

2001 ASCFG National Cut Flower Seed Trials

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Each winter I eagerly review the list of cultivars to be trialed and wonder which ones will be the winners. Sometimes I guess right and sometimes I guess wrong. I had high hopes for the *Asclepia Silky* series from Kieft based on the fact that 'Silky Gold' did well in the trials when it was first released. Well the other two cultivars, 'Silky Deep Red' and 'Silky Scarlet', have turned out to be excellent additions to the series. Both cultivars are similar to the original species with bright red outer floral parts and yellow-gold inner parts. The two cultivars can be difficult to tell apart but 'Deep Red' appears to be a little darker/more colorful than 'Scarlet'. All three cultivars are uniform, productive and tall. These plants love hot weather and do best when planted after the soil is warm. As with all good things, there are some problems. The sap can be irritating to some people - be especially careful to not get it in your eyes. Plants are particularly attractive to aphids and postharvest wilting can be a problem. One trialer noted that while stems wilt after being first cut, they will rehydrate and can be marketed after being recut a second time. Another grower recommended cutting early in the morning and using a hydrating solution.

Pan American's *Dianthus 'Bouquet Purple'* made many bouquet makers happy. This prolific flower producer is quick to flower from seed and very productive. If you get behind on the harvesting, it may be easiest to cut back the plants and allow fresh, new stems to emerge. Plants continue to flower all season long and tolerate heat well - definitely a plus in the south. Flower heads are smaller and looser than sweet William-type dianthus and lightly scented. Insufficient height was a problem for some trialers but others got 24-inch stems. Plants are cold tolerant and still flowering in our trial plots as I write this in mid December. We look forward to seeing what they will look like next season.

Sakata had one entry in the trial program and it did well. *Gomphrena 'All Around Purple'* has all of the good qualities of gomphrena - high productivity and heat tolerance. A couple respondents noted that 'All Around Purple' has larger flowers and longer stems than similar dark purple gomphrenas.

American Takii has introduced a whole new line of cut flowers including annual asters, delphinium, godetia, sunflower, linaria, and stock. Of those species the *Delphinium 'Aurora Blue'* and '**Lavender**' garnered the best results. Both cultivars flowered rapidly from seed and tolerated heat well. Most delphiniums do not perform well in the first year from seed; however, 'Aurora' produced moderately tall stems that scored well with customers. Also notable was the *Linaria Lace* series. These prolific producers perform best in cool climates and melt out in the heat. The spikes of small snapdragon-like flowers work best as filler flowers, especially in direct retail markets.

The *Eustoma Balboa* series from Pan American performed well in the trials. Trialers noted their high bud count and beautiful colors. Eustomas are a favorite with customers as evidenced by the high marketing ratings.

Sunflowers are a mainstay of the field cut industry and Gloeckner included several great varieties this year. '**Earthwalker**' and '**Orange Mahogany**' were both uniform and vigorous with medium-size heads. 'Earthwalker' is a mixture of solid-colored flowers ranging from dark orange to

dark bronze; all have dark disks. 'Orange Mahogany' is a yellow and bronze bicolor with the bronze around a dark brown disk.

Benary has become well known for its series of Lobelia cultivars. The latest one to be tested, ***Lobelia 'Fan Burgundy'***, received compliments on its color and scored well when sold directly to consumers. For best results start plants early in the season. 'Burgundy' combines well with the other colors in the series.

Changes, changes, changes - we are always making changes to the trial report. This year we included the range of responses in the tables to give you an idea of what individual trialers reported for each cultivar. We thought the additional information would allow you to better interpret the tables. In addition, we added the amount of space (inches²) that people gave each plant.

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 two trialers responded. Thus, from the 2001 trials ***Asclepias 'Silky Deep Red'***, ***Delphinium 'Aurora Blue'***, ***Dianthus 'Bouquet Purple'***, ***Eustoma 'Balboa Blue Blush'*** and ***Gomphrena 'All Around Purple'*** are nominated as Cut Flowers of the Year and will join other nominations from ASCFG members and from the Cut Flower of the Year Panel. Experimental varieties are eligible for nomination if they are named and released.

Disclaimer: 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 lengths and yield data. If a plant does well for most of the respondents, it is likely to do well for you. On the other hand, if a cultivar didn't appear to do well in the trial, it may still be a great cultivar for you. Thus, we have included summaries of the respondents' comments to help interpret the data. 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: 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, Ingram McCall for data analysis and for taking care of the North Carolina State University portion of the trials and Diane Mays, Lane Greer, and Megan Weddington 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.

Participating Seed Companies

American Takii

301 Natividad Rd.
Salinas, CA 93906

Benary Seed

1444 Larson St.
Sycamore, IL 60178

Kieft Seeds

P.O. Box 618
Conway, WA 98238

PanAmerican Seed

P.O. Box 438
West Chicago, IL 60186

Fred C. Gloeckner

600 Mamaroneck Ave.
Harrison, NY 10528-1613

Sakata Seed America, Inc.

18095 Serene Dr.
Morgan Hill, CA 95037

Participating Growers

Leah Auffer
Bloomin Botanicals
Stillwater OK

Douglas and Gloria Austin
Austin Gardens
Flushing MI

Phil and Dorothy Bartlett
Bartlett's Ocean View Farm
Nantucket MA

Christof Bernau
University of California
Santa Cruz, CA 95064

Leon Carrier
Plant Masters
Gaithersburg MD

James Comes
Alfred State College
Alfred, NY

Connie Dam-Byl
William Dam Seed, Ltd.

Dundas Ontario

Janet Foss
J. Foss Garden Flowers
Everett, WA

Morgan Maskewitz
Flinthill Flower Farm
Buckeystown, MD

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

Chazz Hesselein
Alabama Cooperative Extension
Mobile, AL

Betsy Hitt
Peregrine Farms
Graham NC

Cathy Jones
Perry-Winkle Farm
Chapel Hill NC

Phillip Katz
PanAmerican Seed
Santa Paula CA

Judy Low
Molino Creek Farm
Davenport CA

Ingram McCall/John Dole
North Carolina State University
Raleigh, NC

Ruth Moore
Heritage Farm
Middlebourne, WV

Jim Nau
Ball Seed Company
West Chicago, IL

Becky Norton
The North Carolina Arboretum
Asheville, NC

Carolyn Ramsbotham
Riverview Farm
Madbury NH

Vicki Stamback
Bear Creek Farms
Stillwater OK

Jeanne Vana
Market Garden of Hawaii
Waialua, HI

Cheryl Wagner
Wagner's Homestead Farms
Belleville MI

Kim Wickwire
Olds College
Olds Alberta

Tom Wickstrom
Happy Trowels Farm
Ogden, UT

Lulu Wootton
Cape Farm
Marlboro VT

2001 ASCFG Seed Trial Results. First row a 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.

Cultivar	Yield (stems/plant)	Stem length (inches)	Market appreciation rating ^Ø			Repeat again rating ^Ø	Ease of cultivation rating ^Ø	Average spacing (in. ² /plant)
			Whole.	Retail	Consumer			
Benary								
<i>Callistephus</i> Gala Mix	3.1	18.8	2.0	2.0	3.9	2.9	3.6	176
	0-8	8-25	2	2	2-5	1-5	1-5	36-336
<i>Cosmos bipinnatus</i> Early Wonder	17.4	20.5	2.5	3.5	3.8	3.4	4.9	165
	1-50	11.5-30	2-4	2-4	3-5	1-5	4-5	36-432
<i>Cosmos sulphureus</i> Bright Lights	4.6	14.8	1.5	2.3	3.0	2.8	4.1	177
	0-10	7-28	1-3	1-4	1-5	1-4	3-5	21-432
<i>Didiscus caeruleus</i> Sky Blue	3.7	17.2	3.0	3.6	3.6	3.6	3.8	109
	0-10	6-32	2-4	2-4	2-5	1-5	1-5	21-216
<i>Lobelia</i> Fan Burgundy	2.4	13.9	1.7	2.3	4.0	3.9	4.4	180

	0-7	8-24	1-3	1-4	4	2-5	3-5	64-432
<u>Fred C. Gloeckner</u>								
<i>Celosia</i> Supercrest Burgundy	2.0	22.3	1.6	2.0	4.0	3.0	4.6	184
	0-5	15-30	1-3	1-3	3-5	1-5	4-5	36-648
<i>Celosia</i> Temple Belles Mix	9.0	22.5	3.2	3.0	3.6	3.9	4.8	169
	1-20	11-38	2-5	2-5	2-5	1-5	4-5	21-648
<i>Celosia</i> Toreador Red	3.1	15.3	2.5	2.7	3.6	2.7	4.5	180
	0-15	4-30	1-5	1-5	2-5	1-5	1-5	36-648
<i>Helianthus</i> Earthwalker	3.5	33.7	4.0	4.0	4.1	3.9	4.7	144
	0-10	16-72	4-5	3-5	3-5	1-5	2-5	16-432
<i>Helianthus</i> Orange Mahogany	4.9	29.7	3.7	3.6	3.9	3.9	4.9	145
	1-15	15-72	2-5	2-5	2-5	1-5	4-5	36-432
<i>Helianthus</i> Sunny	1.3	43.9	3.3	3.6	3.8	2.9	4.7	124
	1-3	18-96	2-4	3-4	3-4	1-5	3-5	36-432
<i>Helianthus</i> Tiffany	3.4	29.5	3.3	3.9	3.8	3.4	4.8	168
	1-20	13.5-72	2-4	3-4	2-5	1-5	4-5	36-432
<u>Kieft</u>								
<i>Achillea millefolium</i> Cassis	4.3	18.3	2.5	3.3	4.0	4.2	4.7	127
	0-13.5	9-34	2-3	1-5	3-5	2-5	4-5	36-432
<i>Amaranthus cruentus</i> Twin Towers Green	2.2	28.4	2.4	3.0	3.1	2.8	3.5	170
	0-6	15-42	1-4	1-4	1-45	1-5	1-5	36-432
<i>Amaranthus cruentus</i> Twin Towers Red	2.9	30.7	2.8	3.0	3.6	3.8	3.9	148
	0-7	17-49	1-5	3-5	1-5	1-5	2-5	36-324
<i>Asclepias curassavica</i> Silky Deep Red	6.9	25.4	3.2	4.6	4.5	4.4	4.5	190
	1-20	12-36	1-5	4-5	3-5	2-5	1-5	36-432
<i>Asclepias curassavica</i> Silky Gold	7.5	26.4	3.3	4.4	4.0	4.3	4.4	181
	1-20	36-22	2-4	4-5	4-5	2-5	1-5	36-360
<i>Asclepias curassavica</i> Silky Scarlet	7.1	25.3	2.8	4.3	4.4	4.0	4.5	209
	1-20	36-17.5	1-4	3-5	3-5	2-5	1-5	36-432
<i>Celosia</i> Madras Scarlet	3.4	17.6	3.6	4.3	4.0	3.4	4.5	145

<i>Helianthus</i> Eversun 2001	0-12 1.0	4-30 50.3	1-5 3.0	3-5 3.3	2-5 3.9	1-5 3.5	2-5 4.7	36-432 140
<i>Tanacetum parthenium</i>	1-1.5 4.2	18-96 13.1	1-5 2.0	1-5 2.2	1-5 3.0	1-5 2.3	3-5 3.4	36-432 112
Gold Moon Improved	0-10	8-28	1-4	1-4	1-5	1-5	1-5	64-192
<u>Pan American</u>								
<i>Dianthus</i> Bouquet Purple	10.6	15.8	4.0	4.3	4.1	4.2	4.8	104
	1-18	8-24	4	3-5	3-5	1-5	4-5	36-324
<i>Dianthus</i> Cinderella Mix	5.0	13.6	2.7	3.8	3.9	3.7	4.2	116
	0-10	9-24	2-3	2-5	3-5	1-5	1-5	36-324
<i>Dianthus</i> Cinderella White	5.0	13.6	2.0	3.8	3.3	3.0	4.1	92
	0-10	6-24	2-5	2-5	2-5	1-5	1-5	36-144
<i>Eustoma</i> Balboa Blue Blush	3.0	15.9	4.0	4.3	4.9	4.7	3.8	70
	1-8	8-28	2-5	3-5	4-5	4-5	1-5	16-144
<i>Eustoma</i> Balboa Blue Rim	2.3	15.4	3.5	4.3	4.7	4.5	3.5	61
	1-5	10-28	2-4	3-5	4-5	3-5	1-5	36-144
<i>Eustoma</i> Balboa Purple	2.2	16.8	3.5	4.3	4.7	4.5	3.5	61
	1-5	10-28	2-5	3-5	4-5	3-5	1-5	16-144
<i>Eustoma</i> Expt. White #278449	2.7	14.6	2.0	4.2	3.6	3.6	3.3	66
	1-8	9-28	1-3	3-5	1-5	1-5	1-5	16-144
<i>Eustoma</i> Expt. White #278365	2.1	14.9	2.0	4.0	3.3	3.3	3.0	63
	1-4	10-28	1-3	3-5	1-4	1-5	1-5	21-144
<i>Tanacetum</i> Experimental #12423	3.8	20.6	4.0	4.0	3.0	3.0	3.8	109
	0-9	14-30	4	4	2-4	2-4	1-5	21-144
<i>Tanacetum</i> Experimental #12473	6.7	17.5	5.0	4.7	3.5	3.5	4.1	119
	0-12	12-28	5	4-5	2-5	2-5	1-5	36-320
<i>Tanacetum</i> Experimental #12475	5.2	23.4	4.5	4.5	4.0	3.4	4.0	164
	0-10	18-30	4-5	4-5	3-5	2-5	1-5	21-432
<i>Tanacetum</i> Experimental #12482	7.2	16.6	-	4.0	3.7	3.7	4.1	99

	0-12	12-30	-	3-5	3-5	1-5	1-5	36-144
<u>Sakata</u>								
<i>Gomphrena</i> All Around Purple	11.3	16.4	3.8	3.8	3.9	4.5	4.7	172
	0-35	9-24	3-5	3-5	3-4	3-5	3-5	36-432
<u>Takii</u>								
<i>Antirrhinum</i> Sunshine	5.3	18.0	4.0	4.0	4.4	3.4	4.5	146
Deep Purple Eye	4-7	11-30	4	4	4-5	1-5	4-5	36-432
<i>Antirrhinum</i> Sunshine Lemon Eye	6.3	18.3	3.0	3.5	4.0	3.3	4.0	173
	4-8.5	13-30	3	3-4	3-5	1-5	2-5	36-432
<i>Callistephus</i> Daylight Purple	1.4	15.7	2.0	2.7	3.0	2.1	3.9	189
	0-6	8-26	2	2-4	2-4	1-4	2-5	36-432
<i>Callistephus</i> Daylight Red	0.7	11.5	2.0	2.0	3.3	2.0	2.8	150
	0-2	2-26	2	2	2-4	1-4	1-5	64-324
<i>Callistephus</i> Daylight Rose	1.0	14.6	2.0	3.3	3.3	2.2	3.2	125
	0-3	2-26	2	2-4	2-4	1-4	1-5	36-272
<i>Callistephus</i> Daylight Violet	0.6	18.8	2.0	2.0	2.8	1.5	3.8	103
	0-1	10-26	2	2	2-4	1-3	2-5	36-192
<i>Callistephus</i> Daylight White	0.5	13.0	1.5	1.5	2.0	1.3	3.0	180
	0-1	7-22	1-2	1-2	1-3	1-2	2-5	64-432
<i>Delphinium</i> Aurora Blue	1.4	21.9	5.0	5.0	4.7	5.0	4.8	94
	1-3	12-36	5	5	4-5	5	4-5	36-144
<i>Delphinium</i> Aurora Lavender	1.0	24.1	4.0	5.0	4.7	4.3	3.8	81
	1	12-34	3-5	5	4-5	4-5	3-5	36-144
<i>Godetia</i> Flamingo Lavender Pink	3.2	15.1	3.5	4.0	3.8	2.9	3.7	126
	0-9	8-25	1-5	1-5	1-4	1-5	1-5	36-144
<i>Godetia</i> Flamingo Red	3.5	12.3	5.0	5.0	5.0	3.0	4.5	68
	3-4	11-14	5	5	5	1-5	4-5	36-100
<i>Godetia</i> Flamingo Rose Eye	4.0	16.5	4.5	5.0	4.7	3.6	4.2	106
	0-9	6-30	3-5	5	3-5	1-5	2-5	36-240
<i>Godetia</i> Flamingo Salmon	3.2	15.3	4.3	5.0	4.5	3.4	3.7	92

	0-9	6-30	3-5	5	3-5	1-5	2-5	36-144
<i>Godetia Flamingo White</i>	2.7	13.5	3.4	3.7	3.7	2.9	3.5	124
	0-9	6-30	1-5	1-5	1-5	1-5	1-5	21-432
<i>Helianthus Extra Early</i>	1.0	21.8	-	4.0	3.3	3.7	5.0	87
<i>Cream Yellow</i>	1	16-30	-	4	2-4	3-4	5	36-144
<i>Linaria Lace Magenta Rose</i>	8.9	14.8	1.0	3.6	3.4	3.5	4.3	111
	0-25	10-30	1	1-5	1-5	1-5	3-5	36-216
<i>Linaria Lace Violet</i>	5.1	14.1	1.0	2.5	3.2	3.5	4.0	136
	0-25	10-30	1	1-5	1-5	1-5	2-5	36-432
<i>Linaria Lace White</i>	6.2	14.3	1.0	3.0	3.3	3.5	4.0	130
	0-25	14-30	1	1-5	1-5	1-5	2-5	36-432
<i>Linaria Lace Yellow</i>	7.8	13.2	1.0	3.4	1.5	1.5	3.5	104
	1-25	5-30	1	1-5	1-5	1-5	3-5	36-324
<i>Matthiola Extra Early</i>	1.7	17.2	3.8	4.0	3.8	3.3	4.1	66
<i>All Double White</i>	1-5	10-28	1-5	1-5	1-5	1-5	3-5	21-144

Ø1 to 5 scale, with 5 being the best. Market ratings are based on sales to wholesaler (Whole.), retailers, or final consumers direct.

Summary of comments

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 ‘;’. Note: many respondents did not make specific comments on each cultivar and in some cases, comments have been shortened because of limited space.

Ernest Benary

Callistephus ‘Gala Mix’

Good qualities: Colors (3); Pincushion type; Very strong stems and big flowers. Good timing - they were just flowering (early Sept.) when most other crops were dwindling; Medium size flower, central disk blending in color (not contrasting, nor distracting); Strong stems, large full flowers; I thought that they were a little more tolerant of our growing conditions than many other asters.

Problems: Stem little weak; Standard bouquet type variety, short-lived in our gardens (Illinois), gets Aster yellow easily; Bloomed mostly within 3 week period even though successive plantings were made; Disease, melted out in summer heat; Foliage “burned”, short stems, few stems harvested.

Additional Comments: Another excellent Aster; Not as bushy as other asters, very nice color range; Similar to other asters; The best of generally poor performing plants (asters).

Cosmos bipinnatus ‘Early Wonder’

Good qualities: Colors/good color range (3); Prolific producer (3); multi-petals on flowers; Strong stems; Bright daisy flower, good height; Some of my customers loved it and others won’t buy it; Looked great out in the field, not a lot of interest from buyers though, Zone 2 - still looks wonderful Sept 25th!; Very dependable cut flower, use a lot of this cultivar in mixed bouquets, no deer damage (as opposed to *Cosmos* ‘Bright Lights’); Did very well in spite of no rain; Very hearty - kept producing until I mowed the bed - my other cosmos in the bed had stopped, but it was still producing.

Problems: Short vase life of 3-5 days (3); Difficult to decide when to harvest as 1st flower or as a spray; Few problems, need to be careful on cutting; cut buds early to avoid shatter; Easily bruised flowers; Aphids; Quite tall - some wind (blown down) damage, late in the season, these are not staked.

Additional Comments: Started out as a problem, but ended as a success, we seeded in the greenhouse but far too early -- so pinched the crop twice before setting out, plants out in the field were 3½ ft tall and many very strong breaks; Similar to Purity, Sensation, Dazzler, and Combo; Some powdery mildew late in growth cycle, but not significantly more than other cultivars; Planted too late - short day plant, got lots of plant but little flowering. Light to deep pink, have been harvesting 1st bloom; Good in combination with ‘Early Wonder’, extends the *Cosmos* bloom.

Cosmos sulphureus ‘Bright Lights’

Good qualities: Bright colors (5); Easy to grow (2); More of a bedding plant, *C. bipinnatus* types are better as cuts; Useful filler; Nice variation between deep orange, orange/yellow, and a bicolor striped, I do wish there were more of the bicolor.

Problems: Too short (3); Hard to harvest (2); Re-seeds; Very branchy; Aphids; Flowers rather short

lived on plant, not completely self-cleaning, yellow-orange to red-orange flowers; Deer nearly mowed down newly set transplants, close to 100% gone; My attitude...didn't cut because I was skeptical it would hold for long enough.

Additional Comments: Similar to Diablo, Mona's Orange and Mona's Yellow; Short stems, small flowers.

Didiscus caeruleus 'Sky Blue'

Good qualities: Great blue color (5); No support netting needed, good flower life in field, multiple buds, no insect or disease problems; More upright than Madonna, good symmetry, grew well under severe conditions; The flower type and strong stems; Good vase life; Fast growing; None.

Problems: Short lived (IL); Weak stems in floral arrangements; Root system poor - pulls out of the ground if not cut properly, also, 1st flower is below top of plant and second flower is above 1st, so it's hard to bunch effectively; Difficult to decide when to cut - 1st flower open or as a spray; White flies were tough to control; None.

Additional Comments: Have grown before and is well accepted by customers; Similar to scabiosa; 11 day vase-life in tap water at room temperature; Several companies have a didiscus like this; Rabbits ate plants; Don't like it - too sticky - everything in the air sticks to the bloom.

Lobelia 'Fan Burgundy'

Good qualities: Great burgundy color (4); Stiff stem, attractive landscape plant; Good garden annual; Foliage = good contrast - mixes well in garden, plant had good branching - filled in space well and made for less weeding; Good height for mixed bouquets; Spike; Strong grower; Good flower, however, will try this one again, - or, maybe it will winter over and perform well next season; Nice foliage.

Problems: Poor germination (2); Too short (2); Few harvestable stems (2); Variation for stem color, flower color, some chlorosis, would need STS; To grow as a cut, need to sow early (IL), otherwise too small and does not amount to anything; Flower spikes tend to grow one-sided; Uneven.

Additional Comments: Not burgundy as it is named; Lobelia is a perennial in N.H., will report 2002 when in bloom; Similar to other perennial lobelia's; Fan series are rated for zone 6 -?, we are zone 5, lobelia bloom late September for us, these new trial plants bloomed very short stems; non-useable for 2001, we expect useable stem for 2002; Not tall enough the first year; Too hot, blooms dried up.

Fred C. Gloeckner

Celosia 'Supercrest Burgundy'

Good qualities: Great color (4); Form (2); Large heads (2); Easy to grow; Uniform; Stem length; Nice full heads; Good for northern climate (zone 5).

Problems: Some have large crest (1) and others had many smaller crest with many stems; The season is too short for this Celosia to mature, will try in the future to grow in greenhouse during the summer months; Brains on a stick - blech!, needs staking; Only produced unuseable stems; Too short; A brown rust destroyed all of our Celosia - killing plant from bottom to top - finally attacking flower head - left plant brown, dry and dead; Stems are so thick they are not really useful - simply too weird for most

customers (possibly an ok oddity for Farmer's Markets?); Bloomed late.

Additional Comments: Late blooming; Stems too thick.

Celosia 'Temple Belles Mix'

Good qualities: Good colors (4); Excellent filler, bright and excellent seller; The salmon orange flower color dominated but it is a beautiful color; Small flower heads 4" across; Uniform, productive, good medium-sized heads; Easy stood up well to weather; Very vigorous; Florists loved the color and the shape of the head; Long stems.

Problems: Limited color range, mostly pale orange (3); None (2); Too long to bloom this year (Zone 6), did better in our greenhouse trials last fall.

Additional Comments: Very few colors in this mix; I really liked this one; I thought that the color range was very limited – In fact, I thought that the color was so bad that I almost didn't take it to market – I forced myself, and then was shocked because it was the first thing that I sold that day and in fact it sold well every time I took it to market – It was suggested that it should be sold as "mango colored" celosia; Similar to Kurume series - Gold - much brighter; Similar to Chief series - orange - much brighter.

Celosia 'Toreador Red'

Good qualities: Great, vibrant color (7); large heads (3); It's sellable; Didn't need support; Beautiful form; Heads shaped somewhat uniquely.

Problems: Too short (5); Low yield/plant (3); Crested types are not popular when they look this way, also, 'Supercrest' performed better but 'Toreador' did not require staking; Didn't have much branching for side stems; Santa Cruz is often problematic for celosia and gomprena-type heat lovers and 'Toreador Red' was no exception; Well I'm sure its just the temperature, its just too cool!; Took too long to bloom (zone 6).

Additional Comments: Not a true red; Consumers like smaller flower clusters instead of one large fan on crest; People liked this color and form but I thought the plants shortness really limited the potential.

Helianthus 'Earthwalker'

Good qualities: Nice burnt orange/bronze color (8); Uniform flowering; Good stem length on laterals; Large flowers, good flower shape, uniform, mixture of shades of bronze; Flowered quickly; This is the best colored sunflower to come out for a while – It was really nice; Flower is a different color and was purchased readily by customers; Inexpensive.

Problems: Has pollen (2); Weak stems near neck on most; Sold best when sold in mixed sunflower bouquets; Did not sell well in Grower's Bunches, sold best mixed in bouquets or other colored sunflowers; The stem neck near bloom is a little weak for bloom size; Branching type, but multiple stems often too short, many flowers were lopsided with shorter petals on one side; Very thick stems - hard to cut; I thought that the heads were sort of floppy; Can't judge - deer ate these in total; Had an awful white fly problem and decided to toss the crop; Real short; Multi-branching.

Additional Comments: Poor Market for any sunflower's other than 'Sunbright'; Very nice mixed with yellow flowers, shows off the unusual color; The problem is that there are so many sunflowers and the market is too full of varieties; Good colors but droopy heads are a problem; Multiflora cultivar

brown with yellow highlights, probably should pinch off terminal, some stems purple-black mottled, single stems become very spindly near flower; Similar to some of 'Autumn Beauty'; I got good tall slender stems on all the sunflowers and nice small 3" - 5" inch heads – They were used in wreaths and table designs and all the customers were very happy – Would grow again.

Helianthus 'Orange Mahogany'

Good qualities: Nice bright bicolor-dark center (yellow/orange) (7); Nice medium flower size (5); Very many stems/plant; beautiful 3" - 4" blossom; Color well received; Great mixer or by itself; Bloomed late in season; Uniform color pattern; Uniform growth; Nice uniform 4" - 5" heads; High percentage usable, uniform coloring within flower - even, rounded petals; Good head strength.

Problems: None (3); Poor postharvest (2); Poor market for any sunflowers other than 'Sunbright' - Price per bunch is also down; We weren't impressed with any of these sunflowers. They didn't seem to hold up in the heat well, they bloomed really fast and seemed to attract more insects; Not totally consistent in form and color; Transplant too short; Ring color not uniform overall - some are faint, others are strong, multi-branching.

Additional Comments: Similar to 'Jolly Joker', 'Floristan', and 'Ring of Fire'; Sold best mixed with other sunflowers; Pinched terminal flower off, flowers were bicolored - basal 2/3 brown, apical 1/3 yellow; I got good tall slender stems on all the sunflowers and nice small 3" - 5" inch heads – they were used in wreaths and table designs and all the customers were very happy – Would grow again.

Helianthus 'Sunny'

Good qualities: Saleable; Fewer blooms and larger; Good standard sunflower color; Thick stems, large attractive flowers; Large disk short petals, uniform; It grew well, had nice size stems, good stem length - lasted well, looked like a sunflower.

Problems: None (2); Had a few dud flowers; Average cultivar in a group of plants with many great cultivars; Late to bloom, lots of bug damage later in season; I didn't like the large petals; We weren't impressed with any of these sunflowers. They didn't seem to hold up in the heat well, they bloomed really fast and seemed to attract more insects.

Additional Comments: Similar to 'Sunrich' and 'Sunbright'; In future will grow only 'Sunbright'; Good early, uniform growth but overall flower appearance didn't really stand out from the 'Sun' series; I liked this one and will grow again – It seemed vigorous; Similar to many other sunflowers – it looked like the others so much - that I wouldn't grow it again just because I'm happy with what I'm growing and understanding the timing for planting to keep flowers blooming all summer; Single yellow - ray flowers consistent good stem length, dark disk, short ray flowers (. 1 inch); Late to bloom; I got good tall slender stems on all the sunflowers and nice small 3" - 5" inch heads – They were used in wreaths and table designs and all the customers were very happy – 'Sunny' had insipid yellow color and malformed heads, all centers curled in on themselves.

Helianthus 'Tiffany'

Good qualities: Quick to grow, flower and die, easy to time with late season varieties; Excellent color, good size for floral arrangements; Tall, large bloom; Dark yellow; Small flower head, bright petals with dark center, uniform, not too husky; Nice and uniform; Was easy to pick, held well in cooler and

display, and was slower to deteriorate than most others; None.

Problems: None (2); Did not germinate by direct seeding in field despite using the same method for years and using two different planting. Petals fell easily; 5% dud flowers; small flowers – This one didn't do much for me; Deer damage; We weren't impressed with any of these sunflowers. They didn't seem to hold up in the heat well, they bloomed really fast and seemed to attract more insects.

Additional Comments: Similar to 'Sonja'; Yellow ray, dark disk, single bloom, tendency to branch but bloom bolts well beyond branching, consistent grower; Looks like a 'Sunbright', but longer to bloom, no real reason to grow this; I got good tall slender stems on all the sunflowers and nice small 3" - 5" inch heads – They were used in wreaths and table designs and all the customers were very happy – Would grow again.

Kieft

Achillea millefolium 'Cassis'

Good qualities: Great color (6); Flowered first year from seed (3); Nice filler (2); No support needed here, may benefit from it – No disease or insects; This crop is looking very promising – We have some late flowers just starting to show color; Strong stems!; Plants were good branching; Plants are growing vigorously, but have not yet bloomed, probably because we seeded them late (5/01/01); Long flowering period; Very fast from seed; Nice stems, good size.

Problems: No problems (2); Color was not very popular; Fades, shady; Need to sow early to get flowers first year (IL), some plants did not flower at all; Few stems produced first year (zone 5); Hoping to see better height next year; It's hard to hydrate achillea in general, this one no different.

Additional Comments: Hope for more production next season (2); Probably taller next year; Trouble free; The color is nice but it doesn't add a lot to bouquets because its dark.

Amaranthus cruentus 'Twin Towers Green'

Good qualities: Nice color (2); None (2); Excellent color, dramatic size (42 inches); Nice form; Nice "user friendly" amaranth, good head form; Produced very well.

Problems: Too short (2); Lays along ground, not upright (2); Insect damage (2); The plants were very variable, some grew to 14" others were shorter, a few taller – novelty; Seedling flats showed distorted new growth, looks like broad mite damage but no sign of mites, may be related to over-fertilization?; Turned brown; no harvestable stems; Poor germination.

Additional Comments: Upper foliage of (probably problem w/pH and Ca) most plants "crinkled" and not expanding; Plants attacked by a beetle or caterpillars - skeletonized plants but they were pretty well harvested by that point.

Amaranthus cruentus Twin Towers Red

Good qualities: Excellent red color (4); Very dramatic size (42 inches); Excellent form; Nice "user friendly" amaranth – Good head form; Produced very well.

Problems: Too short (3); Insect damage (2); The plants were very variable, some grew to 14" others were shorter, a few taller – Novelty; Seedling flats showed distorted new growth, looks like broad mite damage but no sign of mites, may be related to over-fertilization?; Turned brown; No harvestable

stems; Did not germinate; Too costly to direct seed, does not respond well to plugs.

Additional Comments: Nothing special; Great amaranth; Upper foliage of most plants “crinkled” and not expanding (probably problem w/pH and Ca); Some plants more “candle-like” in appearance, these plants were superior; don’t know if this condition was genetic or cultural – Plants also attacked by beetles and/or caterpillars; Similar to ‘Red Cathedral Superior’.

Asclepias curassavica ‘Silky Deep Red’

Good qualities: Great color (9); Long flowering period (3); Tall (2); Stiff stems, little bit of leaf spotting but no other disease, long lived flower; Easy to grow; Made a great filler early in season when production in field is low; Good texture, nice shape in arrangement, lots of stems; Beautiful, bronze foliage; Interesting flower shape; Relatively pest free, uniform, long flowering period, doesn’t need support; Customers loved it; Nice in mixed bouquets; Stem length; Pods.

Problems: Aphids (3); Droopy in buckets and bouquet – postharvest a challenge (5); Wilts when 1st cut; recut, change the water; 2nd they will re-hydrate; None; Bleeding of stems; Sold better after pods developed and as dry, smell not liked by all; Early budding in flat required pinching to prevent “bolting”, but this may have been a fertility issue; Sometimes not enough color at once - made determining when to harvest difficult; Sap can be irritating to the skin; Rust; We had poor germination but what we got produced very well and was great.

Additional Comments: Similar to ‘Scarlet’ (3) and to ‘Red Butterfly’; 7 day vase-life in tap water at room temperature; Aphids love this plant; even after frost burn back, aphids were drawn to them; All the asclepias sold extremely well for me this year – I don’t know if it was the expanded color range or if people are just enjoying reds, oranges and yellows more than they used to.

Asclepias curassavica ‘Silky Gold’

Good qualities: Great color (5); Long flowering period (2); Bright, good texture, nice shape in arrangement, long stems, lots of stems, long cutting period; Color of leaves; Interesting flower shape; Relatively pest free, uniform, doesn’t need support; Customers loved it; Great length, timing of harvest; Pods.

Problems: Postharvest a challenge (4); Aphids (2); Bleeding of stems; Sometimes not enough color at once - made determining when to harvest difficult; Sap can be irritating to the skin; Rust; We had poor germination but what we got produced very well and was great; Sold better after pods developed and as dry, smell not liked by all.

Additional Comments: Aphids love this plant, even after frost burn back, aphids were drawn to them; All the asclepias sold extremely well for me this year. I don’t know if it was the expanded color range or if people are just enjoying reds, oranges and yellows more than they used to.

Asclepias curassavica ‘Silky Scarlet’

Good qualities: Nice color (5); Long flowering period (2); Interesting flower shape (2); Made a great filler early in season when field production is low; Good texture, nice shape in arrangement, long stems, lots of stems, colored leaves; Relatively pest free, uniform, doesn’t need support; Customers loved it; Pods.

Problems: Aphids (2); Postharvest a challenge (4); Bleeding of stems; Sold better after pods developed and as dry, smell not liked by all; Sometimes not enough color at once - made determining

when to harvest difficult; Sap can be irritating to the skin; Rust; We had poor germination but what we got produced very well and was great; Not quite as vigorous a grower as *Asclepias* 'Silky Deep Red', but shorter; colors not as striking; Wimpier than "Deep Red".

Additional Comments: Similar to 'Deep Red' (4); Similar to 'Red Butterfly'; Aphids love this plant, even after frost burn back, aphids were drawn to them; I don't know which one of the new 'Deep Red' or 'Scarlet' I will grow next year. They are quite similar. I will grow one of them in addition to 'Silky Gold' and 'Butterfly'; All the *Asclepias* sold extremely well for me this year. I don't know if it was the expanded color range or if people are just enjoying reds, oranges and yellows more than they used to.

Celosia 'Madras Scarlet'

Good qualities: Rich color (8); Tight fluted, more than one flower per stem - one large and many mini blooms; Uniform, stiff stems, very showy, secondaries grow up over primary, leaf margins reflect flower color, no disease or insect problems, side buds on each secondary branch; Excellent variety; One of the most beautiful red *Celosias* available, large heads; Beautiful form; Good bouquet filler.

Problems: Short stems (5); None (2); Not sure about the side florets - an asset?? - as plants matured, the stems were weak/could not support the heavy flower; The heads tend to fall apart; Only produced 1 large flower on short stem; Didn't have much branching for side stems; Problems with lodging, quite disappointing; Plants took too long to bloom (zone 6).

Additional Comments: We grow a lot of *Celosia* - This one is the first true red/scarlet, the plants are a little short compared with other varieties; Plants eventually succumbed to caterpillars; Similar to several other large headed cutting *Celosia cristatas* - Kurume series, Chief series, Temple Belle series; Quality not as good as 'Bombay'.

Helianthus 'Eversun 2001'

Good qualities: Large, long petals (3); Dark centers (2); Color (2); Saleable; Very easy to grow; Large flower at 6" x 6" spacing and good dark yellow; Nice balance of petal length to disk size; subtle tinge of red in young disk that's attractive; Thick stems, similar to other varieties in general appearance, but large flower head was remarkably attractive; Uniform; Nice form, long petals; Beautiful extra large single stem sunflower, best single stem yet, maybe better than 'Sunbright'; Blossom had a "hooded" effect and "looked like it was going to open further", but actually did not; Very nice flowers; Early, strong plant; Tall, well shaped heads, toward the end of the summer it began to branch as well - the best quality of this particular sunflower was that it held up in the cooler from September 17 until October 6, and was able to hold it's own out of the cooler for another 8 days - Amazing - Would grow again.

Problems: Has to be seeded close to reduce stalk (width) thickness and height, stalks are rather substantial; Heads too large, too much disk and not enough petal; Misshapen heads, also some heads didn't ever open; Rust (California), very large leaves, very large caliper stem; It seems that there are many others like this one; Flower opens too quickly, ugly neck; We weren't impressed with any of these sunflowers - They didn't seem to hold up in the heat well, they bloomed really fast and seemed to attract more insects; Poor market for any sunflowers other than 'Sunbright' - 'Eversun' is a look like, so they were saleable.

Additional Comments: Looks like 'Sunbright' but larger blooms. Similar to 'Eversun' (2), 'Sunbright', and 'Superior Sunset'; Similar to many other cultivars; Heads at a nice angle - no nodding

heads; Somehow these flowers stood out from others in the “Sun” series, big, beautiful flowers, distinctive petals and general vibrancy – Also good, early, vigorous, uniform growth; Single flower yellow, spotty performer, some short and crooked, some long straight stems.

Tanacetum parthenium ‘Gold Moon Improved’

Good qualities: Good gold color (4); Nice for arrangements for florists, made good filler in short bouquets (Was great in Ann Arbor with short stems of Eustoma Balboa Purple producing maize & blue bouquets, the Univ. of Michigan colors); Good flower shape; ‘Gold Moon Improved’ is an improvement over ‘Gold Moon’ in stem length and stem quality – This makes ‘Gold Moon Improved’ even better for quality cutflower production year-round, color and flower shape remained the same.

Problems: Too short (4); Leaf stippling (leaf miners); The market is rather soft on this crop – used as a filler, it is “OK” but other crops do better; Stems all fell over so needs support; Uninteresting color; A lot of the flowers were damaged by either heat or moisture; Didn’t flower, root knot nematodes.

Additional Comments: No problems with disease; Kind of like a short tansy!

Pan American

Dianthus ‘Bouquet Purple’

Good qualities: Bright color (5); Very productive (3); Light sweet scent; Long bloom time (zone2), nice single/bigger florets; Kept flowering, easy to pick, held up for 7 days in vase with food water, bright, cheerful; Fast from seed; ‘Bouquet Purple’ and ‘Cinderella Mix’ were the best and my customers loved them both – The white wasn’t as popular; Real powerhouse, great for bouquet markets; Are there any other colors, purple was not too popular; Nice stem length.

Problems: None (2); Mildew on leaves, flower heads not vigorous; Tops turned brown after cold spell - while there were a few flower buds in between brown; some plants in same bed just died (3%); Must stay up with harvest or becomes difficult to cut.

Additional Comments: The most promising cut trialed 2001 for us – excellent, brilliant blue, pink long lasting vase-life and blooms over extended period of time; We are wintering over the remaining plants - side mulched with row cover over – After initial cut flowers came back sporadically, so we cut plant 1/2 down - flowers came back; Looks similar to ‘Gypsy Giant’ (color and form) but not as large as ‘Gypsy’ – This did really well spring planted but I think that this will do even better if fall planted; Flower clusters small – Inflorescence not self-cleaning; Similar to ‘Melody’s’, color close to ‘Noverna Purple’; Bedding plant, too common.

Dianthus ‘Cinderella Mix’

Good qualities: Great color (6); Good color range (5); Flowered first year from seed (2); Light sweet scent, bloom over long period of time; Long bloom time 7 weeks!; Strong stems - Great accent colors for mixed bouquets, mixes very well; Vigorous, healthy plants grew well out of normal season (zone 9-10); Quick from seed, uniform; Blooms last a long time cut. It seems really hardy still blooming strong even though we have had several frosts, I will over winter it to see how it does in the spring; Got the seed a little late for these before the heat set in – ‘Bouquet Purple’ and ‘Cinderella Mix’ were the best and my customers loved them both – The white wasn’t as popular; I believe this is a biennial, so should

be more productive next year.

Problems: Too short (3); Late Spring customers would not purchase since the bi-annual type grows so well – Lots of this type are marketed at this time, July-August – ‘Cinderella’ sold well later, not in June; Mildew on leaves, yellowing of leaves; Sometimes whole flower head isn’t open by the time the earlier bloomers start to fade; Need a lot to make a bunch (15-20 stems); The hot pink was a bit strong for my liking, but other colors were nice; Plants didn’t make enough growth before flowering to be very productive, or have good head size (zone 7a) – Probably because I didn’t start the seed early enough – Should be started earlier in the spring or even in the fall; I would like more blooms at one time - more like biennials produce; Flower heads not self-cleaning, few flowers; Flower uneven in opening.

Additional Comments: Similar to ‘Hollandia Mix’, ‘Heritage’, and ‘Noverna’; Early marketing, May-June, is a problem in our region, later no problem; Annual Sweet Williams just do not produce for us like biennials – The flower colors are not as good and I personally do not care for the flower shape which is more like a ball of florets – Side by side biennials sell much better; The non-vernalization varieties seem to lack the stem length and vigor that the others have.

Dianthus ‘Cinderella White’

Good qualities: Clean white (2); Excellent vase life; Nice growing plant, good filler - head size was tight and full, white always accepted as good mixer in bouquets; Quick from seed, uniform; Got the seed a little late for these before the heat set in – ‘Bouquet Purple and ‘Cinderella Mix’ were the best and my customers loved them both – The white wasn’t as popular; No disease or bug problems.

Problems: Too short (2); Could not sell in Grower’s Bunches, useful in mix bouquets only; Mildew on leaves, yellowing on leaves; Plants didn’t get large enough before starting to flower (zone 7a), they produced small heads and few stems per plant; Flowers not self-cleaning, few flowering stems.

Additional Comments: Probably good for wedding work but we do very little wedding bouquets; White seemed less vigorous; Similar to other ‘Cinderella’s’; Not a great cut flower; Seeds contained a lot of white (viable?) seeds.

Eustoma ‘Balboa Blue Blush’

Good qualities: Excellent color (6); Delicate appearance; All varieties performed about the same - ‘Balboa Purple’ was accepted the best; and also the ‘Purple’ bloomed the longest in the field – Size of flowers was most impressive with good bud count per stem; Looks like rose with no thorns, last 10 day + in vase; Long flowering period; Excellent germination (90% plus, in less than 10 days), more durable than most lisianthus; Seed was just a little late for us to get great results – The first bloom on these were short (10") but the next bloom was better; Great vase life; Color looks “brushed” on, very beautiful; Tall, my favorite of all in trial this year.

Problems: None (2); ‘Balboa Purple’ performed best of all – Customers love purple first, ‘Blue Rim’ next, and ‘Blue Bush’ last; None; Slow, slow; How do you know or How can you tell when plant needs water.

Additional Comments: Really took off when end of summer came; along with cooler temperatures (zone 6B); Similar to ‘Echo’; This is one of my favorite lisianthus cultivars – The Balboa series is really great – Better than average field performance for lisianthus.

Eustoma ‘Balboa Blue Rim’

Good qualities: Great color (4); All varieties performed about the same - 'Balboa Purple' was accepted the best; and also the 'Purple' bloomed the longest in the field – Size of flowers was most impressive with good bud count per stem; Looks like rose with no thorns, last 10 day + in vase, customers love purple first, 'Blue Rim' next, and 'Blue Bush' last; Bicolor flowers great; Great germination, great field performance; Seed was just a little late for us to get great results. The first bloom on these were short (10") but the next bloom was better. I know these do much better started earlier; Good vase life.

Problems: 'Balboa Purple' performed best of all; Slow, slow ; How do you know or How can you tell when plant needs water; Flower color not uniform among plants, too short; Shortest of all in trials, small flowers.

Additional Comments: Similar to 'Echo' and to 'Flamenco Blue Rim'; Balboa series is my favorite lisianthus.

Eustoma 'Balboa Purple

Good qualities: Good color (5); All varieties performed about the same - 'Balboa Purple' was accepted the best; and also the 'Purple' bloomed the longest in the field – Size of flowers was most impressive with good bud count per stem; Excellent flower, customers loved them; Looks like rose with no thorns; last 10 day + in vase, customers love purple first, 'Blue Rim' next, and 'Blue Bush' last; Great germination, great field performance; Seed was just a little late for us to get great results. The first bloom on these were short (10") but the next bloom was better – I know these do much better started earlier; Good vase life; Big flower size.

Problems: Late season started to get blight after drought and then when excess rain started – Balboa Purple performed best of all; None; Slow, slow; How do you know or How can you tell when plant needs water; Just average when there are so many good cultivars.

Additional Comments: Similar to 'Echo' and 'Balboa Blue'; Balboa series is my favorite lisianthus – This is a great addition to the series.

Eustoma Expt. White #278449

Good qualities: Excellent color (3); Held up well; Great germination, good field performance; Seed was just a little late for us to get great results – The first bloom on these were short (10") but the next bloom was better – I know these do much better started earlier; Good vase life; Great Germination rate.

Problems: None (2); Plants didn't get too tall or branch like I'd like; A pain to plant when small and keep weeded when not grown on plastic; Hard to sell white unless in bouquet or basket arrangement; Just average, in a crowded market of cultivars; Suffered from heat damage, more noticeable than with the blue colors; Poor germination, would not grow (zone 11).

Additional Comments: Liked cooler weather (zone 6b), long time to really take off; Similar to 'Echo' and to #278368; Didn't see much difference in production or bloom among experimental varieties; Bloomed a little later than other trial Lisianthus; White is not my favorite color – Couldn't really tell the two numbered whites apart; We should be trying this in the greenhouse.

Eustoma Expt. White #278365

Good qualities: Good color (2); Great germination (2); Good field performance; Seed was just a little

late for us to get great results – The first bloom on these were short (10") but the next bloom was better – I know these do much better started earlier; Good vase life.

Problems: Plants didn't get too tall or branch like I'd like; Hard to sell white unless in bouquet or basket arrangement; Just average in a crowded market of cultivars; Same as #278449 - not enough good stems to note differences.

Additional Comments: Didn't see much difference in production or bloom among the white cultivars (3); Similar to 'Echo'; White is not my favorite color.

Tanacetum Expt. #12423

Good qualities: Very distinctive blooms, a nice creamy yellow, flowers held well in vase 5-7 days, but do brown up in centers somewhat quickly on plants; Long flowering period, good filler flower; Coarser foliage.

Problems: Plants were densely branched and small, but this is typical for us with mid-season feverfew plantings; Too short, uninteresting flower; I just can't sell this stuff – It is not a very exciting plant; Root knot nematode – No flowers.

Additional Comments: Similar to #12473, 12475; A late summer bloomer.

Tanacetum Expt. #12473

Good qualities: Excellent, good breaks, good vase-life; Didn't see any difference in growing habits, flowers were good - branched well, flowers still blooming in Oct. (zone 5); Long flowering period, good filler flower; No disease problems, long lasting, easy to grow; uniform readiness made harvesting easy; Mid-July harvest time; No disease - no bugs..

Problems: This matricaria had weak stems that didn't stand up by themselves – We really didn't get a harvest from these; Too short, uninteresting flower; None; I tried to rebloom - but stems were short and most failed to get ready before frost; Not enough plants germinated; Crop failure, tarnish plant bug destroyed all double matricaria this year.

Additional Comments: Similar to #12473, 12475, 12482 and other matricaria. These all look pretty much alike, nothing really excited me; It was pretty popular, it may have been because a similar looking flower was featured in a popular wedding magazine – We could have sold more – The blooms were single and airy surprisingly nice! – My second favorite in the trial.

Tanacetum Expt. #12475

Good qualities: Long flowering period, good filler flower; Semi double, stood up better to winds and rain; Excellent, bright filler for use in mixed bouquets, this is the 1st tall matricaria I've seen. I hope the seed is available for planting next season – This one performed beautifully.

Problems: Too short, uninteresting flower; Root knot nematode, no flowers.

Additional Comments: Similar to #12423 (2), 12473.

Tanacetum Expt. #12482

Good qualities: Good breaks, very nice small daisy filler; Flowers were good - branched well, flowers still blooming in Oct. (zone 5); Great filler flower, very uniform, nicest flower shape of the four experimentals; I like the more single flowers; This looked the best of any matricaria we've ever grown – My customers just weren't interested in it; Nice, early, filler, will grow again.

Problems: No disease - no bugs; Too short; Root knot nematode, few flowers, flowers have dirty-white appearance.

Additional Comments: Similar to #12473; Didn't see any difference in growing habits among experimental tanacetums, identical in growth habit and flower to Exp. 12473; Time of harvest - mid-July.

Sakata

Gomphrena 'All Around Purple'

Good qualities: Good long-lasting color (4); Productive (2); Taller than similar cultivars (2); Great show, basal branching on each plant, very free-flowering, uniform color and heights; Long production season, still producing even in mid-September; Easy to grow, many blooms, dries well; Nice flower size; Strong grower; Good filler.

Problems: Raw seed, poor germination (2); None (2); Little weak in stem but not too bad; Too short, too branchy; This plant (and all gomphrenas) will not grow for us – They just sit there- (wondering I guess where is the heat?) – It was a very cool growing season besides; Problem with worms later in season; Looks and acts like a lot of other tall purple gomphrenas.

Additional Comments: Similar to 'Qis Purple' (2); Rabbits like it, 2 day-vase life in tap water at room temperature; The flower color was exceptional; Took awhile to get going; Need a whole workshop on gomphrena picking, seems tricky.

Takii

Antirrhinum 'Sunshine Deep Purple Eye'

Good qualities: Excellent color, bi-color (5); Heat tolerant for a snap, productive; Very fast from seed; Good early blooming snapdragon, good flower form, first cut was okay height wise.

Problems: Short stems; Poor yield per plant; Too short - flowered too quickly; First cut was okay height-wise, but the second cut was quite short, difficult to use in mixed bouquets, second not tall enough to be sold in straight bunches; not a strong a grower (or flower) as 'Rocket' series.

Additional Comments: The color customers like; Flower form is different than most snaps.

Antirrhinum 'Sunshine Lemon Eye'

Good qualities: Good color (2); Heat tolerant for a snap, productive; Nice bicolor, very fast from seed; This 'Sunshine' series was a week or 10 days early to bloom than 'Rocket' series, good for early markets.

Problems: Poor greenhouse performance compared to other varieties grown side by side; Too short - flowered too quickly; First cut was okay height-wise, but the second cut was quite short, difficult to use in mixed bouquets, second not tall enough to be sold in straight bunches, not a strong a grower (or flower) as 'Rocket' series.

Additional Comments: Flower form is different than most snaps.

Callistephus 'Daylight Purple'

Good qualities: Nice color (3); Harvest whole plant, long-lived but ‘Serenade’s’ were better last year; Good in bouquets, didn’t have a problem with insects like I usually do with other asters – I liked the size and shape of the flowers; Easy to grow, light staking (I did not and they stood pretty well), lots of buds per plant, bloomed earlier than other asters; Good germination.

Problems: Too short (2); Despite electric deer fencing, these plants were destroyed by deer; None; Not eye catching enough by themselves – Sold ok when mixed with other asters (bigger flower) – Flowers are small and bright yellow disk a little prominent when opened; Melted in heat; Hot spring made growing these more cool weather crops difficult; Aster yellows, disease distorted buds.

Additional Comments: Color okay, but not really very striking; It is tough to beat Aster ‘Serenade!’; I really liked them and was very disappointed with lack of consumer response; This series didn’t really distinguish itself from others; Possible similar to ‘Serenade’.

Callistephus ‘Daylight Red’

Good qualities: Harvest whole plant, long-lived but ‘Serenade’s’ were better last year; Good germination; Good color blooms and form.

Problems: Too short, melted in heat; Most died, very unthrifty in heat of summer; Short stems, burned foliage and petal tips; Aster yellows, disease distorted buds; Despite deer fencing, these plants were destroyed by deer in field - Deer supper!; None.

Additional Comments: It is tough to beat Aster ‘Serenade!’; This series didn’t really distinguish itself from others, to my eye.

Callistephus ‘Daylight Rose’

Good qualities: Good color (5); Small flowering asters, attract customers and questions about them; Harvest whole plant, long-lived but Serenade’s were better last year; Fair resistance to disease; Good in bouquets, didn’t have a problem with insects like I usually do with other asters – I liked the size and shape of the flowers; Easy to grow, light staking (I did not and they stood pretty well); Lots of buds per plant, bloomed earlier than other asters; Good germination; Our shop loved them for some small arrangements.

Problems: Too short (4); Aster yellows (2); Do not mix well with other flowers into a mixed bouquet; None; Harvested whole plant; Not eye catching enough by themselves – Sold ok when mixed with other asters (bigger flower), flowers are small and bright yellow disk a little prominent when opened; Melted in heat; Most died, very unthrifty (grown in heat of summer); Set buds too quick - no vegetative growth.

Additional Comments: ‘Sernade’ series are look a-likes to the ‘Daylight’ series – Few plants were 21 inches with 11 to 12 stems; most were cut as single (one) bunch; It is tough to beat Aster ‘Serenade!’; I really liked them and was very disappointed with lack of consumer response; This series didn’t really distinguish itself from others, to my eye.

Callistephus ‘Daylight Violet’

Good qualities: Harvest whole plant; long-lived but ‘Serenade’s’ were better last year; Easy to grow, light staking (I did not and they stood pretty well), colors were brilliant, lots of buds per plant, bloomed earlier than other asters; Good germination.

Problems: Aster yellows (2); Not eye catching enough by themselves – Sold ok when mixed with other asters (bigger flower), flowers are small and bright yellow disk a little prominent when opened; Too short, melted in heat; Despite electric deer fencing, these plants were destroyed by deer in field; None; Tarnish plant bug.

Additional Comments: It is tough to beat Aster ‘Serenade!’; I really liked them and was very disappointed with lack of consumer response; This series didn’t really distinguish itself from others, to my eye.

Callistephus ‘Daylight White’

Good qualities: Harvest whole plant, long-lived but ‘Serenade’s’ were better last year; Good germination.

Problems: Too short (3); Would this make a better bedding plant?; None; Melted in heat; Performed less well than other members of this series; Even shorter than the *Callistephus* ‘Daylight Purple’; white tended to ‘brown out’ (mold, mildew, fungus, etc.); much quicker than the purple; Aster yellows, disease distorted buds.

Additional Comments: It is tough to beat Aster ‘Serenade!’; This series didn’t really distinguish itself from others, to my eye.

Delphinium ‘Aurora Blue’

Good qualities: Excellent color (3); Darker blue than ‘Centurion’, uniform; Likes cooler weather; Fall bloom this year (zone 2) - short but color looks wonderful; Tolerated heat well, short crop time.

Problems: Some disease susceptibility, 1 dark lavender, not ‘Aurora Lavender’; Short stems (zone 6b); Didn’t get these in early enough (zone 7a).

Additional Comments: Needed 1 layer of netting.

Delphinium ‘Aurora Lavender’

Good qualities: Light color, no disease or insect problems; Tolerated heat well, short crop time; Great color.

Problems: None; Didn’t get these in early enough (zone 7a).

Additional Comments: Needs netting.

Godetia ‘Flamingo Lavender Pink’

Good qualities: Excellent color (4); Stiff stem, no netting, holds up in summer; Mild fragrance; Nice color, good stem length for godetia – Good number stems per plant – Would grow again if less expensive than ‘Grace’; Uniform – Took the heat pretty well, I think that it performed very well for godetia planted so late in the spring in the South (zone 7a); We grew in greenhouse and have never had luck with godetia until now – It bloomed until 6/30/01 and had to remove it because of spider mites – We are trying it as a winter crop too – We think we can do better with it in the winter; Hard to use in bouquets as the branches were short so whole plant needed to be cut – Lots of blooms but really unuseable for us; Exotic looking flowers, cluster on one stem.

Problems: Too short (3); We are too hot for summer production (IL), all plants dead by 8/15; None; Melted in heat; Flower size was small, could have been because we got it in so late (zone 7a); Needed cooler weather and more nutrients to get good stem length; Poor germination.

Additional Comments: Similar to 'Grace' series from Sakata and to 'Azalea Show Mix'; 12 day vase-life in tap water at room temperature; Sakata's Grace series is superior. In Chicago we grow godetia's as a winter or early spring crop; Dislikes hot weather (zone 6b); It got a lot taller than I expected it to.

Godetia 'Flamingo Red'

Good qualities: Great colors (2); We grew in greenhouse and have never had luck with godetia until now – It bloomed until 6/30/01 and had to remove it because of spider mites – We are trying it as a winter crop too – We think we can do better with it in the winter.

Problems: We are too hot for summer production (IL), all plants dead by 8/15; Poor germination.

Additional Comments: Sakata's Grace series is superior, in Chicago we grow godetia's as a winter or early spring crop.

Godetia 'Flamingo Rose Eye'

Good qualities: Beautiful color (5); Stiff stems, similar color to lavender, bit more rose, very showy, holds up in summer; Uniform – Took the heat pretty well, I think that it performed very well for godetia planted so late in the spring in the South (zone 7a); Long lasting; We grew in greenhouse and have never had luck with godetia until now – It bloomed until 6/30/01 and had to remove it because of spider mites – We are trying it as a winter crop too – We think we can do better with it in the winter; Unique, exotic looking flowers, cluster on one stem.

Problems: None; We are too hot for summer production (IL), all plants dead by 8/15; Too short to harvest, melted in heat; Flower size was small, could have been because we got it in so late (zone 7a); Needed cooler weather and more nutrients to get good stem length.

Additional Comments: Similar to Grace Series (2) and 'Azalea Show Mix;' 12 day vase-life in tap water at room temperature; Sakata's Grace series is superior – In Chicago we grow godetia's as a winter or early spring crop; Dislikes hot weather (zone 6b); It got a lot taller than I expected it to – Customers really liked this one; Would be a great candidate for "cut flower of the year: My favorite in the trial.

Godetia 'Flamingo Salmon'

Good qualities: Great color (7); Sell themselves quickly, long-lasting vase-life; Stiff stems, no netting required; Uniform – Took the heat pretty well, I think that it performed very well for godetia planted so late in the spring in the South (zone 7a); We grew in greenhouse and have never had luck with godetia until now – It bloomed until 6/30/01 and had to remove it because of spider mites – We are trying it as a winter crop too – We think we can do better with it in the winter; Difficult to blend in with other colors – Exotic looking flowers; cluster on one stem.

Problems: Too short (2); In field rain and wind damage; Japanese beetles love the flowers; Some leaf spot; We are too hot for summer production (IL); all plants dead by 8/15; No production of useable stems; Melted in heat; Flower size was small, could have been because we got it in so late; Needed cooler weather and more nutrients to get good stem length.

Additional Comments: Best to grow in cold frame, yields more stems per plant, longer stem and no rain damage; 7 day vase-life in tap water at room temperature; Sakata's Grace series is superior. In Chicago we grow godetia's as a winter or early spring crop; Dislikes hot weather (zone 6b); It got a lot

taller than I expected it to.

Godetia 'Flamingo White'

Good qualities: Nice clear white flowers (4); Most upright of godetia, similar to others; A good godetia especially if seed/plug is less expensive than 'Grace.'; Uniform – Took the heat pretty well, I think that it performed very well for godetia planted so late in the spring in the South (zone 7a). We grew in greenhouse and have never had luck with godetia until now – It bloomed until 6/30/01 and had to remove it because of spider mites – We are trying it as a winter crop too – We think we can do better with it in the winter; Hard to use in bouquets as branches were short so whole plant had to be cut; Exotic looking flowers, cluster on one stem.

Problems: Too short (4). More disease problems, smaller flower; We are too hot for summer production (IL), all plants dead by 8/15; Decimated by beetles; Melted in heat; Flower size was small, could have been because we got it in so late, attracted every thrip that ever blew into this state; Pretty flowers; Got brown spots on petals, needed cooler weather and more nutrients to get good stem length.

Additional Comments: Similar to 'Azalea Show Mix'; 7 day vase-life in tap water at room temperature; Sakata's Grace series is superior, in Chicago we grow godetia's as a winter or early spring crop; Dislikes hot weather (zone 6b); It got a lot taller than I expected it to.

Helianthus 'Extra Early Cream Yellow'

Good qualities: Very short crop time; Flowered quickly, 6 weeks from seed; Didn't think it was "xtra" early (zone 5) - but color and size was great - unique!

Problems: Too short (photoperiod responsive?); Flowers were kind of small; Flowered in flat at 5 weeks.

Additional Comments: None

Linaria 'Lace Magenta Rose'

Good qualities: Great color (10); Very productive (2); Excellent heat tolerance, lived all summer in Chicago, once main shoot falls prostrate-all secondary shoots develop; 5-7 day vase-life, good consumer response; Nice filler for bouquets, was well accepted; Interesting flower and open space; All colors were nice except white - it was OK – It doesn't like heat (zone 6b) and we had plenty of that – We are trying it as a winter crop – Customers loved it as a filler – We just need to grow it a different time of year – No insects or diseases!; Nice side shoots, very early; Quick germination - 1 day (24 hrs); Cool weather plant, good for extending the cutting season, interesting change from the usual fillers.

Problems: Too short (2); Stems not substantial (3); Better as a seasonal annual than as a cut in Chicago; Growth was very soft - not strong stemmed, floppy!; Post-harvest petal drop; Doesn't bloom long into the season -- died out when we had extreme heat for prolonged period of time, stems were stiff, but thin; Melted in heat; Too hot this year to get full potential.

Additional Comments: Dislikes hot weather (zone 6b); All of these linarias are worth another try; I'm trying it again this year, starting it in the fall, to see if it will produce thicker stems.

Linaria 'Lace Violet'

Good qualities: Excellent color (10); Flower quickly from seed (3); Productive (3); Excellent heat tolerance, lived all summer in Chicago, once main shoot falls prostrate-all secondary shoots develop;

They didn't stand up well, stems were curved, so they were hard to bunch and mix – However, it is a wonderful plant for a colorful annual garden, and we will grow it again; Interesting flower and open space; The vase life is great; All colors were nice except white - it was OK – It doesn't like heat (zone 6b) and we had plenty of that – We are trying it as a winter crop – Customers loved it as a filler – We just need to grow it a different time of year – No insects or diseases!; Very pretty, snapdragon-like flowers, dainty size, unusual; 24 hrs germinated; Cool weather plant, good for extending the cutting season, interesting change from the usual fillers.

Problems: Short stems (5); Stems not substantial (5); Florets fell off quickly (2); Only one stem per plant, pinching resulted in more spikes per stem, but no more stems per plant; Falls over, flowers and dies quickly; Better as a seasonal annual than as a cut in Chicago; Melted in heat; Quit blooming in heat of summer; Too hot this year to get full potential.

Additional Comments: Dislikes hot weather (zone 6b); I'm trying it again this year, starting it in the fall, to see if it will produce thicker stems; I really liked this linaria - but they were too short for even our smallest buckets – I would like to try it as a greenhouse (cold frame) crop – It last well and has incredible colors.

Linaria 'Lace White'

Good qualities: Excellent color (4); Stiff stems but weak; Excellent heat tolerance, lived all summer in Chicago, once main shoot falls prostrate-all secondary shoots develop; Many stems, lacey effect; Nice filler for bouquets, was well accepted; Clear white flowers that don't discolor always a big plus; Interesting flower and open space; Very productive; Long lasting - best colors of any linaria; It doesn't like heat (zone 6b) and we had plenty of that – We are trying it as a winter crop – Customers loved it as a filler – We just need to grow it a different time of year – No insects or diseases!; Quick germination - 1 day; Cool weather plant, good for extending the cutting season, interesting change from the usual fillers.

Problems: Too short (3); Stems not substantial (3); Not a cut, flowers and dies quickly (fast crop time); Better as a seasonal annual than as a cut in Chicago; No useable stems; Doesn't bloom long into the season -- died out when we had extreme heat for prolonged period of time, stems were stiff, but thin; Plants needed support for quality stems and like 'Lace Violet', had to be cut very early to avoid blossom drop; Melted in heat; White is boring; White color not rich, nowhere nearly as interesting as the 'Lace Violet'; Too hot this year to get full potential.

Additional Comments: Dislikes hot weather (zone 6b); All the linarias are worth another try; I'm trying it again this year, starting it in the fall, to see if it will produce thicker stems; Too short to cut - but maybe a direct seeded or cold frame cultivation would produce longer stems or an over wintered seeding.

Linaria 'Lace Yellow'

Good qualities: Great color (7); Productive (2); Excellent heat tolerance, lived all summer in Chicago, once main shoot falls prostrate-all secondary shoots develop; Nice filler for bouquets, was well accepted; Interesting flower and open space; All colors were nice except white - it was OK – It doesn't like heat (zone 6b) and we had plenty of that – We are trying it as a winter crop – Customers loved it as a filler – We just need to grow it a different time of year – No insects or diseases!; Cool weather plant, good for extending the cutting season, interesting change from the usual fillers.

Problems: Too short (2); Stems not substantial (2); Not a cut, powdery mildew; Better as a seasonal annual than as a cut in Chicago; Poor germination; Doesn't bloom long into the season -- died out when we had extreme heat for prolonged period of time -- Stems were stiff, but thin; Melted in heat; Too hot this year to get full potential; Poor growth (zone 11).

Additional Comments: Dislikes hot weather (zone 6b); All the liners are worth another try; I'm trying it again this year, starting it in the fall, to see if it will produce thicker stems.

Matthiola 'Extra Early All Stock Double White'

Good qualities: All doubles (3), no singles, no selection necessary; Very early (2); Beautiful variety, one of the few to have lived in Chicago and flowered; Nice stem length and very full heads, still blooming in October - stem length now is a little shorter (zone 5); Fast crop; Produced well, might be as nice as 'Cheerful White'; Good stems; Fragrance and clear white color that held up well without browning.

Problems: Small flower heads; None; Never bloomed (zone 6b); Absolutely worthless! looks very weedy, very nitrogen "deficient"; Did not elongate as much, or look as good as Cheerful series; No disease - no insects; Too short, melted in heat; Flowered 2 weeks earlier than planned.

Additional Comments: Outside stock is difficult to grow in N.H. because we had a late winter and early summer heat; Stock does not do well here in S. Vermont -- I tried to grab the shortest days possible, but plants did not begin to bloom until mid August (our longest days) -- They were by far the best stock I've ever grown - beautiful clear white, lovely odor, but very stunted, short (caused by, I believe the VT climate).