was altered. Also, in a few cases we could not determine what was written.

Participating Seed Companies

Agriдера Seeds & Agriculture Ltd.

Gedera, Israel
www.agriдера.com

American Takii

Salinas, California
www.takii.com

Benary Seed

Sycamore, Illinois
www.benary.com

Fred C. Gloeckner & Co.

Harrison, New York
www.fredgloeckner.com

Goldsmith Seeds

Gilroy, California
www.goldsmithseeds.com

Kieft-Pro-Seeds

Conway, Washington
www.kieftseeds.com

PanAmerican/Ball Horticultural

West Chicago, Illinois
www.panamseed.com

Sakata Seed America, Inc.

Morgan Hill, California
www.sakata.com

Participating Growers

Erin Benzakein

floret
Mount Vernon, WA

Christof Bernau

UCSC Farm & Garden
Santa Cruz, CA

Linda Chapman-Dale

Harvest Moon Farm
Spencer, IN

Maureen Charde

High Meadow Flower Farm
Warwick, NY

Connie Dam-Byl

William Dam Seed, Ltd.
Dundas, ON

Everett Emino

Everett's Flower Farm
New Germany,
Nova Scotia

Thea Folls

Foll's Flower Farm
Auburn, NY

Chas and Linda Gill

Kennebec Flower Farm
and Nursery
Bowdoinham, ME

Shravan Dasoju

Ball Horticultural Company
Santa Paula, CA

Brian Gjevre and

Harold Wilkins

Goldfinch Farm
Baldwin, WI

Chaz Hesselein

Alabama Cooperative
Extension System
Mobile, AL

Betsy Hitt

Peregrine Farms
Graham, NC

Laurie Hodges

UNL Agronomy
and Horticulture
Lincoln, NE

Kathy Horn

Celebrate! Gardens
Lindenwood, IL

Polly Hutchison

Robin Hollow Farm
Saunderstown, RI

Cathy Jones

Perry-winkle Farm
Chapel Hill, NC

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North Carolina State
University
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Jim and Linda Mercer

Sheepscot Flower Farm
Newcastle, ME

Peter Mitchell

Flora Pacifica
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Dayton, NV

Kate Van Ummersen

Sterling Flowers
Brooks, OR

Chris Wien

Dept. of Horticulture
Cornell University
Ithaca, NY

Alison Wiley

Littleflowers
Newfield, NY

2008 ASCFG Seed Trial Results. The first row of data for each cultivar is the average and the second row is the range of responses. Note when only one response is listed, either only one person responded for that category or several responded and all gave the same rating. The single highest score and the single lowest score in each category for each cultivar have been dropped.

| Species Cultivar Company | Yield (stems/plant) | Stem length (inches) | Market appreciation rating ¹ | | | Repeat again rating ¹ | Ease of cultivation rating ¹ | Average spacing (in. ² /plant) | Average postharvest life (days) |
|--|------------------------|----------------------------|---|-------------------|-------------------|--|---|---|---------------------------------------|
| | | | Wholesale | Retail | Consumer | | | | |
| Larkspur 'Stiletta Indigo Blue' Gloeckner | 2.9 1-12 | 18.0 12-24 | - - | 4.5 4-5 | 3.5 1-5 | 3.8 1-5 | 3.5 1-5 | 123 36-216 | 7.8 7-10 |
| Lisianthus 'Adv. Cherry Sorbet' Gloeckner | 3.0 1-7 | 21.0 17-24 | - - | 4.0 4 | 5.0 5 | 4.4 4-5 | 3.1 1-5 | 40 16-81 | 13.6 13-14 |
| Lisianthus 'Arena Green' American Takii | 2.3 1-5 | 19.6 12-24 | 5.0 5 | - - | 5.0 5 | 4.2 4-5 | 3.5 1-5 | 58 16-144 | 12.3 10-14 |
| Lisianthus 'Arena Pink' American Takii | 2.3 1-5 | 19.3 12-28 | 5.0 5 | 5.0 5 | 4.8 4-5 | 4.1 3-5 | 3.6 1-5 | 70 16-144 | 12.7 10-14 |
| Lisianthus 'Arena Rose' American Takii | 2.3 1-4 | 23.6 15-36 | - - | - - | 5.0 5 | 4.3 2-5 | 3.5 1-5 | 59 16-144 | 13.5 13-14 |
| Lisianthus 'Arena White' American Takii | 2.3 1-4 | 18.6 12-24 | 5.0 5 | - - | 4.8 4-5 | 4.3 3-5 | 3.5 1-5 | 59 16-144 | 13.7 12-14 |
| Lisianthus 'Arena Yellow' American Takii | 2.3 1-5 | 19.4 12-24 | 5.0 5 | - - | 4.7 4-5 | 4.4 3-5 | 3.5 1-5 | 58 16-144 | 13.2 10-16 |
| Lisianthus 'Cadence Yellow' Goldsmith Seeds | 2.5 1-5 | 17.4 12-22 | 5.0 5 | - - | 3.7 3-4 | 3.6 2-5 | 3.6 1-5 | 58 16-144 | 12.8 10-14 |
| Lisianthus 'Twinkle Pink Imp.' Goldsmith Seeds | 1.8 1-4 | 19.9 12-30 | 5.0 5 | - - | 4.3 4-5 | 4.0 3-5 | 3.5 1-5 | 58 16-144 | 12.1 10-14 |
| Lisianthus 'Twinkle Violet' Goldsmith Seeds | 2.0 1-4 | 18.6 12-24 | 5.0 5 | - - | 4.7 4-5 | 3.8 2-5 | 3.3 1-5 | 58 16-144 | 12.3 10-14 |
| Lisianthus 'Vulcan Pink Picotee' American Takii | 2.6 1-6 | 19.7 10-28 | - - | - - | 4.0 3-5 | 3.2 2-5 | 3.0 1-5 | 39 16-81 | 14.0 14 |
| Lisianthus 'Vulcan White' American Takii | 3.4 2-7 | 19.8 12-30 | 3.0 3 | 3.0 3 | 4.0 3-5 | 3.5 2-5 | 3.1 1-4 | 42 16-144 | 14.0 14 |
| Lisianthus 'Vulcan Yellow' American Takii | 3.3 2-8 | 17.6 12-26 | - - | 3.0 3 | 3.8 3-4 | 3.2 2-4 | 3.1 1-4 | 43 16-144 | 14.3 14-15 |
| <i>Panicum elegans</i> 'Frosted Explosion' Gloeckner | 13.5 1-54 | 17.9 8-30 | 4.3 3-5 | 4.0 2-5 | 3.8 2-5 | 3.6 1-5 | 4.6 4-5 | 107 18-288 | 10.5 7-14 |

¹ 1 to 5 scale, with 5 being the best. Market ratings are based on sales to wholesales, retailers, or final consumers direct.

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|---|------------------------|----------------------------|---|-------------------|-------------------|--|---|---|---------------------------------------|
| | | | Wholesale | Retail | Consumer | | | | |
| Rudbeckia 'Tiger Eye' Goldsmith Seeds | 4.5 1-15 | 10.6 8-26 | 1.0 1 | 3.0 1-5 | 3.8 1-5 | 3.2 1-5 | 4.3 2-5 | 167 36-324 | 8.1 4-14 |
| Snapdragon 'Calima Deep Rose' Sakata Seed | 17.7 2-12 | 42.0 15-30 | 3.6 1-5 | 3.8 3-5 | 4.6 4-5 | 4.3 2-5 | 4.3 3-5 | 96 36-216 | 10.5 7-14 |
| Snapdragon 'Calima Pure White' Sakata Seed | 3.7 3-7 | 19.0 12-36 | 3.3 1-5 | 3.5 3-5 | 3.6 2-5 | 3.4 2-5 | 3.7 3-5 | 98 36-240 | 10.5 8-14 |
| Snapdragon 'Opus Bright Red' Goldsmith Seeds | 6.7 2-15 | 22.8 15-42 | 4.5 4-5 | 4.2 3-5 | 4.1 3-5 | 4.4 3-5 | 4.1 2-5 | 106 36-240 | 8.5 7-12 |
| Snapdragon 'Opus Fresh White' Goldsmith Seeds | 5.3 4-12 | 22.1 13-36 | 4.0 4 | 4.3 3-5 | 4.0 3-5 | 4.3 3-5 | 4.1 2-5 | 106 36-240 | 9.8 7-15 |
| Stock 'Katz Cherry Blossom' PanAmerican/Ball | 2.6 1-8 | 15.7 10-30 | 5.0 5 | 4.0 3-5 | 3.8 1-5 | 3.6 1-5 | 3.6 1-5 | 97 32-216 | 6.8 6-9 |
| Stock 'Katz Lavender Light' PanAmerican/Ball | 1.2 1-4 | 15.9 10-30 | - - | 4.0 3-5 | 3.7 1-5 | 3.1 1-5 | 3.5 1-5 | 80 24-216 | 7.0 4-10 |
| Stock 'Katz Pink' PanAmerican/Ball | 1.2 1-4 | 15.4 10-30 | 1.0 1 | 2.6 1-5 | 3.5 1-5 | 2.8 1-5 | 3.4 1-5 | 85 24-216 | 6.5 4-9 |
| Stock 'Katz White' PanAmerican/Ball | 1.2 1-4 | 16.7 10-30 | - - | 3.5 2-5 | 3.4 1-5 | 2.9 1-5 | 3.4 1-5 | 80 24-216 | 7.0 4-10 |
| Stock 'Katz Yellow' PanAmerican/Ball | 1.3 1-4 | 15.9 10-30 | 4.0 4 | 3.5 3-4 | 3.5 1-5 | 3.2 1-5 | 3.4 1-5 | 83 32-216 | 6.5 4-9 |
| Stock 'White Wonder Improved' American Takii | 1.3 1-3 | 15.9 14-30 | - - | 2.0 2 | 4.0 2-5 | 3.7 2-5 | 4.1 4-5 | 81 25-144 | 6.5 4-9 |
| Sunflower #565 Gloeckner/AgriDera | 1.7 1-5 | 36.6 28-66 | 3.0 2-4 | 3.4 4-5 | 4.0 2-5 | 3.4 1-5 | 4.5 3-5 | 128 36-648 | 8.6 8-12 |
| Sunflower 'Arbel' Gloeckner/AgriDera | 1.3 1-2 | 45.7 24-73 | 3.3 2-4 | 3.6 3-4 | 3.6 2-5 | 2.9 1-5 | 4.4 3-5 | 166 36-648 | 8.7 5-12 |
| Sunflower 'Carmel' Gloeckner/AgriDera | 1.3 1 | 45.0 24-84 | 2.0 1-3 | 3.0 1-5 | 3.4 1-5 | 3.3 1-5 | 4.3 1-5 | 145 36-648 | 9.8 7-14 |
| Sunflower 'Galilee Adam' Gloeckner/AgriDera | 1.9 1-13 | 44.1 23-66 | 3.0 3 | 3.6 3-5 | 3.9 2-5 | 3.1 1-5 | 4.5 3-5 | 168 36-648 | 9.3 7-15 |

¹ 1 to 5 scale, with 5 being the best. Market ratings are based on sales to wholesales, retailers, or final consumers direct.

2008 ASCFG Seed Trial Results. The first row of data for each cultivar is the average and the second row is the range of responses. Note when only one response is listed, either only one person responded for that category or several responded and all gave the same rating. The single highest score and the single lowest score in each category for each cultivar have been dropped.

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|---|------------------------|----------------------------|---|-------------------|-------------------|--|---|---|---------------------------------------|
| | | | Wholesale | Retail | Consumer | | | | |
| Sunflower 'Tavor Joy' Gloeckner/AgriDera | 1.6 1-9 | 39.8 23-66 | 2.6 2-3 | 3.8 3-5 | 3.5 2-5 | 3.2 1-5 | 4.5 4-5 | 160 36-648 | 9.5 6-14 |
| Sunflower 'Sun4U Bicolor' Kieft-Pro-Seed | 1.9 1-5 | 44.2 24-72 | 3.5 2-5 | 3.8 3-5 | 4.1 3-5 | 3.5 1-5 | 4.4 2-5 | 149 36-648 | 9.3 7-14 |
| Sunflower 'Sun4U Lemon Yellow' Kieft-Pro-Seed | 1.7 1-7 | 39.3 18-60 | 2.5 2-3 | 3.2 3-4 | 3.8 3-5 | 3.2 1-5 | 4.4 2-5 | 156 36-648 | 9.2 6-14 |
| Sunflower 'Sun4U Orange' Kieft-Pro-Seed | 1.6 1-8 | 43.7 21-66 | 3.0 2-4 | 4.3 4-5 | 4.1 3-5 | 3.4 1-5 | 4.4 2-5 | 168 36-648 | 9.2 6-14 |
| Sweet pea 'Winter Sunshine Rose' Gloeckner | 14.6 6-28 | 11.5 5-14 | 4.0 4 | 4.5 4-5 | 5.0 5 | 3.7 1-5 | 4.2 4-5 | 93 18-244 | 5.5 4-7 |
| Zinnia 'Giant Carmine Rose' Benary | 7.5 2-40 | 18.3 12-30 | 3.0 1-4 | 4.6 4-5 | 4.5 4-5 | 4.2 1-5 | 4.2 2-5 | 124 24-252 | 7.0 6-9 |
| Zinnia 'Giant Lime' Benary | 7.2 1-30 | 17.1 9-27 | 2.8 1-5 | 4.1 3-5 | 3.9 3-5 | 3.9 1-5 | 4.1 1-5 | 122 36-252 | 6.7 5-9 |
| Zinnia 'Giant Scarlet' Benary | 8.3 1-40 | 18.4 7-30 | 2.5 1-4 | 4.4 4-5 | 4.5 4-5 | 4.1 1-5 | 4.3 2-5 | 127 24-252 | 7.8 6-14 |
| Zinnia 'Oklahoma Pink' Benary | 11.6 1-47 | 16.9 10-24 | 3.0 1-5 | 3.6 2-5 | 3.5 2-5 | 3.1 1-5 | 4.4 2-5 | 130 36-252 | 7.2 6-10 |
| Zinnia 'Oklahoma Scarlet' Benary | 11.9 1-52 | 17.0 10-24 | 2.8 1-4 | 3.8 2-5 | 3.6 2-5 | 3.3 1-5 | 4.3 2-5 | 143 42-252 | 7.3 7-10 |
| Zinnia 'Uproar Rose' Benary | 9.6 3-30 | 18.5 10-30 | 3.8 1-5 | 4.8 4-5 | 4.8 4-5 | 4.4 2-5 | 4.4 3-5 | 128 36-252 | 6.8 6-9 |
| Zinnia 'Zowie Yellow Flame' Goldsmith Seeds | 9.1 5-23 | 15.0 8-20 | 3.0 1-5 | 4.2 2-5 | 4.4 2-5 | 3.9 1-5 | 4.3 2-5 | 129 36-252 | 6.7 5-9 |

¹ 1 to 5 scale, with 5 being the best. Market ratings are based on sales to wholesales, retailers, or final consumers direct.



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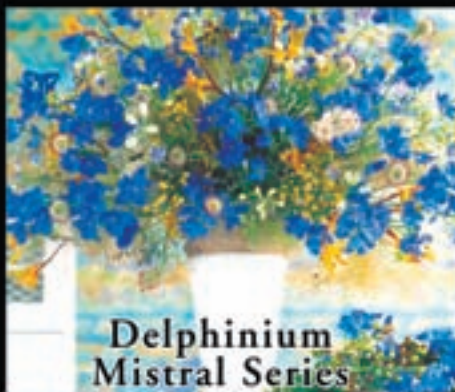
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Summary of Comments

The number in a parenthesis refers to the number of respondents who made the comment. If no number is present, only one person made the comment. Comments by each individual are separated with a semicolon (;). Note: many respondents did not make specific comments on each cultivar and in some cases, comments have been shortened because of limited space.

Larkspur

Larkspur 'Stiletta Indigo Blue'

(Gloeckner)

Good Qualities: The intense indigo blue color (5), slightly taller than other larkspur in my fields, nice vigorous plants; Tall, attractive, with usable branches after main stem was cut; good as both a fresh cut and dried flower.

Problems: None (2); Died in field; Although planted early in May, stems never attained any height, the plugs were not root bound so I don't know why this happened; Shorter than other larkspur, although we had a very dry spring.

Similar Cultivars: 'Cannes Deep Blue'; Also grew 'Sublime' larkspur mixture, to which this cultivar has similar growth characteristics, but not the indigo blue color; also grow 'Blue Cloud' larkspur that has a similar dark blue color, but is more open and airy in appearance.

General Comments: Last year's (07) larkspur cultivar was a much better performer; I would like to try this again under normal spring conditions, this larkspur did very well compared to other larkspur cultivars I grow, generally do not do well with larkspur but the past two years I have had good success including variety trial cultivars, I think this one will be a winner.

Lisianthus

Lisianthus 'Advantage Cherry Sorbet'

(Gloeckner)

Good Qualities: The deeper pink color is very nice (3), although variable; Double flowers (2); Stronger stems than some cultivars, nicer than some others of similar color; Attractive large flower with ruffled petal edges, relatively early and productive, easy to grow, sturdy stems, didn't require netting in the field.

Problems: None (2); Poor germination; The seed came late (February) and although I started it right away, the plants in the field never got to maturity, we had a very cold/late spring (up to 6 weeks lost) and this did not work in their favor, also, in the future I will only grow lisianthus in the hoop, western Washington is just too cool to attempt them

in the field, wish I would have known! I worked so hard to get a crop and really wanted to see all of these beauties in full bloom, bummer!

Similar Cultivars: 'ABC Deep Rose', but this was a nicer flower; 'Magic Pink'.

General Comments: Flowered 4 days later than 'Echo Champagne', the earliest in the trial.

Postharvest Handling: We use only plain water. *See separate postharvest report in this issue for results from NC State University postharvest evaluations.*

Lisianthus 'Arena Green' (Takii)

Good Qualities: Great green color (3) or nice double white with green tinge; Sturdy stems (2), didn't require netting in the field; Attractive double flower with ruffled petal edges; Lots of buds; Timing of blooms opening very good, three flowers open at once! tall stems, nice double flowers; Easy to grow.

Problems: None; Somewhat wimpy terminal stems; Shorter plants in comparison to other lisianthus, and did a poor job withstanding wind, some almost growing parallel to the ground; The seed came late (February) and although I started it right away, the plants in the field never got to maturity, we had a very cold/late spring (up to 6 weeks lost) and this did not work in their favor, also, in the future I will only grow lisianthus in the hoop, western Washington is just too cool to attempt them in the field, wish I would have known! I worked so hard to get a crop and really wanted to see all of these beauties in full bloom, bummer!; Long time to harvest from sowing (February to mid-Aug.).

Similar Cultivars: 'Super Magic Green', 'Arena Yellow'.



General Comments: 1 week later than 'Echo Champagne', the earliest variety in trial.

Postharvest Handling: We use only plain water.

Lisianthus 'Arena Pink' (Takii)

Good Qualities: Nice light pink with dark yellow centers (4); Attractive double flowers with ruffled edges (3); Sturdy stems (3); Produced multiple usable stems/plant, prolific bud production, withstood windy conditions well; Uniform growth habit, fully double flowers; Tall; Our first attempt at growing lisianthus was wildly successful! lovely buds, long vase life, it was as easy to grow as celosia, florists love it; Easy to grow, didn't require netting in the field.

Problems: None; Wimpy terminal stems; Color seems a little washed out; The seed came late (February) and although I started it right away, the plants in the field never got to maturity, we had a very cold/late spring (up to 6 weeks lost) and this did not work in their favor, also, in the future I will only grow lisianthus in the hoop, western Washington is just too cool to attempt them in the field, wish I would have known! I worked so hard to get a crop and really wanted to see all of these beauties in full bloom, bummer!; Later to bloom than rest of Arena series by a couple of weeks.

Similar Cultivars: 'Echo Pink', 'Twinkle Pink Exp.', 'Cinderella Pink'.

General Comments: 12 days later than 'Echo Champagne', the earliest in the trial; Planted two seeds per cell in a 125 plug tray in early February, started cutting stems in late September, flower quality improved after the bed was covered with a plastic tunnel for frost protection, still producing Oct. 15.



Postharvest Handling: We use only plain water.

Lisianthus ‘Arena Rose’ (Takii)

Good Qualities: Great color (3); Strong stems (3); Double flowers (2); Attractive double flowers with ruffled edges, tallest variety in trial; Nice flower form, moderate buds, better stem strength than the other Arena varieties; Many buds/stem, most of all lisianthus cultivars, tallest plants and produced most stems/plant among all lisianthus; Very tall; Easy to grow, didn’t require netting in the field.

Problems: Too late for this location: 24 days later than ‘Echo Champagne’, low yield; Occasional flower stem droop; Blooming lags behind rest of Arena series, one week after first cut of the rest of Arena, it’s still not blooming; The seed came late (February) and although I started it right away, the plants in the field never got to maturity, we had a very cold/late spring (up to 6 weeks lost) and this did not work in their favor, also, in the future I will only grow lisianthus in the hoop, western Washington is just too cool to attempt them in the field, wish I would have known! I worked so hard to get a crop and really wanted to see all of these beauties in full bloom, bummer!; Long time to harvest from sowing (Feb-mid-Aug.) (Zone 5).

Similar Cultivars: ‘Magic Rose’.

General Comments: ‘Arena Rose’ performed best of the Arena varieties; Didn’t stand up to our windy/breezy conditions, bloomed much later than other lisianthus, late August came before prolific blooming started; Best of all the lisianthus we had this year.

Postharvest Handling: We use only plain water.

Lisianthus ‘Arena White’ (Takii)

Good Qualities: Very attractive fully double blooms, pure white (5); Strong stems (2); Numerous flowers/stem, uniform color and size of blooms, very upright habit; Easy to grow, sturdy stems, didn’t require netting in the field.

Problems: None; Many stems unable to maintain open flower upright, limited buds; Stem length not always most desirable, generally shorter than what growers want; The seed came late (February) and although I started it right away, the plants in the field never got to maturity, we had a very cold/late spring (up to 6 weeks lost) and this did not work in their favor, also, in the future I will only grow lisianthus in the hoop, western Washington is just too cool to attempt them in the field, wish I would have

known! I worked so hard to get a crop and really wanted to see all of these beauties in full bloom, bummer!; Long time to harvest from sowing (Feb-mid-Aug.) (Zone 5).

Similar Cultivars: ‘Echo White’.

General Comments: A week later than ‘Echo Champagne’, the earliest in the trial; Beautiful! in field grew wonderfully, but this is the first time they were successfully germinated in our greenhouse.

Postharvest Handling: We use only plain water. *See separate postharvest report in this issue for results from NC State University postharvest evaluations.*

Lisianthus ‘Arena Yellow’ (Takii)

Good Qualities: Attractive fully double creamy yellow (5); Easy to grow, sturdy stems, didn’t require netting in the field; Large, full blooms, very upright/straight growth habit.

Problems: None; Limited buds, stems often bent supporting open blooms; The seed came late (February) and although I started it right away, the plants in the field never got to maturity, we had a very cold/late spring (up to 6 weeks lost) and this did not work in their favor, also, in the future I will only grow lisianthus in the hoop, western Washington is just too cool to attempt them in the field, wish I would have known! I worked so hard to get a crop and really wanted to see all of these beauties in full bloom, bummer!; Long time to harvest from sowing (Feb-mid-Aug.) (Zone 5); First blooms to open are low on the stem and then hold on long after they die back, somewhat unsightly.

Similar Cultivars: Coloration quite similar to ‘Arena Green’.

General Comments: 9 days later than ‘Echo Champagne’, the earliest in the trial.

Postharvest Handling: We use only plain water.

Lisianthus ‘Cadence Yellow’ (Goldsmith)

Good Qualities: Small single light yellow flower (2); Spray type; Blooms quickly, green center, single blooms throughout stem in nice formation; Half of stem blooms at once making for a very attractive cut, very upright habit; Easy to grow.

Problems: Not as showy as other lisianthus cultivars; Holds onto spent blooms too long. they turn brown and are unsightly; The seed came late (February) and although I started it right away, the plants in the field never got to maturity, we had a very cold/late spring (up to 6 weeks lost) and this did not work in their favor, also, in the future I will only grow lisianthus in the hoop, western Washington is just too cool to attempt them in the field, wish I would have known! I worked so hard to get a

crop and really wanted to see all of these beauties in full bloom, bummer!!!; Shortest stems in the trial; single flowers not as attractive as doubles in trial.

Similar Cultivars: None listed by respondents.



Lisianthus ‘Arena Pink’



Lisianthus ‘Arena White’

General Comments: First to bloom of all lisianthus; 11 days later than 'Echo Champagne', the earliest in the trial.

Postharvest Handling: We use only plain water. *See separate postharvest report in this issue for results from NC State University postharvest evaluations.*

Lisianthus 'Twinkle Pink Improved' (Goldsmith)

Good Qualities: Rich pink color (2); Easy to grow, nice tall double pink; Attractive with dark center; Tall plants, uniform bloom time; Long, strong stems; Pink petals with dark center, earliest in trial

Problems: Not as vigorous as some varieties; Bend and grow with wind direction, appear to be toppled over; The seed came late (February) and although I started it right away, the plants in the field never got to maturity, we had a very cold/late spring (up to 6 weeks lost) and this did not work in their favor, also, in the future I will only grow lisianthus in the hoop, western Washington is just too cool to attempt them in the field, wish I would have known! I worked so hard to get a crop and really wanted to see all of these beauties in full bloom, bummer!; Single flowers not as attractive as doubles in trial, showed rain flecking.

Similar Cultivars: None listed by respondents.

General Comments: Late but long-blooming period (mid-August to frost) (Zone 5); Very attractive color, too bad the plants grew so bent due to wind; With 'Echo Champagne', the earliest in the trial

Postharvest Handling: We use only plain water. *See separate postharvest report in this issue for results from NC State University postharvest evaluations.*

Lisianthus 'Twinkle Violet' (Goldsmith)

Good Qualities: Beautiful swirled purple color (4); Easy to grow; Knock-out rich color with darker center, open blooms line up on the stem which looks great in arrangements (tiered); Prettiest cultivar! /abundant bloom production, opening all together; Early, buds attractive darker stripes.

Problems: Stems were too short (2); Moderate fade; Marginally wind damaged, stems bend with the wind and grew that way, but generally straightened out well once cut and cooled; The seed came late (February) and although I started it right away, the plants in the field never got to maturity, we had a very cold/late spring (up to 6 weeks lost) and this did not work in their favor, also, in the future I will only grow lisianthus in the hoop, western Washington is just too cool to attempt them



Lisianthus 'Cadence Yellow'



Lisianthus 'Twinkle Violet'

in the field, wish I would have known! I worked so hard to get a crop and really wanted to see all of these beauties in full bloom, bummer!; Single flowers not as attractive as doubles in trial, showed rain flecking.

Similar Cultivars: None listed by respondents.

General Comments: Favorite flower of the whole trial!; With 'Echo Champagne', the earliest in the trial.

Postharvest Handling: We use only plain water.

Lisianthus 'Vulcan Pink Picotee' (Takii)

Good Qualities: Beautiful color combination, the pink tips were very vivid (3); Very strong stems, picotee made this more attractive to customers than most singles; The stem length was good; Moderate buds, great stem height and sturdiness; Strong stem, nice flowers.

Problems: Singles less popular (2); Low productivity, pink edges vary in width among flowers, some entirely pink; Did not get very many flowers; The seed came late (February) and although I started it right away, the plants in the field never got to maturity, we had a very cold/late spring (up to 6 weeks lost) and this did not work in their favor, also, in the future I will only grow lisianthus in the hoop, western Washington is just too cool to attempt them in the field, wish I would have known! I worked so hard to get a crop and really wanted to see all of these beauties in full bloom, bummer!; Propagation difficult.

Similar Cultivars: None listed by respondents.

General Comments: 10 days later than 'Echo Champagne', the earliest variety in trial; I liked these for bouquet work; Fantastic blooms - my favorite lisianthus; Flower head 4 cm, no fragrance.

Lisianthus 'Vulcan White' (Takii)

Good Qualities: Strong stem (4); Long stems (3); Nice flowers (2); Second-tallest variety in trial; Beautiful, single pure white flower; Extra sturdy stems, many buds, very vigorous, attractive bloom.

Problems: None (2); Singles never as popular; Shorter than other lisianthus, stem not as strong; The seed came late (February) and although I started it right away, the plants in the field never got to maturity, we had a very cold/late spring (up to 6 weeks lost) and this did not work in their favor, also, in the future I will only grow lisianthus in the hoop, western Washington is just too cool to attempt them in the field, wish I would have known! I worked so hard to get a crop and really wanted to see all of these beauties in full bloom, bummer!; Propagation difficult.

Similar Cultivars: None listed by respondents.

General Comments: Single white flower with dark center, 3 days later than 'Echo Champagne', the earliest variety in trial; Not really worth growing for me; Vulcan series truly outstanding.

Lisianthus 'Vulcan Yellow' (Takii)

Good Qualities: Very strong stems (3); Creamy yellow single with dark yellow center, good yellow color; Beautiful, petite single flower; Nice flowers; A great color, I like that there are many flowers on each stem.

Problems: None (2); Singles never as popular; Stems not as sturdy as other lisianthus cultivars; The seed came late (February) and although I started it right away, the plants in the field never got to maturity, we had a very cold/late spring (up to 6 weeks lost) and this did not work in their favor, also, in the future I will only grow lisianthus in the hoop, western Washington is just too cool to attempt them in the field, wish I would have known! I worked so hard to get a crop and really wanted to see all of these beauties in full bloom, bummer!; Propagation difficult.

Similar Cultivars: None listed by respondents.

General Comments: Flowered 3 days later than 'Echo Champagne', the earliest variety in trial; Flower head 5 cm, no fragrance.

Postharvest Handling: See separate postharvest report in this issue for results from NC State University postharvest evaluations.

Panicum

Panicum elegans 'Frosted Explosion' (Gloekner)

Good Qualities: In a bouquet, it added an airy feature; Good filler, dries well; Lacy filler, not the norm, pleasing shape (upside down cone); Liked to use these early on until they 'exploded', this explains for low stem counts; Feathery, light appearance was very complementary to other cut flowers, vast majority of stems were 18-20 inches, very few were shorter; Light airy texture; nice green color with darker panicles, great as a filler both fresh and dried, the most popular flower in our ASCFG cut flower trials; I especially liked this grass in its less mature, tufted stage - like a fine grass tassel on a stem! made a very textural filler - nice bright green color, nice long useful life in field, will definitely be growing this again!; One of the most productive, in demand crops I grew, we never had enough and sowed twice plus cut from a batch of volunteers, this stuff is so easy to grow, easy to cut, the wholesaler and grocery stores love it and consumers can't get enough; Very cool plant, everyone loved it; 'Frosted Explosion' was easy to germinate, transplant, and grew vigorously, in fact it responded well to watering and fertilizing; Easy to grow, wonderful customer approval, long lasting and great filler for bouquets; Unusual flower type.

Problems: None (2); Too short (2); Looked too much like a weed for most people; Fragile; Stems can bend; Cut in early development or the tops become thin and brittle; First cut produced huge number of stems, following cuts weren't as lucrative; Longer stems would be desirable; Will grow it again, for sure, and

hope for longer stems, but even short, it was a winner!; Hard to use after it started to branch, maybe additional sowings would be better, sheds some seeds; All plants were almost dead, the results are from 1 small plant that barely survived, not sure cause of stress.

Similar Cultivars: Native switchgrass, a weed here!; No; There is a weedy grass in my fields that is identical to 'Frosted Explosion', I do not water or fertilize the weed but it grew similar to the cultivar and had the same inflorescence, in fact I have used the weed years previously in bouquets, for my customers, it was too common as they all have it as a weed in their gardens as well.

General Comments: I think I planted these too close, I didn't love it, but New England doesn't have the love for grasses that some areas do, what I do love is how it works as a dried "flower"; Adds a natural look to informal bouquets; Perennial grass/we grow as annual looks like our wild grass which we cut; Died in a cold weather snap in early spring; Japanese beetles enjoyed hanging out in the feathery ends, but thankfully didn't seem to eat foliage; Crop failure, was weeded out, this is a weedy annual grass here in Wisconsin; Should be Cut Flower of the Year!; Love it!; Lasted for the entire growing season, everyone remarked about it and wanted to know what it was.

Postharvest Handling: Choose green inflorescences that are just getting a bronze tip to avoid messy arrangements; Water and bleach; Cut into Floralife; We only used plain water.

Rudbeckia

Rudbeckia 'Tiger Eye' (Goldsmith)

Good Qualities: Bright butterscotch color (5); Great bedding plant (2); Uniformity was outstanding, no pest problems; Lots of quality, uniform flowers, popular with customers; Very uniform in growth habit, very floriferous, sturdy stem, attractive, petite flower head; Beautiful plant; Lovely, sweet, long blooming, colorful landscape plant, did our perennial trial get mixed up with a landscape trial?; Very prolific double rudbeckia, easy to grow and showy; Beautiful healthy plants that are early to bloom and filled with blooms, mostly flawless; Very perky, classic rudbeckia look, good addition to small bouquets, easy harvest, holds up in heat, long harvest season; Whole plant harvest; very good for low table arrangements; no problems with insects or disease; Attractive and easy to grow rudbeckia, nice addition to group.

Problems: Too short for cut flower use (12); Better as a bedding plant (4); A total failure for us, dwarf plants, when cut they would wilt at



the farmers market in a few hours; None; Didn't sprout; Large green collar of smaller leaves around base of flower, which we removed; Needs to be evaluated in its second year here in zone 4B to see if it will be taller; Some root rot deaths; I had good germination but the plants didn't do well growing on, by the time they were ready for field planting I had 4 plants to transplant.

Similar Cultivars: I suppose, but I haven't found any as nice as these; Along with 'Tiger Eye', we also grew 'Cappuccino' and 'Irish Spring' rudbeckia, both had great color and stems in the 18 to 24 inch range making them better as a general use cut flower.

General Comments: Great for people who want short flowers or for use in Oasis; We did not plant seeds until this fall, we always seed rudbeckias in August, transplant in Sept/Oct (Zone 6b/7a); Great bedding plants; We will definitely grow again only to sell as part of our pot crop program; Crop failure, did not germinate, perhaps we should have started this in the greenhouse; We will be selling this as a bedding plant; I will grow this cultivar again and try to cut harder to see if that helps elongate stems; I don't usually bother to grow rudbeckia, after trying quite a few and not finding the quality I need, but this variety I will try again and try to grow it better.

Postharvest Handling: Used Floralife for hard water; Remove leaves; Rudbeckias are always the first thing we harvest early in the AM and go immediately into the cooler; We used only plain water; Pick early in the day and get into water quickly.

Snapdragon 'Opus Bright Red'



Snapdragon

Snapdragon 'Calima Deep Rose'

(Sakata Seed)

Good Qualities: Beautiful bright color (7); Nice stem length and strength; Very full flower stalks, numerous flower stalks/plant - although not always of appropriate cut flower length; 'Calima Deep Rose' was in fact a very deep color for us here in coastal California and was much appreciated by all who saw in growing and in a vase, this cultivar also seemed to have very good rust resistance, even while blooming next to infested neighbors; Spikes strong and rather tight; More vigorous than 'Calima Pure White'; Good fragrance; Love it.

Problems: Stems often were bent right at the point where flowers started, straightening of cuts in a cooler condition wasn't always successful; Slowest of the 4 varieties tested to flower; None especially; Short stems; Not all buds on stems are open at same time; Needs netting for field grown, wind bent stems - less usable stems.

Similar Cultivars: 'Potomac Cherry Rose'.

General Comments: Prolific bloomer, earliest of all snaps that were trialed, beautiful!; On the shorter side, perhaps planted too late by me; Flower head 2 cm; As with previous years, I continue to try to grow snapdragons, in the cultivar trial I planted the test varieties on either side of my Rocket snaps - all three cultivars grew similarly and did not produce any marketable stems, however, near the end of the season both 'Deep Rose' and 'Pure White' had some florets open on stunted

stems and the colors were outstanding, I would expect that both cultivars based on the clearness of the color would be a nice addition to the specialty cut flower growers snap collection; Harvested 7/24-7/30 (transplanted into the field May 15).

Postharvest Handling: Water and bleach. See separate postharvest report in this issue for results from NC State University postharvest evaluations.

Snapdragon 'Calima Pure White'

(Sakata Seed)

Good Qualities: Nice pure white color (4); Good flower structure, blooming was uniform on each stem; Strong spikes; Long vase life, sturdy stems; Pretty blooms, good fragrance.

Problems: Cuts made after the first were often too short for use (not counted); 'Calima Pure White' looked very promising at first - however, as plants were beginning to elongate they were hit severely by rust and as a result stem length and quantity suffered, they were definitely more susceptible to rust than the Rocket series and the other trial varieties from the Opus and Calima series that we grew side by side this season; Flowered about 2 weeks later than 'Opus Pure White'; None especially, first flush great, but not long lasting; Poor germination and seedling survival, only 3 plants transplanted to field, stems needed to be netted, wind caused too much bending; white flowers don't seem to be very popular in our market, stems were rather short, axillary growth wasn't great; Not all buds on stems are open.

Similar Cultivars: None listed by respondents.

General Comments: First cut produced many bent stems, following cuts were straighter, though less productive in number, plants were very compact and had no issue with stems falling; On the shorter side, perhaps planted too late by me; Retail florists said California snaps are available for very cheap prices, but they liked our higher quality product - they would buy ours if they needed them, we had only about 70 snapdragon plants total so we planted them in one row, this might have contributed to the short stems, we'll try bigger numbers-in a bed next year; Flower head 2 cm; As with previous years, I continue to try to grow snapdragons - in the cultivar trial I planted the test varieties on either side of my Rocket snaps, all three cultivars grew similarly and did not produce any marketable stems, however, near the end of the season both 'Deep Rose' and 'Pure White' had some florets open on stunted stems and the colors were outstanding - I would expect that both cultivars based on the clearness of the color

would be a nice addition to the specialty cut flower grower's snap collection.

Postharvest Handling: Water and bleach.

Snapdragon 'Opus Bright Red'

(Goldsmith)

Good Qualities: Very bright, vibrant color (7); Very tall (2); Amazing plants! some were 48 inches, grew in field with drip tape and 1 row netting, I am still harvesting and some of the second flush stems also exceed 40 inches; Straight stems with good spacing of flowers, straightest of all snap cultivars; Wonderfully long stems with good girth; Strong plant, good rebloom with side dressing of fertilizer; Very fast growing from germination to transplant was about 6 weeks; The head size of bright red was not as impressive as 'Fresh White', but was good; Great for taller arrangements, good fragrance.

Problems: None (2); Some issues with stems falling over, but minimal; Flower spikes rather short - 6 inches or less, more susceptible to rust than other snaps in trial; Fragile tips; Needs to be staked, blooms are not open at same time on stem.

Similar Cultivars: 'Potomac Red' (2), but I like these better.

General Comments: Would like to see more colors; Most bushy of snap cultivars, good because they weren't sprawling; Had much better results with these than any of the other Opus series we have tried; The Red was outstanding, however, stem length was disappointing, maybe I planted too late, seeds were started on March 21; This entire planting

Snapdragon 'Opus Fresh White'



Stock

Stock 'Katz Cherry Blossom'

(PanAmerican/Ball)

Good Qualities: Wonderful fragrance (4); Nice bicolor pink (7); Uniform readiness for easy bunching, about 75% double; Beautiful in spring and early summer; The color range was great for spring bouquets; Produce more usable stems than other stock cultivars; Strong stems.

Problems: Too short; did not yield well and had a very short field life, too much time and effort and valuable field space for the little it yielded; Stems weaker than other colors, but did not seem to really be a problem for florists; Planted in shade but summer temps were too hot, deer ate foliage and blooms; Had a lot of

earlier than the numbered varieties I tried from Ball, doubleness was about 70%; Uniform; Beautiful in spring and early summer; Color excellent! We loved it; Easy to germinate and grow on to transplantable size.

Problems: Too many singles (2); Took too long, yield too low, I prefer plants with longer productivity; Weird twisting flower heads on some planted directly in the field, bad germ in plug trays about 50%; Stems tended to be somewhat weak, but none of my florists mentioned it; Flowers are crinkled and leaves curly, has the appearance of being diseased, not an attractive plant; Color only OK; Planted in shade but summer temps were too hot, deer ate foliage and blooms; Plants grow well for a time but when flowering should occur they stop growing and make a stunted flower stalk

that never produces a flower; Too short; did not yield well and had a very short field life. Too much time and effort and valuable field space for the little it yielded.

Similar Cultivars: None listed by respondents.

General Comments: If all the plants were double, I would grow them again, it was a waste of space for many of them were not usable; Easy to grow, didn't need support netting; This cultivar produced no blooms, very little, if any, growth occurred after transplanting; We were very happy with the results and hope

to grow again; Flower head 3.5 cm; It did not produce marketable flowers.

Postharvest Handling: Used Floralife; We use only plain water.

Stock 'Katz Pink' (PanAmerican/Ball)

Good Qualities: Wonderful fragrance (4); Very dark pink (4); The scent and the color range was great for spring bouquets; Uniform length and readiness; Fast grower, large flower heads; Beautiful in spring and early summer; Good sturdy stem length.

Problems: Stems were weakest on this color, but still not a problem with florists; Flowers crinkled and leaves curled, plant appears to be diseased, not attractive; Could not select out doubles, requires staking; *Matthiola* just is not going to make the grade as an outdoor cut flower in western Wisconsin, our growing season is too short and too hot for this crop; Planted in shade but summer temps were too hot, deer ate foliage and blooms.

Small cluster of flowers at the top of the stem; Too short, did not yield well and had a very



Stock 'Katz Lavender Light'

singles (worthless) - still not very good at diagnosing a single from a double - hated I wasted the house space; Lots of singles, weird twisting flower heads on some planted directly in the field, bad germ in plug trays, about 50%; Flowers crinkled and leaves curled, plant appeared to be diseased, not an attractive plant.

Similar Cultivars: None listed by respondents.

General Comments: This cultivar produced no blooms, very little growth, if any occurred after transplanting; We had great feedback on all of the Katz stock that we trialed, could have sold a lot more; Lost most of these due to wet weather, will grow again; Flower head 3.5 cm; Easy to grow, didn't need support netting

Postharvest Handling: We use only plain water.

Stock 'Katz Lavender Light'

(PanAmerican/Ball)

Good Qualities: Fragrance (6); Good lavender color (3); The color range was great for spring bouquets; Pretty when they are double; Very sturdy and tall stems, nice cluster of flowers; Stem length, uniform quality for bunching,

was put in late and not cared for due to a total lack of labor, it was watered, it was subjected to heat stress right after transplanting and developed flowers while quite small, initially, but kept on growing; Flower head = 3 cm.

Postharvest Handling: Used Floralife for hard water; Water and bleach; We had a problem with the tips being very fragile and breaking, it was worse in the summer heat, this fall they did better, we recut the stems when we got them in the barn, put them in fresh water, and that seemed to help a lot.

Snapdragon 'Opus Fresh White'

(Goldsmith)

Good Qualities: Very strong stems (4); Great bright white color (3); No breaking, almost no shattering; Amazing plants! some were 48 inches, grew in field with drip tape and 1 row netting, I am still harvesting and some of the 2nd flush stems also exceed 40 inches; contrasts well with colors. Stems were straighter with each cut; Nice long primary spike (6-10 inches) with shorter secondary, earliest of all snaps to flower; Good rebloom with side dressing of fertilizer; The head size was excellent - larger than other Monaco series planted at the same time and larger than 'Opus Bright Red', this is one I definitely would like to look at again, much superior to 'Monaco White' in stem strength and head size; Tall straight stems, blooms excellent, smells great!

Problems: None (3); Some awkward bending of stems just below flowers, didn't always respond to cooling so some stayed bent during their entire postharvest life.

Similar Cultivars: 'Potomac White', but these are taller; 'Calima White'; 'Opus White'.

General Comments: Would like to see more colors; Thickness of stems decreased with each cut, but length was relatively constant; Stem length disappointing, maybe I planted too late, seeds were started on March 21; This entire planting was put in late and not cared for due to a total lack of labor, it was watered, it was subjected to heat stress right after transplanting and developed flowers while quite small, initially, but kept on growing.

Postharvest Handling: Used Floralife for hard water; Remove all foliage; We cut into water with Chrysal 2.

short field life, too much time and effort and valuable field space for the little it yielded; Lots of singles, weird twisting flower heads on some planted directly in the field, bad germ in plug trays about 50%

Similar Cultivars: ‘Vivas Light Pink’.

General Comments: This cultivar produced no blooms, very little, if any, growth occurred after transplanting; Harvest spread out over a couple of weeks; We have had very good luck with Aida series and it fit wells into our program; The seed germinated and then struggled all summer, I picked a few stems for personal use in early October, hey, we gave it a try (Zone 4); Easy to grow, didn’t need support netting, least favorite of the stock varieties trialed.

Postharvest Handling: We use only plain water.

Stock ‘Katz White’ (PanAmerican/Ball)

Good Qualities: Wonderful fragrance (4); The scent and the color range were great for spring bouquets; Very nice strong plants, about 75% double; Good color; Fast grower, large flower head; Pretty when they are double; Beautiful in spring and early summer; Nice strong-stemmed white, sturdier than some other varieties we have grown; Easy to germinate and grow on to transplantable size; Cold requirement for flowering minimal, produced usable stems even in the last tunnel planting, when ‘Lucinda Cream’ became vegetative.

Problems: Stems were weakest on this color, but still not a problem with florists; Flowers crinkled and leaves curled, plant appears to be diseased, not attractive; Could not select out doubles, requires staking; *Matthiola* just is not going to make the grade as an outdoor cut flower in western Wisconsin, our growing season is too short and too hot for this crop; Planted in shade but summer temps were too hot, deer ate foliage and blooms; Small cluster of flowers at the top of the stem; Too short, did not yield well and had a very short field life, too much time and effort and valuable field space for the little it yielded; Lots of singles, weird twisting flower heads on some planted directly in the field, bad germ in plug trays about 50%

Similar Cultivars: None listed by respondents.

General Comments: This cultivar produced no blooms, very little, if any growth occurred after transplanting; Since I can get white without selecting for doubles, I’ll probably skip this color in future; If all the plants were double, I would grow them again, it was a waste of space for many of them

were not usable; Flower head 3.5 cm; Easy to grow, didn’t need support netting; I grouped these three cultivars because they all grew the same and did not produce marketable flowers.

Postharvest Handling: Used Floralife; We use only plain water.

Stock ‘Katz Yellow’ (PanAmerican/Ball)

Good Qualities: Nice light yellow (5); Wonderful fragrance (4); The scent and the color range were great for spring bouquets; Easy to germinate and grow on to transplantable size; Blooms that were present were full and attractive, pale yellow complemented other cut flowers well; Good stem strength; Fast grower; Beautiful in spring and early summer; Very sturdy and tall stems, nice cluster of flowers

Problems: Yellow was a bit pale, creamy looking; Flowers crinkled and leaves curly, plant appears to be diseased, not an attractive plant; Needs staking; Took too long, yield too low, about half were singles, I prefer plants with longer productivity; Planted in shade but summer temps were too hot, deer ate foliage and blooms; Plants grow well for a time but when flowering should occur they stop growing and make a stunted flower stalk that never produces a flower; Too short, did not yield well and had a very short field life, too much time and effort and valuable field space for the little it yielded; High percentage of single flowering plants; Lots of singles, weird twisting flower heads on some planted directly in the field, bad germ in plug trays about 50%.

Similar Cultivars: No; ‘Column Yellow’, which seems to have longer inflorescences than the Katz series; Similar in color to the Cheerful series but stronger stems.

General Comments: This cultivar produced no blooms, very little, if any growth occurred after transplanting; Since I can get white without selecting for doubles, I’ll probably skip

this color in future; If all the plants were double I would grow them again, it was a waste of space for many of them were not usable; Flower head 3.5 cm; Easy to grow, didn’t need support netting; I grouped these three cultivars because they all grew the same and did not produce marketable flowers.

Postharvest Handling: Bleach/water solution; Stock definitely needs bleach or some other “cide” in the water; We use only plain water.

Stock ‘White Wonder Improved’

(Taki)

Good Qualities: Very nice white w/ green center, very sturdy and tall stems, excellent cluster of flowers; Very uniform, foliage clean looking, succession flowered in short window; Great fragrance, nice color; Beautiful in spring and early summer; Lovely fragrance, clean white, nice length, a few singles.

Problems: Not super strong stems; Flowers crinkled and leaves curled, plants appear to be diseased—not attractive; Planted in shade but plant performed poorly when temperatures were higher in summer.

Similar Cultivars: ‘Katz White’.

General Comments: Easy to grow, didn’t need support netting; Good planted alongside ‘Cheerful White’, as ‘White Wonder’ was a little later; Perhaps it’s our climate, but we did not find the stock in this trial to be attractive as individual cut flowers, the fragrance and colors are great, making them useful in mixed bouquets, but not as focal flowers.

Postharvest Handling: We use only plain water.

Sunflower

Sunflower ‘#565’ (Gloeckner/Agridera)

Good Qualities: Beautiful bicolor blooms (8), although shading of bicolor wasn’t uniform; Good stem caliper (2); Strong stem/neck; Quick to produce new usable stems after cuts; 6-8 inch

flowers, among earliest in group to flower, tendency toward branching so that secondary flowers can be harvested if primary flower is cut short, lots of ooohs and aaaahs on this one; Healthy and productive; Smaller heads were 5 in. in diameter and they worked well in arrangements; The newer cultivars of sunflowers that keep appearing each year are an incremental improvement over the older cultivar and ‘565’ is typical of that change, nice presentation and has a more upright appearance longer; Easy to grow, good bloom and stem size; Good plant height, not too bushy.

Problems: None; We hand planted our trial sunflowers and ‘#565’ was



Sunflower ‘#565’

indistinguishable from ‘Sun4U Bicolor’; Small bloom for size plant, tendency for petals to bend backwards as ages; Side shoots very fragile, susceptible to breakage even at the slightest touch; Vase life not quite as good as other cultivars; The large head was about 10 in. in diameter and it did not work well in arrangements; This one was of no use to me, no height, small inferior bloom; I really could not distinguish between any of these cultivars, or maybe I should say the differences were more subtle than I could see, I think that they were too large, really thick stems, big heads even when direct seeded; Good flower color pattern (brown-ringed center) when the flower opens but as the flower fully opens, the brown ring fades away. **Similar Cultivars:** ‘Sun4U Bicolor’ (5), appeared almost identical; Many; Looked a lot like the Sunbright series.

General Comments: Fine, not worth switching to; Did not know it was branching, but was delighted to get a later usable flush of 2-3 (24-30 inch) side shoots, perfect in bouquets!; 1 large head at 10 inches and 5 small heads at 5 inches; Harvested between 7/25-8/20 (direct seeded on May 28); Appears to be moderately sensitive to daylength: short day reaction; Would trade Sunrich or Sunbright series for any of them; The Agridera submissions from Gloeckner all did well and had similar characteristics, the yellow orange petals with brown disk were all similar in the group; Flowered around August 1 (sowed June 11, transplanted to field June 25), flower diameter 7.5 in. when fully open, medium stem thickness. **Postharvest Handling:** Bleach and water; Keep the vase solution clean; Remove leaves; We use only plain water. *See separate postharvest report in this issue for results from NC State University postharvest evaluations.*

Sunflower ‘Arbel’ (Gloeckner/Agridera)

Good Qualities: Good orange color with dark disk (2); Consistent quality, healthy, smaller heads; The newer cultivars of sunflowers that keep appearing are an incremental improvement over the older cultivar and ‘Arbel’ is typical of that change, nice presentation and has a more upright appearance longer; Almost two layers of overlapping petals, good neck posture and strength; Leaves on flower head produce attractive framing, huge blooms, thick stems, sturdy plants, short plants; vigorous growth; Early bloomer, uniform flowers, clear yellow petals against dark disc; Smaller heights; Standard orange sunflower, quite tall and late; Easy to grow, orange with short petals, good flower and



Sunflower ‘Arbel’

stem size; Nice yellow orange inner petals darker orange; Good petal count.

Problems: Flower head is too big (3), it was so heavy that the head faced down when in a vase; Kind of plain; Some irregular petal lengths; Thick stems were difficult to cut; Flowers at a pronounced right angle to stem. Designers find it difficult to work with This variety was a poor performer for me, stems were not very stout; heads were small; Standard orange sunflower, similar to many, I really could not distinguish between any of these cultivar, or maybe I should say the differences were more subtle than I could see I think that they were too large, really thick stems, big heads even when direct seeded; Late to flower compared to others.

Similar Cultivars: The Sunrich series; Many; Looked a lot like the Sunbright series; Looked the same as ‘Carmel’.

General Comments: Would trade Sunrich or Sunbright series for any of them; Harvested between 8/8-8/20 (direct seeded on May 28);



Sunflower ‘Carmel’

The Agridera submissions from Gloeckner all did well; Slower than other sunflowers to produce more usable stems after a cut; Fine; 1 large head at 9-10 inches; May be day-neutral in photoperiod reaction; Flowered around August 14 (sowed June 11, transplanted to field June 25), flower diameter 8.5 in. when fully open, thick stems.

Postharvest Handling: Keep the vase solution clean; Bleach and water; We used only plain water; Remove leaves. *See separate postharvest report in this issue for results from NC State University postharvest evaluations.*

Sunflower ‘Carmel’ (Gloeckner/Agridera)

Good Qualities: Pretty orange color with a dark center (7); The head orientation, very flat and close to stem, is interesting and could be viewed favorably, single row of petals is okay but would prefer double row; Enough heads were a nice size, 5 inch diameter - not too big, maturity was uniform; The newer cultivars of sunflowers that keep appearing each year are an incremental improvement over the older cultivar and ‘Carmel’ is typical of that change - nice presentation and has a more upright appearance longer; Nice plant height, stiff short petals; Sturdy plants; Beautiful, fine and hairlike centers of blooms; These were good solid plants and bloom uniformly over a narrow window; Nice big flower (which I favor) on a stout stem, no drooping, petals were attractively ruffled and cupped for a long vase life ;Nice flower head size for arrangements; Standard orange sunflower, quite tall and late; Liked relatively small size, good petal counts (more double); Easy to grow, short petals; Good flower and stem size; Good stem thickness, good plant height.

Problems: Late to flower compared with other varieties (3), latest variety in trial: 84 days from sowing; I really could not distinguish between any of these cultivars, or maybe I should say the differences were more subtle than I could see, I think that they were too large, really thick stems, big heads even when direct seeded; Poor germination, seeds that grew did well; I planted for August harvest - July was very hot, in the upper 90’s and low 100’s following a wet June - majority of heads did not produce uniform ray flowers (presence/absence as well as length of flower petal) and the ray flowers on a disk did not open at the same time, by the time I could determine if all the rays were going to open, the disk looked old or was old, this appears to be a negative aspect of these flat oriented flowers and the slower opening of the ray flowers, the few that opened well with good ray petals

were nice that I'd like to get buyer feedback; There are so many sunflowers on the market that I am sometimes dizzy trying to keep them all straight; About a third of the flowers were misshapen - clam shells, bald spots in the center; leaves in the middle of the flower etc., the breeders have a lot of work to do on this one before it goes to the grower, it was the last one in the group to flower and was not worth the wait, there are so many good sunflower cultivars, why fool with this dog?; Heights vary; Standard orange sunflower, similar to many, large flower, may need to be crowded more to keep small; Shortest plant; The stems were harvested at the flower opening stage and after the harvest, they never opened at all, not a desirable feature for this crop, the stems never opened, they finally wilted and died.

Similar Cultivars: Sunbright (2); Not really, due to head orientation; The Sunrich series; Looked the same as 'Arbel'.

General Comments: The Agridera submissions from Gloeckner all did well; Slightly less productive than other sunflowers in the trial, although, actually produced usable stems later into the season; Didn't stand out much, better than several in trial, but not worth switching to on a large basis; I really liked this one although the name is a bit misleading in terms of color, would grow again; 5 in head; Harvested between 7/28-8/20 (direct seeded on May 28); Strongly short-day in photoperiod reaction.

Postharvest Handling: Keep the vase solution clean; Bleach and water; We use only plain water; Remove leaves. *See separate postharvest report in this issue for results from NC State University postharvest evaluations.*

Sunflower 'Galilee Adami'

(Gloeckner/Agridera)

Good Qualities: Nice orange (8), orange ring in centers was unique; Early to flower (2); Healthy; The newer cultivars of sunflowers that keep appearing are an incremental improvement over the older cultivars and 'Galilee Adami' is typical of that change. - nice presentation and has a more upright appearance longer; Some petals overlap, strong stem/neck; Side shoots produced small, dainty blooms that would look great in arrangements; 'Galilee Adami' was another productive, consistent cultivar, but not a real standout in the vast ocean of *Helianthus* offerings; Eight to 10 inch flowers, vigorous growth; Uniform flower production; Easy to grow, good bloom and stem size; Good plant height.

Problems: Large flower heads (3); Height varies a lot (2); Large green collar of smaller leaves around base of flower, which we removed; Stalk



Sunflower 'Galilee Adami'

huge!!! Too big even with 6x6 spacing; I really could not distinguish between any of these cultivars, or maybe I should say the differences were more subtle than I could see, I think that they were too large, really thick stems, big heads even when direct seeded; Stems collapsed in our postharvest studies; Deer love them!; Another one that performed poorly in my fields and under my weather conditions, the seed company touts this as a "very early" variety so perhaps it was too warm when I planted it; Standard orange sunflower, similar to many; Gets too bushy.

Similar Cultivars: Looked a lot like the Sunbright series; 'Sun4U Orange'; Many.

General Comments: Harvested between 8/5-8/20 (direct seeded on May 28), The Agridera submissions from Gloeckner all did well; Overall a sturdy plant; Fine, not worth switching to; Flower head = 7 inches; May be insensitive to daylength; Would trade Sunrich or Sunbright series for any of them; Flowered around August 1 (sowed June 11, transplanted to field June 25), flower diameter 8 in. when fully open, medium stem thickness.

Postharvest Handling: Remove leaves; Keep the vase solution clean; Bleach and water; We use only plain water. *See separate postharvest report in this issue for results from NC State University postharvest evaluations.*

Sunflower 'Sun4U Bicolor'

(Kieft-Pro-Seeds)

Good Qualities: Great bicolor (6), even the stems have pretty coloration; Very uniform height or flowering time (4), cut all of each

color in about 1 week; Did not lose petals as easily as most bicolors (2); A nice big bloom on strong stem, a few customers especially commented on the lovely bicolor appeal; Easy to grow, nice size bloom; Good germination - harvested 77 stems; Good neck/stem strength and posture, very attractive bloom, good petal overlap, Forward-facing head, nice brown center very tactile, ray petals uniform length, nice moderate sized head, plant height and stem diameter generally were more what I like than the ProCuts or Sunrich series planted at the same time and in the same bed; Prolific side shoot production, bicolor was apparent even on underside of petals, stem coloration also attractive, good uniformity in bicolor habit; Tall plant; Love the Van Gogh look of this one; The smaller head worked well in arrangements; All Sun4U were perfectly fine, single suns; Very popular bicolor with lots of the oooooh factor; rapid and strong germination; some flowers are up facing that is favored by designers; blooms a few days ahead of orange types; flowers mostly in 7-8 inch diameter with secondary flowers being an inch or 2 smaller; Produces usable attractive branches after main stem harvest; An interesting feature of this cultivar is the smaller leaf under the flower, it makes for a very attractive display when bunched as the leaves are below the flower head, flowered earlier than the other bicolor sunflowers that I had planted at the same time; 'Sun4U Bicolor' was by far my favorite!; Good stem caliper, early to flower.

Problems: None (2); A few blooms were not held erect; Bicolor not appreciated by customers, had to replace with 'Sunrich' for a farmstand I sell to, Bicolor also fragile, lost petals in transit much like 'Joker' and 'Moulin Rouge', 'Lemon' and 'Orange', very few petals on head, if lost one petal, had to junk flower; Petals tend to bend backward with maturity; Distorted heads, prone to insect damage, I tended to wait until head more open than the 'Procut Bicolor' in order to tell if the petals would all elongate and disk would be uniform shape, i.e. marketable; Stems were very susceptible to breakage, all plants in our trial lost at least one usable stem from breaking; Petal drop at early stage of flowering; I planted too far apart yielding very large heads I could not use in bouquets; The larger flower head didn't work well in arrangements; I wasn't impressed with strength of stem or vase life to grow again; For those interested in only the primary flower, the branching may not be desirable as it make stripping leaves more difficult; Typical of bicolors is that the petals seem to fall off faster than the traditional yellow

and orange petaled sunflowers; While the petals did come off with the slightest abrasion, this new cultivar seemed better than any I have tried to date, certainly far superior to any of the “red” ones, just looking at those seem to encourage petals to fall off, in any event it is an improvement over other bicolors; Not very uniform i.e. some plants tall and some short, the brown center fades quickly as the flower opens.

Similar Cultivars: Trial variety 565 (2); ‘Procut Bicolor’ (2), liked this one better; Pro Cut Series; Bicolor, ‘Orange Mahogany’, flowered 5-7 days later than ‘Procut Bicolor’; The Sunrich series; Several; There are other bicolor sunflowers, but this is among the best.

General Comments: Harvested between 8/4-8/20 (direct seeded in the field on May 28); Would be really nice to get some rust resistance in these ornamental sunflowers, this one seemed to be more susceptible to rust or more heavily infected than the ‘Procut Bicolor’ but this was not quantified, rust was a big problem this year since we are growing organically combined with weather conditions this year and my absence during two critical weeks in July; Very attractive in the field, great plant height; Basically a normal cut flower sunflower, created some problems with the wholesale account, this year due to a very cool spring, the sunflower rotations came into flower at about the same time, like everyone, we pick our sunflowers when the first petal is just beginning to lift off, they look pretty similar at this point, the color of the center is about the only thing that looks different - while bunching, it was hard to keep all the different sunflower varieties separate, especially when we were dealing with lower numbers, so we frequently sent out mixed bunches, the retail florist didn’t seem to mind, but the wholesaler did not like the mixed bunches at all!; One large head at 9 in., and one small head at 5.5 in.; Nothing to write home about, not that large headed, not exciting; Seed catalogs list this as a single stem variety, but I found a weak tendency for branching and if the main flower is cut short side flowers will develop; The Sun4U series is a winner but this one is the weakest link; I will definitely look for more seeds for ‘Sun4U Bicolor’, great color; Flowered around August 5 (sowed June 11, transplanted to field June 25), flower diameter 7.5 in., not any better than other bicolor (#565”).



Sunflower ‘Sun4U Lemon Yellow’

size; An interesting feature of this cultivar is the smaller leaf under the flower, it makes for a very attractive display when bunched as the leaves are below the flower head, flowered earlier than the traditional sunflowers that I had planted at the same time; Large bloom on strong stem, pollenless; Nice form, nice size; Stocky, sturdy plants; Pretty; Early to flower.

Postharvest Handling: Kept well if stems were recut under water and then held in a bleach/water solution; Remove leaves; Cut early and used Floralife; We used only plain water; Just from observation this variety seemed to have longer postharvest life; Cut before fully open; Keep the vase solution clean; We always cut our sunflowers into plain warm well water with a splash of bleach...works for us. *See separate postharvest report in this issue for results from NC State University postharvest evaluations.*

Sunflower ‘Sun4U Lemon Yellow’ (Kieft-Pro-Seed)

Good Qualities: Good lemon color with dark centers (11) with great customer appeal; Very uniform, cut all of each color in about 1 week; Easy to grow, Large brown center with short petals, good stem size; Came into flower early - by July 4th, uniform, medium head - good for bouquet work, no petal drop, good branching with multiple usable stems on each plant; Good germination harvested 76 stems; All Sun4U were perfectly fine, single suns; 6-8 inch flowers, first in series to flower, rapid germination; Strong branching, good flower

size; An interesting feature of this cultivar is the smaller leaf under the flower, it makes for a very attractive display when bunched as the leaves are below the flower head, flowered earlier than the traditional sunflowers that I had planted at the same time; Large bloom on strong stem, pollenless; Nice form, nice size; Stocky, sturdy plants; Pretty; Early to flower.

Problems: None (2); Too light of yellow; Very few petals on head, if lost one petal, had to junk flower; Light yellow, did not hold up well in the cooler and was not as good a seller as the orange sunflowers; Petals lack substance, do not hold well and are more prone to insect damage than other cultivars, yellow sunflowers are not popular with consumers;

Very attractive to tarnished plant bug more so than darker yellow sunflowers; A few blooms were not held upright; Petals seemed more attractive to insects than other cultivars – produced some holes on petals, slow to produce usable stems after a cut; Flower size varied large to small; I planted too far apart yielding very large heads I could not use in bouquets, I had borer damage to many; Plant height varies quite a bit; I wasn’t impressed with strength of stem or vase life to grow again; Flower head relatively small for size of plant; Slightly short plant height, petals are wrinkled/crinkled, color fades/bleaches into white on the edges, shorter stems than others in Sun4U series.

Similar Cultivars: Pro Cut Series; Several; The Sunrich series; A tall ‘Pro Cut Lemon’, but short-day responsive.

General Comments: The whole series is a winner and I want to grow it again next year. Better than Pro Cut; Harvested between 8/4-8/20 (direct seeded into the field May 28); Nothing to write home about, not that large headed, not exciting; I will definitely look for more seeds for ‘Sun4U Bicolor’, great color; The Sun4U series is a winner; First bloom of

main stem had very short stem, was not usable, although all our sunflowers did this, so it may have been environmentally influenced, slightly slower to produce usable stems in comparison to rest of Sun4U cultivars; Basically a normal cut flower sunflower, created some problems with the wholesale account, this year due to a very cool spring, the sunflower rotations came into flower at about the same time, like everyone, we pick our sunflowers when the first petal is just beginning to lift off, they look pretty similar at this point, the

color of the center is about the only thing that looks different - while bunching, it was hard to keep all the different sunflower varieties separate, especially when we were dealing with lower numbers, so we frequently sent out mixed bunches, the retail florist didn’t seem to mind, but the wholesaler did not like the mixed bunches at all! one retail florist specifically asked for this one and the bicolors, would consider growing them again for her; I will only grow branching varieties from now on, I tried to pinch some of all the sunflowers after reading about that in an older *Quarterly*, it does not work for all single varieties, this may be a great flower if planted more closely; Flower head 7 in., hard to use in arrangements;

Flowered around August 5 (sowed June 11, transplanted to field June 25), flower diameter 6 in., medium stem thickness.

Postharvest Handling: We always cut our sunflowers into plain warm well water with a splash of bleach...works for us; Keep the vase solution clean; We only used plain water; Kept well with bleach/water solution, be generous with recutting stems after initial harvest, kept better when more of end was cut indoors; Remove leaves; Cut early and used Floralife. *See separate postharvest report in this issue for results from NC State University postharvest evaluations.*

Sunflower 'Sun4U Orange'

(Kieft-Pro-Seed)

Good Qualities: Nice orange/gold color with dark brown center (7); Uniform size and maturity (4); A winner in my tests, big blooms on sturdy stems, held petals very well, long vase life, pollenless; Very uniform, cut all of each color in about 1 week; Easy to grow, large brown center with short petals, good stem size; Came into flower early - by July 4th, uniform, medium head - good for bouquet work, no petal drop, good branching with multiple usable stems on each plant; Attractive bloom with moderate length petals, some petals overlap; Large flower heads with large petals; Strong branching; All Sun4U were perfectly fine, single suns; Double row of petals, flowers 8 to 10 inches in diameter, rapid and strong germination; Standard orange sunflower; 'Sun4U Orange' has nice clear orange petals with great customer appeal, an interesting feature of this cultivar is the smaller leaf under the flower, it

makes for a very attractive display when bunched as the leaves are below the flower head, flowered earlier than the traditional sunflowers I had planted at the same time; Early to flower, good plant height at harvest.

Problems: None (3); Stems collapsed in postharvest studies; Weight of flower heads caused top-heavy plants and breakage of stems, centers not always in the center of the bloom, large green collar of smaller leaves around base of flower, which we removed; Too attractive to tarnished plant bugs and grasshoppers; I planted too far apart yielding very large heads I could not use in bouquets; 8.5 in flower head hard to use in arrangements; I wasn't impressed with strength of stem or

vase life to grow again; Standard orange sunflower, similar to many.

Similar Cultivars: Pro Cut series; 'Galilee Adami'; 'Sunrich Orange'; 'Orange Glory'; The Sunrich series; 'Pro Cut Orange'; Many.

General Comments: This variety and 'Carmel' were my favorites in this grouping of sunflowers; The whole series is a winner and I want to grow it again next year. Better than Pro Cut; Harvested between 8/8-8/20 (direct seeded into the field on May 28); Removal of main stem produced abundant side shoots which had smaller blooms and thinner stems but were much more practical for cut flower use compared to large main stem; Good branching variety but does not fit into our program; Basically a normal cut flower sunflower, created some problems with the wholesale account, this year due to a very cool spring, the sunflower rotations came into flower at about the same time, like everyone, we pick our sunflowers when the first petal is just beginning to lift off, they look pretty similar at this point, the color of the center is about the only thing that looks different - while



Sunflower 'Sun4U Orange'

bunching, it was hard to keep all the different sunflower varieties separate, especially when we were dealing with lower numbers, so we frequently sent out mixed bunches, the retail florist didn't seem to mind, but the wholesaler did not like the mixed bunches at all!; Nothing to write home about, not that large headed, not exciting; I will definitely look for more seeds for 'Sun4U Bicolor', great color; The Sun4U series is a winner; Flowered around August 5 (sowed June 11, transplanted to field June 25), flower diameter 7.5 in. when fully open, medium stem thickness, looks like the best entry of all.

Postharvest Handling: Recut stems under water, use bleach and water solution; Remove leaves; Cut early and used Floralife; We only

used plain water; We always cut our sunflowers into plain warm well water with a splash of bleach...works for us; Keep the vase solution clean. *See separate postharvest report in this issue for results from NC State University postharvest evaluations.*

Sunflower 'Tavor Joy' (Gloeckner/Agridera)

Good Qualities: Nice yellow orange color with dark center (6); Early to flower (2); Liked relatively small size, good petal counts (more double); Easy to grow, good bloom size; Nothing special about this sunflower to distinguish it, it did not branch; The newer cultivars of sunflowers that keep appearing are an incremental improvement over the older cultivars and 'Tavor Joy' is typical of that change - nice presentation and has a more upright appearance longer; Nice plant height; Foliage removed easily, not many problems with breakage; Like its brethren, 'Tavor Joy' was a good solid performer, but the individual flowers were not anything to write home about, on a positive note, after cutting the main bloom, 'Tavor Joy' came back with 4-6 short but usable secondary stems that we utilized in our "mini" bouquets; Double row of petals around a brown/green center, flowers 6-8 inches in diameter, among the earlier flowering in trials; Really liked this variety; Very nice sunflower, preformed well; Worked well in arrangements; Standard orange sunflower.

Problems: None (2); Large green collar of smaller leaves around base of flower, which we removed; I really could not distinguish between any of these cultivars, or maybe I should say the differences were more subtle than I could see, I think they were too

large, really thick stems, big heads even when direct seeded; Slow start to bloom, but prolific side shoots once blooming began; Stems are somewhat short, but adequate for most floral work; Flowered much later than the other sunflowers in the test block; Height varies a lot; Standard orange sunflower, similar to many; Flowered at a short height, not easy to harvest, flowering not very uniform.

Similar Cultivars: 'Sunbright' (2); Looks like 'Sun4U Orange'; Many.

General Comments: The Agridera submissions from Gloeckner all did well; Double petals are great! fuller than other cultivars, Fine, but not worth switching to; Harvested between 7/22-8/20 (direct seeded in the field on May 28); Still favor 'Sunbright' /

'Sunbright Supreme'; I thought it was a single stem type and so I planted it close and did not pinch - to my delight, they gave a second flush of 3-4 small salable stems, perfect size for bouquet work; Flower head 6.5 inches; Moderately sensitive to daylength: short day reaction; Some flowers are deformed, flower diameter 6 in., smaller flower, medium stem thickness.

Postharvest Handling: Remove leaves; We use only plain water; Keep the vase solution clean; Bleach and water. *See separate postharvest report in this issue for results from NC State University postharvest evaluations.*

Sweet Pea

Sweet Pea 'Winter Sunshine Rose' (Gloeckner)

Good Qualities: Wonderful fragrance (2); Attractive pink color (4); 'Winter Sunshine Rose' was a prolific bloomer (3); Flowers continued throughout to season, every bouquet put in the retail shop sold immediately!; Outperformed all other varieties, strong plants, long stems; As early as others in trial such as Mammoth Choice Mix.

Problems: Too short (3); stem length, number of flowers per stem, the fragrance was not as marked as 'April in Paris', 'Watermelon', or 'Royal Wedding' from Renee's Garden Seeds, the other problem was not enough flowers per stem, I set a marketable stem of having at least 4 flowers or buds, the conditions (late spring and poor stand) were not the best for evaluating but I was disappointed, 'Mammoth Rose' doesn't have any fragrance but has larger blooms and more of them, the others from Renee's have incredible fragrance and longer stems, even in lousy conditions; Seemed slow to start flowering; Our plants start blooming in July, our customers only want sweet peas for early spring weddings; We experienced nearly 3 weeks of overcast weather right after they began to bloom and all buds blasted, I lost weeks of cutting; Lower production than Mammoth Choice Mix; Crop failure - only one seed of 100 germinated, only 3 feet away from other peas which germinated well, the one seed grew into a plant with nice blooms with long stems - unfortunately the one plant did not get much attention so no conclusion can be made except the few blooms indicate potential.

Similar Cultivars: 'Mammoth Deep Rose'; 'Sunshine Lavender', which I grew also and they are both great.

General Comments: I started seed in peat pots and planted along trellis, after planting in the ground it took about 2 months before they started flowering, once started they just kept coming, from late September on the flowers shatter after a couple of days, but still had the fragrance - I should note that we had a much cooler spring and summer than normal, punctuated with a hot blast just after July 4th - 109 degrees with wind and low humidity that cause both plants and people to wilt, even so the sweet peas kept trucking; Second year of experimenting with this crop, no more; I plan on growing only the Sunshine series in my hoop next year, they are awesome!; Flower head 3 cm, pod 5 cm.

Postharvest Handling: Use bulb food or high sugar floral solutions.

Sweet Pea 'Winter Sunshine Rose'



Gloeckner

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Zinnia

Zinnia 'Giant Carmine Rose'

(Benary)

Good Qualities: Fantastic color (12), best pink; Very productive (3); Very good germination; Looks old, over the hill to me because the petals are graduated in color, still held up okay, customers bought it, maybe the grower just needs to get used to it; Easy to grow, bloomed for most of the growing season; I like the more subtle color of this pink versus the 'Oklahoma Pink'; Good flower size (3-4 inches); With repeated cutting we get very strong, long stems that hold in the vase for a long period of time; Robust zinnia with good size bloom and stem length; Giant habit could be re-established with cutting back stems that were in excess, large, beautiful blooms with many layers of petals; People and hummingbirds like zinnias; Mixed with 'Giant Lime Green' it was a winner! Nice tall plants; Flower size, just too late (my fault); Tall, attractive, with large double flowers; Size of flower, vigor of plant.

Problems: None (3); All had to be sprayed for fungus, due to our very rainy summer; We had the usual problem of short holding for all zinnias, problems with Japanese beetles and leaf spot; Considerable variation in color from a dark carmine to pink - all are popular colors but "shades of carmine" might be a more descriptive name; Weak neck and meltdown at times; Powdery mildew and some foliar disease always occurs in our zinnias by mid to late summer, corn rootworm beetle is a MAJOR problem from about mid-July to frost- worse in the zinnias, for us, than the Japanese beetles, we are aggressively experimenting for control measures; Poor germination, petal color in our humid climate inconsistent; After first cut, later blooms didn't have as many petal layers; Mildew; A lot of single flowers; Standard zinnia problems, weak neck, barely acceptable vase life, not enough of the nice big really double flowers; Slugs devoured seedlings as they emerged so I replanted twice, they have really just started to produce in the last few weeks; Dead - High EC irrigation water.

Similar Cultivars: I didn't find these that different from the other Giants I've grown; 'Uproar Rose'.

General Comments: I like all the Benary's Giant series; Despite the problems I can't imagine not growing all the beautiful, colorful Benary zinnias, I only stay away from the white which looks old too quickly, next season I'm

going to try to stay away from floral preservative and use only water on my zinnias; Most of the Benary zinnias are very fine cut flowers - 'Carmine Rose' is one of the best!; Relatively tolerant of Japanese beetles.

Harvested between 7/10-8/8 (transplanted to the field April 22); Harvested between 7/16-8/18 (transplanted to the field May 22); Entire zinnia crop was planted late while I was out of town, this year, I pinched in August and cut back severely in late August which did



Zinnia 'Giant Scarlet'

increase stem length, I could have sold all of the large-flowered ones if I'd been able to keep the mildew preventative spray; This was a beauty, very productive, cheerful color - I will grow it again!; I will use transplants in the future for all zinnias and watch for slugs; Will always grow 'Carmine Rose'.

Postharvest Handling: Plain water (2); Remove about 1/3 of leaves (lower ones); We use a light dosing of Floralife in warm water and do not place zinnias in the cooler, our customers enthusiastically get a week to almost 2 weeks of vase life!; Need temps; Surface sterilize stems in a 10% bleach solution, we don't use floral preservative with zinnias, we avoid keeping them in the cooler.

Zinnia 'Giant Lime' (Benary)

Good Qualities: Unique and popular color (8); Easy to grow (2); Excellent event flower; Benary's 'Lime' shows its usefulness at the end of the season, when 'Envy' is fading: the plants are stronger, greener, and there are more useable stems; Very prolific, bloomed for most of the growing season; Wonderful color for bouquet work - customers love the color; Some flowers are beautiful and fully double, others are so-so; 'Lime' is stunning with the 'Rose'; Interesting color which some customers simply cannot get enough of! pairs beautifully with other greens and whites, especially, but

virtually any color! the fully mature DOUBLES are fantastic but are rare - will continue to grow this one but hope for some genetic improvements; People and hummingbirds like zinnias; The color is great for mixing, florists loved it! strong stems, big full heads, consistent quality, much better than 'Envy'; Tall, attractive, with medium-sized double flowers; 'Lime' is better than it was about 5 years ago, better green more consistently double, still not that green, seems to attract

insects for petal bites more than other colors; Vigorous growth, productive plant. Good germination, easy to transplant and establish in the field.

Problems: Smaller flowers than other Benary's Giant cultivars (6); A lot of single flowers (5); Stem shorter than other Benary's Giants (4); All had to be sprayed for fungus, due to our very rainy summer, flower head is more cone shape than other great Benary zinnias; Color variability, disease prone, vase life less than others; We had the usual problem of short holding for all zinnias, problems with Japanese beetles and leaf spot, tends to get brown edges more quickly; Breeders have more work to do in stabilizing this very

popular cultivar; Seems to mature and get "old" looking faster than other Benary colors - except white; Beetles and slugs; Giant habit faded with each cut, wasn't revived even with harsh cut that took away excess shoots, non-uniformity in petals; More susceptible to disease problems than other zinnia cultivars, not as productive as other colors, more attractive to Japanese beetles; Mildew; Quickly shows its age, may not develop fully, cut away at least as much as I harvest - lots of singles and blooms which fail to mature, bugs love this one!; Standard zinnia problems, weak neck, barely acceptable vase life, not enough of the nice big really double flowers; Sensitive to our high EC water; None; 'Giant Lime' seems more disease susceptible than other selections and mixes of 'Benary Giants', I grew 'Giant Lime' between blocks of other Giants and although they maintained their vigor most of the season, 'Giant Lime' went down fast with disease - in both field and greenhouse - however, the major problem is the browning of the petals, the slightest hint of anything and there were brown petals, this turned customers off, not a problem with the other single color selections or mix of Benary Giants.

Similar Cultivars: 'Envy' (4), but 'Giant Lime' has much better disease tolerance than 'Envy'; I didn't find these that different from the other Giants I've grown.

General Comments: I have to grow this, but I get frustrated with it. I had a great zinnia year, but these all needed to be from a new succession to have any kind of decent vase life; Harvested 7/22-8/15 (transplanted to the field May 22); 'Lime' did better for us this year than previous years, quite a lot of variability in flower but still a great color to mix in bouquets; Seems less prone to weak neck; Slow to produce new usable stems after a cut; Lime- (chartreuse) colored flowers are very popular right now and we will continue to grow 'Lime' zinnias even though our experience has been that it continually under-performs; Entire zinnia crop was planted late while I was out of town, this year, I pinched in August and cut back severely in late August which did increase stem length, I could have sold all of the large-flowered ones if I'd been able to keep the mildew preventative spray; Strong necks, very productive!; Flower head 3 cm; So, it is back to the drawing boards for 'Giant Lime' - definitely like the concept but not the problems, would not grow it again as it currently is.

Postharvest Handling: Plain water (2); Remove about 1/3 of leaves (lower ones); Used Floralife and picked when fully open; Need cooler temps; As with all our zinnias we used Chrysal OVB and did not put flowers in cooler, later in the season we trialed Chrysal chlorine tablets with good results; Surface sterilize stems in a 10% bleach solution, we don't use floral preservative with zinnias, we avoid keeping them in the cooler.

Zinnia 'Giant Scarlet' (Benary)

Good Qualities: Eye-catching brilliant red color (11); Large flowers (3); Prolific (2); Matches rest of BG series in size and bloom time, good doubleness and even colour; Easy to grow, bloomed for most of the growing season; Strong stems, especially in September, little mildew problems; Great plant; Nice form, robust; Full blooms with many layers of petals; People and hummingbirds like zinnias; Tall, attractive, with large double flowers; about 4 days earlier than 'Giant Carmine Rose'; Postharvest life mostly, stiff stem; 'Scarlet' can't handle any rain or petals get marked with white bruise-like defects, couldn't sell once we started getting rain showers in September.

Problems: Color was not always uniform, some blooms were orange, others were deep scarlet (2); None (2); All had to be sprayed for fungus, especially with our very rainy summer; Too short, especially in my later plantings; We had the usual problem of short holding for all zinnias, problems with Japanese beetles and leaf spot; Poor germination 10 out of 48 plants made it to flowering; Unattractive white spots on some flowers may have been from insect damage or dew, very noticeable against bright background; Weak neck and meltdown at times; Size/diameter of blooms decreased with each cut, could somewhat be restored with severe cut back of side shoots; Mildew; Standard zinnia problems, weak neck, barely acceptable vase life, not enough of the nice big really double flowers; Slugs devoured seedlings as they emerged so I replanted twice, they have really just started to produce in the last few weeks; Sensitive to our high EC water.

Similar Cultivars: I didn't find these that different from the other Giants I've grown.

General Comments: Harvested between 7/14-8/18 (for two crop transplanted to field April 22 and May 22); Not as prolific as some of the other Benary Giant colors; Despite the problems I can't imagine not growing all the beautiful, colorful Benary zinnias, I only stay away from the white which looks old too quickly, next season I'm going to try to stay away from floral preservative and use only water on my zinnias; Love it; One of my favorite colors of



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Benary Giant zinnias; Susceptible to foliar diseases - more than other zinnias; Entire zinnia crop was planted late while I was out of town, this year, I pinched in August and cut back severely in late August which did increase stem length, I could have sold all of the large flowered ones if I'd been able to keep the mildew preventative spray; Flower head 5 cm; A staple for us.

Postharvest Handling: Plain water (2); Remove about 1/3 of lower leaves; Needs temps; Surface sterilize stems in a 10% bleach solution, we don't use floral preservative with zinnias, we avoid keeping them in the cooler.

Zinnia 'Oklahoma Pink' (Benary)

Good Qualities: Productive (11); The color is a true cotton candy pink (5); Plant withstands wind better than larger zinnias, good stem length, dependable; Straight stems, overall very uniform petal layerage; Nice range of pink colors in small flowers is popular with both designers and customers; Good vase life; Healthy plants, good medium size for bouquets; Less prone to meltdown and weak neck than larger zinnias, gives great texture in bouquets when used with large zinnias or lisianthus; Pretty multi-layered flowers, color very uniform; People and hummingbirds like zinnias; They are cute and mix well with the other Oklahomas, disease free; Easy to grow, bloomed for most of the growing season; Fantastic performers! tall plants produced long stems, blooms were typically 2 inches or more in diameter and were in a variety of different forms - from standard zinnia to ball dahlia - many with interesting curled petals and/or tones of color, a really intriguing seed mix! our customers loved these delightful blooms, kids liked them also, we often combined the Oklahoma Pink and Scarlet for a surprisingly cheerful mix!; Flowers held a long time on the plants; Vigorous growth, good germination, easy to transplant and establish in the field.

Problems: Found flowers to be too small for our uses (4); Not much different than other Oklahomas I've grown; Lots of different shapes and sizes in the flowers, ended up with only 6 plants out of initial planting of 48; Some washed-out pink blooms were produced; All had to be sprayed for fungus, due to our very rainy summer, flowers are too small; Smaller than rest of Oklahoma series; Unevenness of color between plants: some were coral, some lighter or darker pink; Hard to get a really long stem when cutting; many flowers were left unharvested and the yield is not reflective of actual production ; Mildew; Standard zinnia problems, weak neck, barely acceptable vase life, we would not choose to grow these zinnias again; Color is so candy pink, a little boring; Sensitive to our high EC water; Only about half flowers fully double plants tall but usable stems shorter than the 'Giants'; We had the usual problem of short holding for all zinnias, problems with Japanese beetles and leaf spot; WAAAAAY too short, and the flower heads are useless to us for the way we sell zinnias-by the stem....couldn't ask as much for them, therefore I won't grow them again; None.

Similar Cultivars: None listed by respondents.

General Comments: I had the following trouble with all of the zinnias, but will write these comments only once: We had more snow here in Maine than people had remembered in 30 or more years, 22 plowable storms which meant the ground never froze, as a result, grub and cutworm populations were extremely high, this fact may explain why I had terrible seed germination as well as high seedling loss in all of the zinnia and sunflowers that were direct seeded: of the ones that survived, we had 16 days of almost continuous rain in July/August along with 3 hailstorms, so the mere fact that I had any flowers at all shows how tough zinnias are in general; Susceptible to Japanese beetles; Harvested between 7/10-8/8 (transplanted to field April 22), harvested 7/10-8/8 (transplanted to field May 22); Entire zinnia crop was planted late while I was out of town - this year, I pinched in August and cut back severely in late August which did increase stem length, I could have sold all of the large-flowered ones if I'd been able to keep the mildew preventative spray; Flower head 4 cm; Great little zinnias! I liked having the separate pink in addition to my regular Oklahoma mix, it was especially useful for special events when a color theme was used, in the past I only offered a mix of colors.

Postharvest Handling: Remove about 1/3 of leaves (lower ones); Surface sterilize stems in a 10% bleach solution, we don't use floral preservative with zinnias, we avoid keeping

them in the cooler; We used only plain water; 'Oklahoma Pink' benefits from the addition of a floral preservative.

Zinnia 'Oklahoma Scarlet' (Benary)

Good Qualities: Clear bright colors (7); Productive (7); Color is uniform (2), just an occasional orange bloom. Vigorous growth, good germination, easy to transplant and establish in the field; Fantastic performers! tall plants produced long stems - from standard zinnia to ball dahlia - many with interesting curled petals and/or tones of color, a really intriguing seed mix! our customers loved these delightful blooms, kids liked them also, we often combined 'Oklahoma Pink' and 'Scarlet' for a surprisingly cheerful mix! flowers held a long time on the plants; Lots of long stem flowers on each plant, withstands winds/rain with support better than larger type blooms, dependable; Very striking with good stem length; Long lasting in vase, cute; Healthy plants with long stems; Less prone to melt down and weak neck than larger zinnias, gives great texture in bouquets when used with large zinnias or lisianthus; People and hummingbirds like zinnias; About a week earlier than the 'Giants', attractive small flower.

Problems: Flowers are too small (4); Color not uniform, some flowers were more orange than red (2); None; Not much different than other Oklahomas I've grown, scarlet got marred by rain; WAAAAAY too short, and the flower heads are useless to us for the way we sell zinnias-by the stem....couldn't ask as much for them, therefore I won't grow them again; Diameter of blooms was not uniform, number of petal layers also varied, seemed to go down with each cut; All had to be sprayed for fungus, due to our very rainy summer; Unattractive white spots appeared on some flowers against the bright background, may have been caused by insect damage or from dew; Hard to get a really long stem when cutting; Mildew; Standard zinnia problems, weak neck, barely acceptable vase life, not enough of the nice big really double flowers, we would not choose to grow these zinnias again; Sensitive to our high EC water; Plants tall but usable stems shorter than the 'Giants'; Size of blooms varied greatly, some singles, not as prolific as others in the Benary series.

Similar Cultivars: None listed by respondents.

General Comments: I liked having the separate red in addition to my regular Oklahoma mix, I offered straight bunches of 'Oklahoma Red' at the farmers' market and although the Benary Giants usually attracted the most attention, the straight bunches of

'Oklahoma Red' proved popular as well, in terms of harvesting, it takes about the same amount of time to pick and bunch Giants and Oklahomas, but have to put more in the bunch to get the same retail price for the customer to perceive equivalent value, from a harvesting and processing viewpoint it takes more time and effort for the same return because you are handling more stems, I like the red and will definitely grow it as a separate color next year; Great little zinnias!; Susceptible to Japanese beetles; Best results when you do not harvest as frequently so that the flowers get more substance, good in bouquets because of vase life, but not a big seller as straight stems; Good bright color; Harvested between 7/22-8/15 (transplanted to the field April 22), Harvested between 7/10-8/8 (transplanted to the field May 22); Entire zinnia crop was planted late while I was out of town, this year, I pinched in August and cut back severely in late August which did increase stem length, I could have sold all of the large-flowered ones if I'd been able to keep the mildew preventative spray; Flower head 3 cm; Wish they could improve this variety to ensure greater uniformity and doubleness.

Postharvest Handling: 'Oklahoma Scarlet' benefits from the addition of a floral preservative; Cooler temps!; Remove about 1/3 of leaves (lower ones); Surface sterilize stems in a 10% bleach solution, we don't use floral preservative with zinnias, we avoid keeping them in the cooler.

Zinnia 'Uproar Rose' (Goldsmith)

Good Qualities: Great consistent rose color (13); Productive (7); Large flowers (6), flower size does not diminish as season advances; Double (4); Tall or long stems (3); Easy to grow (2); Boomed for most of the growing season; Consistent and uniform blooms; Triple layer (or more) of petals was always there; Very first flowers were 3-4 inches on 18 inch stems, lots of flower from July to September (Zone 9); Early successions especially productive; A standout in the field! a heavy yielder with big beautiful blooms on long, strong stems; Uniform grower; Still a favorite; Not as sensitive to high EC irrigation water; Weeks of cutting in field; Fit in nicely with the other large-flowered zinnias in the trial and those I regularly grow.

Problems: We had the usual problem of short holding for all zinnias, problems with Japanese beetles and leaf spot; Does not measure up to Benary zinnias; Size of blooms was reduced by each cut, however, was marginally restored to original 4-5in. diameter by severe cutting of side/lower shoots; Late successions seem much shorter, not as productive; Shorter than

other cultivars of similar color, more susceptible to zinnia diseases; Mildew; Soft necks, tends to break easily!; Japanese beetles and fungal diseases, used hot pepper spray, hand picked a lot of beetles!; None. **Similar Cultivars:** 'Giant Carmine Rose' (3); Very close in color to Benary's 'Giant Purple'; Benary's Giant is closest, but color not the same.

General Comments: Japanese beetles were a huge problem on pink cultivars, especially this one; Would never be without this zinnia! Wish the breeder offered a full range of colors with the commendable attributes of this cultivar!; Are more 'Uproar' colors coming along? Harvested between 7/16-8/19 (transplanted to the field May 22); Entire zinnia crop was planted late while I was out of town, this year, I pinched in August and cut back severely in late August which did increase stem length, I could have sold all of the large-flowered ones if I'd been able to keep the mildew preventative spray; A winner!; Would like to see additional colors; Flower head 8 cm; Outstanding zinnia added to our collection of things to grow.

Postharvest Handling: We used only plain water; Need cooler temps, unfortunately we didn't have the facility for storing; Surface sterilize stems in a 10% bleach solution, we don't use floral preservative with zinnias, we avoid keeping them in the cooler; Used Floralife and picked when fully open.

Zinnia 'Zowie Yellow Flame' (Goldsmith)

Good Qualities: This one is a hit: I made bouquets with orange safflower, blue annual statice, 5 Zowie, 7 Uproars, they blew out of the farm market I sold to all summer long; Powdery mildew susceptible, therefore spacing is crucial, susceptible to other foliar diseases as well; I usually wait to grow this for end of summer, so perhaps it would be taller if I started earlier; Entire zinnia crop was planted late while I was out of town, this year, I pinched in August and cut back severely in late August which did increase stem length; A favorite!; Did well in greenhouse - used water with a lower EC; bloomed over much of the growing season; We had more rain than usual and cool nights, which caused some rust; I would not grow it again because of the disease problems, compared to other zinnia cultivars I grew this was the least vigorous and most disease prone.

Problems: Stems too short (10), Small flowers (2); Better as a bedding plant (2); Continual cutting eventually elongates the stems somewhat; Significantly shorter flowers, more botrytis-susceptible in a high tunnel planting than other varieties; Variable number of petals on blooms; Minor Japanese beetle damage; Zinnia meltdown at times; Mildew; Flowers were never big and double; Sprayed for fungal diseases and beetles, bad year for Japanese beetles; Sensitive to our high EC water; We had the usual problem of short holding for all zinnias, problems with Japanese beetles and leaf spot; Poor seed germination, poor seedling vigor, disease prone both in the greenhouse and field.

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Similar Cultivars: None listed by respondents.

General Comments: Eye candy! bright yellow with hot pink/red/purple center and pairs well with all those colors! always a customer favorite!; Bright orange and red flower color, very showy; Keep going forever; Very pretty color; Nice petal colors, unique color combo; Abundant usable stems! Could have been cut practically every other day, recovered from cuts quickly, great coloration, and very uniform; Very striking red yellow color; Fabulous color, nice leaf quality; Great color - gives a cheery "fiesta" look to bouquets; Nice bicolor combination; Fantastic color! Looks amazing mixed with other solid-colored zinnias; Hot color, prolific; Easy to grow, wonderful customer approval; Great red/yellow color - eye appeal; Fantastic eye popping color, gets a good reaction from everyone who sees it, won an AAS award 2 years ago; Interesting and attractive flowers; Easy to grow /Weeks of cutting in field.

Postharvest Handling: Plain water (2); Cooler temps, our storage was 68 F and not cool enough, bleach and water alone doesn't work the best; Surface sterilize stems in a 10% bleach solution, we don't use floral preservative with zinnias, we avoid keeping them in the cooler; Picked fully developed.

2008 ASCFG National Perennial and Woody Trials

John Dole
North Carolina State University

The perennial and woody trials were off to a slow start this year as both trials were reestablished in 2008 and few of the plants had much to show yet. With the perennials we like to see flowering in the first year and happily all but the *Baptisia* 'Purple Smoke' (Gro 'N' Sell) produced a few flowers. Most of the perennials, however, did not produce enough harvestable flowers to give us a good evaluation. The most prolific bloomer was *Leucanthemum* 'Summer Snowball' (Gro 'N' Sell) - all plants flowered, producing an average of 14 stems per plant, averaging 18 inches long. This cultivar was quite productive for the first year. While some trialers commented on the vigorous plants and pure white flowers, others thought the cultivar was "very conventional", resulting in ratings that were not very strong. *Agastache* 'Sangria' (Jelitto Seed) also put on a good show with 11 stems per plant at 21 inches long. The flowers have a beautiful color and are fragrant but the stems were a bit "too wispy", as one trialer commented.

Interest in *Echinacea* has exploded over the last few years and we had two cultivars, 'Double Decker' and 'Summer Sky' (Gro 'N' Sell), in the trials. Both produced a few flowers this year, a little over 4/plant, but we are expecting many more for next year. 'Double Decker' has an unusual appearance, producing petals from the top of the cone as well from around the base. Unfortunately, the small print states that the unusual flowers do not start to appear until the plants are well established. By the end of the season we noticed a few flowers starting to produce petals from the top of the cone but nothing like in the pictures. One other trialer also noted that he "finally got some doubles late". Anticipation is half the fun of growing plants and we are eager to see how they will do next season.

Of the woody cultivars, only the fast-growing *Callicarpa americana* 'Welsh's Pink' flowered in the first year, producing 4.5 stems/plant, which were 37 inches long. While only two trialers rated the plants, however, they liked the cultivar and gave it high marks for vigor, nice color and long stems. We will have to see next year how the rest of the woodies perform.

Interpreting the trial results: The numbers reported are averages of all the respondents and many factors will affect the success of any plant species. Our participants are growing and harvesting the trial plants in a wide variety of ways. For example, with annual asters some people harvest the entire plant as one bunch while others harvest each individual flowering branch, giving very different stem lengths and yield data. After looking at the average, check the range of responses listed below each number to see how the cultivar performed at its best and its worst. If the range of responses in the ratings is narrow and high, i.e., 3-5 or 4-5, the plant was a winner for most of the respondents and is likely to do well for you. The 'Repeat Again Rating' is particularly important because it indicates



if the trialer would take the time, money, and space to actually grow the cultivar again. Review the trial results carefully. If a species sounds interesting but did not appear to do well, try it anyway. The cultivar may work well for you.

Acknowledgments: All cut flower growers should thank the perennial and woody plant producers for providing the plant materials and the growers for producing the plants, collecting data and submitting trial reports. The growers paid for shipping expenses and agreed to provide data for at least two years. Plant were donated by perennial producers and shipped as perennial plugs or dormant roots directly to the trialers. I would like to compliment Chas Gill, Betsy Hitt, Carolyn Ramsbotham, and Vicki Stamback who participated in both the seed and perennials trials and returned evaluations on all of their trial plants. I would also like to thank Amber Stewart and Betty Coleman for laboriously typing



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Betsy Hitt

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Marc Kessler

California Organic Flowers
Chico, CA

in everyone's comments, Ingram McCall and Diane Mays for taking care of the North Carolina State University portion of the trials, Ingram McCall for data entry, and Leslie Tichner, Aliya Donnell, Brad Holland, and Tim Ketchie for assisting with the NCSU trials. In preparing the report I have edited the participants' comments for space and clarity; my apologies if I've altered the tone or content of anyone's comments. Thanks to everyone for making this service of ASCFG possible.

The number in parenthesis refers to the number of respondents who made the comment. If no number is present, only one person made the comment. Comments by each individual are separated with a semicolon (;) Note: many respondents did not make specific comments on each cultivar and in some cases, comments have been shortened because of limited space.



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Trial Results for Year 1 of Perennial Cultivars Planted in 2008. 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 listed in the range line, either only one person responded for that category or several responded and all gave the same rating.

| Cultivar | Plants received alive (%) | Plants flowering (%) | Yield stems/plant ^⓪ | Stem length (inches) ^⓪ | Market appreciation rating ^⓪ | Repeat again rating ^⓪ | Ease of cultivation rating ^⓪ |
|---------------------------|---------------------------|----------------------|--------------------------------|-----------------------------------|---|----------------------------------|---|
| Agastache | 100 | 100 | 11 | 21.3 | 2.8 | 3.4 | 3.6 |
| 'Sangria' (JS) | 100 | 100 | 5-19 | 18-30 | 1-5 | 2-5 | 2-5 |
| Baptisia | 74 | 0 | - | - | - | - | - |
| 'Purple Smoke' (GS) | 50-100 | | | | | | |
| Digitalis | 100 | 32 | 0.6 | 17 | 2.8 | 2.8 | 3.5 |
| 'Candy Mountain' (GS) | 100 | 4-100 | 0-1 | 12-24 | 2-3 | 2-3 | 3-4 |
| Echinacea | 100 | 93 | 3.4 | 19 | 3.0 | 3.3 | 4.8 |
| 'Double Decker' (GS) | 100 | 80-100 | 0-5 | 12-24 | 1-4 | 1-5 | 4-5 |
| Echinacea | 85 | 90 | 4.1 | 15 | 3.6 | 3.6 | 4.4 |
| 'Summer Sky' (GS) | 75-100 | 75-100 | 1-12 | 12-19 | 2-4 | 1-5 | 3-5 |
| Echinops | 94 | 31 | 4.5 | - | 1.0 | 1.5 | 3.5 |
| 'Star Frost' (JS) | 75-100 | 0-100 | 4.5 | | 1 | 1-2 | 3-4 |
| Gaillardia | 98 | 22 | 2.8 | 16 | 3.3 | 3.0 | 3.5 |
| 'Amber Wheels' (JS) | 90-100 | 0-80 | 0-5.5 | 12-20 | 2-4 | 2-4 | 3-4 |
| Leucanthemum | 100 | 100 | 13.8 | 18 | 2.8 | 2.8 | 4.2 |
| 'Summer Snowball' (GS) | 100 | 100 | 3-40 | 15-20 | 1-4 | 1-5 | 3-5 |
| Penstemon | 69 | 73 | 2.9 | 12.3 | 2.5 | 1.7 | 2.0 |
| 'Starburst Amethyst' (JS) | 0-100 | 20-100 | 1-7 | 10-15 | 2-3 | 1-3 | 1-3 |

⓪Data shown are from those respondents who harvested stems. Some respondents may not have harvested stems because they were too short. Flowering stems may be longer next year after plants are established. See comments section for more details.

⓪1 to 5 scale, with 5 being the best.



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Summary of Comments

2008 Perennial Cut Flower Cultivar List - Year 1

Agastache ‘Sangria’

Good Qualities: Smells great (3); Nice flower color, long stems; Nice stem length; A nice filler flower.

Problems: Flowers shatter fast; Too wispy; Bloomed very late in the season just as we were ending markets so I don't feel we can judge it adequately, hope it will survive the winter here - I tried agastache ‘Tutti-Frutti’ a few years back and it did not make it here in zone 5.

Similar Cultivars: ‘Pink Pop’; ‘Tutti Frutti’.

General Comments: No specific insects or diseases observed (2); I had just pulled out all my agastache vowing “never again” when this arrived, it's nice, but I have a very limited market for it; It may have flowered earlier, and been more useful to us if we have gotten it in the ground sooner, the shipment arrived in terrible shape and had to be transplanted into pots and held for several weeks before setting out in beds.

Baptisia ‘Purple Smoke’

Good Qualities: Nice foliage.

Problems: Grows slow(ly); Plants were small and have struggled, I'm not sure what I'll see in the spring; Flowers second year, looks like other purple digitalis.

Similar Cultivars: Seems to have a finer leaf than *Baptisia australis*.

General Comments: No specific insects or diseases observed; It usually takes three years for *Baptisia* to produce. Maybe next year there will be some. The plants were in terrible shape when they arrived. Of the 11 plants that were planted only 6 plants survived to the end of the season. I use a lot of *Baptisia*, both flower and foliage, so am anxious to see the flower color ...next year?; Plants are much weaker than *australis*, I already grow this and didn't get much to cut until the third year. It is pretty, and much more branched than *australis*, but not as popular with consumers; Did not bloom this year.

Digitalis ‘Candy Mountain’

Good Qualities: Ease of cultivation - spikey form a good addition to bouquets, color pleasing and unusual.

Problems: Stem length seemed too short to be truly useful. Selling at market I felt compelled to warn people that *Digitalis* was poisonous if ingested. People with pets and children appreciated the information. Most chose not to buy it.

The Cut Flower Quarterly

General Comments: No specific insects or diseases observed; Good color but too early to tell; Few blooms this year; I'm anxious to see how it performs next year.

Postharvest Handling:

The flower was placed in water with no preservative added. I'll experiment a bit more next year.

Echinacea ‘Double Decker’

Good Qualities: Strong plants; Something “different”; Pretty color, finally got some doubles late in the season; Lots of flowers.

Problems: UGLY; Bloomed very late in the season with only one bloom per plant, not all of the plants produced a double bloom, about half of the plants produced a single bloom; I didn't like it, very irregular, some plants were double...or whatever you want to call that...and others were normal; There was even a lot of variation in flower form of the double ones; The flowers are inconsistent in flower placement, some look normal, others look weird.

Similar Cultivars: If so, don't tell me about it.

General Comments: No specific insects or diseases observed; The plants did not produce enough this year to take to market. Hoping next year will be better. They may not all be ‘Double Decker’ plants.

Echinacea ‘Summer Sky’

Good Qualities: Wonderful peachy pink color sets it apart from other coneflowers that are more of a magenta pink (4); Pretty gradation of color on the petals; Strong stems; Pretty strong grower.

Problems: Weak plants; Flower petals not very compact

General Comments: No specific insects or diseases observed; Plants did not produce enough stems this year to be able to get a true picture. Hoping stem length will be longer - The color is certainly a winner!

Echinops ‘Star Frost’

Problems: The flowers have ugly thorns, several years ago I received seed for a white-flowering echinops from a friend, this one is the same cultivar, we plowed ‘Star Frost’ in because they are invasive on our farm; Plants arrived in poor shape, had to be transplanted into pots to recover before transplanting into permanent bed, we did not have enough stems to market test.



Baptisia ‘Purple Smoke’

General Comments: No specific insects or diseases observed (2); Too early to tell; Did not bloom this year; Hoping for better production next year to get a better sense of stem length and flower color.

Gaillardia ‘Amber Wheels’

Good Qualities: Beautiful color; Only two plants produced flowers but they were quite large and on sturdy, long stems; Tough plant, we'll see what they look like next year.

Problems: Arrived in poor shape. Needed to be transplanted into pots and held a few weeks before planted in beds.

General Comments: No specific insects or diseases observed (2); Too early to tell; Few blooms this year; Next year will tell the tale, the size and color of the flower, and the stem length look very promising.

Leucanthemum ‘Summer Snowball’

Good Qualities: Lots and lots of flowers, nice pure white; Produced well the first year. Looks more like a mum than a traditional daisy, nice clear bright white color that didn't appear dirty; Vigorous plant, stems were strong.

Problems: Weak stems, browning out; Flowers tend to have a bent neck perhaps because the flower is so dense, one customer complained about that; Thrips, personally I don't like flowers to be that double - I also had a lot of browning in the centers...probably thrips but they looked kind of “dirty”.

General Comments: No specific insects or diseases observed (2); Thrips, but no worse than any other leucanthemum; Too boring, and too early for “mum” look, very conventional; I'll again be anxious to see what is produced the second year, am hoping for longer stems.

Postharvest Handling: I did not use a preservative, just water.

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Penstemon 'Starburst Amethyst'

Good Qualities: Blooms the first year; Very pretty color.

Problems: Very short (2); Hard to use in bouquets because of short stems filled with flowers, think it would make a better garden plant than a cut; Weak stems.

General Comments: No specific insects or diseases observed (2); If stem length is better next year, we can market test, plants bloomed very late in the season, they were not in good shape when they arrived and had to be transplanted into pots and held for several weeks before placing in beds; I have in part shade and I may move it for next year.

2008 Woody Cut Flower Cultivar List - Year 1

Callicarpa americana 'Welsh's Pink'

92% of plants flowered this year, yielding 4.5 stems, which were 37 inches long. One trialer gave the following scores: 3 for wholesale marketability, 4 for retail florist, 4 for consumer and 3 for grow again and 5 for ease of cultivation. A second trialer gave the following scores: 5 for consumer marketability and 5 for grow again and 5 for ease of cultivation.

Good Qualities: Nice color, good form, long stems.

Problems: Berries shatter easily, not sure if they would hold in vase since they fall off in the field if touched; Not enough stems to determine vase life at this time.

General Comments: Easy to grow, vigorous, nice color, long stems, berries shatter.

Clethra alnifolia 'Ruby Spice'

All plants flowered for one trialer but none did for another trialer.

Good Qualities: None.

Problems: Died in summer heat.

General Comments: Not enough growth this year for an opinion.

Craibiodendron yunnanensis

Good Qualities: None.

Problems: Did not survive summer heat.

Cytisus scoparius 'Windlesham Ruby'

Good Qualities: Too soon to tell.

Problems: Did not bloom yet.

General Comments: I haven't harvested anything from these yet; Seems to be doing well, but did not bloom this year.

Indigofera amblyantha

All plants flowered for one trialer but for another all plants arrived dead.

Pieris japonica 'Dodd's Crystal Cascade Falls'

All plants died for one trialer, while none died for the other.

Good Qualities: None.

Problems: Withered and died in our hot climate, *Pieris* can not be grown in the Sacramento Valley due to heat, even in full shade it would not do very well here.

General Comments: Best in cool coastal climates.

Spiraea prunifolia. No comments so far.

Viburnum tinus 'Spirit'

One out of three trialers had flowering this year and all plants flowered.

Good Qualities: Seems to like our climatic conditions (Zone 7).

Problems: First year: Very short. It is a shrub so I assume it will get bigger in subsequent years; No blooms this year.

General Comments: No harvest this year; Too soon to comment on this plant, did not bloom.



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