

2003 ASCFG National Cut Flower Seed Trials



by John Dole

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Lisianthus has always been a favorite cut flower. One of my most memorable experiences from living in Oklahoma was finding a patch of native lisianthus flowering in a dry prairie - the elegant buds and violet-colored flowers were instantly recognizable in the bright summer sunshine. The cultivated lisianthus has progressed far from the original species. This year's trial illustrates the change in the species. Two companies included a total of five series with colors ranging from pale greenish white to pink, rose, and lavender. Top honors were taken by **'Balboa Lavender'** (PanAmerican) for its color and large double flowers. The stems were strong and plants easy to grow. Respondents reported stem lengths averaging 18 inches (up to 28 inches for some) and yields of 4.8 stems per plant. Lisianthus is amazingly rugged in its native, rather

harsh environment, but yet can be hard to grow in the relatively soft life of a cut flower bed. It is always nice to hear from those that have no problem growing quality lisianthus.

'Balboa Rose' and **'Catalina Rose'** also received high marks for their great colors, double flowers, and strong stems. Goldsmith has been adding new colors to its **'Cinderella'** and **'Twinkle'** series. **'Cinderella Pink'** performed the best with 20- inch stems (up to 30 inches for some participants) and 3.1 stems per plant. The flowers were large, full and dark pink. **'Cinderella Ivory'** and **'Yellow'** also did well for most participants. **'Twinkle White'** and **'Yellow'** did well for many trialers but singles are typically less popular than doubles.

Another North American native wildflower is also one of the stars of the 2003 Cut Flower Trials - **Rudbeckia 'Prairie Sun'** from Benary. This beautiful plant has many of the characteristics of the popular **'Indian Summer'** - large, long-lasting flowers, strong stems, and first year flowering from seed. **'Prairie Sun'** adds bright green centers and striking two-tone pale yellow/dark yellow petals. In our postharvest trials (see page 30), the cut stems lasted three weeks. **'Prairie Sun'** is productive (averaging 12.3 stems/plant), easy to grow, and has a long flowering period. However, for season-long flowering plant every 3 to 4 weeks. **Rudbeckia 'Autumn Colors'** (Benary) also did well in the trial but many trialers found **'Goldilocks'** (Benary) too short and weak.

Nominees for the 2005 ASCFG Fresh Cut Flower of the Year will include

Delphinium F₁ **'Aurora Light Blue'**, *Eustoma* **'Balboa Rose'**, *Eustoma* **'Balboa Lavender'**, *Eustoma* **'Catalina Rose'**, *Helianthus* **'Sunrich Gold'**, and *Rudbeckia* **'Prairie Sun'**

The delphinium is one of our most spectacular cut flowers. The ongoing transition from uneven biennial or perennial to fast flowering, uniform F₁ annual is apparent in this year's trial. **'Aurora Light Blue'** (Takii) received excellent marks for its beautiful color and short crop time. Of the **'Guardian'** series (PanAmerican), **'Blue'** received the highest marks, but **'Early Blue'**, **'Lavender'** and **'White'** also performed quite well. All were productive with strong stems and full heads and stem lengths of up to 36 inches. Anyone who was on the tours in Vancouver will remember the nice trial bed of **'Guardian'** delphiniums. The bed was uniform and looked great.



New sunflower cultivars are always popular in the trials. This year we had three cultivars from two companies. The favorite was **'Sunrich Gold'** (Takii) with its gold/green pollenless centers, bright petal color, and good flower size. Plants were uniform and easy to grow. The other two cultivars, **'Full Sun Improved'** (Gloeckner) and **'Golden Glory'** (Gloeckner) did well for many participants but tended to get excessively tall with heads too large for some participants.

Based on trial results, the top five performers are automatically nominated for the ASCFG Cut Flower of the Year competition. The rankings are based on the combined ratings score: market appreciation (average of wholesale, florist, and consumer) + repeat again + ease of cultivation for those cultivars where more than three trialers responded. Thus, from the 2003 trials *Delphinium* F₁ **'Aurora Light Blue'**, *Eustoma* **'Balboa Rose'**, *Eustoma* **'Balboa Lavender'**, *Eustoma* **'Catalina Rose'**, *Helianthus* **'Sunrich Gold'**,

and *Rudbeckia* **'Prairie Sun'** are nominated as Cut Flowers of the Year and will join other nominations from ASCFG members. Two cultivars were tied, hence six are nominated this year. Experimental varieties are eligible for nomination if they are named and released.

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 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. I would also like to thank Betty Coleman for laboriously typing in everyone's comments, Diane Mays and Ingram McCall for taking care of the North Carolina State University portion of the trials, Ingram McCall for data entry, and Frankie Fanelli, Lane Greer, and Lee Davis 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. Also, in a few cases we could not determine what was written - I find this especially interesting as it shows a few people in the world have worse handwriting than myself.



'Sunrich Gold'



'Full Sun Improved'

Participating Seed Companies

American Takii
301 Natividad Road
Salinas, CA 93906

Benary Seed
1444 Larson St.
Sycamore, IL 60178

Fred C. Gloeckner
600 Mamaroneck Avenue
Harrison, NY 10528-1613

Goldsmith Seeds
P.O. Box 1349
Gilroy, CA 95021

PanAmerican Seed
P.O. Box 438
West Chicago, IL 60186

Leah Auffill
Bloomin Botanicals
Perkins, OK

Janet Bachmann
Riverbend Gardens
Fayetteville, AR

Christof Bernau
Center for Agroecology and
Sustainable Food Systems
University of California
Santa Cruz, CA

Leon Carrier
PlantMasters
Gaithersburg, MD

Dianne Cousins
Texas Sown and Grown
Richmond, TX

Polly Creech
Polly's Flower Farm
Albany, OH

Connie Dam-Byl
William Dam Seed, Ltd.
Dundas, Ontario

Diane Mays/John Dole
North Carolina State University
Raleigh, NC

Peg Godwin/Kennedy Farm
Partners/Reita Rea
Kinston, NC

Sarah Levitt and Michael Turner
Sarah and Michael's Farm
Durham, NC

Matt Gerald
Sweet Pea's Farm Store
Bar Harbor, ME

Chas and Linda Gill
Kennebec Flower Farm and Nursery
Bowdoinham, ME

Jeff Hartenfeld
Hart Farm
Solsberry, IN



Participating Growers

Charles P. (Chazz) Hesselein
Extension Horticulturist
Alabama Cooperative Extension
System
Mobile, AL

Betsy Hitt
Peregrine Farms
Graham, NC

Laurie Hodges
University of Nebraska, Lincoln
Lincoln, NE

Cathy Horn
CELEBRATE! Gardens
Lindenwood, IL

Cathy Jones
Perry-Winkle Farm
Chapel Hill, NC

Susan O. Jones
Wild Goose Gardens
Osceola, MO

Sharon Hampton/Phillip Katz
PanAmerican Seed
Santa Paula, CA

Judy Low
Molino Creek Farm
Davenport, CA

Jim and Linda Mercer
Sheepscot Flower Farm
Newcastle, ME

Kent Miles
Botanicals by K and V
Seymour, IL

Ruth Moore
Heritage Farm
Middlebourne, WV

Susan O'Connell
Fertile Crescent Farm
Hardwick, VT

Carolyn Ramsbotham
Riverview Farm
Madbury, NH

Joy and Walt Reinhardt
Reinhardt Blooms
Kawkawlin, MI

Brenda Smith
Smith & Smith Farms
Dayton, NV

Vicki Stamback
Bear Creek Farms
Stillwater, OK

Nanette True
Beds & Borders, Inc.
Laurel, NY

Jeanne Vana
Market Garden of Hawaii
Waialua, HI

Cheryl Wagner
Wagner's Homestead Farms
Belleville, MI

Christine Wager
Christie's Plantmart & Greenhouse
Coronation, Alberta

Heather Warren
Barrington, NH

Kim Wickwire
Olds College
Olds, Alberta

Thomas Wikstrom
Happy Trowels Farm
Ogden, UT

Bob Wollam
Wollam Gardens
Jeffersonton, VA

2003 ASCFG Seed Trials Results

The first row of data for each cultivar is the average and the second row is the range of responses. Note that when only one response is listed, either only one person responded for that category or several responded and all gave the same rating.

	Yield	Stem length	Market appreciation rating ^①			Repeat again	Ease of cultivation ^①	Average spacing
	(stems/plant)	(inches)	Wholesale	Retail	Consumer	rating ^①	rating	(in. /plant)
American Takii								
<i>Brassica</i> F ₁ 'Red Crane'	0.9	19	4.0	3.5	3.1	2.9	3.6	178
	0.3-1.0	16-24	4	3-4	2-4	1-5	2-5	16-480
<i>Delphinium</i> F ₁ 'Aurora Light Blue'	3.0	20.7	-	5.0	4.7	4.3	4.3	147
	1-7	16-28		5	4-5	3-5	4-5	80-216
<i>Helianthus</i> F ₁ 'Sunrich Gold'	1.0	38	3.5	3.5	4.3	4.9	4.7	84
	1	18-48	3-4	3-4	3-5	3-5	4-5	9-180
Ernst Benary								
<i>Helichrysum bracteatum</i> 'Giant Ball' Mix	6.3	23.8	3.0	2.7	3.5	3.4	4.5	170
	1-12	11-48	1-5	1-4	1-5	1-5	1-5	36-480
<i>Rudbeckia hirta</i> 'Autumn Colors'	10.8	15.5	2.5	2.8	3.8	3.2	4.5	165
	0-30	8-24	2-3	1-4	1-5	1-5	2-5	36-432
<i>Rudbeckia hirta</i> 'Goldilocks'	10.2	15.2	3.0	2.5	3.0	2.6	4.2	142
	0-30	4-28	3	1-4	1-5	1-5	2-5	36-432
<i>Rudbeckia hirta</i> 'Prairie Sun'	12.3	18.0	3.5	3.8	4.0	4.4	4.5	137
	3-30	8-27	3-4	2-5	3-5	3-5	3-5	36-360
<i>Trachelium</i> 'Jemmy Royal Purple'	4.3	14.0	4.0	4.0	3.4	2.8	3.1	136
	1-7	10-20	4	4	2-5	1-5	1-5	36-360
Fred C. Gloeckner								
<i>Ammi majus</i> 'White Wonder'	6.4	19.4	5.0	3.8	3.3	3.1	4.0	136
	0-20	8-30	5	2-5	1-5	1-5	3-5	4-256
<i>Celosia</i> 'Supercrest' Mix	3.9	27.2	3.0	3.0	3.3	2.4	4.5	143
	1-7	16-48	1-5	2-5	2-5	1-5	3-5	36-208
<i>Consolida</i> 'Imperial White'	10.2	22.8	-	4.0	3.4	3.2	3.4	57
	0-45	16-30		4	1-5	1-5	1-5	4-144
<i>Consolida</i> 'Imperial Dark Blue'	8.8	21.0	3.5	3.6	4.3	3.7	4.0	66
	1-45	11-4	3-4	2-4	3-5	1-5	3-5	4-144
<i>Consolida</i> 'Imperial Orchid'	11.2	21.3	4.0	4.5	3.8	3.0	3.3	78
	1-45	12-40	4	4-5	3-5	1-5	2-5	18-144
<i>Consolida</i> 'Pink Fantasies'	12.5	18.8	3.0	4.0	4.0	3.8	4.0	76
	1-45	11-24	3	3-5	2-5	2-5	3-5	36-96
<i>Helianthus</i> 'Full Sun Improved'	1.0	40.8	2.0	3.0	3.7	3.3	4.7	84.9
	1	18-60	2	2-5	1-5	1-5	2-5	9-180
<i>Helianthus</i> 'Golden Glory'	1.1	35.7	3.3	3.8	3.8	3.0	4.3	95
	1-12	10-72	3-4	3-5	1-5	1-5	1-5	9-216
<i>Iberis odorata</i> 'White Pinnacle' ②	5.0	9.0	-	-	3.5	3.0	3.5	122
	4-6	8-10			3-4	3	2-5	100-144
<i>Matthiola</i> 'Quartet' Mix	2.0	14.8	2.0	2.7	3.7	2.8	3.7	56
	0.5-1	6-19	1-3	1-4	3-5	1-5	1-5	9-144
Goldsmith								
<i>Eustoma</i> 'Cinderella Ivory'	3.0	19.6	4.0	4.3	4.0	3.9	3.3	41
	1-8	14-30	4	3-5	3-5	2-5	1-5	12-80
<i>Eustoma</i> 'Cinderella Pink'	3.1	20.1	3.0	4.0	4.3	4.4	3.7	43
	1-8	14-30	3	3-5	3-5	3-5	2-5	12-80
<i>Eustoma</i> 'Cinderella Yellow'	3.0	17.6	3.0	3.7	3.9	3.6	3.6	100
	1-7	12-30	3	3-5	2-5	1-5	2-5	12-80
<i>Eustoma</i> 'Twinkle White'	2.7	17.7	4.0	4.5	3.6	3.1	3.4	53
	1-7	12-26	4	4-5	2-5	1-5	2-5	12-144

	Yield	Stem length	Market appreciation rating ^①			Repeat again	Ease of ^① cultivation rating	Average spacing (in. /plant)
	(stems/plant)	(inches)	Wholesale	Retail	Consumer	rating ^①		
<i>Eustoma</i> 'Twinkle Yellow'	2.6 1-7	17.3 12-24	2.0 2	3.5 2-5	3.1 2-5	2.4 1-5	3.3 1-5	42 12-80
PanAmerican								
<i>Antirrhinum</i> 'Expt. G3,4 Rose'	7.3 0-19	19.6 8-32	-	3.8 3-5	3.8 1-5	4.0 2-5	3.9 2-5	164 36-432
<i>Antirrhinum</i> 'Expt. G3,4 White'	6.2 0-17	16.2 8-24	-	3.8 3-5	3.6 1-5	3.7 2-5	4.0 3-5	149 36-432
<i>Antirrhinum</i> 'Expt. G3,4 Lavender'	7.2 0-15	17.8 8-32	-	4.2 3-5	3.5 1-5	3.9 2-5	4.2 3-5	150 36-432
<i>Delphinium</i> 'Guardian Blue'	2.6 1-8	25.3 17-36	4.0 4	3.7 2-5	4.3 2-5	4.2 1-5	4.0 3-5	124 36-216
<i>Delphinium</i> 'Guardian Early Blue'	2.1 1-4.5	23.4 20-30	-	3.5 3-4	3.9 3-4	3.9 2-5	3.1 2-4	109 36-192
<i>Delphinium</i> 'Guardian Lavender'	2.6 1-6	25.7 17-36	-	3.6 3-4	3.9 3-5	4.1 3-5	4.0 3-5	124 36-216
<i>Delphinium</i> 'Guardian White'	2.1 1-6	25.3 17-36	-	3.3 3-4	3.8 3-5	3.9 3-5	3.9 3-5	108 36-192
<i>Eustoma</i> 'Balboa Rose'	4.0 1-12	17.9 6-30	-	5.0 5	4.5 4-5	4.1 1-5	4.0 2-5	59 36-144
<i>Eustoma</i> 'Balboa Lavender'	4.8 1-10	18.1 6-28	-	5.0 5	4.6 2-5	4.5 1-5	4.0 2-5	61.6 36-144
<i>Eustoma</i> 'Catalina Rose'	4.2 1-8	18.7 6-24	-	4.3 3-5	4.7 3-5	4.6 1-5	3.7 2-5	107 25-144
<i>Eustoma</i> 'Malibu Green'	2.6 1-7	17.0 11-28	-	5.0 5	3.8 2-5	3.1 1-5	3.5 1-5	52 24-96
<i>Eustoma</i> 'Balboa Yellow Improved'	2.9 1-8	20.6 14-33	-	5.0 5	3.8 2-5	3.7 1-5	3.6 2-5	61 25-144

①1 to 5 scale, with 5 being the best. Market ratings are based on sales to wholesaler (Whole.), retailers, or final consumers direct.

②Ratings for this species should be viewed with caution as only one to three participants had enough information to provide ratings.



Seed Trials

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.

American Takii

Brassica F₁ 'Red Crane'

Good Qualities: Late fall color, very long lasting in the vase; The 5 bouquets I arranged with 'Red Crane' sold very well, they were prettier than what I expected; Unusual; Stoutier than the old red variety when in the plug trays and straighter in the field but still very short, hard to make a go when they go into the field in July; 'Red Crane' has a larger percent of usable heads than the older types; Have not harvested yet, but looks promising, similar to 'Sunset'; Beautiful healthy plants, strong stout (too stout?) stems, good tight heads, uniform plants; Similar to 'Sunset' but the head appears to be much more tight with 'Red Crane', if the head continues to tighten, this will be a very useful plants (lack of head tightness has been our problem with 'Sunset').

Problems: Cold-season plant, no color in July; Insects love all plants in the cabbage family, customers do not like the cabbage scent; Have to net, not that big a deal really; We grow organically, too much insect damage, too difficult to grow; Did not plant, the beetles and cabbage butterflies just have any Brassica for lunch because of the canola crops, they can destroy in a matter of days, you cannot keep ahead of those little monsters (Zone 3); Our weather and lack of support system made our heads burst, but the side shoots were great; We don't seem to have a market for this type of plant material; No problems yet.

Additional Comments: Similar to 'Sunset' (2); I peeled off any outside leaves that had insect holes, some heads were too large, I should have harvested sooner while they were tighter; Good for low arrangements; The time that it takes to strip the leaves is a lot of labor, we picked the leaves 5 times, most of the stems were straight, but if we had a lot of them, it would be too much labor.

Delphinium F₁ 'Aurora Light Blue'

Good Qualities: Beautiful color (3); Full heads on strong stems; We await next summer, plants look very strong; Quick from seed; Large blossoms.

Problems: Plants and stems never grew very tall, maybe because of weather and fertility; We started these too late to get blooms this year.

Additional Comments: Similar to 'Guardian' - they grew very similar in field together; Well accepted sky blue color, plants were nice and held up well to winds in field, still blooming after numerous frosts; Might do better in hoop house or field in cooler weather, today (10/24) plants look healthy and some have new flower stalks with flowers about to open, but they are short (Zone 7).

Helianthus F₁ 'Sunrich Gold'

Good Qualities: Green centers (6); Great petal color (4); Pollenless (3); Overlapping petals, very good flower size, good foliage size, good gold, uniform height and timing; Well formed heads; Strong stem not too thick; Very strong, great eyelashes, thrips left it alone, very large head; Size, sturdy stem - I loved this one - And customers found it a nice change from brown center, while still having a typical showy sunflower image; Nice new color disc, same quality stem as 'Sunrich Orange', performed equally well in our direct seed trial in August; Market prefers black disc; Even, steady growth, will grow again, a nice sunflower; Nice size, blooms about 6 inches in diameter, heads were held upright on strong stems. I managed to get to these before the beetles could,

customers liked these and bought them eagerly.

Problems: Lot of rust, light disk is main problem; When aged, has cobwebby, off-white, look of centers (loses green color); plants were nipped off by some little varmint right at ground level; Only got one cut per plant, useful branching did not happen but we were quite droughty here all summer.

Additional Comments: Similar to 'Sunrich Orange'; Good single stem, a few axillary branches for bouquets; My customers chose these over all my other sunflowers, and they sold out before any others started moving; Will add to our farm mix next year, top trial at our farm for 2003; Have grown before, nothing too special for my market; The thrips love the 'Sunrich Yellow', but not the gold or orange; Began blooming 9/17 - about 2 months after seeding; We will be selling this, I really liked this one; One trialer's results:

	3 May planting	9 June planting
1st harvest	26 days	22 days
Peak	30	25
Last	45	36

Ernst Benary

Helichrysum bracteatum 'Giant Ball Mix'

Good qualities: Bright colors (4); Good color range (5); Long stems (3); Upright growth, easy to contain; Vigorous; Best strawflower for our region (larger); Farmers' market customers liked in solid bunch and in mixed bunches; Strong growing strawflower - vigorous; Its an OK helichrysum; Nice burgundy flower color; Full of foliage; Performed exceptionally well through drought, achieved good height (36 inches) w/o supplemental water, plants turned out an abundance of blooms all season long, right up to frost, I cut stems for dried use only (no fresh), I did not want to wire heads so cut stems at about 6 inches, 10 per bunch, hung to

dry, customers eagerly bought them in fall for wreath work and to wire-pick into arrangements.

Problems: Too many dark red flowers/mix not balanced (3); Late to flower (3); Japanese beetles (2); Some stem borers; What the heck do you do with this stuff?; None harvested, plants just languished, didn't really grow, have had difficulty growing *helichrysum* in past; The tips of leaves got burned; These were held in greenhouse almost 8 weeks (not recommended 3-4 weeks.), they grew giant plants, but do strawflowers need to be soooo tall?; Had some wilt problems; Blooms were of average size (1 ½ inches) - not "Giant" as the name suggests.

Additional Comments: Similar to 'King Size', 'Swiss Giants', etc., interchangeable, actually; Spray or bouquet type; Seems like every other one I've grown; Cut over several weeks period; Dried what we didn't sell as fresh products; We don't sell any strawflowers anymore, with all the other specialty cuts available in August, it doesn't seem to be in very high demand; This was super, picked many to dry; They took frosts, even hard freeze.

Rudbeckia hirta 'Autumn Colors'

Good Qualities: Beautiful colors (8); Nice color range (3); Large flowers (3); One plant is gold w/dark disk and is very attractive, good overlapping petals, Flat presentation; Nice petals, forms and size; Long stems, strong stems; Would make a good landscape plant; Nice mix of form, good production; Customers took bouquets of 'Autumn Colors' over 'Indian Summer'; Great for bouquet work, great vase life; Great rebloomer, still blooming on October 31 in Zone 6b; Especially for autumn, would be great in a border planting; This year the plants are stunted, however, in last year's trials they reached 24 inches and had 4-6 usable stems, they bloom 2 weeks later than 'Rustic Shades', but have a better color range, good autumn colors; Easy growers, prolific bloomers.

Problems: Too short (5); Better suited to fall production because of color; Deer love to eat *rudbeckia*, are not a good seller in our area; Not really "new" to anyone; Stems were much shorter than 'Indian Summer' which we grew this season; Retail florist thought the colors were too dark though; I have had difficulty getting these to perform well in the late summer when the market would be better for these flower colors; Wilted in vase, need to learn postharvest technique; Lacks consistency of color, most flowers are brown-red, some range to yellow and orange.

Additional Comments: Similar to 'Rustic Shades'; I grew 'Indian Summer', 'Prairie Sun', and 'Goldilocks', none of my florists were buying them - don't know why, they were gorgeous!; Didn't sell well in summer, but a sellout every week in fall; We loved this color but our customers did not, the deer helped pick the stems so this number is a guessmatic; We have hard water, plants died in seedling tray from overhead watering, only 15 plants to bloom, while transplants I ordered from 'Indian Summer' grew well; My customers seemed to like this one better than 'Prairie Sun'; Plastic mulched crop matured about 7 days

“Extremely varied forms in this mix (*Celosia* 'Supercrest'); every once in awhile there is a striking one, in a good color.”

earlier than those in soil with no mulch; If the stem length could be increased this would be a real winner; Plants are susceptible to wilt; Nice plant for mid to late summer, good for farmer market sales. (See article in this issue for postharvest testing of this cultivar.)

Rudbeckia hirta 'Goldilocks'

Good Qualities: Double flowers (6); Very showy and uniform, fast to flower, many petals; 85 days from seed to blossom, perfect filler size for

bouquets, excellent 2 tone gold color with variable petal count, good vase life, good stem length; Butterscotch yellow petals; Would make a good landscape plant; Nice sized, stems are sturdy; Tall strong plants; Good vase life; Beautiful flowers, great rebloomer; Easy; Cheerful color; Great, good novelty cut, 4-6 usable stems, 20 inches long; Flowers were 2 ½ inches across.

Problems: Too short (3); My customers have no interest, deer love *rudbeckia*; Some plants died off in the row, they didn't seem to have very consistent growth; excessive rain could have been a problem, but I would say more humidity on leaves than wet roots caused the problem; Raggy looking, did not hold up well (hydration); Poor germination compared to the other *rudbeckias*; Too short for use in bouquet work used most of them for "free for kids" vase at farmers' market; For me this cultivar was not very uniform and I had a lot of problems with its lodging; Wilted in vase, need to learn about better postharvest techniques; Deer ate every one of them, pulled the entire plant, usually they nip a few *rudbeckia* so I can only guess 'Goldilocks' tastes better than any other variety; Plants did not do

well; Poor germination, plants not as healthy as two other *rudbeckias* trialed. **Additional Comments:** Home garden item; We like this plant/flower; Stems too short, mildew started early in season and plants quit producing or died off; It's best to treat this as hardy annuals for best and strongest growth – I also grew 'Indian Summer', 'Autumn Colors' and 'Prairie Sun' in same conditions – The other 3 were strong growers and beautiful flowers and I have not found 'Goldilocks' to be good; Appears to take 3 degrees of frost without any damage, not as

popular as the other rudbeckias grown; Another great flower in need of longer stems; If these plants survive our Zone 4/5 winter (and I hope they will) my second year plants have much better height and yields. (See article in this issue for postharvest testing of this cultivar.)

Rudbeckia hirta 'Prairie Sun'

Good Qualities: Great color pattern of light yellow edge and gold center (9); Large flowers (5) 5 to 6 inches across; Very showy, light center very nice, good petal form and overlap; Nice new rudbeckia; Excellent color for bouquet mixes; Productive, no problems; Very nice addition to green-eyed rudbeckia selection; Excellent germination, excellent vase life (10 days); Beautiful flower; Vase life 1 week; Long season bloom, lots of stems, this one worked well in my bouquet mix; This year they are stunted, perhaps started too late, but last year they were amazing, strong tall plants, truly deserving of their AAS award; Sturdy stems, vase life acceptable (5 days), easy to grow; I liked these flowers and so did my customers, nice sturdy stems.

Problems: No problems (2); Short stems (2); One plant is very different, has dark centers; Possible heat stress early, high 90F in late May; For some reason, rudbeckia were not very popular by the consumer – The only rudbeckia that sold ok was 'Indian Summer', in years past I have sold a lot more; Deer love rudbeckia, customers did not like in grower's bunches; Consumers familiar with black-eyed Susans wanted them – Most didn't care or didn't see them cause they wanted sunflowers; Insects were a problem – the rudbeckias are bug central, not all centers were acceptable; Grew 2nd crop, yielding November, stems short at 3 inches; If these plants survive our Zone 4/5 winter (sometimes they do) I would expect much better height and yields for next year, I have my fingers crossed!; Some plants demonstrated colors not consistent with the variety description, most plants didn't flower.

Additional Comments: This was a welcome addition to our rudbeckia offering; Will grow next year to use in mixes; We had germination problems so I didn't have as many plants as I would have liked, my customers just didn't seem to like this one as much as the standard rudbeckia; Need to promote all rudbeckias within the industry – these could and should overtake helianthus in popularity in everyday design work; Not quite as great a plant as 'Indian Summer' but pretty darned good; I love the color; Nice addition for a farmers' market bouquet. (See article in this issue for postharvest testing of this cultivar.)

Trachelium 'Jemmy Royal Purple'

Good Qualities: Great color (5); Good umbels, quick to flower, quite uniform, we grew them in a shade structure here (Zone 10); Excellent germination, made a good filler in bouquets, nice dark purple flowers and foliage, very productive, easy to grow; Delicate flower; Had many comments from customers, but we have trouble using it in mixed bouquets, very dark, easy to germinate and grow; Good filler; Very saleable flower in the summer; Great in bud and full bloom, dark stems beautiful in a clear vase.

Problems: Color is not purple, it is burgundy or wine colored; Possible heat stress early, high 90F in late May; Wasn't a big seller, most customers thought it was a statice and asked if it could be dried, it turned brown fairly quickly; Not profitable for us; Need longer stems; I have a really hard time getting this plant to perform, will definitely try it again in better spot; Without support, some twisting and curving of stems.

Additional Comments: Similar to 'Devotion'; Third year trying this series, needs to be taller; It would be nice to have these small seeds in pellet form; I would try one of the other 'Jemmy' varieties, I suspect if grown in the greenhouse, would have been taller and more appealing; *Trachelium* are difficult to grow in our state (NH), we have grown other *trachelium* with very little success; Began picking 8/5,

continued blooming into October, frost tolerant; I think this one did not germinate for us or got overlooked when we were seeding plug trays, we are going to plant 2 or 3 or all of the 'Jemmy' series in 2004; Unfortunately, none of my *trachelium* germinated.

Fred C. Gloeckner

Ammi majus 'White Wonder'

Good Qualities: Good filler flower (3); Very showy, large plants, gorgeous umbels; Early, white; Long lasting, longer than others; Good germination and transplant to field; Early and nice form and color bright; Easy to grow, no pests or diseases, easy to cut and harvest, very clear in color and nice texture.

Problems: Petal shattering (2); Often perceived as a 'wild weed'!, therefore not a great consumer item; Stems are not as stiff as other varieties we have grown; Needed support, not vigorous; Did not survive; I might have been allergic to it, unsure though; These went out with a crop of *Ammi visnaga* and both fell prey to aster mosaic virus; Seemed to be an inconsistency in plant height; Crop failure, think it got too hot and dry for a good crop.

Additional Comments: Similar to white dill; Basic Queen Anne's lace; Planted late and didn't produce, this is the 1st year we had an excellent crop of *Ammi* 'Queen of Africa' which was planted earlier and got a lot of rain; Needs staking; Not much different from other *Ammi majus* I've grown, except for the longevity; Cut from 6/4 - 6/24 (Zone 5); We did not see any great differences between this crop and the *ammi* that we grow presently, small seed quantities was the limiting factor in comparisons; Beautiful in bouquets, but consumers thought it was a wildflower which seemed to decrease perceived value; I'll grow again because it is the earliest *ammi*; Makes a nice filler, there is such a large supply of Queen Anne's lace growing on roadways and farm fields that is available that I don't think I need to grow this.

Celosia 'Supercrest' Mix

Good Qualities: Excellent color mix (5); Consumer loved the colors and textures; Strong stems, no breakage; Unusual flower form; The only good one is the hot pink or burgundy, the orange shows promise; Extremely varied forms in this mix, every once in a while there is a striking one, in a good color; Beautiful dark red to yellow range, etc. unusual shaped 'brain' celosia, spectacular some of the time; Only one color in the mix was appreciated; Some outstanding colors that were unusual and customer-magnets; but these were very limited within the mix – these colors were amber, deep orange, green-bronze, standard colors were shades of pink/rose, burgundy, yellow; Compared to other celosia varieties we planted this year, this variety demonstrated the highest spider mite tolerance.

Problems: Extremely varied in form (4); Most of the colors were extremely muted or faded (3); They are too wild and "gangly" looking; There are several other celosias I like better, poor germination; Field is poor in terms of quantity because so many stems grow as spikes (like 'Hi-Z'); The plants got tall so they fell over; Very high percentage of unusable stems, I ended up harvesting while the heads were still relatively small (2 ½ inch) because they got ugly as they got bigger (4-5 inch) plus the colors look better when displayed together; Heads are small and twisted instead of fan shaped, looks weedy; Some heads were fist-shaped, others like flat fans, lacked uniformity, allowed plants to stand as long as possible, uncut, in the hopes of achieving "Super" crests – crests never reached "super" size and went to seed more quickly than other celosia varieties, thus limiting yield potential overall, was disappointed in my expectation for this variety but would know better, what to expect in the future and would like to grow it again.

Additional Comments: Similar to 'Kurume'; Would only grow 'Supercrest Burgundy' at this point; Late blooming, no frost, so yield better than other trials, thick stem, used crests

at times; Transplants were uneven; The 'Supercrest Burgundy' is even more consistent but still unpredictable, I've grown 'Supercrest Burgundy' for 3 years and the mix for 2 years, I won't grow either again; This cultivar really has a lot of potential but the number of unusable stems really needs to be reduced, I would say that more than 60% of the stems are not marketable as mature heads; The search for a seed source for truly giant heads goes on, I can do giant rose-colored, would like to do other colors as well.

Consolida 'Imperial White'

Good Qualities: Full double flower heads (2); Many flowers per stem; No disease problems, good clean white color, good stem strength; Kept reblooming until late August (Zone 6b); White always adds sparkle to bouquets, good substance.

Problems: This planting, treated like 7 other varieties I grew, had every problem I have ever encountered in larkspur, from mildew to black rot to viral deformities and I harvested nothing; No plants to evaluate – rabbits ate seedlings; Would prefer to direct seed in fall (Zone 7).

Additional Comments: Stopped growing larkspur because fall plantings are sometimes successful, plants or

in this trial; Disease resistant, no rust problems; Stem strength; Incredible number of blooms, rebloomed until late Aug (Zone 6b); Customers love this deep blue violet, can never have too much.

Problems: Rabbits damaged plants so they are spotty in performance; Did not stake and plants lodged at 4 inches; Stem length, but I might need to be taught how to cut them better; Would prefer to direct seed in fall (Zone 7); We lost a few plants to a crown rot, either *Erwinia* or *Pythium*.

Additional Comments: Similar to 'Sublime' (2) or QIS; Planted in high tunnel and performed well, larkspur is generally hard for us to grow; We did not find significant differences between this and the Kieft QIS larkspur, so seed prices would be the final deciding factor for production; Great for dried work; From experience, we have found 'QIS Dark Blue' to be more uniform and double than 'Imperial'.

Consolida 'Imperial Orchid'

Good Qualities: Great color (4); Many stems, color is very close to 'Dark Blue Imperial'; Lots of blooms; Confusing, since 'Orchid' is usually purple.

Problems: Disease prone plants succumbed more quickly than my

"This planting of 'Imperial White', treated like 7 other varieties I grew, had every problem I have ever encountered in larkspur, from mildew to black rot to viral deformities and I harvested nothing."

seeds do not winter over – spring planting of plants are rarely successful due to very short stems; All florets were indeed double very similar to Kieft 'QIS White', seem amounts were way too skimpy to give accurate trial data; I'm not sure I knew the best way to cut this flower to get longer stems but it was great for dried work.

Consolida 'Imperial Dark Blue'

Good Qualities: Good dark blue color (6); More disease resistant than others

standard plantings; Mildew; We would like to grow larkspur but this variety as with others seem to succumb to root rot or disease; Stem length; Would prefer to direct seed in fall (Zone 7); Too few florets per stem.

Additional Comments: Would benefit from support wires, these plants did not grow to be taller than 24 inches, we usually have much taller larkspur; Germinated well, 70 transplanted to field only 33 plants to bloom by mid June; Wonderful for dried work.

Consolida 'Pink Fantasies'

Good Qualities: Full double flower heads (2); Beautiful colors (2); Many flowers per stem; Pink shades, very attractive; Wonderful! Produced long into season, stems were strong; great rebloomer; Unusual "frilly" flowers; These plants were quite uniform and grew more rapidly than the Imperial series.

Problems: Larkspur is not a profit maker, lots of weeding for a very small flower (takes a lot of stems for a bunch); No problems with growing or germination; Stem length could have been longer; Would prefer to direct seed in fall (Zone 7); Very poor germination, no results; Sort of a bright pink for my tastes.

Additional Comments: Stopped growing larkspur because fall seed plantings do not always winter over and spring plants normally produce very short stems; Great mixer or by itself, people snatched it up quick!

Helianthus 'Full Sun Improved'

Good Qualities: Excellent color (3); Strong stems (4); Plants were vigorous (2); Pollenless (2); Very tall for a cutting sunflower, if you need that much stem length, it could be useful; Huge sunflower head; Long stems; Fits customer image of sunflower; Typical brown disk gold petal-marketable; We liked the petals because they were longer petals than 'Sunbright' petals; Not bothered by insects, nice dark center, nice ruffling, flowers held upright on strong stems.

Problems: Short-day flowering variety, which makes it very tall and late for summer field production, huge heads, massive stems, good for a sunflower maze, large foliage as well; Longer petals than average meant they bruised very easily; Quite a few plants were multiple head and useless to me; Stems about 2 to 2 1/2 inches thick, rain and handling damaged petals, too large flower and stem; Thick goose-neck; None; A little shorter than other varieties, under 4 feet.

Additional Comments: Similar to 'Sunrich Orange'; Sold many seed heads for decorations and bird food (\$1 to \$2 according to size of seed head); Have grown before, nothing too special for my market; Just about 4 feet tall; Kind of an unremarkable sunflower; Petals not as golden as 'Golden Glory', began blooming 9/10, about 2 months after seeding, and a week earlier than 'Golden Glory'; Would prefer more height and size to bloom, still a nice cut; One trialer's results:

	3 May planting	9 June planting
1st harvest	37 days	30 days
Peak	45	30
Last	45	33

(See article in this issue for postharvest testing of this cultivar.)

Helianthus 'Golden Glory'

Good Qualities: Beautiful golden color of petals with typical sunflower brown center (6); Large flower heads (2); Last to flower, flower is a good size, not too large; Uniform bloom time; Nice bloom, stems were easier to strip than other varieties; Very strong stem; Nice size disc; Thinner stems, flower head at less than 90°, slightly longer petals with up to 8 inch heads; Strong stems, very well accepted, nice size flower heads; Shorter plants than many other cultivars; Sturdy stem, pollenless, customers love this type at our market; Good vertical stand for petals; Uniform height and flower consistent in size; Nice flower.

Problems: Poor germination (5); Stems too thick (3); No problems (2); Rust; Seedlings "spiraled" at soil level, most didn't live to get in the ground; 18 to 24 inches total height, very small blooms; Rain and handling damaged petals, customers would not buy too large flower and stem; Pollen; A little taller than average, a reach to pick; Didn't like the way the petals didn't open, they seemed short, would like a taller sunflower; Did not perform well for me (Zone 6b); Staggered blooming, cutting at longer stem lengths would include buds too immature; Too big a

center and too short of eyelashes; Too large for cuts; Hit by disease, didn't fully recover, head is heavy.

Additional Comments: Similar to 'Sunrich Orange' (2); Germination was poor, about 50%, transplants had very weak necks; Spotty germination due to dry conditions; Sold the seed heads; We grow only pollenless sunflowers; I prefer 'Full Sun'; Bloomed late into season, height of plant, easy to cut; Do we need more sunflowers for outdoor field production?; Thrips loved it; Kind of an unremarkable sunflower; Began blooming 9/17, a week after 'Full Sun', but still not much more than 2 months after planting; Won't replace 'Sunrich'; Slightly smaller flower than 'Sunrich Orange', nice for bouquet use, liked by customers at farmers' market; Needs work; One trialer's results:

	3 May planting	9 June planting
1st harvest	25 days	22 days
Peak	30	25
Last	45	29

Iberis odorata 'White Pinnacle'

Good Qualities: Good germination; Harvested all flowers for a wedding and like how they arranged even though they were short; Nice filler.

Problems: Poor germination (6); Too short (3); Poor vigor (3); Ready to pick before any other flowers in our annual garden; Plants were stressed when transplanted, we did not harvest any stems from the 8 plants that actually made it out of the greenhouse.

Additional Comments: Similar to any candytuft, planted very late and experienced drought problems, very short stems, not usable, due to extended time in plug trays; Only 4 plants to bloom, picked on 6/16; We treated this crop as a transplant this year and really ought to have direct seeded it, to assess whether it is capable of coming to flower as a direct seed crop.

Matthiola 'Quartet' Mix

Good Qualities: Full range of colors across double plants; Fluted single petals, nice colors; The ruffled quality of the flowers was very nice; Nice color mix, flowers were double and nice size, stem length was good and strong stems; Uniformity, easy to transplant because of strong early root development.

Problems: Short in summer season; My mix was all white; It gets too hot, too fast for us to grow stocks, we have tried for several seasons, plants branched; No growing problems; This crop bolted in the greenhouse early in the spring; None to speak of.

Additional Comments: Similar to other field cut varieties; Spray or bouquet; Few doubles, mostly singles; In colder climates, this crop should probably be started quite late as a greenhouse crop and put out in the field earlier than June 1 to alleviate the bolting problem; More uniform than "Column" series, but size of inflorescences were generally smaller.

Goldsmith

Eustoma 'Cinderella Ivory'

Good Qualities: Great color (2); Fully double (2); Actually distinct from "White"; Large flower, early; Nice rose bud; Flowers were nice; Tall, strong plants; Good length even out in the field, strong stems.

Problems: Semi-double, reflexed petals, not white, usual lisianthus disease problems; Possible heat stress early, high 90F in late May; No much second flush, not memorable color; This one was a little shorter than the others, I'm not sure if it is the cultivar or if it was the result of "grower error"; Just didn't mature (Zone 6).

Additional Comments: Similar to 'Balboa White'; Good white to grow; Customers like all lisianthus; I like the 'Cinderella' series, strong grower - especially pink; 'Cinderella' is a very nice series, plants are tall stems are strong, flowers large and double.

Eustoma 'Cinderella Pink'

Good Qualities: Double (5); Nice dark pink (4); Strong plants (2); Heads were full and made nice bouquets; Large flowers, there seem to be less variation in the flower color than I remember last year.

“Twinkle White’ is a nice spraytype lisianthus, small flower size makes this one great for bouquets.”

Problems: Some semi-double, light pink, variable height, lisianthus disease, phytophthora; Possible heat stress early, high 90F in late May; Single; Just didn't mature (Zone 6).

Additional Comments: Similar to 'Balboa Rose' (2); Excellent, definitely grow again; I like 'Cinderella' series, strong growth; 'Cinderella' is a very nice series, plants are tall stems are strong, flowers large and double.

Eustoma 'Cinderella Yellow'

Good Qualities: Nice pale yellow (3); Strong stems (2); Fairly good spray, early to flower; Large bloom with good form, vigorous; Rose-like cut flower, long lasting in vase; Large, double flowers.

Problems: Poor flower form, low branching, lisianthus diseases; Possible heat stress early, high 90F in late May; Very difficult growing season make this difficult to evaluate; Did not perform (Zone 11); Just didn't mature (Zone 6).

Additional Comments: Similar to 'Balboa Yellow'; Good; Very close in color to 'Malibu Green'; 'Cinderella' is a very nice series, plants are tall stems are strong, flowers large and double.

Eustoma 'Twinkle White'

Good Qualities: Very white petals (5); Very good spray, quite uniform, early; Strong stems, good field performance; Picked many, a long season - 2 months; Strong stems; Good grower; Nice spray type lisianthus, small flower size makes this one great for bouquets.

Problems: Single flowers (2); Ruffled petals (could be a personal prejudice); Possible heat stress early, high 90F in late May; None; Shorter stems than other varieties; Small flower; Just didn't mature (Zone 6).

Additional Comments: Similar to "Malibu White" and "Heidi" series; Small flowers (2); Single flowers (2); I didn't like this one; Shorter stems, but this was not a problem, we used all the flowers for weddings; Even though I now know I can grow from seed, I will order transplants.

Eustoma 'Twinkle Yellow'

Good Qualities: Yellow single; Early to bloom, nice size bloom; Nice rose bud; Strong grower; Nice spray type lisianthus, small flower size makes this one great for bouquets.

Problems: Not a good yellow, closer to 'Ivory', flat, reflexed petals, lacks uniformity for height, low branching, poor spray; Possible heat stress early, high 90F in late May; None; All three colors (yellow, ivory, green) very close in color - look-a-likes; Single small flower; Just didn't mature (Zone 6).
Additional Comments: Good; I don't like this variety, it tended to be shorter and the singles aren't as nice; Customers like all lisseys.

PanAmerican

Antirrhinum Expt. G3,4 Rose

Good Qualities: Beautiful rose color (8); Strong stems (5); Tall, early; Would grow again if could get better germination; Full heads, produced many stems all season; Summer long blooms (June-Oct), I want more of these, wonderful, florists loved them; Mixed well with other colors, a good field performer for the long haul, no problems with rust or any particular insect.

Problems: Not a particularly striking color, florets somewhat loosely spaced; Poor germination; Many stems too short; Did not perform in Zone 11; Need to use netting; Short flower head, perhaps wrong time of year to grow; Would have liked longer stems, but had a very dry summer.

Additional Comments: Poor germination, I grow other snaps from seed and don't usually have difficulty in getting plants germinating or growing; Did not appear as anything special as compared to the current 'Rocket' series; What is it called so I can get seed?; Florets drop easily when handling; Used one tier of support netting, two would have been better.

Antirrhinum Expt. G3,4 White

Good Qualities: Bright white (5); Strong stems (4); Earlier than 'Rocket', tall; Produced all season; Summer long blooms (June-Oct.); Large florets, longer flower head than the Rose; Flowers were a good quality, white blooms held well in vase; Nice size, very strong field performer with long season of useable bloom, no rust.

Problems: Not outstanding; None; Florets loosely spaced, not a real full-looking snapdragon; Slow to rebloom; Did not perform in Zone 11; Need to use netting; Showed early rust challenges; Would have liked longer stems, but ours was a very dry summer.

Additional Comments: Similar to 'Orlando White' and 'Rocket White';

Did not harvest due to short/poor quality flower; Did not appear as anything special as compared to the current 'Rocket' series; Still blooming in mid Oct. after 5 degree of frost, pinched early May in greenhouse before transplanting; Florets drop off when handling; Used one tier of support net - two would have been better.

Antirrhinum Expt. G3 Lavender

Good Qualities: Excellent clear color (7); No rust (2); Earlier than 'Rocket', tall, good for cuttings; Prolific, kept going all summer, no caterpillars (great); Strong stems, produced all

season; Great for wedding work, good stem strength; I love the color – especially mixed with white and plum purple glads, it is unusual and soft, maybe mauve rather than lavender, long bloom season, still going strong on 10/24 in Zone 7; Good stems; Fairly strong, upright stems, bloomed over a long period of time, no particular insect problems.

Problems: Color not particularly striking, somewhat washed out (3); Consumer did not buy it when it was in a bunch of itself, only in mixed bouquets; Slow to rebloom; Need to use netting, which I didn't get around to; Florets drop off when handling; Rust, which usually come with later plantings here in Santa Cruz; Longer stems would have been nice but we had a droughty summer.

Additional Comments: Did not harvest due too short/poor quality flower; Would love it in a pinker color; Did not appear as anything special as compared to the current 'Rocket' series; This crop was pinched prior to tp into the field, we were able to harvest for approximately 5 weeks, and they just kept on coming back very well; I've waffled on this all season, the color just doesn't stand out enough to get excited about; An unusual color – lavender/mauve, not always easy to mix with other flowers, not a color customers typically have in their homes, we used one tier of support net, two would have been better.

“This color delphinium stole the show every week!, intense blue with lavender shading was vibrant and beautiful, I sold every stem of 'Guardian Blue' every single week.”

Delphinium 'Guardian Blue'

Good Qualities: Nice iridescent purple-blue color (7); Strong stems (3); This color delphinium stole the show every week!, intense blue with lavender shading was vibrant and beautiful, I sold every stem of this every single week, this will replace 'Bluebird' in my future plantings;

Strong stems; Flower stems are full and very well accepted; Good for everyday design; Large flower; Great plant, nice stem length; Plant forms a healthy rosette; Very happy to get bloom in same season; Plants grew vigorously and weren't reluctant to bloom well in the first season.

Problems: Poor germination (3); Short for delphiniums but expect it to be taller next year; Lost several transplants to cold after planting to field, stems could be longer; We stratified the seed on all delphiniums for 4 weeks prior to setting out in the greenhouse; Plants and stems never grew very tall, maybe because of weather and fertility; Lost too many in plug trays; Started too late, no blooms; Some mildew as the crop aged; Needs a cooler, earlier start than I can give it, only time will tell if plants set out this fall will be productive next spring.

Additional Comments: Similar to 'Magic Fountain'; We mainly grow 'Oriental Blue'; 'Guardian' is a nice color and more like standard delphiniums, it will be a nice addition if it overwinters and is not too tall; We have had numerous frosts and the plants are still blooming and beautiful, flowers once cut, lasted well; Might do better in hoop house or field in cooler weather, on 10/24, plants look healthy and some have new flower stalks with flowers about to open, but they are short (Zone 7); For first year I think it did quite well; I think I'll like the

'Aurora' series better; I personally prefer to buy plugs for delphinium.

Delphinium 'Guardian Early Blue'

Good Qualities: Beautiful blue (2); Marginally earlier than 'Guardian Blue'; Very pretty flower, liked the color better than 'Guardian Blue'; Good stem strength; Large blossoms.

Problems: Poorer germination than others in the series, and seedlings were more spindly; Did not perform in Zone 11; Plants and stems never grew very tall, maybe because of weather and fertility; Started too late, no blooms, good healthy plants though; Wimpy transplants, poor germination.

Additional Comments: We grow 'Magic Fountain' mix and don't have any this color, better plants in fields than 'Guardian Blue'; Might do better in hoophouse or field in cooler weather, on 10/24 plants look healthy and some have new flower stalks with flowers about to open, but they are short (Zone 7); For first year this one did good.

Delphinium 'Guardian Lavender'

Good Qualities: Terrific color (5); Productive, healthy plants; Strong stems, attractive; Nice full flower heads, strong stems, lovely 2-tone; Very good stem strength, good for everyday bouquet use; Large flowers; Healthy plant, good size and transplanted well; Bloomed well once plants were sized up.

Problems: Poor germination (2); Mildew (2); Color is a bit washed out; Plants and stems never grew very tall, maybe because of weather and fertility; Lost a lot to damping off in plug trays; Started too late, no blooms; Both 'Guardians' sometimes produced side shoots before main stem in our trials. **Additional Comments:** Similar to 'Magic Fountain'; Will reserve judgement until I see how it performs in year 2; Color is nice, but would be more accepted if darker, plants still blooming after numerous frosts; Might do better in hoophouse or field in cooler weather, on 10/24, plants look healthy and some have new flower stalks with flowers about to open, but they are short (Zone 7); Did good for first year; I will definitely grow again, not too tall and kept on producing even when it got miserably hot.

Delphinium 'Guardian White'

Good Qualities: Excellent white (2); Productive, healthy plants for 1st year

delphinium; Strong stems; Good stem length for everyday bouquets, not too big; Quick from seed, pretty uniform; Tallest of four delphinium trialed.

Problems: While delphinium with a white bee is "boring," my customers prefer 'Percival', with a dark bee; On the short side, but planted late and first year; Mildew due to wet conditions; Did not perform in Zone 11; Started too late, no blooms.

Additional Comments: Didn't have a powdery mildew problem as our Belladonna-type whites seem susceptible to - need to see how it does next summer; Our transplants were devoured by Delphinium leaf tier caterpillars in the greenhouse in mid May, it took most of the summer for them to recover, but still we were able to harvest a few stems; Just didn't do well (Zone 7); Did good for first year.

Eustoma 'Balboa Rose'

Good Qualities: Very nice color (6); Double (4); Large flowers (2); Strong stems (2); Late bloomer; Many open at once, strong stems, well accepted; Good height; Long stems; No netting and no falling over.

Problems: Possible heat stress early, high 90F in late May; None; Almost no second flush; Stagger bloom maturity, otherwise would cut longer stems; Just didn't mature (Zone 6); None after transplanted to field; Plants were weak. **Additional Comments:** Similar to "Cinderella Pink"; Good, not grow again; This was a good color; one week vase life; Balboa series is really my favorite double lisianthus; I'm not wild about any of the rose-colored lisianthus but the florists like them.

Eustoma 'Balboa Lavender'

Good Qualities: Great color (7); Double flowers (2); Strong stems (2); Very tall; Many flowers open at a time, produced abundantly, well accepted; Good height and good second flush; Planted out rather than in hoophouse as we always do.

Problems: Possible heat stress early, high 90F in late May; None; Needs support; Not as branched (fewer stems)

than I would have liked; Stagger bloom maturity, otherwise would cut longer stems; Just didn't mature (Zone 6); Too late in season but no real problems after in the field.

Additional Comments: Not grow again, they were ok; This was the best lissi we grew this year (we grew 15 varieties); One week vase life; I'd buy the plugs for this variety.

Eustoma 'Catalina Rose'

Good Qualities: Nice bright color (5); Strong stems (5); Double (3); This was a great plant; Triple + flower, very tall; Rose-like cut flower, long lasting in vase; Beautiful, high-yielding flower, really no problems growing in the field, just hard to get germinated; Beautiful, usually grow all lisianthus in hoophouses, grew this out and it was shorter but definitely useable.

Problems: Possible heat stress early, high 90F in late May; None; Needs netting to keep upright; Stagger bloom maturity, otherwise would cut longer stems; This one was kind of short for me; Just didn't mature (Zone 6); Need to start seed much earlier, about November I guess, algae in plug trays a major problem.

Additional Comments: Definitely grow again, excellent; Seed arrived with the coating badly crushed, a packaging problem that I have never seen; I will probably always order lisianthus transplants than grow from seed; One week vase life; I love the 'Catalina' series, I'm not wild about any of the rose colored lissies, but the florists like it.

Eustoma 'Malibu Green'

Good Qualities: Unusual color (4); Single (2); Good for filler; Lots buds; Nice rose like buds; Nice addition to other flowers for bouquets or arrangements, many flowers open at once; Did well despite generally poor eustoma year, I think one wet spring stressed plants without a time to recover; Good second flush, good height; Large flowers with a nice green cast; The flower color was a nice contrast to many of the brighter

varieties we grow as bouquet complements.

Problems: Possible heat stress early, high 90F in late May; None; Customers like multi-petals best (flowers), looks like pale yellow with little green in center of flower; Single; Just didn't mature (Zone

6); Plants were generally short and erratic, but we have never been particularly good at growing eustoma.

Additional Comments: Marginal, would not grow again; This was an ok variety, not a great green color; Customers like all lisseys; Green didn't look so green in the field, but definitely had a green cast when mixed with other flowers, many people thought it was pale yellow until put next to green lisianthus; Except for 'Malibu Deep Rose' and 'Malibu Peach', I won't grow any more singles; It would be nice to have a more definitively green flower.

Eustoma 'Balboa Yellow Improved'

Good Qualities: Nice pale yellow (2); Strong stems (2); Double; Nice full flower, nice mixture with other colors; Large very double flowers with long strong stems; Good length.

Problems: The color was more a cream than yellow (2); Poor germination (2); None; Didn't stand out among the whites it was marketed with; Very slow in the seedling tray and pack, I did not realize it was so slow on the front end; Just didn't mature (Zone 6); Plug tray problems, no problem in field, algae.

Additional Comments: Marginal, would not grow again; Not especially yellow, this is the first time we have grown lisianthus; It would be nice to have a more definitively yellow flower, 'Balboa' series is really my favorite double lisianthus; I grew yellow 'Balboa' in hoop house from plugs I bought - Florists loved them - 40 inch stems, I can't see any difference between yellow and yellow improved.

"The flower color was a nice contrast to many of the brighter varieties we grow as bouquet complements."

Your Cut Flower Source



SEEDS

Asters • Celosias • Delphiniums • Dianthus • Exotics • Godetias • Gomphrenas • Grasses
Larkspurs • Lisianthus • Ornamental Peppers • Ranunculus La Belle • Snapdragons
Statice • Stocks • Sunflowers • Zinnias • Etc. . .

PLUGS

Asters • Gomphrenas • Gypsophilas • Larkspurs • Lavenders • Lisianthus • Ornamental
Peppers • Ranunculus La Belle • Scabiosas • Snapdragons • Statice (Limonium) • Stocks
Tracheliums • Veronicas • Zinnias • Etc. . .

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