



'Uproar Rose'



'Cappa Conic White/Red'



'Lake Louise Purple'



'Orange King'



'Zowie! Yellow Flame'



'Animation Deep Red'



'Radiant White with Ring'

2005 ASCFG Cut Flower Seed Trials

John Dole, North Carolina State University

Zinnias have become one of the staples of the outdoor cut flower industry. And for good reason - zinnias are productive for a long period of time, available in many beautiful colors, and familiar to the general public. Over the years we have had a number of great zinnia cultivars in the trials including the Benary Giants and Takii's Sun series. This year we had two cultivars from Goldsmith that are new to most cut flower growers - **'Uproar Rose'** and **'Zowie! Yellow Flame'**. Both received great reviews and have been nominated for the ASCFG Cut Flowers of the Year. **'Uproar Rose'** produced large fully double flowers on long stems. As with most commercial cultivars, plants were somewhat mildew resistant with problems occurring only late in the season for most growers. The uniformity and productivity appealed to many trialers.

The color of **'Zowie Yellow Flame'** got everyone's attention - petals were a bold combination of colors starting with cherry red at the base, blending into orange and finally tipped with yellow. The flowers were smaller than **'Uproar Rose'**, Benary's Giants or Sun and a bit variable in coloring and doubleness, but prolifically produced on strong plants. **'Zowie Yellow Flame'** is an updated cut flower version of the charming species *Zinnia haageana* and sure to become a hit with cut flower producers. Both cultivars had an excellent vase life (see separate postharvest article in this issue).

Another longtime favorite of specialty cut flower growers is the sunflower and we had five cultivars in the trials this year. The top-rated cultivar was **'Pro Cut Yellow Lite'** from SeedSense with bright yellow petals and orange-yellow center florets. It produced stems averaging 40 inches long and received high marks for its uniformity and earliness. The other single-stemmed, pollenless Pro Cut cultivars, **'Peach'** and **'Red/Lemon Bicolor'** also performed well in the trials. The striking bronze and yellow of **'Red/Lemon Bicolor'** was especially noted. **'Orange Queen'** and **'Orange King'** from Gloeckner also scored well with the trialers, who noted the classic sunflower coloring of orange petals and dark centers, sturdy stems, and uniform flowering. **'Orange Queen'** was a shade or two lighter than **'Orange King'**.

Snapdragons are another important specialty cut indicated by the fact that we had ten cultivars from four companies. Two of the highest scoring cultivars were **'Animation Deep Orange'** and **'Animation Yellow Improved'** from Ernst Benary. Trialers loved both cultivars for their strong colors, high productivity and good return flowering. **'Overture Orange'** from Goldsmith and **'Potomac Cherry Rose'** from PanAmerican also scored well, the latter having stems up to 30 inches long.

The experimental pepper from Kieft, labeled **'Cappa Conic White/Red'** for now, put on a great show producing two foot tall plants covered with large fruits. The fruit started out a pale whitish green, matured to bright orange and finished at scarlet. The strong branches were covered with fruit which tended to mature at once, making them

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easy to harvest. Trialers were able to harvest up to 11 stems/plant with the average for all trialers of 4 stems/plant.

Ageratum is a cut flower with a mixed reputation. A filler flower with a great color but not always worth the time it takes to pick the stems after the heads and stems get small - which they inevitably seem to do. Thus, it was with great anticipation that we looked forward to seeing how **'High Tide Blue'** and **'High Tide White'** (PanAmerican) were going to do in the trials. As the film critics say - one thumb up and one



'High Tide White'

thumb down. While both cultivars were prolific, only 'High Tide White' produced stems long enough to be commercially acceptable as a cut flower crop. The heads started out large and stayed reasonably sized the entire season. Several trialers noted that the flower heads browned quickly, a common occurrence with white ageratum, indicating that the plant had to be picked regularly. On the other hand, 'High Tide Blue' started out short and stayed short the entire season. As one visitor to our cut flower trials at North Carolina State noted, "Hmmm, nice bedding plant". Not what one wants to hear in a cut flower trial. Interestingly, both cultivars rebounded with long strong stems and large heads at the very end of the season. At least two other trialers noted that same thing, Unfortunately, the handful of nice stems at the end of the season was not enough to redeem 'High Tide Blue' as a cut flower.

PanAmerican has reorganized its lisianthus offerings to make them easier to understand and submitted several new cultivars to the trial this year.

They combined their double-flowered types - Avila, Balboa, and Catalina - into one series known as ABC, and their single-flowered types - Laguna, Malibu - into the Laguna series. The names are followed with a number referring to the optimum season or day/night production temperature: 62-66/55-60°F for the 1-2 group, 66-70/64°F for the 2-3 group, and 68-71/65°F for the 3-4 group. Obviously,



'ABC 2-3 Rose'

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groups 2-3 and 3-4 are best for outdoor summer field production. This year, two cultivars, **'ABC 3-4 Purple'** and **'ABC 2-3 Rose'**, performed well enough to be nominated for ASCFG Cut Flowers of the Year due to long stems and beautiful flowers. 'ABC 2-3 Rose' was formerly 'Balboa Rose' and 'ABC 3-4 Purple' was formerly 'Catalina Purple'.

Over the last couple of years we have tested two series of hybrid delphinium - Guardian and Aurora. This year we added a third series to the list, delphinium **Candle** from Sakata, and it was a great one. Four colors were included in the trial: 'Blue Shades', 'Lavender Shades', 'Violet Shades', and 'White Shades'. Candle produced long stems of large, beautiful florets in a short amount of time. Trialers were able to harvest up to 6 stems per plant - those growing delphiniums in cooler climates were able to get a return flush of flowers. While the trials focused on field production, these delphinium are fast enough to be profitable in hoophouses and greenhouses.



'Violet Shades'



'Lake Louise Purple'

I have a confession to make. I love dark purple tracheliums. At first it may seem like a misguided love - the flower heads are rather unassuming, almost unattractive. However, when they fully open with their large clusters of tiny deep purple flowers and richly colored stems, they make great filler flowers. We have one problem - we cannot grow them in the field. In the greenhouse we get wonderful long-stemmed, large-headed cuts, but in the field we get short stems and small flowers. Year after year we try them and they just don't perform well. If you read the comments section below, you will see that other trialers have also been frustrated by this plant. In our defense we are getting better at them and this year we actually had many harvestable stems. The problem with

trachelium is threefold - it has a rather narrow optimum temperature range, resents drying out, and is a long-day plant. Trachelium grow best at night temperatures of 55 to 60°F, but yet are not cold-hardy so they cannot be planted too early. Transplants put out in May or June are subjected to warm temperatures and long days, causing them to flower fast and short. We have had the best luck starting transplants in late January or early February, hardening them off in late March or early April (remember we are Zone 7), and planting them in early April (avoiding any frosts, if possible). This schedule provides a period of shorter days and cooler temperatures to build up the plant before flowering begins later in the season.

So why did I bring this all up? This year we had three trachelium cultivars in the trials and one of them was a dark purple - '**Lake Louise Purple**'. I loved it and it performed well for us and a few other trialers. Several trialers have figured this species out - enough so that one trialer wrote that '**Lake Louise Blue**' was "My choice for #1 new flower of the 18 I trialed this year." Of course, the best way for most of us to avoid the disappointment is to grow them in the greenhouse or cool-season hoop house where temperatures and photoperiod can be controlled.

Overall, we had 47 cultivars from eight companies - down a bit on cultivars from last year but more companies than we have ever had participating in the trials. Based on trial results, the top five performers are automatically nominated for the ASCFG Cut Flower of the Year. The rankings are based on the combined ratings score: market appreciation (average of wholesale, florist, and consumer) + repeat again + ease of cultivation for those cultivars where more than three trialers responded. Thus, from the 2005 trials **Sunflower 'Pro Cut Yellow Lite'**, **Lisianthus 'ABC 3-4 Purple'** and **'ABC 2-3 Rose'**, and **Zinnia 'Uproar Rose'** and **'Zowie! Yellow Flame'** are nominated as Cut Flowers of the Year and will join other nominations from ASCFG members.

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

Acknowledgments: A hearty thank you to all of the evaluators who returned their trial reports and to the seed companies for providing such great cultivars. Congratulations and thank you to Amanda Muller, Paradise Specialty Cut Flowers, for being the first trialer to return her evaluations. I would also like to thank Ingram McCall and Diane Mays for taking care of the North Carolina State University portion of the trials, Ingram McCall for data entry, Tina Krug, Aliya Donnell, Brad Holland, and Tim Ketchie for assisting with the NCSU trials, and Amber Stewart, Betty Coleman and Rachel McLaughlin for laboriously typing in everyone's comments. 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.

Participating Seed Companies

American Takii

301 Natividad Rd.
Salinas, CA 93906

Benary Seed

1444 Larson St.
Sycamore, IL 60178

Fred C. Gloeckner

600 Mamaroneck Ave.
Harrison, NY 10528-1613

Kieft Seed

P.O. Box 618
Conway, WA 98238

Goldsmith Seeds

P.O. Box 1349
Gilroy CA 95021

PanAmerican Seed

P.O. Box 438
West Chicago, IL 60186

Sakata Seed America

18095 Serene Drive
Morgan Hill, CA 95037

SeedSense Ltd.

The Tithe Barn, Mundesley Rd.
Trunch, Norfolk HR28 0QB,
England

Participating Growers

Janet Bachmann
Riverbend Gardens
Fayetteville, AR

Keith Baldwin
NC A&T State University
Greensboro, NC

Christof Bernau
UCSC Farm & Garden
Santa Cruz, CA

**Ann Boutreis, WAB Farm
and Charles P. (Chazz)
Hesselein**
Extension Horticulturist
Alabama Cooperative
Extension System
Mobile, AL

Mark Bridgen
Cornell University
Long Island Horticulture
Research &
Extension Center
Riverhead, NY

Leon Carrier
PlantMasters
Gaithersburg, MD

Linda Chapman-Dale
Harvest Moon Farm
Spencer, IN

Maureen Charde
High Meadow
Flower Farm
Warwick, NY

Doug Croft
Chanticleer Gardens
Wayne, PA

Phyllis Dail
Dail Family Farms, Inc.
Snow Hill, NC

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

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University of Florida -
Milton Campus
Milton, FL

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

Peg Godwin
North Carolina
Cooperative Extension
Kinston, NC

Paula Grote
Texas Bloomers
Pearland, TX

Sharon Hampton
PanAmerican Seed
Santa Paula, CA

Jeff Hartenfeld
Hart Farm
Solsberry, IN

Betsy Hitt
Peregrine Farms
Graham, NC

Laurie Hodges
UNL Agronomy and
Horticulture
Lincoln, NE

Kathy Horn
Celebrate! Gardens
Lindenwood, IL

Cathy Jones
Perry-winkle Farm
Chapel Hill, NC

Susan O. Jones
Wild Goose Gardens
Osceola, MO

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Molino Creek Farm
Davenport, CA

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Flowers
Paradise, TX

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Cedar Falls, IA

Kathryn Nygren
Poverty Hills Farms
Lincoln, NE

Susan O'Connell
Fertile Crescent Farm
Hardwick, VT

Pam Pilkington
Griffen, NC

Carolyn Ramsbotham
Riverview Farm
Madbury, NH

Sonya Robinson
Robinson's Flower Farm
Milton, FL

Brenda Smith
Smith & Smith Farms
Dayton, NV

Vicki Stamback
Bear Creek Farms
Stillwater, OK

**Quinton and Carolyn
Tschetter**
Tschetter's Flowers
Oskaloosa, IA

Jeanne Vana
Market Garden of Hawaii
Mililani, HI

Cheryl Wagner
Wagner's Homestead
Farms
Belleville, MI

Kim Wickwire
Olds College
Olds, AB

Chris Wien
Dept. of Horticulture
Cornell University
Ithaca, NY

Allison Wiley
Little Flowers
Newfield, NY

2005 ASCFG Seed Trial Results. The first row of data for each cultivar is the average and the second row is the range of responses. Note when only one response is listed, either only one person responded for that category or several responded and all gave the same rating.

Cultivar	Yield (stems/plant)	Stem length (inches)	Market appreciation rating ^o		Repeat again rating ^o	Ease of cultivation rating ^o	Average spacing (in. ² /plant)	Average postharvest life	
			Whole.	Retail					
American Takii									
<i>Callistephus</i> 'Daylight Blue Frost'	53 1-16	20.9 16-28	2.0 1-3	2.5 1-4	3.2 1-5	2.1 1-4	3.3 1-4	126 16-324	14.0 14.0
<i>Callistephus</i> 'Daylight Pink Frost'	4.4 1-10	19.7 12-28	2.5 2-3	1.7 1-2	3.3 2-5	2.6 1-5	3.2 1-4	126 16-324	3.0 3.0
Ernst Benary									
<i>Antirrhinum</i> 'Animation Deep Orange'	6.9 0-15	16.9 12-21	3.3 1-5	3.3 1-5	3.3 1-5	3.6 1-5	4.2 3-5	164 36-432	6.6 4-8.5
<i>Antirrhinum</i> 'Animation Pink Imp.'	7.0 3-9.5	19.0 14-24	3.0 3.0	3.0 3.0	3.6 3-5	3.1 1-5	4.4 4-5	138 36-432	7.6 7-8.5
<i>Antirrhinum</i> 'Animation Rose'	6.3 3-9	16.8 15-18	3.0 3.0	3.7 3-5	4.0 3-5	3.4 2-5	4.0 2-5	206 48-432	6.6 4-8.5
<i>Antirrhinum</i> 'Animation Velvet Red'	9.9 5-19	17.9 14-21	3.0 2-4	3.8 2-5	4.3 3-5	4.3 2-5	4.3 4-5	179 48-432	7.1 4-9
<i>Antirrhinum</i> 'Animation Yellow Imp.'	8.3 6-14	18.3 15-20	3.0 3.0	3.7 3-4	3.6 3-4	3.4 3-4	4.4 2-5	142 48-432	7.5 7-8.5
<i>Callistephus</i> 'Hulk'	3.8 1-10	16.1 12-24	2.3 1-5	2.0 1-4	2.5 1-4	2.3 1-5	3.1 1-5	147 36-576	7.0 7
Fred C. Gloeckner									
<i>Antirrhinum</i> 'Charming White'	4.9 1-15.5	19.6 15-32	3.0 2-4	2.8 2-4	3.0 2-4	2.9 1-5	3.6 2-5	110 16-432	6.9 5-8.5
<i>Dianthus</i> 'Radiant Purple Eye'	3.1 1-10	12.5 6-20	1.7 1-5	2.0 1-3	2.6 1-5	2.0 1-4	3.7 1-5	124 16-324	6.0 3-8
<i>Dianthus</i> 'Radiant Red Eye'	4.5 1-10	12.1 7-20	2.3 2-3	3.0 2-4	2.3 1-4	2.3 1-4	3.5 2-5	86 16-288	8.0 7-10
<i>Dianthus</i> 'Radiant Scarlet'	5.9 1-13	11.8 7-18	2.8 2-4	3.0 2-4	2.7 1-4	2.0 1-4	3.2 1-5	102 16-324	6.3 3-10
<i>Dianthus</i> 'Radiant White'	5.4 1-10	12.5 6-18	2.4 1-4	2.1 1-4	2.8 1-4	2.4 1-5	3.9 2-5	117 16-324	6.0 3-10
<i>Dianthus</i> 'Radiant White with Ring'	5.3 1-13	12.7 7-20	2.8 2-4	2.8 2-4	2.5 1-4	2.2 1-4	3.6 2-5	106 16-288	7.8 5-10

Cultivar	Yield (stems/plant)	Stem length (inches)	Market appreciation rating ^o		Repeat again rating ^o	Ease of cultivation rating ^o	Average spacing (in. ² /plant)	Average postharvest life
			Whole.	Retail				
Helianthus 'Orange King'								
	1.0	39.7	3.8	3.4	3.8	4.5	106	9.7
Helianthus 'Orange Queen'								
	1.0	18-60	2.5	1.5	2.5	3.5	36-216	7-12
	1.1	42.9	3.4	3.0	3.6	4.1	144	9.7
	1-3	24-60	1.5	1.5	1.5	1.5	9-576	7-10.5
Goldsmith								
Antirrhinum 'Overture Orange'								
	7.8	18.1	3.5	3.5	4.0	4.0	131	7.1
	6-17	16-21	3.4	3.4	3.5	3.5	36-432	6-8.5
Zinnia 'Uproar Rose'								
	10.4	18.4	4.5	3.6	4.7	4.6	99	8.3
	5-23	12-30	4.5	2.5	3.5	3.5	9-288	6-10.5
Zinnia 'Zowie Yellow Flame'								
	7.6	14.0	4.0	4.0	4.7	4.4	112	9.3
	1-22	6-20	3.5	3.5	3.5	3.5	12-288	7-12
Kieft Seeds								
Ammi 'Graceland'								
	6.9	23.8	3.3	3.4	3.8	3.8	147	6.8
	1-20	6-36	3.4	2.4	2.5	2.5	9-576	5-8.5
Capsicum Exp.								
	4.0	18.4	3.0	2.5	3.6	4.2	161	14.0
	1-11	5-24	2.4	1.4	1.5	2.5	36-360	14.0
PanAmerican								
Ageratum 'High Tide Blue'								
	9.1	12.6	2.9	2.6	3.1	4.1	142	6.4
	1-20	6-18	1.5	1.4	1.5	2.5	36-576	5-8.5
Ageratum 'High Tide White'								
	20.1	14.9	3.0	3.1	3.3	4.3	193	7.6
	2-120	8-24	2.4	2.4	1.5	3.5	36-576	5-14
Antirrhinum 'Potomac Cherry Rose'								
	4.0	22.9	4.0	3.7	3.3	4.3	128	11.3
	1-9	15-30	3.5	3.5	1.5	3.5	36-432	7-21
Antirrhinum 'Potomac Red Imp.'								
	5.8	21.9	3.5	2.7	3.2	4.3	125	9.5
	1-18	13-27	2.5	2.3	2.4	3.5	36-432	5-21
Antirrhinum 'Potomac White Imp.'								
	5.0	20.1	-	3.0	3.2	4.3	150	6.8
	1-11	14-26	3	3	3.4	3.5	36-432	6-7
Delphinium 'Guardian Blue'								
	3.7	23.8	-	4.3	4.0	3.4	130	6.0
	1-12	18-40	4.5	4.5	3.5	2.5	36-324	5-7
Dianthus 'Sweet Exp. Scarlet'								
	6.8	13.9	4.0	3.2	3.4	3.9	101	8.3
	1-12	10-19	4.0	1.5	3.4	3.5	36-192	7-10
Dianthus 'Sweet Red'								
	8.4	13.1	4.0	3.9	3.8	3.8	105	6.9
	1-12	6-17	4.0	4.5	3.5	3.5	9-288	4-10
Eustoma 'ABC 2-3 Blue'								
	3.6	17.1	4.7	3.6	4.0	3.6	53	11.3
	1-8	10-21	4.5	1.5	1.5	2.5	16-96	6-14
Eustoma 'ABC 2-3 Blue Blush'								
	2.2	17.3	4.0	4.0	4.0	4.0	45	11.3
	1-4	12-22	4.0	4.0	3.5	3.5	16-96	10-14

Cultivar	Yield (stems/plant)	Stem length (inches)	Market appreciation rating ^o Whole. Retail	Consumer	Repeat again rating ^o	Ease of cultivation rating ^o	Average spacing (in. ² /plant)	Average postharvest life	
<i>Eustoma</i> 'ABC 2-3 Blue Rim'	3.1	16.2	4.0	3.8	4.3	3.9	3.7	61	11.2
	1-6	12-20	4.0	4.5	3.5	2.5	1.5	16-144	6-14
<i>Eustoma</i> 'ABC 2-3 Rose'	2.9	18.6	-	5.0	4.6	4.6	4.4	45	11.3
	1-5	12-22		5.0	3.5	3.5	3.5	16-96	10-14
<i>Eustoma</i> 'ABC 2-4 Yellow'	3.6	16.8	4.0	3.8	3.3	3.5	3.6	64	11.7
	1-8	11-22	4.0	3.5	3.4	2.5	2.5	16-144	6-14
<i>Eustoma</i> 'ABC 3-4 Purple'	1.8	16.2	4.0	4.0	4.4	4.3	3.8	61	12.0
	1-3	11-20	4.0	4.0	3.5	3.5	3.5	16-144	10-14
<i>Eustoma</i> 'ABC 3-4 Rose'	3.7	18.7	4.0	4.0	4.1	4.0	3.9	86	11.2
	1-8	12-20	4.0	4.0	3.5	3.5	3.5	16-192	5-14
<i>Eustoma</i> 'ABC 3-4 White'	2.4	15.3	4.0	2.7	3.8	3.0	3.3	72	10.0
	1-3	6-20	4.0	3.4	3.5	1.5	1.5	16-192	6-10
<i>Trachelium</i> 'Lake Louise Blue'	7.9	16.1	4.0	3.6	3.7	3.5	3.4	79	11.3
	1-14	9-21	4.0	3.4	1.5	1.5	1.5	16-144	14.0
<i>Trachelium</i> 'Lake Louise Purple'	6.6	12.9	3.0	3.3	3.0	3.1	3.1	98	11.3
	2-17	9-18	1.4	1.4	1.5	1.5	1.5	16-324	6-14
<i>Trachelium</i> 'Lake Louise White'	5.1	14.1	2.3	2.7	2.5	2.3	2.8	125	11.0
	1-15	8-21	1.3	1.3	1.4	1.4	1.4	16-144	6-14
Sakata Seed America									
<i>Delphinium</i> 'Candle Blue Shades'	2.7	25.6	4.3	3.7	3.8	3.1	3.4	132	6.1
	1-6	16-38	4.5	3.4	3.4	1.5	2.5	36-324	5-7
<i>Delphinium</i> 'Candle Lavender Shades'	2.1	25.4	3.0	3.5	3.7	3.3	3.0	118	6.7
	1-4	18-38	1.4	1.4	1.4	1.5	1.5	36-192	4-10
<i>Delphinium</i> 'Candle Violet Shades'	1.6	27.4	4.0	4.0	3.7	2.6	3.3	142	6.0
	1-3	21-38	4.0	4.0	3.4	1.4	2.5	80-192	5-7
<i>Delphinium</i> 'Candle White Shades'	2.4	28.8	4.0	4.0	3.8	3.3	3.1	138	6.2
	1-6	18-40	4.0	3.4	3.4	2.5	2.5	36-324	5-7
SeedSense Ltd.									
<i>Helianthus</i> 'Pro Cut Peach'	1.0	40.5	3.0	3.9	3.7	3.3	4.4	106	8.9
	1.0	18-48	2.5	2.5	1.5	1.5	2.5	36-256	2-14
<i>Helianthus</i> 'Pro Cut Red/Lemon Bicolor'	1.4	38.3	3.6	3.7	3.8	3.7	4.6	109	8.9
	1-7	22-51	3.4	2.5	1.5	1.5	3.5	9-256	7-12
<i>Helianthus</i> 'Pro Cut Yellow Lite'	1.0	40.7	3.3	4.0	3.9	4.0	4.4	138	8.6
	1.0	18-60	2.4	3.5	2.5	1.5	3.5	9-576	6-11

^o 1 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

Ernst Benary

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

Callistephus 'Daylight Blue Frost'

Good Qualities: Tall (2); Vigorous, no disease, some leaf spot, many flowers; I really liked this petite, vividly purple/blue bloom and had great plans for it!; Long lasting- spray type is nice for bouquet work; Lovely colors all on one plant.

Problems: None; Lots of death; Rust quickly moved through whole crop rendering it unsaleable, needed to be in net too as it did not hold up well in windy conditions, all bloomed at once; Did not harvest - the flowers were poorly developed; Frost portion of color is indistinct; Petals missing- never formed properly, probably should not be planted in a tunnel because the flowers placement on stem were elongated, not cut flower quality; Difficult to harvest when most flowers looked good; Leaf spot; All plants died after transplant; They all were ready the same week and that was the end of it.

Postharvest: Cool water- Chrysal #2

Additional comments: Similar to 'Serenade' (2) but not in color; I would like to try this one again with preventative actions well in place!; Not wild about the color- eventually fades to almost white- would try the rose or pink next year to see what it's like; Caught the eye of a number of customers, including an event floral arranger, each plant had *lots* of branches, the earliest blooming plants did fine, but leaves dried up on slightly later ones, and the latest ones just dried up and died; Individually the stems are short and wimpy.

Callistephus 'Daylight Rose Frost'

Good Qualities: Tall (2); Great filler (2); Mixed colors on one plant - lots of tiny flowers; Vigorous growth, not very susceptible to disease, many flowers; Frost portion of color is indistinct; Good color/customer appreciation high, sold very well, good for bouquets; Nice pink flower.

Problems: Did not harvest - the flowers were poorly developed; Petals missing- never formed properly, probably should not be planted in a tunnel during summer because the flowers' placement on stem were elongated, not cut flower quality; Leaf spot; Lots of death; Daylength sensitive; Short for my system/season; Difficult to harvest when most flowers looked good - did not perform well in the field, very few plants produced harvestable flowers, the good flowers were a nice pink but most flowers were discolored and useable.

Additional comments: Similar to 'Serenade', although it is a much larger plant; Customers and I loved it!; Try again under plastic.

Antirrhinum 'Animation Deep Orange'

Good Qualities: Rich, intense bicolor (5); Great stems, vigorous growth; Thick stems, bloomed over a month - held up well in heat (85 degrees); Bloomed much earlier than my usual 'Spring Giants'; Long sturdy stems, where left in field, produced second flush in fall; Productive, good recovery after hot summer.

Problems: Too short/small heads (2); Not as tall as 'Overture Orange'; Pinched them - wouldn't do this again; Prefer central great stem and the axillaries seem better then also; Bloomed at about 8 inches before croaking - apparently don't like weeks of 90F+ - this was not the summer to try winter types in the field in summer.

Additional comments: Better than white; General comments on trial (Zone 5, applied to all snaps varieties trialed): Trial grown outdoors on green plastic mulch (Solar mulch), trickle irrigation, 4 rows on a 9 x 9 inch spacing, one layer of Hortonova netting put up shortly after transplanting, season was hot most of the summer, but moderated into the fall, and did not frost until late October - during the summer heat, all varieties stopped producing flower heads, but the Group II varieties resumed production in mid-September, yielding about one third of their total production then.

Antirrhinum 'Animation Pink Improved'

Good Qualities: Great color (3); Good stem length; Easy to grow; Thick stems, bloomed over a month - held up well in heat (85 degrees); Bloomed much earlier than my usual 'Spring Giants'; Continued to bloom in spite of hot, dry weather; Very productive, good recovery after hot summer.

Problems: Color less than striking- a rather muted pink (2); Became infected with powdery mildew, so probably would have gotten more stems otherwise; Pinched them - wouldn't do this again; Prefer central great stem and the axillaries seem better then also; Bloomed at about 8 inches before croaking - apparently don't like weeks of 90F+ - this was not the summer to try winter types in the field in summer; Stems somewhat short.

Postharvest: Cool water - Chrysal #2

Additional comments: Similar to many cultivars including 'Rocket', 'Spring Giant', etc.; General comments on trial (Zone 5, applied to all snaps varieties trialed): Trial grown outdoors on green plastic mulch (Solar mulch), trickle irrigation, 4 rows on a 9 x 9 inch spacing, one layer of Hortonova netting put up shortly after transplanting, season was hot most of the summer, but moderated into the fall, and did not frost until late October - during the summer heat, all varieties stopped producing flower heads, but the Group II varieties resumed production in mid-September, yielding about one third of their total production then.

Antirrhinum ‘Animation Rose’

Good Qualities: Strong color pink (3), quite rich in color- much stronger color than ‘Animation Pink Improved’; Thick stems, bloomed over a month - held up well in heat (85 degrees); Bloomed much earlier than my usual ‘Spring Giants’; Very productive, good recovery after hot summer.

Problems: Pinched them - wouldn’t do this again; Prefer central great stem and the axillaries seem better then also; Was not as robust in field and therefore less prolific; Bloomed at about 8 inches before croaking – apparently don’t like weeks of 90F+ - this was not the summer to try winter types in the field in summer; Stems somewhat short.

Additional comments: General comments on trial (Zone 5, applied to all snaps varieties trialed): Trial grown outdoors on green plastic mulch (Solar mulch), trickle irrigation, 4 rows on a 9 x 9 inch spacing, one layer of Hortonova netting put up shortly after transplanting, season was hot most of the summer, but moderated into the fall, and did not frost until late October - during the summer heat, all varieties stopped producing flower heads, but the Group II varieties resumed production in mid-September, yielding about one third of their total production then.

Coming across cultivars such as this - snapdragon ‘Animation Velvet Red’ - makes doing the ASCFG trials very worthwhile. Thanks!

Antirrhinum ‘Animation Velvet Red’

Good Qualities: Color was a luscious deep red (6); Burgundy leaves (2); Customers liked it; Strong flower - 1st snap to bloom; Bloomed over a month; Long sturdy stems; produced second flush in fall; Very productive, good recovery after hot summer.

Problems: None; Pinched them - wouldn’t do this again; Prefer central great stem and the axillaries seem better then also; Bloomed at about 8 inches before croaking – apparently don’t like weeks of 90F+ - this was not the summer to try winter types in the field in summer; Short branches formed just below main flower are a major fault, especially as weather got hot.

Additional comments: Coming across cultivars such as this makes doing the trials very worthwhile - Thanks!; Excellent color, we pinched plants and treated like all snaps, a little short, but usable, did not like our extreme heat of summer (Zone 4) - but were very nice for late August, September and still going in October; General comments on trial (Zone 5, applied to all snaps varieties trialed): Trial grown outdoors on green plastic mulch (Solar mulch), trickle irrigation, 4 rows on a 9 x 9 inch spacing, one layer of Hortonova netting put up shortly after transplanting, season was hot most of the summer, but moderated into the fall, and did not frost until late October - during the summer heat, all varieties stopped producing flower heads, but the Group II varieties resumed production in mid-September, yielding about one third of their total production then.

Antirrhinum ‘Animation Yellow Improved’

Good Qualities: Strong yellow color (4)- not a solid yellow though- really a yellow/white bi-color; Very productive (2); Bloomed forever! 5-6 weeks in warm, dry weather, bloomed early; Pinched June 1 prior to transplant to field, greenhouse transplants – good strong growth prior to field transplant; Good recovery after hot summer.

Problems: Pinched them - wouldn’t do this again; Prefer central great stem and the axillaries seem better then also; Needs support; Bloomed at about 8 inches before croaking – apparently don’t like weeks of 90F+ - this was not the summer to try winter types in the field in summer; Good stem length, but space between florets too large.

Additional comments: We harvested from these plants till September 15 (Zone 2); General comments on trial (Zone 5, applied to all snaps varieties trialed): Trial grown outdoors on green plastic mulch (Solar mulch), trickle irrigation, 4 rows on a 9 x 9 inch spacing, one layer of Hortonova netting put up shortly after transplanting, season was hot most of the summer, but moderated into the fall, and did not frost until late October - during the summer

heat, all varieties stopped producing flower heads, but the Group II varieties resumed production in mid-September, yielding about one third of their total production then.

Callistephus chinensis ‘Hulk’

Good Qualities: Great unusual color and texture (5); Green is “in” (2); Good germination (2); Grew fine; Large size bloom, green is a color neutral; Caught the customers’ eyes; Great filler, “egg-y” look; I want to try it again; Grew well for a commonly problematic species; Easy to grow; nice contrast in bouquets, good stem strength; Many flowers per plant (although color was not good).

Problems: Unattractive flowers (3); Poor germination (2); Hard to know when to cut (2); The thing we disliked the most about Hulk (and we were excited to try it) was that as the yellow disk flowers bloomed, they turned a dirty brown, so unless they were picked before any disk flowers bloomed out, we didn’t really like them; For our field conditions, the green bracts that looked so big in the pictures were not very dramatic for us - I recently saw some in commercial bouquets at a store and this bract was very large, so I suspect for us to have better results we would need to grow in a hoopouse or greenhouse. We also didn’t really like all the side stems, it slows down bunching to take them off and sort, consumers really didn’t say anything about them, they didn’t stand out; Have to cut young else the white turns a dirty-drab color too soon; Fusarium



Callistephus chinensis ‘Hulk’

destroyed quality; Rust rendered most of the crop unsaleable. All bloomed at once; The spoon-shaped bracts were wonderfully textural, but personally I think the center is not very attractive - almost like a genetic aberration! customers, who are mostly women, were turned off by the name 'Hulk,' so we renamed it OZ (for the "O" in center and green color) Aster; they liked this name much better!; Outer green petals around the flowers were not good (brownish); Plants died early: tragic victims of fusarium. Plants around it were unaffected, which is not good for 'Hulk', very susceptible to disease - it was in a fumigated area; Hated it, ugly; Clustered flowers on 1 stem - no cutting qualities; Brown center not acceptable; Very dull green color - "no curbside" appeal to the customer at all; Aster rust - dry year, I think decreased production.

Additional comments: Great for mixes, not much customer interest; Seeded 4/4/05, planted 74 to the field, harvested from 60 plants, harvest interval 9/1 - 9/15; I did not find a whole lot about the 'Hulk' that would make me want to grow it again; Had great difficulty germinating; Grown asters for years in quantity without any seedling problems - these seeds and seedlings were different - more difficult to grow?; Some people liked, but most did not; Same color/contrast as 'Envy' zinnia as far as florist needs; The extreme heat and aster yellows prevented 'Hulk' from reaching its total size - there were 3 blooms on one of the plants but they had brown tips from the heat - however, there was great interest from florists in the product, some much that growers were buying the seed without waiting for our trial - the blooms are truly unusual and useful in modern design.

Fred C. Gloeckner

Antirrhinum 'Charming White Improved'

Good Qualities: Bright white color (3); Strong thick stems (2); Good spike, fair stem; Nice big stems; Lovely; Fairly long stems; Tight floret spacing along the stem, great in summer heat.

Problems: Too short (3); Weak grower - plants not productive; Not many stems per plant; Bud blasted out; They did better than 'Animation' series and 'Potomacs' but were not happy campers, most of them survived but didn't thrive; Low productivity; did not recover after the hot weather of summer.

Additional comments: Similar to 'Potomac White Improved'; 1 week earlier and about 10 inches shorter than 'Potomac White Improved'; otherwise similar quality; I think I'd like these in spring or fall in hoop house; General comments on trial (Zone 5, applied to all snaps varieties trialed): Trial grown outdoors on green plastic mulch (Solar mulch), trickle irrigation, 4 rows on a 9 x 9 inch spacing, one layer of Hortonova netting put up shortly after transplanting, season was hot most of the summer, The Cut Flower Quarterly

but moderated into the fall, and did not frost until late October - during the summer heat, all varieties stopped producing flower heads, but the Group II varieties resumed production in mid-September, yielding about one third of their total production then.

Dianthus 'Radiant Purple'

Good Qualities: Nice intense color (6); Number of stems; Very fat stem; Great blooms; Fast.

Problems: Too short (5); Few were harvested; Not have been a standout; Stems a bit floppy; Lost approximately 25% to a crown rot, plants not vigorous; Color not as intense as other dianthus; Not really distinctive enough, just kind of an also-ran except for the quick production time; Plants were short lived after transplant; In general the Radiant series was not as good in the field as the Sweet series - the flowers were smaller and not as well filled, the plants had a less healthy appearance, it shows no frost tolerance.

Additional comments: Heavy rain did not affect plants or blooms; Harvest interval 6/27-7/11; High tunnel crop, transplanted late resulted in short stems; Seeds were planted in 98 (cell) trays and covered lightly with vermiculite, grew slower in cells than 'Amazon' - 10 weeks for 'Radiant' and 7 weeks for 'Amazon' planted at the same time; Short stemmed and short lived; 'Amazon Neon Duo' performed much better.

Dianthus 'Radiant Red with Eye'

Good Qualities: Striking bicolor (5); Vigorous seedlings, good germination; Fast.

Problems: Too short (6); Not attractive (2); Lost small percent (10 - 15%) to crown rot; Not as vigorous as other dianthus; Spindly heads in field, grown right next to a crop of luscious 'Amazon', it wasn't worth harvesting; Difficulty propagating in greenhouse; Didn't like it at all! - wiry stems, not thick, color looked dirty, muddy, old when stem was young, total waste of space; Browned out prior to cutting; Nothing special; 1st florets starts to turn brown too soon; In general the Radiant series was not as good in the field as the Sweet series - the flowers were smaller and not as well filled, the plants had a less healthy appearance, it shows no frost tolerance.

Additional comments: Weak bloomer; Get another 12 inches and could be great; All dianthus were transplanted late into the high tunnels and were shorter than desired, would have done better in field which was cooler in the spring; Short stemmed and short lived; Florists consistently ignored them.

Dianthus 'Radiant Scarlet'

Good Qualities: Good color (3); Once transplanted, a fast growing plant; Vigorous seedlings; Sturdy stems; Fast.

Problems: Too short (4); Poor plant vigor (2); Not as striking as other dianthus; Plants rotted in field after transplant; Spindly; Brown/too much rain; We prefer longer stems - but probably it will be taller the second year; Variable flowering time and height, segregates red and scarlet; Browned out prior to cutting; Too much variability in color and form of flower, color ran

from scarlet to burgundy; Hard to pick at the right moment, just starting to look good and 1st florets start turning brown; In general the Radiant series was not as good in the field as the Sweet series - the flowers were smaller and not as well filled, the plants had a less healthy appearance, it shows no frost tolerance.

Additional comments: Similar to 'Sweet Scarlet'; Beautiful color; Get another 12 inches and could be great; Short stemmed and short lived; 'Amazon Neon Duo' performed much better in previous year.

Dianthus 'Radiant White'

Good Qualities: Strong white color (2); Fragrance (light; pleasant); Easy to grow; Hardy; Large flower, good form; Vigorous grower; Good second growth; Fast, white; Performed better than the other two dianthus 'Radiant Scarlet' and 'Purple'.

Problems: Too short (6); Browned out prior to cutting; Stunted growth, quickly going out of color (browning), difficult to use owing to first two problems! - went to seed rather quickly, a little fall rebound, but no real noticeable improvement overall; White flowers not a big seller for me; Segregates pink; Not very robust / minimal second flush; In general the Radiant series was not as good in the field as the Sweet series - the flowers were smaller and not as well filled, the plants had a less healthy appearance, it shows no frost tolerance.

Postharvest: Cool water-Chrysal #2

Additional comments: Similar to 'Sweet White'; My least favorite/ useful of the three dianthus I trialed; Not preferred species for my cut flower operation; Get another 12 inches and could be great; Looked like any other white dianthus; Fat, succulent stems but not as stiff as 'Sweet White'; Short stemmed and short lived.

Dianthus 'Radiant White with Ring'

Good Qualities: Fast growing plants (2); Easy to grow; Vigorous seedlings; Sharp contrast of colors is quite striking; Interesting color, good uniformity; Nice-sized heads – good branching; strong stems.

Problems: Too short (5); Thin stems (3); The coloring of this variety was also a problem- the reddish ring was poorly defined, and looked like a spent bloom from opening, it scared my customers; Blooms became brown after too much rain; Not a particularly strong grower this season; Browned out prior to cutting; Didn't like it at all! - color looked dirty, muddy, old when stem was young, total waste of space; Same as other 'Radiant', never looked 'fresh', dirty colors as if they were old; Florists preferred colors – was okay for farm markets and The Cut Flower Quarterly

'Orange King' is a good standard sunflower but didn't really stand out above anything else that we grew.

mixed bouquets; In general the Radiant series was not as good in the field as the Sweet series - the flowers were smaller and not as well filled, the plants had a less healthy appearance, it shows no frost tolerance.

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

Additional comments: Seeded in flats 1/25/05, harvest interval

6/22-7/4; Although this was not a great grower, I would try it again because of the color; Short stemmed and short lived; Get another 12 inches and could be great.

Helianthus 'Orange King'

Good Qualities: Very nice color (5); Sturdy, tall stems; Strong open face - classical sunflower; Slightly larger face and larger petals, petals didn't fall off; Strong plants; Strong petals, liked its 'upright' face in bouquets a lot; Nothing stands out; Good standard sunflower but didn't really stand out above anything else that we grew, plants were taller than 35 inches but that height worked best for cutting; Large, dark central disk, with cloudy defined seed pattern, though a large disk is usually a flaw, this one was striking, made my customers want to rub and fondle it; Nice sunflower; Strong stem; Ready between 'Pro Cut' and 'Sunrich'.

Problems: Too big (3), would try closer spacing; No problems (2); About 70% germination, blooms not completely full; Not a seller, hard to cut, None; "Noses"—centers got sharply pointed or would have petal/leaf outbreaks about 20–25%; not sure if it is varietal or insect related but my other sunflowers didn't get it; Had poor germination, hard to keep up with bugs on sunflowers in our location without routine pesticide applications; Very heavy stems, quite large heads; Dry season seemed to push for first bloom and then production was slow to return; Flower size varies, the disc is too light brown.

Additional comments: Similar to 'Sunrich Orange'; Except for "noses"

I loved it; Flowers much much too large for my customers; Despite problems growing them, there is a big demand for locally grown sunflowers in our market, especially among upscale event florists.

Helianthus 'Orange Queen'

Good Qualities: Beautiful, rich color (6); Shape, length and foliage, made it through 55 inches of rain and hail; Full blooms; Upright facing face - not so 'eastward' facing, nice in bouquets - good size; A very nice pollenless single-cut sunflower for



Dianthus 'Radiant White with Ring'

short days - we pushed our sunflowers for late season in order to pair with grasses and because our ground was simply too hot and dry for sowing most of the summer! - this one (actually ALL of our late-sown) sunflowers came through for us before frost! - this was the last to do so, however. Plants stood well despite a severe wind on a couple occasions, no disease problems; Very striking contrast to "normal" sunflowers; Large petals; Very tall, florists really liked them; Nice flower substantive, huge head, good 5 foot height; early to flower (similar to Pro Cut series); Flower size good; Good standard sunflower but didn't really stand out above anything else that we grew, plants were taller than 35 inches but that height worked best for cutting.

Problems: Thick stems (2); Germination was a bit erratic on this one, but good nonetheless, brown stink bugs were plentiful on all our sunflowers (or were they the beneficial lookalikes spined soldier bugs?) as were swarms of corn rootworm beetles and cucumber beetles, but we suffered very little actual insect damage by cutting sunflowers just as the petals started to color and lift; Not very consistent in stem size - some huge, some very small; None; Preferred 'Orange King's color more - kind of bland yellow petals; Hard to keep up with bugs on sunflowers in our location without routine pesticide applications; Not a seller/too tall, hard to cut; Dry season - production was down, minimal germination percentage.

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

Additional comments: Flowers much much too large for my customers; Despite problems growing them, there is a big demand for locally grown sunflowers in our market, especially among upscale event florists; Seeded in 128 cell flat on 4/24/05 before transplanting to field - harvest interval was 7/3-7/10; A nice sunflower; This was nothing special for me.

Goldsmith

Antirrhinum 'Overture Orange'

Good Qualities: Great orange pink color (5); Strong thick stems (2); Might be good for late season planting - fall bouquets; Strong grower- good 2nd harvest; Bloomed over long period of time; Very productive, good recovery after hot summer, long flower heads with many florets; Still flowering in November (Zone 4).

Problems: A little short, but good for bouquets; Didn't support - fell over; Stem length only medium.

Additional comments: Similar to 'Bronze Rocket'; General comments on trial (Zone 5, applied to all snaps varieties trialed): Trial grown outdoors on green plastic mulch (Solar mulch), trickle irrigation, 4 rows on a 9 x 9 inch spacing, one layer of Hortonova netting put up shortly after transplanting, season was hot most of the summer, but moderated into the fall, and did not frost until late October - during the summer heat, all

varieties stopped producing flower heads, but the Group II varieties resumed production in mid-September, yielding about one third of their total production then.

Zinnia 'Uproar Rose'

Good Qualities: Brilliant color (13); Good doubleness (5); Mildew resistant (4); Sturdy stems (2); Very healthy plants; Excellent producer with long, strong stems, and continuous bloom - good size; One of the prettiest zinnias I have ever seen; EVERYTHING!!! - this zinnia tied with another we trialed in terms of being a top performer in or drought-stricken gardens this summer, it really stood out from all the other zinnias! - blooms were very large- about 5-6 inches nearly all season, plants had nice height, phenomenal repeat bloom- we pulled a whole lot of zinnias from this variety and had very little need to deadhead, every stem readily sold, bugs were about the same on

this as for other zinnias, but they stood up to late season mildew better than any other zinnia we have seen, we cannot say enough good things about this zinnia!; Large flower; Good germinator; Very floriferous, good rebloom; Good stem length; Bloomed reliably, we harvested from July thru October 20th. (Zone 5/6); Easy to grow and profitable, market of wholesale and retail market appreciates zinnias because they can not be shipped easily; Flower form different than other cultivars I've seen; Produced well, looking forward to additional colors.

Problems: Short (3); None (2); Not as vigorous as Benary's Giant Series, which were planted under same conditions directly nearby, did not get many large double blooms, will not likely plant next year as seed was much more expensive (through one seed catalog) for 2006 growing season than Benary's Giant series; Size; Japanese beetles were a bit of a problem.

Postharvest: Had great success cutting zinnias directly into plain water and then transferring to a clean bucket of plain water with no preservatives or quick dip when processed in bunches, the wholesaler kept zinnias outside of cooler, which seemed to work well; Not too much sugar in holding solution. See separate postharvest report in this issue for results from NC State University postharvest evaluations.

Additional comments: Similar to Benary's Giant (2) but more prolific; Similar to 'Sun Cherry' but more consistent in shade of color than Sun; Absolutely loved it! - bring on some more colors please!; Look out Blue Point!! - this has the makings of a new gold standard among tall cutting zinnias; For a first-year grower we had *very good success* with zinnias this year and will expand our planting next year; A winner- great color- strong sturdy stems; Even when all the other zinnias were bloomed out, this one kept on going with only a slightly diminished bloom size at the end of the season, just starting to get a bit of powdery mildew when zinnias all around were quite covered in late season.

'Uproar Rose' is one of the prettiest zinnias I have ever seen.

Zinnia 'Zowie! Yellow Flame'

Good Qualities: Exciting unique bicolor/tricolor (10); Flowers were consistent in doubleness and bicolor ring size; Everyone loves them. Lots and lots of branching; When we had these bunched alone, they were often the first bunches to be bought at market, so they did catch people's eye; Many, mostly it was the sunshine nature that endeared it to the customers, usually the center yellow was ringed in a shade of violet/pink, then subsequent rings of red, yellow, and orange or blendings of them - flowers were about 2 inches across and could stand alone or look fabulous paired with red or carmine globes, 'Neon' dianthus, red, orange and yellow zinnias (especially the less popular singles) or deep red dianthus; Farmers' market customers loved it - loved the color; Hardy stems, long lasting; It worked especially well with fall bouquets; Youthful appeal; Stands out in bouquets, prolific bloomer; Good flower size; My customers really liked this one a lot.

Problems: Short stems (7); Had to use as sprays or bouquets; Was planted in a dustier area of the field and did suffer from mite infestations; Not problems, did not repeat bloom as quickly as other zinnias, but we were still cutting them heavily to keep up with demand, some did not have the violet ring but most times the customers did not care, some bug pressures as other zinnias, some powdery mildew toward end; Some bugs; Flowers not very double, flower petals narrow, i.e. gappy; 1st to start getting leaf spot.

Postharvest: I found that this zinnia needs to have a good stage of maturity before it is cut, too early of a cut inevitably led to a blending or loss due to age, waiting too long, however meant center would brown, timing was important, but these sold so quickly that once I discovered its habits, I could make adjustments without much bending or loss due to age - we used Floralife, gave customers some and told them to change out water at every day or so; Floralife. See separate postharvest report in this issue for results from NC State University postharvest evaluations.

Additional comments: Had 5 plants left after Hurricane (Dennis) and they were still producing numerous branching and flowers until Hurricane Katrina; Seeded in a 128 cell flat on 4/24/05, transplanted 91 plants to field, harvest interval was 7/28-8/22; We liked this one; The most loved flower in my whole garden this season, it came to be called the "Sunshine Zinnia" and was asked for by that name; Very similar in coloration to gaillardias, but way more useful and sturdy!; THE hands-up favorite of my customers this season - I will grow LOTS more next season! - Always the first to sell out, customers bought for themselves and everyone they knew - The "Sunshine Zinnia"!!; The stems were too short for most of the summer, but began to be a satisfactory length in October; I got the best results I have ever gotten from a bicolor zinnia with this cultivar; 1st harvest in late June, florist loved them for 4th of July then interest waned; Too short most of season, like them again now - mid-October.

Ammi majus 'Graceland'

Good Qualities: Nice canopy, color; Unique and something different; Nice product, but no better than just *Ammi majus*; Extends the ammi season; This DID take the heat better than most ammi and did very well for us, would like to try it again on a larger basis.

Problems: Short, thick, crooked stems; Looks similar to garden weed, Queen Anne's lace; Weak stem; Due to heat, this one got away from us - we didn't pick in a timely manner so harvested very few stems; Shattering when open; Matures 2 weeks later than regular seed, not able to do successive seedings with this as it takes; Somewhat fragile flowers, *Ammi visnaga* flowers held up better; Florists don't like it - tired of ammi by the time this variety came along.

*Ammi majus* 'Graceland'

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

Additional comments: Cut only a few - tried to grow and sell for years; My customers do not buy; Direct seeded into garden, emerged decent only to be eaten by rabbits, resulting in loss of plot, will likely not try again next year, as local wholesaler and retail florists prefer the ammi that comes out of South America, because it is thicker stemmed and more uniform, would consider it if we were growing for a farmers' market; Similar to Queen Anne's Lace; Not much different from any other ammi; *Ammi visnaga* performed much better in field, provided more harvest and had larger vase life; Nice foliage.

Capsicum annuum 'Experimental Cappa Conic White/Red'

Good Qualities: Could be harvested before the peppers turned red, as they were a pretty light yellow - we did have a request for them after we had them in arrangements, I used the short stems in wreaths, longer stems in bouquets; Seem to be drought resistant; About 90-95% germination; Easy to propagate from

seeding into flats; Nice long stems, uniform fruiting; Shape of pepper was interesting- even at the “yellow” stage; Nice conical - shaped peppers - mostly red at base of plant to creamy yellow/ white at top of plants, very uniform; colored up reasonably early; Nice yellow and red pepper; Good color; Nice red colors- peppers rather large, but okay, not sure what the white color is supposed to be, mine are just red; Nicely spaced nite-lite, great shape and size of red and 2 shades each of orange and yellow; Withstands storms well with minimal support; Uniform nice size fruit, good fruit set, fruit matured pretty uniformly.

Problems: None; Long crop time in Zone 9; These were pretty but too short; Seemingly indeterminate branches; Lower fruit drying while blooms/new fruit forming during 5+ months till maturity; None except how to use, how to sell; Requires a long growing season, I let them grow as long as I thought I could (about mid Sept.) without frost and still none turned red; We were not sure when to pick since it ripens from bottom up - I'd pick earlier next time - some of the plants stalled and did not color all the way to the top; We don't know what happened but the seed never germinated – old seed? - we've NEVER had a problem with peppers not germinating.

Postharvest: No special treatment; Cool water- Chrysal #2.
Additional comments: Great germination and healthy looking plants, bushy plants; We used the peppers on short stems in our pumpkin bouquets-interesting addition to bouquets; I think I still prefer ‘Nippon Taka’ - from Johnny's for bouquets- but want to try this one again; Was fun to use in bouquets, the color of the peppers is yellow (not white), and changes to orange, then red - sometimes the leaves stayed fresh-looking, sometimes they shriveled.

PanAmerican

Ageratum ‘High Tide Blue’

Good Qualities: Great clear blue color (8); Many stems (3); Flowered 1-2 weeks earlier than Blue Horizon; Easy to grow (2); Good germination; Pretty; It's a different kind of cut; Good; Nice texture for a blue filler.

Problems: Stems very short (7); Stems too short until late in the season (2); None; Flower heads usually not large; Head size and shape seemed to grow “squirrely”!

Additional comments: Too short (5); Prefer ‘Blue Horizon’ (2); Similar to ‘Florist Blue’; Stays nice all season long; Scentless - I like the smell of ageratum and this cultivar had no fragrance; I thought this had longer stems than ‘Blue Horizon’, color was identical; Bloomed all season; I don't see enough difference between the ‘High Tides’ and existing varieties to change over to using them.

Ageratum ‘High Tide White’

Good Qualities: Nice filler (3); Good white when fresh; As with ‘High Tide Blue’, this variety germinated well (though not as well as ‘High Tide Blue’), and grew fine under field conditions; Easy to grow, many flowers, it's a different kind of cut; Hardy; Grows and blooms like a winner; Still going strong 10/12 (Zone 7B); Great stem length and flower size; An alternative to blue ageratum; It was white! 2nd planting was thick, sturdy stems; Long/sturdy stems; The white was good and a lot of my customers wanted it, like the blue, it bloomed two weeks earlier than tall ‘Blue Horizon’.

Problems: Flowers turned brown or were dirty looking (5); Stems too short (3); Most flower heads small (2);

Didn't grow as well as blue; First cut wimpy and no second cut; Abundant; Limited size most flower heads; None with the plant or flower; People don't buy it because of the color; Had to cut back several times before got any height, finally got 18-in. in mid-October but frost got it.

Postharvest: Harvested in Hydra Plus; Stored in Chrysal Clear. See separate postharvest report in this issue for results from NC State University postharvest evaluations.

Additional comments: Similar to ‘White Bouquet’; Smells like “Bells of Ireland”, same as blue ageratum; Seeds were planted in 98 (cell) trays and covered lightly with vermiculite on 1-25-05; These ageratum were too short for me, and I quit cutting them after about 2 cuts, but they bloomed all season; I don't see enough difference between the ‘High Tides’ and existing varieties to change over to using them.



Ageratum ‘High Tide White’

Antirrhinum ‘Potomac Cherry Rose’

Good Qualities: Great color (4); Strong stems; Nice strong thick stems; Tried this one for summer production and it did pretty good – not as big as our ‘Potomac’ grown in the winter but still good.

Problems: Hoophouse (first planting) became infected with powdery mildew, but (2nd planting) outside bloomed all season; Many deformed flower heads- no single strong spike; Slow to bloom; Most fried – those that survived were unusable.

Postharvest: Cool water - Chrysal #2

Antirrhinum 'Potomac Red Improved'

Good Qualities: Attractive dark red color (4); Strong stems; Long stems.

Problems: Very late to bloom- this could also be a good quality; Didn't grow as strong as other snaps; kind of 'spindly' stems; Most fried – those that survived were unusable; Low productivity, did not recover after the hot weather of summer, short branches below the main flower head, similar to 'Animation Velvet Red'.

Additional comments: General comments on trial (Zone 5, applied to all snaps varieties trialed): Trial grown outdoors on green plastic mulch (Solar mulch), trickle irrigation, 4 rows on a 9 x 9 inch spacing, one layer of Hortonova netting put up shortly after transplanting, season was hot most of the summer, but moderated into the fall, and did not frost until late October - during the summer heat, all varieties stopped producing flower heads, but the Group II varieties resumed production in mid-September, yielding about one third of their total production then.

Antirrhinum 'Potomac White Improved'

Good Qualities: Strong stems (2); Uniform blooming time, over the course of 2 weeks.; Nice white color.

Problems: Last white to bloom; Tough to sell in straight bunches, white can be boring, better to have mix; Most fried – those that survived were unusable.

Additional comments: Similar to 'Rocket'; I prefer 'Rocket' - more prolific; Unremarkable white.

Delphinium 'Guardian Blue'

Good Qualities: Bright blue flowers (4); Long stems (2); Very tall stems; Much desired by florists and market customers; We really like the Guardian series and have them planted; Very uniform; Fast, good germination, big enough stems; Strong stems, good plant size.

Problems: Heat in Texas can be too much!; Florists like more length; This particular 'Guardian' did not germinate well, or thrive - especially compared to the other 2 trial varieties and also the 'Guardian' we had in our main cutting area, not really sure what the issue was; Individual flowers very large (almost too large for design) for length of stem; We would have had better luck with this in the fall.

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

Additional comments: Seeded in flats on 5/05, gave 2 weeks cold treatment, only 12 transplanted to field, harvest interval 6/29 - 8/31; First bloom August 25 (Zone 2), will look for taller stems next year; Have had other 'Guardian' colors in the past

and like the variety very much - seems to winter over well here in Michigan.

Dianthus 'Sweet Experimental Scarlet'

Good Qualities: Nice bright red color (5); Strong stems (2); Well-filled blooms, some frost tolerance, blooms longer than 'Radiants', but not as long as 'Amazons'; Branching; High yielding; Light, pleasant fragrance, opportunity for some rebloom in Fall and MAYBE a better chance for height if it comes back next year on this year's sowing; Long growing season- early June to late July and still many usable stems; Large bloom period; Very good germination, good length; Repeat flowering and still good stem strength.

Problems: Not as vigorous as Amazon (5); Too short (3) made it difficult to combine with other things in a bouquet; Quickly came on all at once and then to seed; Bright red was difficult to "tame" or pair with other flowers, relatively short field life and fall rebloom included lots of singles; Individual florets on head looked bad (the first ones to bloom) when later blooms opened - all sweet series colors did this - had to spend a lot of time "cleaning it up" in order to sell it.

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

Additional comments: Similar to 'Sweet Red'; Started in flats 1/25/05 - harvested from 6/23 - 7/7; Even under the same field conditions this year, this variety does not have

the same outstanding qualities as the 'Amazon Neon' series - but I would be willing to see what it could do for next year if it survives the winter or reseeds itself for earlier bloom; Longer stems than 'Radiant Scarlet'; This plant has great potential! - if it can be improved to be more vigorous (or I can find ways to improve its performance for me) I would use a lot of it; Did well; The color range and flower size is very good in this series, but 'Amazon' is still more outstanding.

Dianthus 'Sweet Red'

Good Qualities: Nice dark red color (9) that blended well with other colors (2); Multiple branching (2); Sturdy stems (3); Repeat flowering (3); Well-filled blooms, some frost tolerance, blooms longer than 'Radiants', but not as long as 'Amazons'; Fast growing plants; High yielding; Light, pleasant fragrance, fall rebloom, few singles, possible opportunity for some return or reseeding to get another crop (earlier) next year; Hardy; Good stem length - vigorous grower; Good second growth; Nicest dark red dianthus I've tried; Good length, strong stem, better stem length than the other colors.

Problems: Short stems (2); Not as strong as 'Amazon'; Bolted too quickly to be much value this season due to excessive heat



and severe drought; We prefer longer stems - but probably will be taller the second year; Small blooms, died quickly; Poor vigor, small heads.

Additional comments: Heat and rain did not affect growth or flowering; Made it through a Tropical Depression, hail and lots of rain for weeks w/no discoloring; Seeded to flats 1/25/05, transplanted 75 plants to the field, harvest interval 6/22 - 7/7; Think it might be a useful flower/color with an earlier start to its growth; Did well; The color range and flower size is very good in this series, but 'Amazon' is still more outstanding.

Eustoma 'ABC 2-3 Blue'

Good Qualities: Large beautiful double flowers (4); Bloomed late into season (Zone 5) and survived our drought; Nice stem length even though was started a little late for us, this was the case for all the lisianthus we did in the trials; Good stem length outdoors and in tunnel.

Problems: Stems could have been longer; Tends to lodge without netting, outdoors flower color tends to fade as they age.

Additional comments: Could not see any major difference from the ones I already grew; This was not my best year with lisianthus generally, none of these cultivars really did anything outstanding for me; General comments on trial (Zone 5, applied to all varieties tested): There were two trials, one in a high tunnel, the other outdoors, both had 2 reps, on shallow beds, 4 rows with 9 x 9 inch spacing, green plastic mulch and trickle irrigation, transplant dates the same for both trials, plants continued producing all summer, with no lag due to the heat.



Eustoma 'ABC 2-3 Rose'

Eustoma 'ABC 2-3 Blue Blush'

Good Qualities: Large blooms; strong stems, kept blooming even in drought; My customers love the 'Blue Blush' too.

Problems: Stems could have been longer.

Additional comments: This was not my best year with lisianthus generally, none of these cultivars really did anything outstanding for me.

Eustoma 'ABC 2-3 Blue Rim'

Good Qualities: Sturdy stems and very uniform, I picked them all the same week, florists were all over this one, the color is very striking, lots of blue; Fast growing; Good blooming time and size of flowers, nice mixes; All my customers love the 'Blue Rim'!; Eye-catching picotee flower attractive to consumers.

Problems: Later and less productive than 'Blue'.

Additional comments: Similar to 'Echo Blue Rim'; much nicer

than 'Echo'; Will this be available for '06?; This was not my best year with lisianthus generally, none of these cultivars really did anything outstanding for me; General comments on trial (Zone 5, applied to all varieties tested): There were two trials, one in a high tunnel, the other outdoors, on shallow beds, 4 rows with 9 x 9 inch spacing, green plastic mulch and trickle irrigation, transplant dates the same for both trials, plants continued producing all summer, with no lag due to the heat.

Eustoma 'ABC 2-3 Rose'

Good Qualities: Very good height and flower size; Nice deep color all season; strong stems.

Problems: Not pelleted.

Additional comments: What is this called in the trade when available; This was not my best year with lisianthus generally, none of these cultivars really did anything outstanding for me.

Eustoma 'ABC 2-4 Yellow'

Good Qualities: Beautiful, large, cream color flowers (3); Good germination, fast growing.

Problems: Color kind of blah; Really a cream not yellow.

Additional comments: Similar to 'Echo Champagne' without the pink blush and less productive; Would like to try this one in tunnel, will seed be available for '06?; This was not my best year with lisianthus generally, none of these cultivars really did anything outstanding for me; General comments on trial (Zone 5, applied to all varieties tested): There were

two trials, one in a high tunnel, the other outdoors, on shallow beds, 4 rows with 9 x 9 inch spacing, green plastic mulch and trickle irrigation, transplant dates the same for both trials, plants continued producing all summer, with no lag due to the heat.

Eustoma 'ABC 3-4 Purple'

Good Qualities: Great color; Dark color is always good as a mixer.

Problems: Drought may have affected growth.

Additional Comments: Surprised the guys who started them in the greenhouse by blooming 5 months after the seed was planted, they are accustomed to planting in late fall to get summer blooms, I think the plant suffered from the hot, dry weather, and would have been much more productive if growing conditions had been more satisfactory; This was not my best year with lisianthus generally, none of these cultivars really did anything outstanding for me.

Eustoma 'ABC 3-4 Rose'

Good Qualities: Good germination and fast growing; Pinks are always grabbed up by both florists and customers; Second flush of flowers nice color; Attractive pink with erect petals and ruffled petal edges - looks like a rose in late bud stage; Good stem length.

Problems: Not as many flowers and not as uniform as the others I tried.

Additional comments: I wasn't as impressed with the flowers in this one and neither were the florists; This was not my best year with lisianthus generally - none of these cultivars really did anything outstanding for me; Similar in height but less productive than 'Cinderella Pink'; General comments on trial (Zone 5, applied to all varieties tested): There were two trials, one in a high tunnel, the other outdoors, 4 rows with 9 x 9 inch spacing, green plastic mulch and trickle irrigation, transplant dates the same for both trials - plants continued producing all summer, with no lag due to the heat.

Eustoma 'ABC 3-4 White'

Good Qualities: This had mixed reviews, but I liked the ruffled edges of the petals; A bit taller than Echo for me; Second flush of flowers - sturdy stems / easy to use in an arrangement.

Problems: The flower arranger on the farm did not like this flower and did not pick it; Shorter stems and vigorous growth due to drought.

Additional comments: Seeded in flats 1/25/05, began harvest 8/11 - didn't harvest all usable stems because it was not liked by my farm partner; This was not my best year with lisianthus generally - none of these cultivars really did anything outstanding for me.

Trachelium 'Lake Louise Blue'

Good Qualities: Great color; We did it in Zone 2 - it wasn't tall but it was beautiful!; Plants were very robust in field and appeared as though they would produce well; Large tall medium blue flowers, attractive, strong stems.

Problems: Leaves appeared to have a "blight"; Did not flower until late in season, lots of browning on umbels prior to cutting; Our season really isn't warm enough or long enough but I like to grow it just to prove we can!; Eaten by deer; Didn't germinate well; About 2 weeks later than the earliest varieties in our trial: 'Devotion Blue'.

Additional comments: My choice for #1 new flower of the 18 I trialed this year - it sold farmers' market bouquets for me when I used it as a filler, people like purple, I hope it is a perennial; I don't think *Trachelium* is a good outdoor cut for the Northeast; If not grown under plastic - it wouldn't have done anything this year - tons of rain and cold; General comments on trial (Zone 5): Plants were transplanted to tunnel

and field into shallow beds, 4 rows/bed, mulched with green plastic and trickle irrigated, two reps in field and in tunnel, an infestation of tarnished plant bugs midseason in the tunnel may have reduced yield, but difficult to see detrimental effects.

Trachelium 'Lake Louise Purple'

Good Qualities: Wonderful color/texture (2); Florists liked the blue/purple; Great flower/stem/leaf color combo; Nice color on stem. Seems to have strong stem; Significantly taller than 'Devotion Purple'.

Problems: Leaves appeared to have a "blight"; I just can't grow this stuff - I've tried! - it never really 'purpled up' - looked either pre or post harvest at harvest, short, was mulched well, tended well and still did not perform - I give up; Short stems here; Perhaps it's just too hot for *trachelium* here - I never have luck with them - The few that lived to bloom were about 8 inches tall and pathetic; Didn't germinate; About one week later than the earliest varieties in our trial: 'Devotion Purple'.

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

Additional comments: Just too short of stem; We trialed both *trachelium* in 3 colors of plastic mulch - red, green and black - no noticeable differences in height or number of stems; General comments on trial (Zone 5): Plants were transplanted to tunnel and field into shallow beds, 4 rows/bed, mulched with green plastic and trickle irrigated, two reps in field and in tunnel, an infestation of tarnished plant bugs midseason in the tunnel may have reduced yield, but difficult to see detrimental effects.

Trachelium 'Lake Louise White'

Good Qualities: Nice big flower heads- longer it goes in the season- the nicer the stem length- can use it in the green stage too; Pretty heads; Robust in field.

Problems: Such a long season crop- could get in earlier- only get good stem length in the hoop; Did not flower until late in season, lots of browning on umbels prior to cutting; Eaten by deer before flowering; About 2 weeks later than the earliest varieties in our trial: 'Devotion Blue', flower greenish-white rather than pure white, stem length significantly less than 'Lake Louise Blue'.

Postharvest: Warm water - Chrysal #2.

Additional comments: Don't have much luck selling white flowers- especially when purples are so nice this crop; I don't think *trachelium* is a good outdoor cut for the Northeast; General comments on trial (Zone 5): Plants were transplanted to tunnel and field into shallow beds, 4 rows/bed, mulched with green plastic and trickle irrigated, two reps in field and in tunnel, an infestation of tarnished plant bugs midseason in the tunnel may have reduced yield, but difficult to see detrimental effects.

Trachelium 'Lake Louise Blue'
had great color; We did it in
Zone 2 - it wasn't tall but it
was beautiful! Plants were very
robust in field and appeared as
though they would produce well.

Delphinium 'Candle Blue Shades'

Good Qualities: Great color (4); Tall stems; Soft blue, turgid stems; Seeded in February for June bloom; Fast, uniform color, reasonable stem size; Good first year bloom, lasting well into early October (Zone 2); Stem length and strength.

Problems: Some stems were only long enough for market bouquets; Sheds petals, stalks thinner, more gaps between blooms on the stalk; Okay – I just can't grow delphinium from seed, it just withers away in the plug tray; The delphiniums just do better for us when sown and planted in the fall but it was a little early and too hot when we did this; Root disease wiped out this variety by early September in field and tunnel.

Additional comments: Similar to 'Guardian' (2); Similar to 'Aurora' far superior; I probably won't grow again until I have a high tunnel in place; General comments on trial (Zone 5): Plants were transplanted unto shallow beds covered with plastic mulch and with trickle irrigation, there were 2 replications in a high tunnel, and 2 outside, plants were arranged in a 12 x 12 inch spacing in 3 rows on each bed. Plant death due to root disease was the dominant feature of this trial - With the exception of the bellamosum types, all other varieties were essentially dead by early September, the unusually warm growing season may have contributed to this mortality.

Delphinium 'Candle Lavender Shades'

Good Qualities: Beautiful color (6); Large individual flowers (2); Fast, nice stems, uniform.

Problems: Didn't really like our hot summer, lost plants throughout the summer, those that survived came on quite nice this fall and are still sending up flower stalks; Didn't get planted until late, so didn't get as many stems as should have. Hope next spring they will be big and beautiful, and taller; I'm not sure that I could see the difference between 'Lavender' and 'Violet'; No germination; Root disease wiped out this variety by early September in field and tunnel.

Postharvest: Change water daily; Used an STS solution and really helps with shattering- 8 hours; then Crysal #2

Additional comments: Could not tell difference between 'Candle Violet' and 'Candle Lavender'; Seeded in flats on 1/25 and gave 2 weeks of cold treatment.

I'm not sure that I could see the color difference between 'Candle Lavender' and 'Candle Violet'.

First harvest, 7/4 - 7/15, then a new flush 9/15 - 10/20; I could sell all the delphiniums I could grow, but have powdery mildew issues which affect the blooms not just foliage; General comments on trial (Zone 5): Plants were transplanted unto shallow beds covered with plastic mulch and with trickle irrigation, there were 2 replications in a high tunnel, and 2

outside, plants were arranged in a 12 x 12 inch spacing in 3 rows on each bed. Plant death due to root disease was the dominant feature of this trial, with the exception of the Bellamosum types, all other varieties were

essentially dead by early September, the unusually warm growing season may have contributed to this mortality.

Delphinium 'Candle Violet Shades'

Good Qualities: Good clear violet color (4); Large individual flowers (2); Very pretty; Great stem length; Seeded in February for June bloom; Fast, stems, uniform; Good in the wind.

Problems: Not as good as germination as 'Candle Lavender'; Sheds petals, stalks thinner, more gaps between blooms on the stalk; Not very productive compared to 'Guardian' and 'Pacific Giants'; I'm not sure that I could see the difference between Lavender and Violet; Root disease wiped out this variety by early September in field and tunnel.

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

Additional comments: 'Candle Lavender' and 'Candle Violet', could not tell difference in color; Seeded in flats on 1/25/05 gave 2 weeks cold treatment - first harvest interval 7/4 - 7/13, then second harvest 9/15 - 10/20; First bloom August 21 (Zone 2), these look promising for BIG color on a medium length stem; General comments on trial (Zone 5): Plants were transplanted unto shallow beds covered with plastic mulch and with trickle irrigation, there were 2 replications in a high tunnel, and 2 outside, plants were arranged in a 12 x 12 inch spacing in 3 rows on each bed, plant death due to root disease was the dominant feature of this trial, with the exception of the Bellamosum types, all other varieties were essentially dead by early September. The unusually warm growing season may have contributed to this mortality.



Delphinium 'Candle Violet Shades'

Delphinium ‘Candle White Shades’

Good Qualities: Nice clear white (3); Very tall/big blooms; Was good seller at market; Very nice stems, good length on first stem; Fast, large flower size, nice stems, uniform, the best of the candle series for me; Stands well in the field, still blooming October 12 (Zone 2); Good sized heads on flowers, strong stems; Tall attractive white spike.

Problems: Not very productive compared to ‘Guardian’ and ‘Pacific Giant’ varieties, did not like hot weather; Whites faded after 3rd day, looked more off white; Could not get to germinate; Okay – I just can’t grow delphinium from seed, it just withers away in the plug tray; Root disease wiped out this variety by early September in both tunnel and field.

Postharvest: For best whites use as soon as possible.

Additional comments: This one didn’t do well in our area; Could not get to germinate, although that may have more to do with growing flowers for the first year than any fault of the plant, will not likely grow again as wholesaler and retail florists can get much cheaper out of California during time of year that we could get it to grow - have noticed in our experiences as well as wholesale market that unusual white flowers are not in demand, probably due to color trends toward more color in everyday bouquets, weddings, and funerals - we have noticed that color sells!; My delphinium did poorly across the board this year - first year plants did not bloom much at all, and established plantings were diseased and disfigured; General comments on trial (Zone 5): Plants were transplanted unto shallow beds covered with plastic mulch and with trickle irrigation, there were 2 replications in a high tunnel, and 2 outside, plants were arranged in a 12 x 12 inch spacing in 3 rows on each bed, plant death due to root disease was the dominant feature of this trial, with the exception of the *Bellamosum* types, all other varieties were essentially dead by early September - the unusually warm growing season may have contributed to this mortality.

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Helianthus ‘Pro Cut Peach’

Good Qualities: Great interesting color (5); Good for novelty; Beautiful rust color center; Small but good shape and light orangey color; Seem to hold petals well - pollenless; Easy; Pretty conventional sunflower; To say it is peach is a bit of a stretch; Like all of the Pro Cut series because they seem to all bloom about the same time; Florists like it better than yellow sunflower, farmers’ market customers liked it better than yellow and requested this one; Love all the Pro Cuts; Nice cut flower with good stem length, uniform flowering time, and quick harvest period, had excellent germination both in transplant and direct seeding, plants were taller than 35 inches but that height worked best for cutting; No disease!; Fast; Strong stem; It grew well but not liked by my customers.

Problems: Not very ‘peachy’ color (6); Droopy (2); Color not orange and not lemon, difficult for mass growers to use, tends

to open all at once; None other than a wind storm that knocked them over- still useable; Hard to keep up with bugs on sunflowers in our location without routine pesticide applications; Stems can be weak and seems to need to be more open when picked; Too weak looking; Insects loved to eat the petals even before flower opens; My perception was a washed-out, sickly colored bloom; No one would buy this flower, people didn’t like the color; Large size can be a factor in sales, not the best for everyday design, pale in color – not always what the designer wants; Could have grown more.

Postharvest: Cut into hot water with Chrysal #2

Additional comments: I am not crazy about the Pro Cut series- I prefer ‘Sunbright’, ‘Sunbright Supreme’, ‘Soraya’ and the Sunrich series for farmers’ market; Sold only few since insects destroyed; I’ll grow it again only because I have some seed left, but wouldn’t necessarily specifically grow it again; Grown in high tunnel; Despite problems growing them, there is a big demand for locally grown sunflowers in our market, especially among upscale event florists; Both Pro Cut sunflower varieties grew well to about 6 feet tall, and with 8 inch diameter blooms - my favorite is the Pro Cut Yellow with the lemon yellow centers, this will definitely be added to my list of sunflowers to continue growing; Kind of disappointing from this series.

Helianthus ‘Pro Cut Red/Lemon Bicolor’

Good Qualities: Unusual bicolor (4); Vivid contrast (3), much better than Pro Cut Bicolor, earlier than ‘Florenza’ and not multi-branching; It sold like hot cakes!; Plants were taller than 35 inches but that height worked best for cutting, awesome color combination that combines the ease of growing of the ‘Pro Cut’ variety with a novelty color, we prefer the single stem sunflowers versus the branching sunflowers for cutting; Good for fall displays; This was the one variety in the trial this season that a customer made a point to tell me she really liked the variety and hoped I grew it again - she also said she had over a 7 day vase life; Uniform size, short harvest period; Nice 4-foot height, great one for fall; Customer favorite of sunflowers trialed; Sold for mostly 1.50 – 2.00 each, sold fast; Strong stem, multiflowers; Wasn’t really my customers’ favorite color but I thought it was a nice sunflower.

‘Pro Cut Red/Lemon Bicolor’ has an awesome color combination that combines the ease of growing of the ‘Pro Cut’ variety with a novelty color.

Problems: Stems too thick (3); Too large head; Some weak necks; Corn borer beetle was a problem; Unstable stem post harvest; Poor height and size (too short to be useful), washed out colors, the “red” was a dusky purple/red; the “lemon” was a very light shade of maize yellow, not a knock-out!; Hard to keep up with bugs on sunflowers in our location without routine pesticide applications; Not too much demand; Held head down;

Seed heads attract attention for possible bird feeders, etc.; I did not get good performance from this variety;

Postharvest: Pick when just opening. See separate postharvest report in this issue for results from NC State University postharvest evaluations.

Additional comments: Similar to 'Florenza' (2); Very tall, could cut much longer; Despite problems growing them, there is a big demand for locally grown sunflowers in our market, especially among upscale event florists; Seeded to a 128 cell flat on 4/24/05 before transplanting to the field, harvest interval was 7/4 - 7/10.

Helianthus 'Pro Cut Yellow Lite'

Good Qualities: Bright color (8); Very uniform (3); Nice flower size; Two week earlier than 'Sunrich Orange'; Consumers loved it; They sell out at farmers' market at \$1.00 – 2.00 stem; Good stems; Same as most 'Pro Cut'; Light green center; All bloomed within 4 days of each other; Stem strength, long lasting; Nice 4 foot height; Early; Nice cut flower with good stem length, and quick harvest period - had excellent germination both in transplant and direct seeding - would definitely grow this again for the color, plants were taller than 35 inches but that height worked best for cutting; A really nice looking orangey-yellow sunflower with a light yellow center; very fresh and vibrant-looking, opened uniformly, fairly quickly, and continued to grow to about 6 or 7 inch diameter, A quick turn-around sunflower. Pollenless. Single branched; Great mixer – nice texture in flower; Nice flower, I liked them – fresh looking.

Problems: Delicate petals (2); Looks different than the rest of the Pro Cut series with its long petals and rounded disc; Petals don't open out completely, tends to form cylinder around center; Also tendency for ends of petals to bleach in the sun; Very susceptible to midge (most of our planting was un-useable) time of the year??; Unstable neck in postharvest, especially vulnerable to insect damage/

head irregularities, fat stems; Too short; Florist and consumers like the darker sunflowers best but they still sell well; We had lots of either brown stink bugs (bad) or the good lookalikes spined soldier bugs on these, also corn rootworm beetle and cucumber beetle, but very little insect damage ensued owing to our early-cut schedule; Hard to keep up with bugs on sunflowers in our location without routine pesticide applications; Too large of flower head for typical arrangement in home; Bugs; Low germination %; Florists don't like green centers,

cucumber beetles like them a lot – don't usually have problems with them so early in the season, maybe just because it was so hot and dry this year.

Postharvest: Used Floralife; Harvest in plain water; We cut them early, just as the petals started to color up and lift, before insects could get at them! - we used warm water and Floralife, heads grew visibly larger as they continued to open, customers liked the exceptionally long vase-life, we provided them with Floralife and the instructions to change out water every other day; Pick when just unfolding petals.

Additional comments: Similar to 'Sunrich Gold'; Looks like a marigold without the fragrance; We like to sell a grouping of 4 sunflowers encircling a bunch of mixed grass, so especially

like late- season sunflowers - these came along in late season with excellent timing and uniformity, a really pretty sunflower in many respects!; Nothing too special; Very tall, could cut much longer stems; Would be great in mixes, no good in own bunches at my market, I loved the color!; Despite problems growing them, there is a big demand for locally-grown sunflowers in our market, especially among upscale event florists; All of the 'Pro Cut' are uniform and very programmable for continuous production; Both 'Pro Cut' sunflower varieties grew well to about 6 feet tall, and with 8 in. diameter blooms - my favorite is the 'Pro Cut Yellow' with the lemon yellow centers, this will definitely be added to my list of sunflowers to continue growing.

'Pro Cut Yellow Lite' with the lemon yellow centers will definitely be added to my list of sunflowers to continue growing.

