

Volume 15, Number 1 January 2003

The Cut Flower

QUARTERLY

Association of Specialty Cut Flower Growers Inc.

National Cut Flower Seed Trials
National Cut Flower Perennial Trials
New Cut Flower Varieties
Vancouver Conference Preview

for growers of field and specialty greenhouse cuts

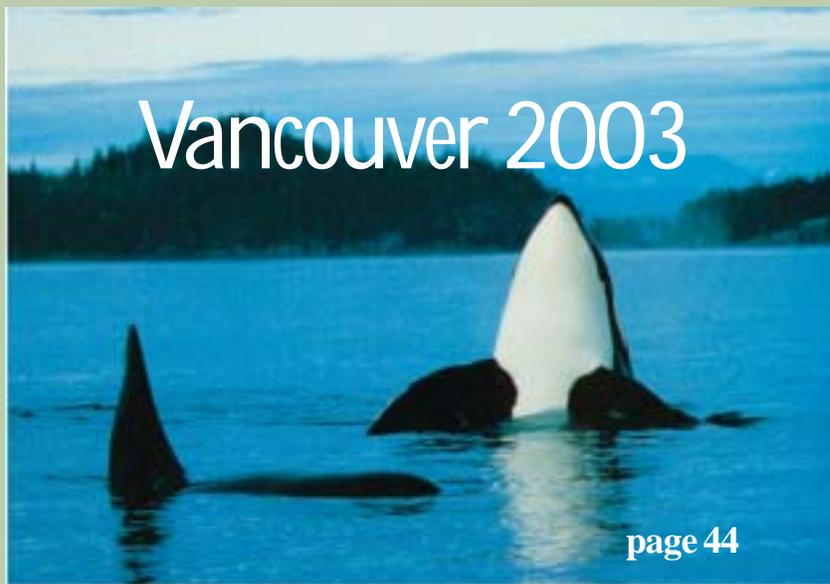
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In the depths of winter
I finally learned that within
me there lay an
invincible summer

- Albert Camus

Cover photo by John M. Dole



Vancouver 2003

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CUT FLOWERS from Harris Seeds

From the traditional to the more new and unique strains, Harris Seeds has the cut flower varieties you'll be looking for:

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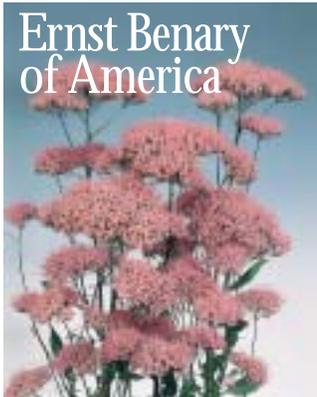
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New Varieties for 2003

Ernst Benary of America



'Jemmy Lilac Rose'

flower head and smaller lateral branches. In addition to producing high quality stems, this series has also a long vase life. The colors include 'Jemmy Pure White', 'Jemmy Lilac Rose', 'Jemmy Royal Purple' and 'Jemmy Deep Violet'.

Trachelium caeruleum

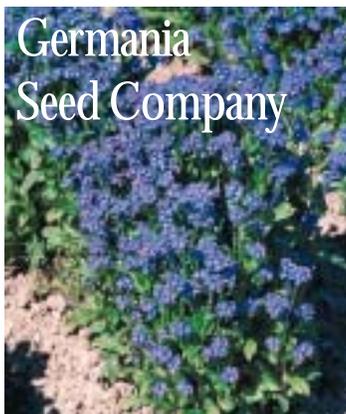
Jemmy Series

This new Trachelium series Jemmy features four uniform and fashionable colors. This variety is perfect to be grown as a cut flower with long sturdy stems. Depending on culture Jemmy produces sturdy 90-110 cm stems with a big



'Jemmy Deep Violet'

Germania Seed Company



'Deep Blue Tower'

Myosotis 'Deep Blue Tower'

A forget-me-not for cutting. This early spring bloomer produces masses of delicate, deep blue, yellow-eyed blossoms and the color does not fade. Great for use in bridal work and small scale flower arrangements. Narrow, erect and very uniform plant habit. Plant in late summer/early fall for bloom the following spring.

Rudbeckia 'Autumn Colors'

This variety has even more of the vivid fall colors than the typical 'Gloriosa Daisy' that make it a perfect candidate for autumn mixed bouquets. A vigorous grower producing large, 5-6 inch blooms in shades of red, gold, bronze, bicolors and yes, chocolate, all with the classic "black-eye".

Fluroselect Quality Mark winner. Height 20-24 inches. Sow to bloom: 14-16 weeks.

The Cut Flower Quarterly



'Autumn Colors'

Scabiosa 'QIS Deep Red'

Dark burgundy red – nearly black. Highly desirable color. Easy to grow, free-flowering annual with uniform height and flowering time. Gorgeous, 2 inch, fluffy round blossoms resemble pincushions. Height 36 inches. Sow to bloom: 10-12 weeks.



'QIS Deep Red'

Antirrhinum

Spring Giant Series

A GSC exclusive! Finally, separate colors in this field cut snap. Growers in the South prefer this variety over Rocket for its rust tolerance and strong stems with excellent blossom coverage. Vigorous, early-blooming plants are very uniform in both height and flowering period. Separate colors include orchid, pink, white and yellow. Height 36 inches. Sow to bloom: 12-14 weeks.

Goldsmith



'Cinderella Pink'

Eustoma Cinderella Series

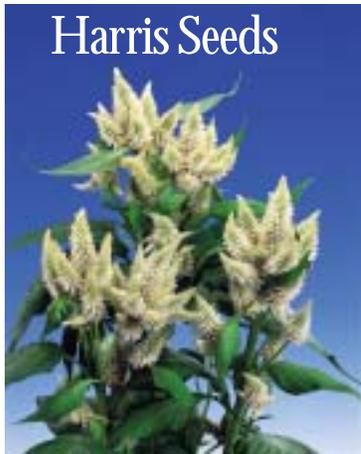
New this year are the color additions of 'Cinderella Cream' (creamy ivory) and 'Cinderella Yellow' (soft yellow).

'Cinderella Pink' (soft pink) was introduced last season. A truly double-flowered lisianthus, this series produces full bouquets of frilly flowers on long, thick, straight stems. Use for Group II sowings, and suitable for early season Group III. Compare to Echo and Mariachi varieties

Eustoma Twinkle Series

'Twinkle White' (pure white) and 'Twinkle Yellow' (soft yellow) join 'Twinkle Dark Blue' (intense dark blue) for the 2003-04 season. Twinkle is a single-flowered lisianthus with beautiful blooms atop strong, sturdy stems. 'Twinkle Dark Blue' has been able to command a higher price at the Dutch Auction due to the intensity of blue color in the buds. Use for Group II sowings, and suitable for early season Group III. Compare to Heidi and Flamenco varieties. The breeders at Goldsmith have paid particular attention to developing *Eustoma* varieties, which display their blooms in a tight cluster at the tops of the stems. The cluster is contained within a hand-spread, a desirable trait for florists seeking lisianthus which is easy to work with. Additionally, emphasis has been placed on developing strong single stems with minimal branching low on the plant. This trait allows for easy harvest and removal of stems through the stem supports. Smaller leaves on the lower portions of the plant allow for excellent airflow through the beds, minimizing disease pressure during production.

Harris Seeds



Celosia 'Enterprise White'

For anyone familiar with the outstanding quality of 'Enterprise Wine-Red', a wheat-type celosia that was released a year or two ago, you'll certainly want to add its new companion 'Enterprise White'. Creamy white central plumes are surrounded by a series of other smaller plumes, giving a fuller appearance than other standard celosia in this class. Six-inch branched spikes grow on 40 to 45-inch plants. Great for both the fresh and dried market.

'Enterprise White'

Lime green is IN!! If you look at the fashion industry, chartreuse is all the rage. We've seen the same demand as well in the flower industry, and now 'Emerald Isle' fits the bill for glad growers. This color sold out at local farmers' markets this past summer. Large lime green florets cover the 4 to 5 ft. spikes. Matures in about 80 days.

Dianthus 'Amazon Neon Duo'

A splendid variety for cut flower growers, 'Neon Duo' is an annual Sweet William that produces an interesting, bright mix of neon cherry and purple flowers which contrasts nicely with the glossy dark green foliage. Outdoor height reaches 18 to 24 inches.

Gomphrena 'All Around Purple'

Attractive dark purple, 1-inch flower heads are produced on 2 ft., heavily branched stems. The vibrant purple color does not fade when dried, thus making it ideal for the both fresh and dried cut flower market.



'All Around Purple'

Echinacea 'Primadonna Deep Rose'

Displaying a more solid flower head than standard echinacea, large, 5-6" lavender rose daisy-like flowers with russet central buttons are produced on vigorous 32-36" plants. Its dense, clumped plant habit produces a number of stems suitable for cutting that growers will like for both its fresh and dried cut applications. Due to its prairie heritage, 'Primadonna' thrives in hot and sunny conditions and withstands drought conditions more so than most other perennials. Flowers July-September.



'Florenza'

The Cut Flower Quarterly

Helianthus 'Florenza'

A refreshing color combination, the flower petals of 'Florenza' display pale yellow tips which contrast nicely with a large mahogany-red central ring on 5" blooms. Its 4 to 4-1/2 ft, well-branched plant habit reaches full maturity in approximately 2 months.

Johnny's Selected Seeds

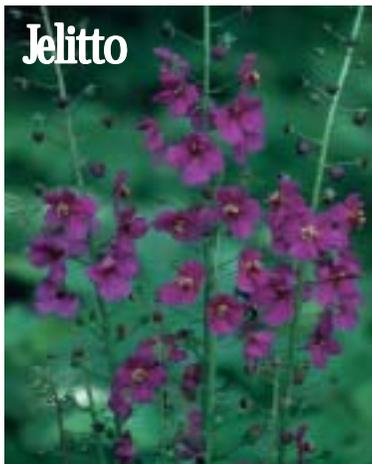
	
	
	

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Jelitto

Verbascum phoeniceum 'Rosetta'

Mullein seems such an unflattering common name for a genus with so many beautiful species. We cannot think of any of our 15 *Verbascum* listings that we could be without. They are attractive, easy to grow and dependable. But certainly one of our favorites is *Verbascum*

phoenicium, the purple mullein. Jelitto introduced 'Violetta' in 1999 and has cracked the code on the carmine-pink flowering 'Rosetta' for 2003.

Reliable and easy to produce from seed, 'Rosetta' produces tight rosettes of dark green, crinkled, oval-shaped basal leaves. Six to ten sturdy spikes (90 cm /36") emerge in mid-late spring wrapped in delicate, paper-like cup-shaped blossoms on sturdy stems.

'Rosetta' is a tough, perfectly hardy perennial adapted to wide range of hot, or cooler, summer conditions. And the plants will self-sow around the garden in a manner similar to *Digitalis* 'Snow Thimble' or *Salvia sclarea* 'Vatican White'.



Johnny's Selected Seeds

Artemisia 'Scentless Sweet Annie'

Sweet Annie without the scent! Strong, upright plants have shiny foliage and dark purple stems. This perennial produces well the first year.

'Scentless Sweet Annie'

Replant every two years for continuous harvest. Long lasting fresh or dried. Hardy to Zone 6. Height 48-60". 120 days to maturity.

Agastache 'Pink Pop'

Extremely uniform with a short production time. Easy harvest due to its basal branching and compact habit. Tall upright pink spikes have an outstanding flowering time. Excellent for cut flower or container sales. First year flowering tender perennial; best grown as an annual. Zones 6-9. Height 30-36". 80-90 days to maturity.

Clarkia 'Flamingo Series'

Elegant cut flower with sturdy stems. This basal-branching, professional cut flower produces delicate clusters of 5-6 flowers on top of each lateral branch. Often called satin



'Flamingo Series'

Salvia 'Gruppenblau'

Old variety of German origin, similar to 'Victoria', but 'Gruppenblau' blooms one week earlier, is taller, and has more stems per plant. Very uniform, with strong, thin stems. Tolerates intense heat and humidity. Zones 8-10. Ht. 24-30". 120 days to maturity.



'Gruppenblau'

Shasta Daisy Feather Daisy

Compact and upright. Small flowers, 3-3 1/2"; have wide petals with double and semi-double blooms. Great addition to bouquets. A few bloom the first year if started early. Zones 4-8. Ht. 30-36". 130-180 days.

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New Varieties continued

Johnny's continued



'Kingswood Gold'

Talinum
(Jewels of Opar)
'Kingswood Gold'
Unusual chartreuse foliage. Soft yellow-green broad basal foliage with tiny pink flowers followed by ruby-orange seed pods. Strong, thin wiry stems make this an exceptional filler for any bouquet. These charming plants are heat tolerant and look great in any landscape.

Tender perennial best grown as annual.
Zones 9-10. Ht. 24-30". 75-90 days.

PanAmerican Seed Company



Mona Lisa®

The perfect cut flower, with 4 to 4.5-in. (10 to 12-cm) blooms on 18-in. (45-cm) stems. Large flowers and thick stems well suited to cutting and design work. Flowers under lower winter light levels than other anemones. Produces up to 30+ stems per plant per year. Varieties include 'Bicolor Blue Shades', 'Solid Scarlet', 'Mona Lisa' Series colors for 2003: NEW Bicolor Blue Shades, Bicolor Red, Deep Blue, Deep Red, Lavender Shades, Orchid Shades, Pink, Pink Blush Scarlet with Eye, NEW Solid Scarlet, White, Wine Shades, Mixture

Anemone

Mona Lisa® Series

The perfect cut flower, with 4 to 4.5-in. (10 to 12-cm) blooms on 18-in. (45-cm) stems. Large flowers and thick stems well suited to cutting and design work. Flowers under lower winter light levels than other anemones. Produces up to 30+ stems per plant

Dianthus

'Amazon Neon Duo'

Bright, serrated-edge flowers are equally divided between two rich colors – neon cherry on about one-half the plants, rich purple on the remainder. Very dark green, glossy foliage is the perfect backdrop to the intense flowers. 36 in. (90 cm) tall in Winter in California; 18 to 24 in. (45 to 60 cm) tall in Summer in bedding gardens. Versatile variety does triple duty - excellent commercial and home garden cut flower, tender perennial to Zone 5, and exceptional bedding plant. Does not require vernalization to come into flower.



'Amazon Neon Duo'

excellent commercial and home garden cut flower, tender perennial to Zone 5, and exceptional bedding plant. Does not require vernalization to come into flower.

Lisianthus (*Eustoma*), Double Balboa Series

Spring and fall-flowering double with excellent petal count, less rosetting & faster plug/young plant finishes. Finished stem height is 40 to 45 in. (1.0 to 1.2 m). Allow 13 weeks from transplant to harvest. Part of the "A-B-C" (Avila, Balboa & Catalina) double-flowered lisianthus series. Includes 'Balboa White', 'Balboa Yellow', 'Blue', 'Blue Blush', 'Blue Rim', 'Purple',

Lisianthus (*Eustoma*), Double Catalina Series

More economical to produce than other summer-flowering lisianthus. Finished stem height is 40 to 45 in. (1.0 to 1.2 m). Shows less rosetting and produces larger blooms on stronger stems than competitor varieties. Allow 13 weeks from transplant to harvest. Part of the "A-B-C" (Avila, Balboa & Catalina) double-flowered lisianthus series. 'Catalina' Series colors for 2003: 'Blue Blush', new 'White', 'Yellow'.

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New Varieties

continued on page 51

2002 ASCFG

National Cut Flower Seed Trials

by John Dole

North Carolina State University



With 76 cultivar submissions, 7 participating breeders and suppliers, and 38 trialers returning evaluations from 21 states and Canada, this was a banner year for the National Cut Flower Seed Trials. The trial program has increased greatly since it was started 11 years ago by Judy Laushman and Allan Armitage. Thanks to everyone for making this interesting and useful service of ASCFG possible.

Just in case there are any cut flower growers who have not yet heard about *Dianthus* ‘**Amazon Neon Duo**’ (PanAmerican Seed), let us be the first to tell you. It is one of the few seed-propagated sweet William-type dianthus to produce a highly marketable flower the first year. Add a strong, thick stem and vivid pink and cherry colors and we have a real winner. ‘Amazon Neon Duo’ also handled the heat of southern summers quite well, producing all season long here in Raleigh, North Carolina. ‘Amazon Neon Duo’ received the highest scores in the seed trial this year and will be available in two colors, cherry and pink, next year.

In the 1999 trial report I wrote about all of the wonderful sunflowers being produced by plant breeders and declared it the year of the sunflower with nine new cultivars submitted by four companies. This year, however, we had 18 sunflower cultivars in the trial from three companies. Is it too soon to declare another ‘Year of the Sunflower’? Certainly the many cultivars bred by Tom Heaton and introduced by SeedSense, Ltd. have generated much discussion. The new colors and forms include the first green sunflower called ‘**Jade**’ (actually pale greenish white); an interesting pale peach/orange sunflower called ‘**Apricot Twist**’; and a dark-centered sunflower with long twisted petals called ‘**Stella Gold**.’ While the novel colors of ‘Jade’ and ‘Apricot Twist’ were welcome, both were too short and too branchy for some trialers. With these cultivars try pinching a few seedlings when they have 2-5 pairs of leaves to see if you can get fewer but longer side shoots. ‘Stella Gold’ was a non-branching type with excellent stem length but the twisted petals were too much for many customers. Certainly all three cultivars will find a niche in the market due to their novelty.

Helianthus ‘Chianti’ was particularly notable because several trialers thought it was better than the other bronze-reds already on the market.

Several more mainstream SeedSense cultivars were among the top performers in the trial including ‘**Chianti**’, a beautiful single dark bronze; ‘**Starburst Lemon Aura**’, a yellow double; and ‘**Terracotta**’, a rich light bronze. All three were nonbranching types; ‘Chianti’ was particularly notable because several trialers thought it was better than the other bronze-reds already on the market. Two traditional types - dark-centered single oranges and yellows on unbranched plants - that performed well were ‘**Summertime**’ and ‘**Sunny**’. Benary and American Takii also included two sunflowers in the trial, ‘**Florenza**’ (Benary), a striking bicolor, and ‘**Premier Light Yellow**’ (Takii), a pale yellow, respectively. The latter was exceptionally early, flowering 3 to 4 weeks after we put out transplants. While the pale yellow color and relatively short height will limit sales, this cultivar may be useful to start the season as early as possible.

Are green flowers passé? Apparently not. In addition to the new green sunflower, a new green *Zinnia* ‘**Benary Giant Lime**’ (Benary) was introduced this year. The cultivar is part of Benary’s popular Giant series but has a smaller flower and weaker plant than other cultivars in the series. However, most participants reported that ‘Giant Lime’ was a significant improvement over the cultivar ‘Envy’ which generally produced unattractive single flowers and was not productive. ‘Giant Lime’ was more productive and produced more doubles. Another green flower in the trials, *Amaranthus cruentus* ‘**Tower Green**’, produced mixed results. For some, including us, only short plants were produced but for others impressive 3 to 4 ft. stems were obtained. The difference may be due to daylength and starting time as many amaranthus species are short-day plants. Those trialers who had the best results put out transplants in June when the days were long. We started our transplants in March, which may have induced flowering too early, resulting in stunted plants. Regardless, amaranthus is easy to grow and the striking flower

spikes always garner comments.

On a personal note, I was initially unimpressed by the green flowers of 'Jade' and 'Giant Lime' - the individual flowers were attractive but a bunch of each was not particularly striking. My attitude changed when Frankie Fanelli made a spectacular arrangement including *Zinnia* 'Giant Lime', *Dianthus* 'Amazon Neon Duo', and *Scabiosa* 'Qis Deep Red' (Kieft). The green zinnias did a great job of setting off the other strongly-colored flowers. Subsequently I have used 'Jade' and 'Giant Lime' in other 'arrangements' (I don't claim to be talented in this area) with great results. The green flowers are the perfect companion flower, mixing with any other flower.



Scabiosas have always been known for their beautiful colors and *Scabiosa* 'Qis Deep Red' was no different and scored well in the trial. The rich dark red or burgundy flowers were carried atop long strong stems. As with other annual scabiosas it can take awhile to harvest a bunch of these flowers.

It has been several years since we have had cultivars of the popular zinnia submitted in the trial, so it was great to evaluate *Zinnia* 'Sun Cherry' and 'Sun Yellow' (Takii). Trialers noted that both had a high proportion of large, heavily double flowers on productive plants. As with other large-flowered zinnia cultivars, powdery mildew was still a problem.

A number of the 18 lisianthus cultivars in the trial struck a chord with the participants, including several unnamed experimental cultivars. The richly colored 'Twinkle Deep Blue' (Goldsmith); the beautiful peach-colored 'Experimental 240098' (PanAmerican); the dark purple 'Experimental 223140' (PanAmerican); and the charming spray type 'Alice White' (Takii) all performed well in the trials. Several respondents wrote notes hoping that the two experimentals from PanAmerican would be named and released.

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 2002 trials *Dianthus* 'Amazon Neon Duo', *Helianthus* 'Chianti', *Helianthus* 'Starburst Lemon Aura', *Scabiosa* 'Qis Deep Red', *Zinnia* 'Sun Cherry' and *Zinnia* 'Sun Gold' are nominated as Cut Flowers of the Year and will join other nominations from ASCFG members. Two cultivars were tied, hence six are nominated this year. Experimental varieties are eligible for nomination if they are named and released.

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 Frankie Fanelli, Diane Mays, Lane Greer, and Sarah Lane for assisting with the NCSU trials. In preparing the report I have edited the participants' comments for space and clarity; my apologies if I've altered the tone or content of anyone's comments. Also, in a few cases we could not determine what was written - I find this especially interesting as it shows a few people in the world have worse handwriting than I do.



Participating Growers

Leah Afill
Bloomin Botanicals
Perkins OK

Douglas and Gloria Austin
Austin Gardens
Flushing MI

Janet Bachmann
Riverbend Gardens
Fayetteville AR

Keith Baldwin
North Carolina A & T
State University
Greensboro NC

John Barnett
Barnett Farms
Valley Center CA

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

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

Ann Boutries
WAB Farm
Fairhope, AL

Sybil and Gary Calder
Sunrise to Sunset Gardens
Clayton NC

Leon Carrier
Plant Masters
Gaithersburg MD

Linda Chapman-Dale
Harvest Moon Farm
Spencer IN

James Comes and
Katharine Holsopple
Hort Center
Alfred State College
Alfred NY

Dianne Cousins
Texas Sown and Grown
Richmond TX

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

Mimo Davis
WildThang Farms
Ashland MO

John Dole/Ingram McCall
Sarah Lane
North Carolina State
University
Raleigh NC

Janet Foss
J. Foss Garden Flowers
Everett WA

Sarah Leavitt and Michael
Turner
Sarah and Michael's Farm
Durham NC

Matt Gerald
Sweet Pea's Farm Store
Bar Harbor ME

Chas and Linda Gill
Kennebec Flower Farm and
Nursery
Bowdoinham ME

Jeff Hartenfeld
Hart Farm
Solsberry IN

Charles P. (Chazz) Hesselein
Alabama Cooperative
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Betsy Hitt
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Cathy Horn
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Cathy Jones
Perry-Winkle Farm
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Phillip Katz/Sharon Hampton
PanAmerican Seed
Santa Paula CA

Judy Low
Molino Creek Farm
Davenport CA

Susan O'Connell
Fertile Crescent Farm
Hardwick VT

Carolyn Ramsbotham
Riverview Farm
Madbury NH

Vicki Stamback
Bear Creek Farms
Stillwater OK

Rodger Tschanz
University of Guelph
Guelph ON Canada

Jeanne Vana
Market Garden of Hawaii
Waialua HI

Cheryl Wagner
Wagner's Homestead
Farms
Belleville MI

Heather Warren
Barrington NH

Kim Wickwire
Olds College
Olds Alberta Canada

Thomas Wikstrom
Happy Trowels Farm
Ogden UT

Bob Wollam
Wollam Gardens
Jeffersonton VA



2002 ASCFG Seed Trials Results

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

	Yield	Stem length	Market appreciation rating ^①			Repeat again	Ease of	Average
	(stems/plant)	(inches)	Wholesale	Retail	Consumer	rating ^①	cultivation rating ^①	spacing (in./plant)
Ernst Benary								
<i>Callistephus chinensis</i> 'Standy' Mix	0.9	17.4	3.5	3.5	3.8	3.2	3.7	74.0
	0.5-1.0	12-24	3-4	3-4	3-5	2-4	3-5	36-144
<i>Callistephus chinensis</i> 'Astoria' Mix	4.8	15.6	3.7	3.5	3.6	3.0	3.8	91.0
	0.1-15	9-24	2-5	3-4	2-5	2-4	3-5	36-180
<i>Helianthus annuus</i> 'Florenza'	3.2	28.5	3.3	3.1	4.1	3.9	4.5	116.0
	1-15	14-43	2-5	2-5	2-5	1-5	4-5	16-240
<i>Limonium</i> 'Compindi White'	11.4	16.5	3.7	3.7	4.0	3.3	4.5	184.0
	6-20	12-24	3-5	3-5	3-5	1-5	3-5	64-288
<i>Trachelium</i> 'Jemmy Lilac Rose'	3.1	10.2	2.5	2.7	3.4	4.0	4.2	132.0
	0-10	10-15	2-3	2-3	2-5	3-5	3-5	36-144
<i>Trachelium</i> 'Jemmy Deep Violet'	3.1	15.2	3.0	3.5	4.2	4.2	3.6	72.0
	1-6	12-20	2-4	3-4	3-5	4-5	2-5	36-144
<i>Trachelium</i> 'Jemmy Pure White'	2.8	12.0	2.5	3.0	2.6	3.2	2.8	151.0
	1-6	10-17	2-3	2-4	1-4	1-4	1-4	36-192
<i>Zinnia elegans</i> 'Benary's Giant Lime'	10.4	17.8	3.5	3.6	4.0	3.6	4.4	155.0
	0-35	12-26	2-5	2-5	2-5	1-5	3-5	36-288
Fred C. Gloeckner								
<i>Antirrhinum</i> 'Attraction Deep Rose'	2.2	26.5	-	-	5.0	3.7	4.3	65.0
	1-3	18-45				1-5	3-5	15-144
<i>Antirrhinum</i> 'Exquisite Golden Yellow'	2.1	26.6	-	-	5.0	4.5	4.3	101.0
	1-3	18-45				4-5	4-5	14-144
<i>Antirrhinum</i> 'Opus Lavender'	1.2	22.3	-	-	4.0	2.5	4.0	65.0
	1-2	16-35	-	-	-	1-4	3-5	15-144
<i>Antirrhinum</i> 'Opus Plum Blossom'	2.0	25.3	5.0	-	4.5	4.3	4.7	74.0
	1-4	16-45	-	-	4-5	2-4	3-5	15-144
<i>Antirrhinum</i> 'Opus White'	1.0	19.3	-	-	4.0	3.0	4.0	65.0
	1	15-27	-	-	4	2-4	3-5	15-144
<i>Celosia</i> 'Toreador Red'	4.2	17.6	4.0	4.2	3.8	3.3	3.8	61.0
	1-15	5-42	4	4-5	3-5	2-5	3-5	18-144
<i>Consolida</i> 'Giant Double Dark Blue'	0.3	7.5	3.0	4.0	4.0	3.0	2.0	72.0
	1-10	15-27	3	4	4	3	2	25-144
<i>Consolida</i> 'Giant Orchid Blue'	0.3	7.5	4.0	4.0	4.0	2.5	2.0	72.0
	1-10	15-27	4	4	4	2-3	2	25-144
<i>Consolida</i> 'Pink Perfection'	0.4	8.4	3.0	2.0	3.0	2.5	2.5	72.0
	1-10	17-27	3	2	3	2-3	2-3	25-144
Goldsmith								
<i>Eustoma</i> 'Twinkle Deep Blue'	1.9	20.8	3.3	3.8	4.0	3.5	3.0	54.0
	0-5	8-28	1-5	1-5	1-5	1-5	1-4	4-144
<i>Eustoma</i> 'Cinderella Pink'	2.2	20.6	2.3	3.0	3.7	3.4	3.1	57.0
	0-3	5-34	1-3	1-5	1-5	1-5	1-5	4-144
Kieft								
<i>Amaranthus cruentus</i> 'Tower Green'	1.2	22.1	3.5	3.0	2.8	2.4	2.9	128.0
	0-6	3-48	2-5	2-5	1-5	1-5	1-5	18-432
<i>Celosia</i> 'Enterprise White'	5.1	15.4	3.7	3.0	3.2	2.8	4.3	144.0
	0-14	0-24	3-4	1-4	1-5	1-5	1-5	18-648
<i>Scabiosa atropurpurea</i> 'QIS Deep Red'	14.2	20.4	3.8	3.8	4.5	4.2	4.5	156.0
	0-50	11-36	2-5	2-5	3-5	3-5	3-5	18-540
<i>Tanacetum parthenium</i> 'Snow Star'	4.1	14.1	3.8	4.3	3.4	4.0	4.4	206.0
	0-10	0-27	3-4	4-5	2-5	3-5	2-5	18-540
<i>Trachelium caeruleum</i> 'Pandora Summer'	6.5	15.8	3.0	3.0	4.5	4.0	3.8	91.0
	1-14	14-20	3	3	4-5	3-5	2-5	36-144

	Yield (stems/plant)	Stem length (inches)	Market appreciation rating ¹			Repeat again rating ¹	Ease of cultivation rating ¹	Average spacing (in. /plant)
			Wholesale	Retail	Consumer			
PanAmerican								
<i>Antirrhinum</i> 'Flamenco Deep Bronze'	4.9	21.9	4.0	4.0	4.4	3.0	4.2	162
	2-7	17-35	3-5	4	4-5	1-5	3-5	36-432
<i>Antirrhinum</i> 'Orlando White'	7.3	20.0	4.5	4.0	4.0	3.7	4.5	152
	2-15	17-26	4-5	3-5	2-5	1-5	4-5	64-432
<i>Antirrhinum</i> 'Potomac Ivory White'	2.8	17.5	3.3	1.0	3.7	3.3	4.5	139
	0-6	0-24	1-5	1	1-5	1-5	4-5	25-432
<i>Antirrhinum</i> 'Potomac Orange Early'	6.9	20.9	4.0	4.0	4.6	3.8	4.6	156
	1-12	17-28	4	4	4-5	1-5	4-5	25-432
<i>Dianthus</i> 'Amazon Neon Duo'	7.0	17.4	4.3	4.5	4.2	4.6	4.6	140
	1-15	8-28	4-5	4-5	3-5	3-5	3-5	36-280
<i>Eustoma</i> 'Catalina White'	2.3	18.9	-	3.3	3.8	3.8	3.7	70
	1-3	12-26	-	2-4	2-5	1-5	2-5	16-144
<i>Eustoma</i> 'Malibu Blue Rim'	2.4	16.8	-	3.5	4.0	3.3	3.7	53
	0-4	5-26	-	2-5	2-5	1-5	1-5	16-144
<i>Eustoma</i> 'Malibu Deep Rose'	2.4	15.3	-	4.0	4.0	3.6	3.6	71
	0-4	5-25	-	4	2-5	1-5	1-5	16-180
<i>Eustoma</i> 'Malibu Purple'	2.2	15.2	5.0	4.0	3.8	3.2	3.2	56
	0-4	5-20	5	3-5	2-5	1-5	1-5	16-144
<i>Eustoma</i> 'Ventura Purple GB'	2.5	14.6	-	-	4.3	3.5	3.3	100
	0-5	5-20	-	-	4-05	1-5	1-5	16-180
<i>Eustoma</i> 'Ventura Purple'	2.2	19.1	-	4.0	4.5	3.8	4.3	55
	1-4	14-22	-	4	4-5	1-5	3-5	16-144
<i>Eustoma</i> 'Expt. 81534'	2.4	16.4	4.0	4.5	4.5	4.3	3.9	86
	1-5	12-20	4	4-5	3-5	3-5	3-5	16-180
<i>Eustoma</i> 'Expt. 81536'	1.3	14.1	5.0	3.7	4.4	4.0	3.2	53
	0-3	6-20	5	1-5	2-5	1-5	1-5	16-144
<i>Eustoma</i> 'Expt. 210976'	1.9	16.5	-	2.0	4.0	3.4	3.4	57
	0-3	4-24	-	2	2-5	1-5	1-5	16-144
<i>Eustoma</i> 'Expt. 223140'	3.4	20.4	-	4.0	4.8	5.0	3.8	91
	2-6	16-24	-	4	4-5	5	3-5	16-180
<i>Eustoma</i> 'Expt. 223142'	2.0	16.6	5.0	3.0	4.5	4.3	3.7	70
	0-3	15-28	5	1-5	2-5	1-5	1-5	16-180
<i>Eustoma</i> 'Expt. 223144'	1.9	15.4	-	4.0	4.7	3.8	3.3	61
	0-3	5-22	-	4	4-5	1-5	1-5	16-144
<i>Eustoma</i> 'Expt. 223146'	2.4	17.6	-	5.0	4.6	4.0	4.0	80
	1-4	15-20	-	5	3-5	2-5	3-5	16-180
<i>Eustoma</i> 'Expt. 239797'	2.1	14.9	-	3.0	4.1	3.7	3.4	67
	0-4	5-28	-	1-5	2-5	1-5	1-5	16-180
<i>Eustoma</i> 'Expt. 240098'	2.6	18.3	4.0	4.0	4.7	4.7	4.2	59
	1-5	14-28	4	4	4-5	4-5	-35	16-144
<i>Trachelium</i> 'Expt. Spring Purple'	7.3	14.4	-	-	5.0	4.7	5.0	100
	2-15	12-27	-	-	5	4-5	5	36-144
<i>Trachelium</i> 'Expt. Spring Wine Red'	4.8	10.0	-	-	5.0	5.0	5.0	152
	0-12	0-16	-	-	5	5	5	120-192
<i>Trachelium</i> 'Expt. Summer Blue'	4.1	18.0	3.0	3.0	3.7	3.3	2.7	92
	1-8	12-28	3	3	3-5	2-5	1-5	36-144
<i>Trachelium</i> 'Expt. Summer Purple'	4.0	13.7	3.0	3.0	4.3	3.7	3.6	173
	0-17	8-19	3	3	3-5	2-5	2-5	36-432
<i>Trachelium</i> 'Expt. Summer White'	5.7	12.0	1.0	3.0	3.3	3.0	4.0	84
SeedSense								
	1-13	8-15	1	1-5	2-5	1-5	2-5	36-144
<i>Helianthus</i> 'Apricot Twist'	2.4	24.2	2.7	3.3	3.5	3.1	4.4	123
	0-10	15-40	1-5	1-5	1-5	1-5	1-5	12-432
<i>Helianthus</i> 'Brilliance'	0.9	37.1	3.5	3.5	3.9	3.6	4.2	119
	0-1	6-48	1-5	1-5	3-5	1-5	3-5	18-432
<i>Helianthus</i> 'Chianti'	3.0	28.8	3.5	3.4	4.3	4.4	4.4	118
	1-9	8-60	3-5	3-5	3-5	3-5	3-5	12-36
<i>Helianthus</i> 'Dorado Select'	2.0	32.5	2.3	2.8	3.2	3.3	4.3	142

2002 ASCFG Seed Trials Results *continued*

	Yield	Stem length	Market appreciation rating ^①			Repeat again	Ease of cultivation	Average spacing
	(stems/plant)	(inches)	Wholesale	Retail	Consumer	rating ^①	rating ^①	(in. /plant)
<i>Helianthus</i> 'Jade'	3.2	24.9	3.5	3.1	3.8	2.6	4.1	114
	0-12	10-40	2-5	2-5	2-5	1-5	1-5	18-432
<i>Helianthus</i> 'Lemon Éclair'	2.8	25.6	2.5	2.7	4.3	3.3	4.1	70
	1-12	6-48	1-4	2-5	4-5	2-5	3-5	12-144
<i>Helianthus</i> 'Starburst Aura'	2.8	21.1	4.0	3.8	4.2	3.8	4.1	125
	1-9	10-40	2-5	3-5	3-5	2-5	3-5	18-432
<i>Helianthus</i> 'Starburst Lemon Aura'	2.7	24.8	3.8	4.5	4.2	4.4	4.4	145
	1-8	10-36	2-5	3-5	3-5	3-5	3-5	16-432
<i>Helianthus</i> 'Starburst Panache'	3.1	30.0	3.8	3.5	3.9	3.4	4.2	109
	1-12	12-60	3-5	3-4	2-5	1-5	3-5	16-240
<i>Helianthus</i> 'Stella Gold'	1.5	29.0	3.8	3.0	2.9	2.8	4.3	150
	1-12	15-50	3-5	1-5	1-5	1-5	3-5	18-432
<i>Helianthus</i> 'Summertime'	0.8	27.6	3.5	4.0	4.0	3.9	4.3	138
	0-2	3-50	2-5	3-5	2-5	1-5	3-5	18-360
<i>Helianthus</i> 'Sundown'	2.7	28.6	2.5	3.3	3.9	3.4	4.2	71
	0-10	12-48	1-4	2-5	3-5	2-5	3-5	12-144
<i>Helianthus</i> 'Sunny'	1.5	37.6	2.5	3.7	4.0	3.9	4.4	93
	1-5	25-55	2-3	2-5	2-5	2-5	3-5	18-144
<i>Helianthus</i> 'The Joker'	2.8	21.2	2.8	3.0	3.4	3.3	3.9	128
	0-12	0-38	1-4	1-4	1-5	1-5	1-5	18-432
<i>Helianthus</i> 'Terracotta'	3.5	33.5	2.5	3.6	4.8	4.1	4.5	109
	1-5	14-84	2-3	2-4	3-5	1-5	3-5	18-240
American Takii								
<i>Agrostemma</i> 'Contessa Pale Pink'	6.6	21.8	3.0	3.0	3.8	4.0	4.5	150
	2-15	15-34	2-4	2-4	2-5	3-5	4-5	18-256
<i>Delphinium</i> 'Aurora Deep Purple'	2.3	21.3	3.8	4.3	3.8	3.5	3.5	135
	0-10	5-36	1-5	3-5	1-5	1-5	1-5	36-280
<i>Eustoma</i> 'Alice Pink'	2.3	22.2	4.0	3.7	3.5	3.0	3.8	64
	1-3	15-32	4	2-5	2-5	2-5	3-5	19-144
<i>Eustoma</i> 'Alice Purple'	1.4	20.7	4.0	3.3	3.5	2.4	3.8	64
	1-3	15-29	4	2-4	2-4	1-3	3-5	19-144
<i>Eustoma</i> 'Alice White'	1.8	21.1	3.0	3.3	3.5	3.4	3.8	64
	1-3	15-30	3	2-5	2-5	2-5	3-5	19-144
<i>Helianthus</i> 'Premier Light Yellow'	1.1	20.2	3.7	3.1	3.0	3.4	4.1	129
	0-6	0-40	2-5	2-4	1-5	1-5	1-5	18-432
<i>Matthiola</i> 'Noble White'	1.0	21.5	2.0	2.5	3.6	3.8	4.5	58
	1	12-33	2	1-4	2-4	1-5	4-5	18-120
<i>Matthiola</i> 'Noble Cream Yellow'	1.4	18.4	3.0	4.0	3.7	3.1	3.7	60
	1-3	8-25	2-4	4	2-4	1-5	3-5	18-144
<i>Zinnia elegans</i> 'Sun Cherry'	10.3	16.1	4.0	4.4	4.4	4.1	4.5	128
	0-35	0-26	3-5	4-5	2-5	1-5	3-5	16-288
<i>Zinnia elegans</i> 'Sun Gold'	10.8	14.6	4.2	4.3	4.5	3.9	4.5	151
	0-35	0-20	35	3-5	3-5	1-5	3-5	16-432

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

Seed Trials

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 many cases, comments have been shortened because of limited space.

Ernst Benary

Callistephus chinensis **Standy Mix**

Good qualities: Good mix of bright colors (5); Large crested flower, very showy, not a lot of brown leaf spot yet, tall, upright plants; Good size and color for mixed bouquets - Good leaf disease resistance - Stems long enough to be useful - Good 2nd cut; Many flowers per stem; Good shape; Fully double flower.

Problems: Aster yellows (3); Little bit variable flowering time from color to color; The yellow on the edges of the petals was often ‘mottled’ with dots of red from the inner part of the petals (making the flowers look damaged); Not many stems per plant; Too hot to perform well (Zone 8a); Short production time thanks to thrips and drought; No black beetle problem, I cut whole stems, as flowers were short stemmed; Sold mostly to customers, not enough good stems for florists.

Additional comments: Asters always welcome by customers.

Callistephus chinensis **Astoria Mix**

Good qualities: Bright clear color (4); Lots of stems (3); Very little brown leaf spot at harvest; Tall; Good germination - Good flower; Easy, early aster; Nice new (to me) flowers, with good cuts; Good plant height.

Problems: Variable plant sizes, some better for compact pot types, narrow color range, mostly blue; White flowers browned quickly, low yield, not florist material, too hot to perform well (Zone 8a); Aster yellows; No problems growing, daisy-looking - simple-looking flower at the height of summer flower season at farmers’ market, doesn’t seem to catch consumer’s eye; 50% germination; Short production time because of drought which brought on thrips like gangbusters; Centers are too large.

Additional comments: Bouquet type, single flower; Lot of bloom, many colors; I always enjoy asters as do my customers; Smaller flowers like the ‘Daylight’ Series are more desirable.

Helianthus annuus **‘Florenza’**

Good qualities: Beautiful yellow/bronze ray flowers (9); Uniform (2); Short stiff petals, good stem, no netting, very good flower size; Good germination; Tall cultivar, good specialty

cut; It was well received by my customers; Strong stems, long lasting; The color pattern of this cultivar attracted a lot of attention amongst my co-workers - This cultivar produces secondary growth very easily and a third harvest of axillary flowers could have been made in early Sept of 15-17 inch long single bloom stems arising from 7-10 inch stumps; Nice color but would sell better for me in the fall; Flowers hold up well in field, even when harvesting is a little late; Lots of blossoms; Color not as well accepted unless mixed with brighter colors, good production, many good and strong stems, good height of 4-5 feet; A nice sunflower but not so very different from many others; Brighter yellow petal edges and smaller centers than ‘Floristan’.

Problems: Axillary buds; Didn’t like it at all - this could be a result of my not giving them more space, i.e., flower size and stem diameter; Doesn’t seem to transplant well (at least for us) (Zone 7a); Flower too early if planted too soon; Weeds got ahead of me in this area, but didn’t seem to bother plant height, mildew also set in early (Zone 5); Short laterals - Blooms all opening at once; Early petal drop at harvest. **Additional comments:** Similar to ‘Floristan’ and ‘Strawberry Blonde’; Too small flower head; Not the easiest color of sunflowers to sell; We used a lot of these in bouquets; Flower diameter was 3 inches and plants matured in 60 days; Harvested 7/26-8/14 (zone 6/7); Second sowing bloomed long before achieving good size and were unusable; Eye-catcher; Good garden plant, but not good for wholesale due to multi-branching.

Limonium **‘Compindi White’**

Good qualities: Clean bright white (4); Good flower power, no botrytis, very good show, uniform timing, very nice, good tight habit, doesn’t fall open; Strong growing plants; Profuse white flowers that last for days, nice accent to an arrangement, great dried!; Very nice white statice, we had an exceptionally dry year; Great in fresh arrangements; Full florets. **Problems:** Short stems (3); No real advantage over the many other whites that are available; If statice was rare and the price per bunch was acceptable - This was a nice cultivar; Color creamy, not pure white.

Additional comments: Arrangement of florets are more compact, less elongated than some others; Bloomed throughout summer with heavy peak in late June, early July (Zone 6/7); ‘QIS White’ is far better.

Trachelium **‘Jemmy Lilac Rose’**

Good qualities: Light lilac color (2); Uniform color, nice umbels, home garden cut; Fine-looking foliage, attractive flowers, pretty, holds color in arrangement; Stem strength; Good stem quality, particularly attractive when blossoms are just beginning to open - Nice dark stem color; Healthy plants, lots of side branching.

Problems: Many stems too short (3); Color is dull (2); Difficult to sow, extremely small seed, static electricity a problem when sowing;

Doesn’t handle heat (Zone 8a); Flowers went from rose pink to beige somewhat quickly; Was able to germinate some of seed but lost it in packs in greenhouse.

Additional comments: Red stem; Interesting flower form, good for mixed bouquets, would try this one again; Definitely needs to be in black plastic mulch here in Zone 2 - Harvest started late August; It did not size up, but I would try this again.

Trachelium **‘Jemmy Deep Violet’**

Good qualities: Vivid color (4); Good germination (2); Uniformity is good, home garden cut; Very strong stems; Holds color, tolerates heat better than the others; Beautiful stem color.

Problems: Short; I don’t know the secret to growing trachelium - Most of the plants died - The ones that did live made me believe that further experimentation is warranted; Lost in seed flats, damping off; Long season for growing.

Additional comments: Similar to ‘Black Knight’ and ‘Pandora’; Red stem; All trachelium grown here (Zone 2) are going to be marginal - we have seen vast improvement when grown in black plastic compared to bare ground; This cut flower variety was a long time in germinating and achieving enough size for transplant - From the cultural data sent I believe it is better suited to greenhouse production than field (Zone 5).

Trachelium **‘Jemmy Pure White’**

Good qualities: Uniform timing and height, nice umbels, large and showy - Would give good appearance as home garden cut; Doesn’t turn brown like some cultivars (while in ground); None; Nice color, good texture; Healthy plants.

Problems: Too short (2); Later than ‘Pink’ and ‘Purple’, taller; Difficult to sow, extremely small seed - Static electricity a problem when sowing - Also lost 20% of the plants to some kind of crown rot; Not long lasting color in arrangement, doesn’t tolerate heat (Zone 8a); Never looked that good - As the florets open older ones turn brown, stage of harvest hard to determine; Latest blooming of the whites.

Additional comments: Similar to ammi, dill, Queen Anne’s lace, and ‘Early Helios’; Green stem; Very small seed, long crop time; We had a hard year for this plant in this zone (Zone 4); Trachelium is more attractive as a purple flower.

Zinnia elegans **‘Benary’s Giant Lime’**

Good qualities: Unique color (10); More double than ‘Envy’ (5); More consistent than ‘Envy’ (3); Good flower form; Uniform plants, good germination, very strong stems, high percentage of double flowers; Great if you like a green zinnia; Large 2-22 inch flowers with nice colors that held better than ‘Envy’, but still browned too quickly; Good height; Great production, good vase life; Was good for bouquets; First ones to flower were mostly double flowers; Super fast crop; An

improvement over 'Envy' - When flowers matured fully and without damage, they were exquisite in color and form (unfortunately these were infrequent).

Problems: Browning on petal tips (5); Powdery mildew (4); Many single or semi-double flowers (3); Small flowers (2); Flowers smaller than other Benary Giants (2); Too short (2); Poor germination (2); Still seems to bleach out in the sun to a lighter color; Color not uniform, color fades later in season, later stems not useful; Slightly weird color - Difficult season, leaf disease an issue (even with drought conditions); Low yield per plant; Had problem with hydration early in planting, but not later in season (Zone 6b); Insects (striped cucumber beetle and green corn rootworm beetle) seemed to love this flower - The majority of the flowers never fully matured - be it insects, weather, or genetics - Eventually I cut blooms in the premature state and these were ok but certainly not what they could or should have been.

Additional comments: *Editor's note: See Postharvest Report in this issue for vase life and handling information.* Similar to 'Envy' (5); Superior to 'Envy' (2); This is no improvement over 'Envy', which has been available and unimproved for decades; We pinched out the first terminal and harvested all other shoots - Planted 30 at 3' wide bed 3 rows at 6" apart - Hand seeded 6-8" apart on row; Will try again probably do better with a more typical summer (less heat more moisture); Not similar to 'Envy'; Harvested until frost (Zone 6/7); Most people passed over green zinnias when buying, those who bought, really loved them; I really like the Benary zinnias and hope that one day 'Giant Lime' can live up to its name in the Benary lineup - It has the potential - Also, despite its smaller size and (often) lack of full bloom, my customers really liked this zinnia and did not question paying the same for it as the larger Benary zinnias; Not as thrifty as other Benary Giants; How long will green be trendy?

Fred C. Gloeckner

***Antirrhinum* 'Attraction Deep Rose'**

Good qualities: Good strong pink (3); Good height, large flower - good form, nice spike proportions; Rose goes well in arrangement.
Problems: None mentioned.

Additional comments: Similar to 'Temptation Rose'.

***Antirrhinum* 'Exquisite Golden Yellow'**

Good qualities: Bright yellow (2); Very long spike with open spacing plus large flower makes it very showy - Sturdy stem; Lots of sellable stems, many florets/stem; Staking may have improved overall stem quality - A third harvest in the last week of August may have been viable with stem lengths of 15-20 inches and 2-4 harvestable stems per plant; Beautiful!
Problems: Did not achieve good height - Not as prolific as other species - Eventually just petered out.

Additional comments: Similar to 'Potomac Yellow'; Flowers are on average, 5 inches in diameter - Maturity is 71 days; A so-so- snap - Would grow again for the color if height and productivity were better.

***Antirrhinum* 'Opus Lavender'**

Good qualities: Vigorous seedling - Fat spike and good stem - Unusual color; Soft purple - very bright.

Problems: Poor, washed-out color (2); Will not attempt to grow again; Better for different time of year (group 1 and 2).

Additional comments: Not similar to any other cultivars.

***Antirrhinum* 'Opus Plum Blossom'**

Good qualities: Unique color (4), white with speckled dark plum on the inside of flowers; Good seedling vigor and uniformity - Heavy buds - Slightly variable for bicolor effect; Tall; Pretty, full bud set; Long vase life, very strong stems, good repeat bloomers; Outperformed all my other snaps, uniform growth habit.

Problems: Color - Not for our market - Will not attempt to grow again; Not all stems were thick and strong - This wasn't the best growing year, but I didn't start cutting this snap until 7/24 (Zone 5) - Usually I start 2 weeks earlier.

Additional comments: Similar to 'Sunshine Light Purple Eye' and 'Potomac Plum Blossom'; Nice color, different from the pinks and yellows; Good looks and good performance until hard frost.

***Antirrhinum* 'Opus White'**

Good qualities: Good vase life; Average white - standard - thick flower head; Florets are tight, close on stem, nice crisp white.

Problems: Plant too short - Spike and taper short and clubby.

Additional comments: Similar to 'Potomac Early White' and 'Temptation White'.

***Celosia* 'Toreador Red'**

Good qualities: A very fine "look at me" red color (5); Uniform height and broad spread to plants, many stems, very nice; Large combs; Head shape - a nice even sine wave type 'comb' as head; Very well received by wholesale and retail florists - I dried some and it turned out very well - I think it would make a very good dried flower; Looks good fresh and dried - Nice size of blooms, about fist-size with laterals being smaller, holds well, for a long time, both in the field and in the vase; Large, full, round heads.

Problems: Too short (4); Thick stems (2); Lack of uniformity, could have been weather or possible shading of the row by adjacent (taller) plants.

Additional comments: *Editor's note: See the Postharvest Report in this issue for vase life and handling information.* Similar to 'Bombays' (2); Strips easily, strong stem; Similar to many other cultivars - Nice, but 'Temple Bells', Cramers' cultivars, and other have more realistic stems; I always sell out on *Celosia cristatas*, if not fresh, then dry; Wished

I had more of this one, will probably try removing center to encourage more and longer laterals in the future.

***Consolida* 'Giant Double Dark Blue'**

Good qualities: Vivid blue color, good flower quality and quantity, tall; Thin, airy foliage and delicate flower.

Problems: Disease problems; Few flowers per stem, easily breakable, problems germinating; Only the 'Sublime' and 'QIS' series germinated and grew, they were filmcoated - we suspect that disease prevented the others from growing properly.

Additional comments: None mentioned.

***Consolida* 'Giant Orchid Blue'**

Good qualities: Floriferous; Thin airy foliage; light blue flowers; Blooms were typically soft pastels of larkspur.

Problems: Disease; Easily breakable stems, problems germinating; Got seed too late to give these a fair test and evaluation - Plants never got a good foothold in our hot, dry spring and summer, and remained very short.

Additional comments: Needs to be sown earlier, it was a latecomer to the trials, would like to try again.

***Consolida* 'Pink Perfection'**

Good qualities: Good mix of colors, darker colors are later so early mix is shades of pink; Nice light pink flowers, dainty; Blooms were typically soft pastels of larkspur.

Problems: Early mix looks shady until darker colors bloom, much mildew; Maybe too hot to grow here (Zone 8a) - Not many flowers per stem - Problems germinating; Got seed too late to give these a fair test and evaluation - Plants never got a good foothold in our hot, dry spring and summer, and remained very short.

Additional comments: Needs to be sown earlier, it was a latecomer to the trials, would like to try again.

Goldsmith

***Eustoma* 'Twinkle Deep Blue'**

Good qualities: Color is very dark and vivid (5); Dark attractive buds (3); Good spray and flower form; Excellent germination (90% plus, in less than 10 days), stiff stems, I liked the "spray" form and the fact that the buds had nice color; Big flower, double frosted shape; Tall, appear easy to harvest; Thrips resistant; Buds added to the wonderful richness of the deep purple flowers.

Problems: I lost quite a few of these to thrips, they seemed to be particularly attractive to them; Short stem; Not as floriferous; Older blooms on stem fade to purple with slight discoloration (white splotched); Same bed in hoop house, same plug grower as Echo and Mariachi but low quality plug and non-existent yield - I can grow 'em and my plug grower can start 'em well enough - just had terrible results with 'Twinkle Deep Blue' and 'Cinderella

Pink' (Zone 5/6); None.
Additional comments: Similar to lots of purple lines; Because of the thrips damage, I didn't market many of these but people loved the ones I did have; This lisianthus has a permanent home at WildThang.



***Eustoma* 'Cinderella**

Pink'

Good qualities: Excellent clear bright pink (3); Double pink bouquet type, large flower; Excellent germination (95% plus, 15 days), quick to flower, stiff stems, I thought that this was a particularly vigorous lisianthus; Many flowers per stem; Tall, pretty pink flower that would appeal to the rose lover crowd, I think.

Problems: Flower form not as good as 'Mariachi'; There was quite a bit of variation in the color of these flowers - some were a very clear shell pink, others were a little muddy; Crooked stems; Had these grown into plugs by a local *Eustoma* 'expert' - was surprised by how weak the plugs were compared to the other varieties ('Echo,' 'Mariachi') he grew for me. Never saw these plants really get established, though somewhat nurtured them - Pulled them out in mid-July to get some crop space for money maker - Very unimpressed by its lack of vigor compared to other *Eustoma* (Zone 5/6); 'Mariachi Pink' is what we moved to because the florist seem to want doubles over singles.

Additional comments: Similar to 'Echo' and 'Mariachi Pink'; This is superior to 'Echo Pink' both in color and vigor; Grown in tunnel; Looks very rose-like, very curly petals.

Kieft

***Amaranthus cruentus* 'Tower Green'**

Good qualities: Different color; Easy vigorous plant; Unusual - at least at our market - Good for LARGE arrangements - restaurant customers; Excellent height for green amaranthus, full spikes, will grow again; Interesting plant; Great mixer and filler for bouquets and arrangements, no insect problem.

Problems: Too short (4); Spikes are lying on ground - Secondary spikes will be upright, I think; Short, fat flowers - Hit the dirt at the first storm - Not useable, flea beetles liked this plant; Easy for the supply to exceed the demand for this crop; Very upright throughout the year... until we had a storm, the thick, heavy flowers fell over...require netting; Might consider closer spacing for smaller/more manageable size; The small leaves associated with the flower stalks were damaged by thrips (puckered looking) in harvest 1 and needed to be removed to improve the heads appearance; No insect problem; The color was washed out and it seemed to go brown in field fast - difficult to weed.

Additional comments: Similar to 'Red Cathedral'; A second harvest would have been possible in August with an average stem length

of 20 inches and 4-6 stems per plant - By September the flower stalks were taking on a light green-yellow hue and weren't as attractive as in August - A certain amount of market development may be needed with this product; Loved the shape and firmness of stems and heads, a great added touch to arrangements, customers loved the uniqueness; I would try this

again - Larger spacing would produce larger heads.

***Celosia* 'Enterprise White'**

Good qualities: Nice green-white color good for filler (2). Very uniform, good filler; Interesting form, productive plants, good 2nd bloom; Easy, vigorous plant; Good light color - early on; Excellent filler because of color; Strong stems; Would be good plant for border; Good plant growth, strong stems.

Problems: Too short (7); Not really white - more like pale yellow (6); Crop failure due to drought, 1st yr soil and 2nd yr growers; I didn't keep up with cutting these and they matured faster than I expected, self-seeded and new plants started in bed mid-summer; Had to be picked quickly because of potential discoloration.

Additional comments: Similar to the rest of the series, except for color (2); Similar to

Loved the shape and firmness of stems and heads of *Amaranthus* 'Tower Green', a great added touch to arrangements, customers

loved the uniqueness; I would try this again.

'Pampas Plume' and 'Supercrest'; While we basically gave up on the group, we did get several small stems to "show & tell", the general response was that it would sell if given better conditions for better growth (Zone 7); This is not a true white - many flowers were yellow on the tips; I suppose if you put it in a bouquet it would be a filler but wouldn't enhance it; Definitely will grow these again, began harvest 7/25; Form similar to other *Celosia spicata*s - This was just plain ugly - The color had no redeeming qualities to it whatsoever; Yellow, not white, at tips; Useful as a novelty filler.

***Scabiosa atropurpurea* 'QIS Deep Red'**

Good qualities: Beautiful rich violet color (10) (also described as deep red or burgundy); Good stem strength (2); Very productive (2); Good stem length (2); Very good; Easy, vigorous plant; Unique deep purple flower heads with light purple stamen; Quality of stems was also good; Looked especially striking in a tight bud stage such a dark color - That gorgeous one, I loved it; Customers love color and texture; Our farm stand customers

loved them - Good strong straight stems, unlike previous scabiosa that I've grown, these didn't become all tangled and bent; Long bloom time, reblooms, still blooming 10/15 (Zone 7-8) after several frost, nice bloom size, didn't mind the dry summer without rain or irrigation; Color was richer in flowers that received partial shade (Zone 10) - We have very bright hot sun especially in August - Nice flower shape and form; Consumers liked them and they sold very well at our farm; Season-long blooms - Still blossoms after frost; Healthy plants; Especially in bouquet work with pinks, apricots, and lavenders - Great texture, both flowers and wiry stems; Much larger blooms than I have seen in Scabiosas before; Very long vase life; Great for fall, Xmas arrangements.

Problems: Not easy to cut (4); Flower heads snap off easily during harvest (2); Of entire packet (150 seeds) only 10 plants grew - one began to bloom by 10/1/02 when it was decided to rip them out to make room for winter annuals; Flower heads frequently opened in a non-uniform fashion giving the flower an awkward appearance; None other than the late bloom, 8/30 (Zone 5) - I finally started cutting; Wholesale and retail florists bought very few but said they liked them - Thought the stems to be too short - Relatively short vase life improved with Chrysal OVB; Should have used netting - Flower stems were thin and many; Needs netting; Beginning to bloom now, Oct 10 (Zone 4), strange because

the other QIS are almost done.

Additional comments: Editor's note: See the *Postharvest Report* in this issue for vase life and handling information. Similar to other scabiosa mixes, though the reds in these are much smaller; Similar to 'Olympia' Hybrids; The few blooms looked red - a deep merlot color, stems were 8-10 inches and a little wiry, kind of like gomphrena, perhaps, consequently it could be pesky to pick - This from folks who are having a grand time picking and selling as "mini-zinnies" the "Old Mexico" zinnies - Looks like the scabiosa I've grown from Stokes - Pretty much the same deep purple without the tangled stems - Some were different colors or shades of purple - Not age related either - Customers always love scabiosa and many exclaimed at these "Ohh, what are these."; I will be growing this flower next year for sure; Harvested 7/25 - still some blooms 10/22; Customers were especially attracted to these blooms, surprising in that they were scattered in bouquets and not the focal flowers; I would grow again.

***Tanacetum parthenium* ‘Snow Star’**

Good qualities: Great filler flower (6); Uniform white daisy flower, free flowing; Attractive ‘single’ form for matricaria; Easy, vigorous plant - Good stem strength and length - I liked the single daisy type flower form; Lots of flowers per stem - full stems; Easy, wasn’t affected by drought - outgrew the weeds; Uniform.

Problems: Too short (3); Foliage browning (2); Barely long enough to be useful - Not quite as striking as the double forms of matricaria; Shorter stems at beginning and end of season; All blooms at once or in a short period, it would be nice to have it available over a larger period.

Additional comments: *Tanacetum parthenium* is not a glamorous plant - It is a useful and reliable workhorse for the bouquet maker; Not outstanding as a filler, other varieties are better.

Trachelium caeruleum

‘Pandora Summer’

Good qualities: Vivid color; Home garden cut; Dark purple flowers - large flower head; Gorgeous dark stems and flower clusters in bud; Tall, early blooming, large flower heads.

Problems: Didn’t tolerate heat well (Zone 8a); Plugs died in unheated greenhouse before being planted in beds (Zone 6b).

Additional comments: Similar to ‘Experimental Summer Purple’, ‘Black Knight’, ‘Jemmy Deep Violet’; Dark stems are really beautiful in water in a clear vase, giving interest both above and below.

PanAmerican

***Anemone* ‘Bicolor Blue Shades’**

Good qualities: None

Problems: Poor germination (2); Too slow or too hot to flower (2); I got good germination but I’m afraid that it got hot too fast for the plants to flower this year - Germination was good enough for me to consider attempting to grow anemone from seed; Too hot - didn’t grow (Zone 8a); Drought caused stunting and didn’t produce useable flowers, will try again next year.

Additional comments: Not sure of problem, we gave them plenty of time; This would be a crop to be plugged. *Coordinator’s note: seed for the trial program was received too late to give this seed-propagated anemone an appropriate test but we hoped that the northern growers might be successful. Data were not included in the table because only one person returned evaluations on the cultivar. Seed should probably be started in fall for proper evaluation.*

***Anemone* ‘Solid Scarlet’**

Good qualities: None.

Problems: Too hot - didn’t grow (Zone 8a); I got good germination but I’m afraid that it got too fast for the plants to flower this year - Germination was good enough for me to

Antirrhinum

‘Flamenco Deep Bronze’

is clearly the best performing field snapdragon I have ever seen.

consider attempting to grow Anemone from seed; Was not able to keep these alive outside even with irrigation; Gave up on these because they were too slow.

Additional comments: *Coordinator’s note: seed for the trial program was received too late to give this seed-propagated anemone an appropriate test but we hoped that the northern growers might be successful. Data were not included in the table because only one person returned evaluations on the cultivar. Seed should probably be started in fall for proper evaluation.*

***Antirrhinum* ‘Flamenco Deep Bronze’**

Good qualities: Deep burnt orange - vibrant color (4); It went with many other flowers, either blending or setting up a striking contrast; Strong growing plants, thick stalks, good for cutting 2nd handling; Easy, vigorous plant - GREAT stem strength and length - This thing was just beautiful - Clearly the best performing field snapdragon I have ever seen; Although the stems were thin, they were ok for mixed bouquets.

Problems: Florets somewhat widely spaced - Not a particularly attractive snapdragon - ‘Bronze’ name not quite right, it is an orange/red with a yellow throat; Thin stems on average - Spindly is another word that comes to mind - They had height, but were too thin - Also, on average the bud set was poor and erratic; Nothing special.

Additional comments: Same as ‘Rocket Bronze’; Needs 2 layers of netting - 1 layer is not enough to maintain straight stems.

***Antirrhinum* ‘Orlando White’**

Good qualities: Clear, clean white flowers (3); Tall (3); Thick-stemmed snapdragon - Great in mixed bouquets - Good floret spacing - Attractive flower; Easy, vigorous plant., lustrous dark green foliage - Thick flowers; Held well in vase - Did about as well as ‘Rockets’; Kept blooming all summer; Strong, firm stems, full heads.

Problems: Did well in a difficult year; My market for white flowers is not strong; Bottom florets turned brown before top was fully extended.

Additional comments: Similar to ‘Rocket’; Pinched 2 of planting - Pinched plants did not size up well; Plants did well even in drought conditions, kept producing late into season.

***Antirrhinum* ‘Potomac Ivory White’**

Good qualities: Strong-growing snapdragon (white with yellow throat) (not solid white); Truly - Ivory colored flowers, lustrous dark green foliage - Easy, vigorous plant; White, standard snap; Excellent length for field production, strong stems; Good strong stems with a full bud set - Long-lasting cut and a nice clean white.

Problems: Too short to be very useful in mixed bouquets - Would be a good medium-sized bedding plant; My market for white flowers is not strong; Not as tall as ‘Orlando White’; No problems other than I used only one layer of netting approximately 10 inches up and they needed a lower layer to prevent the stems from bending down low - I believe I lost stem length due to this.

Additional comments: Same as ‘Rocket’ - No reason to switch from ‘Rocket’; I would recommend two layers of netting, with the first layer only 4 inches from soil.

***Antirrhinum* ‘Potomac Orange Early’**

Good qualities: Extra early (2); Long stems (2); Good rich color (2); First snapdragon to bloom - Tall - Extra thick stem - Good for bunching; Easy and very vigorous plant - A veritable blooming machine - Customers were very partial to this cultivar - Many repeat sales; Nice cultivar, good for pink or orange arrangements; Good amount of blooms and good recovery after first flush.

Problems: Okay bicolor but it is a bit pale - not really very exciting - misnamed as orange, more of a yellow/pink bicolor - florets are a little widely spaced, therefore not particularly full and pretty; No germination.

Additional comments: None mentioned.

***Dianthus* ‘Amazon Neon Duo’**

Good qualities: Vivid colors (10); Large heads (6); Long vase life (3); Strong stems (2); Incredibly vigorous plant, beautiful lustrous dark green foliage; Gorgeous in arrangements; Excellent stem quality and length - Length was particularly impressive, ‘sweet Williams’ are usually very short for me; Flower first year, long bloom period, good secondary flowering; Strong stems - Started cutting way after all other dianthus was done - Nobody else had any; Amazing because this plant grew tall in the heat (Zone 6b) - Grows quickly; This was the nicest dianthus that blooms the first season I have ever seen, long meaty stems, (sweet William type); Good in mixed bouquets and blooms first summer from February planting in greenhouse; Began blooming in late summer (Zone 5) and were a lovely addition to the fall colors of orange and golden yellow - Nice light fragrance; Able to tolerate hot weather; Good stem length.

Problems: Too short (3); Inconsistent stem length (2); I was shocked by how well this cultivar performed - It was unbelievable - I was even more shocked by the hesitancy of my customers to buy it - I haven’t figured that out yet; The colors were so strong that they were difficult to combine with other flowers we

grow for mixed bouquets; Only 3 stems were florist quality, the rest were side stems only good for bouquets - It would have been nice to have some edging around each petal in a different color; Branching too near top; I was disappointed they were not received better by the floral market (We've always noticed this with out-of-season sweet Williams) - They sold though and regardless they are wonderful cuts; Other cut flowers and plant growers wanted to know where to get seed - exceptional; Some of the side shoots were too short for regular cut so used them in petite nosegays which customers seem to love - Some flower heads were full of florets, other had only a few - Plant developed black spots in October.

Additional comments: *Editor's note: See the Postharvest Report in this issue for vase life and handling information.* Best annual dianthus grown at our farm; I didn't start cutting until 8/12 (Zone 5)- Isn't this very late for dianthus? - But it made great bunches and bouquets - I would grow again, if it always bloomed so late; I love it - Will grow in succession next year; Similar to other dianthus - A great new addition to the cut flower market, lasts very well cut - I think retailers will love it once they use it and see how well it lasts; The harvest window was very long, 3+ months - The second and third plantings gave more and longer stems - The final round had shorter stems; Who names these things?; Am anxious to see if this comes back next year - Even in the bud stage, the flower heads have great textural appeal; Cold weather turns the foliage a stunning burgundy; Will definitely grow again; A winner!

***Eustoma* 'Catalina White'**

Good qualities: Nice clear white color (4); Tall (2); Excellent germination; Pretty; Lots of flowers per stem; Lots of buds with no pinching; I think this was the most beautiful lisi in the trials and our most sophisticated customers always wanted the whiter ones; Very vigorous, good stem caliber, holds well; Really nice solid color, nice buds and flower development.

Problems: Too short (2); White turns brown faster than other colors; Greenhouse grower gave up on these - says they need to be started in fall; It was a little short, but white lisianthus sold well this year.

Additional comments: I have a personal bias against white flowers, they just don't do much for me; We applied CaNo₄ two times at 200 ppm; Lisianthus are never grown in field in N.H.; Nicest lisianthus I trialed this year, beautiful white.

***Eustoma* 'Malibu Blue Rim'**

Good qualities: Excellent germination, stiff stems, "Blue Rim" types are very popular; Pretty medium purple; Nice color; Very good color combination, customers liked this best; Good growing, very pronounced blue rim.

Problems: The stems were a little thin; NO

blue rim!; Too short; Net it; Single.

Additional comments: Grown in tunnel, non-trial lisianthus were grown in same conditions with excellent results (Zone 5); Similar to many other cultivars; Will not grow again, not double, not tall.

***Eustoma* 'Malibu Deep Rose'**

Good qualities: Great dark rose color (3); Strong, stiff stems (3); Excellent germination, and unusual color, nice fat stems; Late bloom.

Problems: Too short (2); Small flowers; Need netting; Single blossoms.

Additional comments: We applied CaNo₄ twice at 200 ppm; Grown in beds in tunnel, non-trial lisianthus were grown in same condition with excellent results; No other color like this - Would like to see double this color.

***Eustoma* 'Malibu Purple'**

Good Qualities: Good color (3); Long lasting; Good grower, strong plant.

Problems: Too short (3); Low yield; Needs support; Single lisi with very open flower habit.

Additional comments: *Editor's note: See the Postharvest Report in this issue for vase life and handling information.* Non-trial lisianthus were grown in same conditions with excellent results, grown in tunnel; All singles.

***Eustoma* 'Ventura Purple GB'**

Good qualities: Dark purple flowers (3); Longer stems; High yield.

Problems: Stems too short; Needs netting

Additional comments: We applied CaNo₄ twice at 200 ppm; Grown in tunnel, non-trial lisianthus were grown in same conditions with excellent results.

***Eustoma* 'Ventura Purple'**

Good qualities: Purple color; Best purple; Opens quickly, single, fall; Tall strong grower, good color; Nice color, not as deep as 'Twinkle' more lavender-purple - Really like the white buds, sets off the flower colors.

Problems: Needs support; Single; None.

Additional comments: These became tall even though planted later, strong grown, but single; Would like to get trial lisianthus seeds in early December.

***Eustoma* 'Experimental 81534'**

Good qualities: Deep purple color (4); Single (2); Really pretty; Long lasting vase life; Tall, dark buds are nice; Nice flower size.

Problems: Short; Needs support; Always have problems getting *Eustoma* to transplant but got more this year - Not many blooms even with irrigation.

Additional comments: Similar to 'Twinkle Dark Blue' and 'Echo'; Grown in tunnel, non-trial lisianthus were grown in same conditions with excellent results; We applied CaNo₄ twice at 200 ppm.

***Eustoma* 'Experimental 81536'**

Good qualities: Deep purple color (3); Single; Very long lasting; Dark tips.

Problems: Stems too short; Needs support; Due

to excessive rain they dwarfed in flat and only grew 6-12" in field.

Additional comments: Similar to 'Twinkle Dark Blue' and 'Experimental 81534'. Grown in beds in tunnel, non-trial lisianthus were grown in same conditions with excellent results; Stems have gotten longer with each cutting, approximately 18 inches.

***Eustoma* 'Experimental 210976'**

Good qualities: Excellent germination, stiff stems, nice fat stems - A better 'Blue Rim'; Beautiful, blue rim!

Problems: Variable color with planting; Stems too short; Needs support.

Additional comments: Grown in beds in tunnel, non-trial lisianthus were grown in same conditions with excellent results.

***Eustoma* 'Experimental 223140'**

Good qualities: Great dark purple flower (2); Great stem length, very little thrip sign - thick stems; Large flowers beautiful!; Late bloomer, tall, strong.

Problems: Needs support.

Additional comments: We applied CaNo₄ twice at 200 ppm.

***Eustoma* 'Experimental 223142'**

Good qualities: Very nice mid-blue/light purple (3); Long vase life (2); Excellent germination, nice fat stiff stems - Very, very nice, best mid-blue I've seen; Double blossom; Double medium-lavender flowers - soft color in an arrangement; Double purple/blue, tallest variety, good stem caliper.

Problems: Too short (3); Thrip signs on petals; Some singles; Needs support; Black flies; Needs to be staked; Problem with keeping transplants in packs alive so never have many in field. Due to excessive rain they dwarfed in flat and only grew 6-12 inches in field.

Additional comments: Similar to 'Echo' and many other cultivars; Grown in beds in tunnel, non-trial lisianthus were grown in same conditions with excellent results; Longer stems after first cutting - Our florists are really using this now - Stems are strong and straight on most flowers; We applied CaNo₄ twice at 200 ppm.

***Eustoma* 'Experimental 223144'**

Good qualities: Great light lavender color/double (2).

Problems: Stems too short; Needs support.

Additional comments: Grown in beds in tunnel, non-trial lisianthus were grown in same conditions with excellent results; Lavender rim is like 'Balboa Blue' bud.

***Eustoma* 'Experimental 223146'**

Good qualities: Great deep purple color (2); Double; Huge double purple flowers, which looked good - Exquisite buds; Big strong foliage, tall.

Problems: Needs support (2); Short stems.

Additional comments: Buds are spectacular; We applied CaNo₄ twice at 200 ppm.

***Eustoma* ‘Experimental 239797’**

Good qualities: Beautiful peach color (3); Excellent germination, nice fat, stiff stems - Very superior ‘Blue Mist’-type large flowers on great stems; Nice strong stems; first lisianthus to flower, vigorous.

Problems: Too short (4); Due to excessive rain they dwarfed in flat and only grew 6-12 inches in field.

Additional comments: Similar to ‘Experimental 24009’, These are unusual and beautiful; Grown in beds in tunnel, non-trial lisianthus were grown in same conditions with excellent results, We applied CaNo₃ twice at 200 ppm; Will grow again due to early flowering and color.

***Eustoma* ‘Experimental 240098’**

Good qualities: Great peach color and beautiful full foliage; Excellent germination, stiff stems, nice fat stems, and particularly great looking foliage - This one had exceptionally large and exceptionally beautiful flowers - Excellent plant vigor; Ivory with pink rim - soft and pretty; Long lasting cut; Early flowering, flowered one week after 239797

and a couple inches taller, more color; Nice flower size.

Problems: Needs support; Flower doesn’t open and color fades out, short.

Additional comments: Similar to ‘Champagne’ but far superior; Similar to ‘Echo’; I want to grow again.

***Trachelium* ‘Experimental Spring Purple’**

Good qualities: Medium purple, lasts in arrangement; Stem strength; Strong productive plants, beautiful, dark stems, foliage made great bouquet filler/contrast.

Problems: Somewhat short, doesn’t tolerate heat well (Zone 8a); Height.

Additional comments: None listed.

Trachelium

‘Experimental Spring Wine Red’

Good qualities: Great color - Deep wine red/purple color that holds!; Rosy red color was striking and also a good contrast to the dark stems.

Problems: Doesn’t tolerate heat well (Zone 8a); Plugs died in unheated greenhouse before being planted in beds (Zone 6b); Damping off.

Additional comments: None listed.

***Trachelium* ‘Experimental Summer Blue’**

Good qualities: Great periwinkle purple color (3); Strong stems; Tolerated heat better than others (Zone 8a); Well-filled heads, color that holds well.

Problems: Hard to grow trachelium in this climate.

Additional comments: Similar to ‘Pallas Summer’.

Trachelium

‘Experimental Summer Purple’

Good qualities: Great plum purple color (4); Good-looking foliage; Very long, strong stems with striking dark color; Unique in our market,

lasted well; Better height than ‘Jemmy’.

Problems: Too short (3); Crop time too long (3); Difficult to sow, extremely small seed, static electricity a problem when sowing, this trachelium had a lower germination rate than the others; Didn’t tolerate heat well (Zone 8a); Poor germination - Growing two other varieties and they germinated in 1/3 the time these pellet seeds germinated - It appeared the seedlings could not grow out of the pellet - The other two varieties were not pelleted - Many tiny seedlings died with the white pellet on top like a hat.

Additional comments: *Editor’s note: See the Postharvest Report in this issue for vase life and handling information.* Similar to ‘Pandora’ and ‘Black Knight’; This entire trachelium group was fabulous overall - Great stems and productive from 7/15 til now 10/22 and they are still going strong.

Trachelium

‘Experimental Summer White’

Good qualities: Vivid white color in bud and early bloom (2); Good stem strength.

Problems: Died in propagation (2); Very short, brown early, didn’t handle heat (Zone 8a); As frequently happens with trachelium, it was just getting ready to bloom, and we had a week of fog (Zone 7); Too short; Another comment for the trachelium group: I put on a second round of all varieties on 7/1 but they were never as promotive or sizable as the 6/1 plantings - Soil was slightly less fertile.

Additional comments: *Editor’s note: See the Postharvest Report in this issue for vase life and handling information.* Similar to ‘Jemmy White’; Pelleted seed is worth its weight in gold - Much better to work with - germination rates were much better than nonpelleted.

SeedSense

***Helianthus* ‘Apricot Twist’**

Good qualities: Interesting color (7); Bouquet type, 6-7 flowers in head arrangement; Smaller sunflower, long, graceful petals; Nice flower form, quite different; Outstanding flower form (double) - Our favorite, absolutely loved this one; I like having the color option but I think it was a little washed-out looking; A very nice color but I think it will take my customers awhile for the color to grow on them since they are typical yellow/orange with a dark center kind of sunflower buyers - Might do better in the fall; The light green center is attractive when picked early - Mixes well with other darker centered varieties - I loved the greenish center, wish they had done better - It was unique with the green center, which darkened over time; Looks good in bouquets; Unusual shape; Very well received by consumers - Stems were considered too short by wholesale and retail florists; Color well accepted by all, people loved size and shape of flowers, even short stems were good; Small flowers with long petals;None.

Problems: Too short (4); Axillary buds; Longer petals tend to get more damaged in transit; I think that it would be better to describe this color as “Mango” rather than “Apricot”; Too branchy; No one seemed to notice it at market. Color could be better later in the season; Didn’t germinate well in dry conditions; This one didn’t do well being sowed with the seeder - It needed more thinning than I did to it, and because I didn’t thin enough I had a lot of small thin-stemmed sunflowers, great for mixing into bouquets only - The plants were shadowed by the taller varieties as well; Inconsistent results, stem length and width varied widely; This one was severely damaged by deer; Japanese beetle set in late in season, beetles nested into center of heads; Petals sunbleach quickly; Multi-headed.

Additional comments: Long petals, light center, pollenless; I direct seeded too close - mostly small 2 2" flowers, needs more room, some had nice 5 inch flowers - It can’t be slightly shaded by taller sunflowers; 3-inch flower diameter, 50 days to maturity, I don’t like branchy sunflowers; I think it’s a nice sunflower not for the masses but definitely for the discerning; Flowers were ok, but didn’t seem unusual, that is, I didn’t see any twists; Everything (centers and laterals) seemed to bloom at once; Not as unique as expected, petals were more golden than peachy.

***Helianthus* ‘Brilliance’**

Good qualities: Huge showy flower heads, strong stem, good petal overlap, good color, no pollen; Beautiful large single stem sunflower, early, good deep yellow/gold color - Prettier than ‘Sunbright’ and ‘Sunbright Supreme’ with slightly flaring petals; Bright yellow; slender with sun “heads”?; Big & bright; Nice curling effect with the golden petals, looks great in bouquets; Spectacular wide petals, 3-inch flower is excellent size; Nice size bloom, sturdy stem; Lots of seed for the birds.

Problems: Flower head too large (2); Stem too thick - awkward - difficult to handle; Not many stems per plant, usually less than one.

Additional comments: Similar to a short ‘Mammoth Russian’; Late harvest; All plants in the plots producing one marketable stem - Only a few axillary flowering stems were produced so a second harvest would not be viable; Matured in 60 days, 3-inch average flower diameter; Had some side shoots.

***Helianthus* ‘Chianti’**

Good qualities: Gorgeous dark color (12); Small flower with short petals; Noticed by many market customers, good stem length, harvest period was almost a month could sell in straight bunches and in bouquets; Tall, unique and really pretty; Good breaks - Stood well after Aug. snowstorm; Excellent variety, a little easier to handle than ‘Moulin Rouge’ and better color; Healthy strong stems, slightly droopy heads on some plants; Sold well; Nice head size 3 1/2 heads - If I cut the center bud off early I had better branching, more stems per plant, but the stems were not very long,

14-18-inch maximum bouquet stems; Good form, much better than other red varieties I have seen; Multiple stems made good grower bunches for farmers' market; Well accepted, good producer, plant height was good and many good stems; More consistently dark than other reds.

Problems: Too short (3); Dark color, axillary buds, side branches not useable; Virtually all of the flowers lost at least one petal before the flower had completely opened - I have never had that happen before and can offer no explanation; Direct seeding more successful - Transplants poorly...flowered too short; After 1st three cuttings, stems a bit weak/wobbly; Blooms looked sunbleached compared to 'Prado Red' - Not as well received as the yellows; We only had half-dozen seeds of this variety germinate; Color was not long lasting; Some of the heads nodded down and black spots on foliage were not attractive; Heads shatter after 1 week storage; Japanese beetles took over late in season, that was true for many varieties; Multi headed.

Additional comments: Similar to 'Moulin Rouge' (2), 'Prado Red' (2) or 'Claret'; We renamed these 'Chocolate' sunflowers, which made them an even bigger hit - Would definitely grow again; Of the plants that grew, several opened up the week we pulled them - Very deep, dark merlot with heads, 3 to 4-inch, with a few possible side shoots; This was not as well liked after first week of bloom; After harvest of the primary stems only isolated secondary growth was observed from 4-5 inch stumps; Held petals better than 'Moulin Rouge' - But more uniform dark brown than 'Moulin Rouge' - Great for bouquets whether mixed with other sunflowers or other types of flowers; We like this one over 'Prado Red'/'Moulin Rouge' because the petals are dark on both sides - Other reds have yellow on petal reverse - Also, seemed less prone to deformed heads (off center disk) under heat stress; Some customers thought it was 'Red Velvet' - More stems could have been cut, if I had continued cutting - Harvest dates 8/5 - 8/14 (Zone 6/7); Another nice sunflower, well accepted.

***Helianthus* 'Dorado Select'**

Good qualities: Sunny yellow/orange flowers; Short stiff petals, overlap, good color (orange), dark disk, no pollen; Earlier than 'Sunbright' but extremely similar in shape, etc.; Pinched plants yielded bouquet-sized stems, seemed to be okay variety; Handles well in field - doesn't damage easily; Thick, hardy stems, beautiful short orange petals offset by rich, dark brown disc; Produces lots of axillary flowers, consistent color; Color, pollen free, size, earliness; Form, foliage, bloomed earlier than other test suns, very robust.

Problems: Wide variation in height (2); I didn't like the short petals; Prone to deformed (stems); Thick stems, not very select, multi-branching; Stems too thick, some tall branched off-types; Extremely thick stems - awkward - difficult too handle; Wilted quickly, large foliage.

Additional comments: Similar to 'Sunbright' and lots of others; Single stems good, matured in 57 days with a flower diameter (average) of 3 2 inches; Harvest time 7/26-7/29 (Zone 6/7); After initial bloom cut, sturdy 36-60 inch side branches developed with bouquet size bloom.

***Helianthus* 'Jade'**

Good qualities: Unique pale greenish yellow color (7); Flower are flat, very free flowering and uniform, bouquet-type stiff stem, no netting, clean flower green cast to disk, novelty; Pretty, smaller sunflower - long graceful petals - first cut okay length - second cut too short to be used in bouquets; Nice flower form, quite different; This cultivar was asked for until the petals started shedding; I liked this variety but my customers always went for the traditional sunflowers; An okay flower but would be better if it was a double; Flowers look great in bouquets, florists love them, very unusual looking; Responded well to pinching; Nice flower size, not over powering, easily mixed in arrangements and bouquets, nice compliment to all colors, abundant strong stems; No pollen; Small flower with little seed.

Problems: Too short (3); Too branchy (3); Axillary buds, color not interesting to me, long petals, gappy; Light color makes this one more prone to damage - short stems on the second cut; The flowers look great and the color is very different - If you live in a more even climate I would recommend trying this one, if you can get it to grow properly it looks like it would be a winner; Customers didn't appreciate its uniqueness; Didn't seem to hold as well as other sunflowers, looked old even when picked at the correct stage; Petals seem particularly delicate, quickly looking past their prime if not harvested right away; Weak stems, florists did not seem interested in this variety; Everything (centers and laterals) seemed to bloom at once; Straggly petals.

Additional comments: Matured in 48 days, average flower diameter 3-4 inch; I don't like branchy; I ordered more seed of this but couldn't get them tall; Not similar to any other cultivars - A real novelty.

***Helianthus* 'Lemon Eclair'**

Good qualities: Interesting lemon/chocolate color (7); Doubleness fairly uniform - Stiff stem small flower; Flower form - They look a lot better in real life than they do in the pictures - Quite popular with customers; Very different, pollen-free, some branching at top, most held up head, good vase life; Very nice flower, 4-5 inch wide and fluffy center; Strong heads facing upward to the sun; Lots of stems if clipped early; Nice branching, long lasting in the vase; Great flower shape.

Problems: Too short (2); Long ray petals, gappy, some upright facing flowers, might sunburn easily, flower may be too large, tips of petals susceptible to botrytis; Variable color; Made us crave chocolate eclairs; Flowers look dirty due to color, not much interest by florists in this variety; Wholesale and retail florists felt

it was too different from their normal sunflowers and they thought the flower too soft - Consumers loved the flower; Multi-headed.

Additional comments: *Editor's note: See the Postharvest Report in this issue for vase life and handling information.* Similar to 'Panache' and 'Lemon Aura'; Semi-double; Sweet cultivars, later plants tended to branch more and be shorter overall; The secondary growth from 6-inch stumps was sporadic and that which did occur had short (5-6 inch), unmarketable stems; Started cutting 8/3 (Zone 5) and continued for the whole month - If I didn't cut out the center bud, I got shorter side branches and not as many at all; Matured in 60 days, very small flowers on short thin stems, 2 2 inch diameter at best.

***Helianthus* 'Starburst Aura'**

Good qualities: Nice double yellow/gold color (5); Axillary buds, uniform small flower good stem; Good, unusual flower form - striking - strong grower - good second cuts - long stems; Really nice flower form - They look a lot better in real life than they do in the pictures; Beautiful thick flower head; Very few insect problems, great strong stems; Very small, nice for bouquets, petals have an interesting fuzzy-looking appearance; Medium stem production; Looks like a double; Interesting flower shape.

Problems: Too short (4); Long petals, Some vertical-facing flowers, green center; Slow to flower; Deer damage - this cultivar is the favored of all sunflowers - deer decimate this variety; Vulnerable to insect damage, got "ratty" looking fast; Will not open more when cut before fully open - Has short postharvest; Everything (centers and laterals) seemed to bloom at once; Very multi-branching.

Additional comments: This is by far the favorite; Matured in 12 days, tiny heads 2 inches across at best; Unique combination of form and color - This one took me a while to like but by the end of summer I saw many possible design uses; Similar to other 'Starbursts'.

***Helianthus* 'Starburst Lemon Aura'**

Good qualities: Pretty bright yellow with green centers (9); Nice double/form (5); Uniform good color (to me); Nice variation from the more common 'Starburst Aura' - I already grow 'Starburst Aura' and will do this cultivar - good, long-stemmed second cuts - (if I can keep the deer away); Unique fluffy texture; great in mixes with other types of sunflowers - Early and fast; Good clean double; Customers seemed to really like it, it did very well; Unique flower but not profitable under dry conditions; Strong stems, thick, attractive layers of petals; Uniform yield in both quality and timing; Bright and cheerful color, long vase life - Number of cuts/plant for grower bunches, fresh looking; Nice form.

Problems: Axillary branching, green center; Small bloom size and stem diameter but again,

Special note deserves to be made of 'Lemon Aura'. Its flower color was fabulous, like a fine lemon meringue pie filling.

this could be due to too close spacing; Lighter color (yellow, not gold) tends to attract more bugs, hence more damage; Not a strong, growing plant, tends to be early and short unless in very fertile soil; Germinated poorly under dry conditions - short stems; Deformed heads on several plants, appear oblong and folded, as though two sides of head were squeezed together; Plants produce over short period making multiple plantings necessary; Everything (centers and laterals) seemed to bloom at once; Branches inadequate stem length; Similar to other 'Starbursts'.

Additional comments: Similar to 'Teddy Bear' and 'Goldburst' but 'Starburst Lemon Aura' is shorter with smaller blooms, yellow, not as spectacular of a bloom; No consumer interest in flower bunches by itself, needs good soil to get longer stems and side branches; Matured in 69 days with 3-inch flowers; one of favorites of everyone - A winner; This was my favorite among the 10 ASCFG sunflowers trialed and also compared to 10 sunflowers from Wildseed Farm (TX); Special note deserves to be made of 'Lemon Aura', its flower color was fabulous, like a fine lemon meringue pie filling; Cut a short stem, had great vase life.

***Helianthus* 'Starburst Panache'**

Good qualities: Bright yellow/orange with dark center (6); Very large heads, double, nice flower form; They look a lot better in real life than they do in the pictures - Quite popular with customers - These were my personal favorite from this series - Favorite of all *helianthus* we trialed; Early, small-headed double sunflower - Customers chose this over my old standards, when available; Medium height; Strong stems, healthy leaves; Great for mass bouquets or mixing in bouquets - Heads not too large, very pretty flower; Sturdy stems, big flowers, a classic looking sunflower that market customers like to buy; Lots of stems, good lengths; Nice, unusual; Unusual ruffled flowers, early; Good plant height.

Problems: Huge flowers, long petals - Flower too big, axillary buds; Heads were occasionally prone to bent-neck; After the first cut was taken off, the top the side branches were short (11 inches average) - If I cut the center bud early, I got 25-inch side stems averaging 12 per plant; Misshapen flowers, almost two-headed, deformity seen on at least 2 plants; Head form can get trashy - Heat greater than 100F may have been reason for such short stems on second and third planting date - Not really impressed with this one; Some customers (farmers' market) thought flowers were wilted because of ruffled appearance; Everything (centers and laterals) seemed to bloom at once; Multi-branching.

Additional comments: Very big, sold okay - Second buds better size - Looks messy compared to 'Brilliance' (less formal?); I would grow again; Matured in 61 days with 5-inch flowers; Similar to 'Lemon Eclair'; Direct sowing would produce a better crop - Good for something different to add to other sunflowers.

***Helianthus* 'Stella Gold'**

Good qualities: Very "different" flower form with usual curved petals (5); Bright golden yellow color (3); Uniform dark disk, gold, good stem; Bloomed with the early sunflowers - a nice-looking single stem sunflower; Medium flower size; Good lasting cut - interesting look in bouquets - different texture for bouquets; Germinated and grew well in extreme conditions, unfortunately, lack of pollen and branches; I thought it was nice but it might be better suited for a high-tech exhibit, it looks like it came from space; Germinated well under very dry conditions; Maturity stretched over 2 weeks, was essentially the "main crop" for over 2 weeks - Sold well; Flower size and color well accepted, nice strong stems, plant height about 5 ft.; Good plant height, not multi-branching, interesting flower, good novelty.

Problems: Petals too narrow (4); I loved the flower form on these plants - Unfortunately, my customers did not - I still don't understand why - I think that these are really cool and I will try them again - The customer is not always right; Outer petal too large for my taste; Does not sell by itself, consumers expected flower to become fuller after further opening big, but not showy; Petals shriveled looking very wilted (one of us actually liked the look, go figure); No one bought this variety; Heads droop on stems, few face upward, stunted growth, flowers are hardly bigger than 1 2 inch; Inconsistent yield, often did not get a useable stem off a plant; Weeds took over area, but didn't bother plant height, mildew set in early (Zone 5); Weak stems, flower quality inconsistent, petals fell off quickly; No problems.

Additional comments: *Editor's note: See the Postharvest Report in this issue for vase life and handling information.* I tried to market as the "spaghetti" sunflower (more attractive than "spider"), no go, as a big flower in farmers' market - Florists/arrangers would probably appreciate it much more; Will try again with more crowded seeding - it looks better in less fertile soil, shorter, thinner, better petal-to-disk proportion, more appealing; 3-5 inch heads that, if the wilted petal look is in, would make these hot - control them, not! While one of us gave this a strong nod, the other didn't, our policy is we both like it as it doesn't go, so, no go;

Matured in 69 days - Just too different; I think a direct sowing would produce a better crop - A good specialty crop for mid-season (Zone 7/8).

***Helianthus* 'Summertime'**

Good qualities: Early (2); Large flower, long broad petals, overlapped, very good color, with dark disk, uniform good stem; Good for arranging with other flowers; Nice strong yellow; Size and color sell well - Germinated well despite dry conditions - Would work well for wholesale to cut all at once; Pretty flowers with nice, rich yellow petals, nice looking disc; Good stem lengths, even when apical meristem is clipped (pinched); Large flower, met customer image of "sunflower"; Pollen-free; Single stem.

Problems: Too short (3); Outer petals too few (too large in perspective); Flower matured over a short time frame, consequently were only able to sell 25% of product; Not as early as the industry standards, big heads.

Additional comments: Similar to 'Sunny', 'Sunny Lemon', 'Jerusalem Gold', or 'Elite Sun'; Gold/dark disk; Matured in 64 days, flower size anywhere from 2-3 2 inches; Might not be as day-neutral as 'Sunrich Orange', further testing needed.

***Helianthus* 'Sundown'**

Good qualities: Beautiful red/gold bicolor (4); Fast to flower; Very uniform height and color, no pollen, axillary buds, very good flower form, overlapping petals; Dark green foliage; Long lasting, nice upright heads, petals stay on; Best of the dark colors, uniform grower, fast to finish; Consistent bicolor flowers, lots of stems; Very well received by consumers, color is unique and very appealing; Holds well, reported 8-10 day vase life from florist and farm market consumers.

Problems: Too short (2); Bad seed mixes; We actually had purchased a packet of seed and it went in early with some success, the trial pack was sown late and had only maybe 10-12 plants to grow - While we did better with the earlier planting, the end result was: neck droops, petal drops and general dissatisfaction after florists purchased them; Lots of stem deformity; Wholesale and retail florists felt it was too different from their normal sunflowers and they thought the flower too soft - Retail florists said they liked it but did not buy it - Consumers loved the flower; Big centers; No problems.

Additional comments: Similar to 'Galoridia', 'Orange Mahogany' and 'Sunbrights'; Sowed the seed with the Planet Junior, so had erratic spacing - I didn't thin too many out - I think customers are a little burned out on sunflowers here, so I didn't hear that many exclamations of awe - Also sowed later than usual but seemed to be fine - Would grow again; Matured in 47 days, first in test row of 16 varieties to mature, average flower size was 3 2-4 inches; The florists seem to love all sunflowers this year - I liked 'Sundown' because it seemed to not blow out so fast compared to other sunflowers - The color also

was a deep, solid yellow and that was wonderful - We sold 10-stem bunches at \$15.

***Helianthus* 'Sunny'**

Good qualities: Short stiff petals, no pollen, good orange color, dark disk single stem; Tall, bright flowers - good for big arrangements; Nice clean stems; Higher production than 'Summertime' and longer stems - Seems to respond well to apical meristem clipping (pinching); Big flower, strong stem, met customer image of "Sunflower" - Pollen free, very attractive large brown disc; Good height, nice dark leaves.

Problems: Too tall and slow to flower - Some flower heads are too large, large foliage, thick stems; Huge heads, thick stems, disks too flat for market.

Additional comments: Similar to 'Summertime' and 'Sunny Lemon'; A secondary harvest of 15 inch axillary stems (arising from a 5-inch stump) could have been made in the first week of Sept - approximately 3 stems per plant; Later than others in trial, useful for sequential harvest - A nice big flower and strong stem, harvested 8/7-8/14 (Zone 6/7).

***Helianthus* 'The Joker'**

Good qualities: Interesting orange/bronze bicolor (7); Fast to flower (wk 24), uniform height and color - Long petals, no pollen, some secondary petals (not attractive) - Red is faded on some axillary buds; Pretty petal shapes combine to make this a fine looking flower - Good second bloom with stems long enough to use - Was the earliest of all sunflower to bloom; These are really very beautiful, fully double; Strong stems, held up well in water; Would do better in the fall; Pollenless, unusual and cheerful form, side branches made good grower bunches; Well accepted but needed to mix with other sunflowers to better sell them, strong stems and nice size of flowers, 5-foot plant height; Great novelty flower.

Problems: Variable head shade (3); Too short (3); Bad seed mixes, many other types mixed in; Erratic bloom; From my experience...they will not tolerate any stress - If they are stressed, they produce totally unusable flowers; Didn't transplant well for us (Zone 7a); Variable color; Flowered early; Some customers thought flowers were wilted because of ruffled appearance; Mildew (Zone 5); Color not striking; Everything (centers and laterals) seemed to bloom at once; Multi-branching.

Additional comments: This was one of my favorites; The stem length averaged 34 inches with the majority of stems estimated to be marketable; Harvested 7/26-8/9 (Zone 6/7); Similar to 'Starbursts'.

***Helianthus* 'Terracotta'**

Good qualities: Rich, dark burnt orange color (8); Bouquet type, small flower, no pollen, dark disk; Very nice; Strong stems, good vase life if harvested at right time; Tall; Very consistent; Produces lots of stems; Customers loved the color but considered it to be fallish and were not quite ready for that in August - With timing

(plus good weather) it could be a real star among fall flowers - Were remarkable bug free, I could hardly believe it; Admired by all, long side stems.

Problems: Too tall and slow to flower, axillary buds in cluster, some off-colors; Bent necks; Tended to fall over at angles, whereas other sunflowers didn't; Stem lengths a bit short (often under 24 inches); Everything (centers and laterals) seemed to bloom at once.

Additional comments: Similar to 'Velvet Queen' and 'Earthwalker' but superior to both; Similar to 'Earthwalker'; Long ray petals, some very nice flowers that are smaller with overlapping petals; Nice secondary flower in bouquets, especially in the fall - first cutting netted nice center flowers for bouquets - We called them 'Mochas flowers' for our customer - more evocative name; A secondary harvest of 20-36 inch axillary stems (arising from 7-15 inch stumps) could have been made in the first week of Sept - approx 3-4 stems per stump; Is this day neutral? we'd like to be able to produce this one in September.

American Takii

***Agrostemma* 'Contessa Pale Pink'**

Good qualities: Beautiful soft pink color (4); Fast to flower (wk 24), flowers are pale pink becoming white, gives a duality to the color; Could be direct seeded - long vase life (10 days), easy to pick, second flush; Each stem like a bouquet of pink flowers; Even with the heat (Zone 7), this beauty did well for us, though the bloom time was short - We cut it hard, but got only one cut - no rebloom; Quick growing, very pleasing to the eye; Growth habit of plants was less dense than 'Ocean Pearls' and 'Purple Queen', making harvest easier; Augments 'Purple Queen' well.

Problems: Doesn't like heat (Zone 8a); Weak stems; Harvest window and vase life were slightly shorter than 'Ocean Pearls' and 'Purple Queen'; Color fades quickly, not as disease resistant as 'Purple Queen'; Couldn't get them to germinate (Zone 5); I feel agrostemma is best as an overwintered annual here (Zone 7/8) - It would be a nice cut flower in the spring from a fall sowing - Too bad agrostemma are not nearly as hot as they were 10 years ago; No germination, probably too hot, also poor germinating seed lot.

Additional comments: Similar to 'Purple Queen' and 'Ocean Pearls'. We started too soon, as plants needed to be planted when the ground was too cold and wet - Planted in heated tunnel - This was a mistake - The stems were very weak - Will grow again later in season outside; I will probably grow again.

***Delphinium* 'F₁ Aurora Deep Purple'**

Good qualities: Gorgeous purple flower (4); Stiff stems, nice full florets, overlapping petals; Being a delphinium is a good quality on its own, this variety didn't stand out in any way; Nice full spikes, and good vase life - Will grow again; Seemed to be more heat tolerant

than 'Pacific Giant' Series - Also, more compact/sturdy flower and plant with less susceptibility to toppling over; Big, beautiful stems, striking petal/ bee contrast; Very strong even when grown organically without extra fertility; Great uniforms, cut three times during the season.

Problems: Too short (3); Variable, timing and stem height on first stem - Long-term may not matter much; Only few bloomed - didn't do well in heat (Zone 8a); Not much vegetative canopy made for lots of weeds to be removed - Lower flowers dropped very early; I never got any flower stems worth writing about - I think the late start due to the wet spring and not being able to get into the field set these back - The only flowers were on 12-inch stems, very pale lavender color, sort of washed-out looking; Not productive enough, all our other delphinium did better than these; Nothing this year, some plants survived the heat and should bloom next year.

Additional comments: Looks just like the purple in the Round Table series - 'King Arthur'; Season is too short in N.H. - For many, cool annual crop - When the land is workable, it's too hot; Seed is expensive; My favorite of the trials this year - Can't wait to plant other colors next year; Would like to try these again on a hopefully better weather year; I thought it was short and was not overly impressive as delphinium go - It did last over a week cut in plain water.

***Eustoma* 'Alice Pink'**

Good qualities: Good light pink (3); Many flowers; Excellent germination (95%, 15 days), strong stiff stems, and uniform color, pretty vigorous; Blooms are about half to one third the size of more traditional lisianthus, which would lend themselves well to bouquets, gorgeous range of color on a single stem, from an ivory, light colored pink to rose color, nice tall stems.

Problems: Basal branching can be messy at harvest and result in wasted stems; Very small flowers, thin stems - ugly flowers; Our flower buds were small. Florists were not impressed with the spray type and we really had to educate them on the new cultivar.

Additional comments: *Editor's note: See the Postharvest Report in this issue for vase life and handling information.* Small flower; These are a good, easy-to-grow lisianthus, they were a little more difficult for me to market because they are not as showy as the doubles or even the larger flowered singles.

***Eustoma* 'Alice Purple'**

Good qualities: Nice color purple (3); Spray is good; Excellent germination (95%, 15 days); Small spray of flowers would be great for bouquets.

Problems: These had small, single flowers; Our flower buds were small. Florists were not impressed with the spray type and we really had to educate them on the new cultivar.

Additional comments: Bouquet use, small flower; Will grow 'Echo' or 'Balboa.'

***Eustoma* ‘Alice White’**

Good qualities: Floriferous, pink blush, small flower; Excellent germination (95%, 15 days), strong stiff stems, probably the most vigorous of this series; Good white cultivar; Light green and yellow inside looks lovely against white petals, looks easy to cut, versatile.

Problems: Later to flower than ‘Alice Pink’ and ‘Alice Blue’; Color was not consistent, some flowers had a strong pink cast; Our flower buds were small. Florists were not impressed with the spray type and we really had to educate them on the new cultivar.

Additional comments: These are a good, easy-to-grow lisianthus, they were a little more difficult for me to market because they are not as showy as the doubles or even the larger flowered singles; Wedding designers would love this flower.

***Helianthus* ‘Premier Light Yellow’**

Good qualities: Nice lemon yellow (6); Very early to bloom (3); Very uniform, large heads, dark disk, short petals, no pollen; Harvest started early August (Zone 2); Single, side buds coming; Good form.

Problems: Too short (6); Tried to flower in flat (2); Large foliage; Cannot make a good appraisal, but I will try to grow these again; Unidentified pest only on this plant, small aphid-like black bugs, erupting from brown lesions on leaf midrib; Flowers very early; Spotty germination (Zone 2); I didn’t like the pale color.

Additional comments: Similar in color to ‘Valentine’; Light yellow, garden use; Mistaking them for ‘Soryas’. I pinched these guys to encourage branching - Would have bloomed very early otherwise! - Instead, I sold them as “spray sunflowers” - These were also a hit and people requested them for weeks; This crop was grown right next to other helianthus that grew to normal height - this one did not reach more than 24 inches; Early, harvested 7/26-7/29 (Zone 6/7); Appreciated by large growers of sunflowers, good for mass production.

***Matthiola* ‘Noble Cream Yellow’**

Good qualities: Mostly doubles (4); Beautiful soft yellow color (2); Uniform flowering; Tall and pretty fragrant, they took the temperature fluctuations this spring better than the “Cheerful” series did; Blooms stayed well on the plant until they could be cut - Also makes a great bedding plant with very long-lasting blooms in spring; Fragrant, full blooms; Long, relatively uniform flower spiked.

Problems: Poor color (2), more ivory than pale yellow; Stem length was really too short for our regular bouquets; Poor flowers, not very full at all - Not much scent, thought stocks were known for scent.

Additional comments: Similar to ‘Column Yellow’; Much better than ‘Noble White’; Worth growing in tunnel, quick crop; The foliage was tall and straight and strong, just the flowers were sparse.

***Zinnia elegans* ‘F1 Sun Cherry’**

Good qualities: Great color (10); Large flowers (6); Flowers mostly double (5); Fast crop (3); Mix of color shades (2); Powdery mildew resistant (2); Good branching; Very strong stems; Full - adds different texture; Great production and good vase life; I had no problems with stems bending - Tall straight stems, easy to cut; Strong fast grower in the field in full sun in very hot conditions (Zone 10) - Great flower shape and form; Consumers loved them and they sold very well at our farm - Many comments on their beauty; The slight variation in pink among the blossoms was nice; Good stems, especially late in summer, excellent vase life, kept double flowers throughout season; Plant size good and full; Good quality flowers, produced for a long time; Vase life - 1 week or better; Nice form, no support needed; Keeps producing.

Problems: Powdery mildew (4); Different shades of pink (2); Quite a bit shorter than ‘Benary Giants’; Too short compared to other zinnias in same planting; Very short stems on first cuts (plants were pinched at 4-6 inches) and very thick; Not as tall or thick stemmed as ‘Benary Blue Points’; If left in the field to mature, they seemed to get dark spots on the flower and I don’t mean too mature either; Wholesale and retail florists are lukewarm to all zinnias in my area - Relatively short vase life improved with Chrysal and keeping them out of the cooler - Late-season problems appeared with mildew but not before a great crop was picked; A few singles; Japanese beetles was heavy late in season, otherwise no insect problem; Poor germination (40%); Not as big blooms as the ‘Sun Gold’ nor as prolific; Needed 3 cuts before 12 inch+ stems possible; No problems.

Additional comments: *Editor’s note: See the Postharvest Report in this issue for vase life and handling information.* Similar to Benary ‘Carmine Rose’ and Benary ‘Giant Pink’; Would choose this pink in future over Benary pink - more intense and stems stronger; While this only comes in yellow, pink and red, the florists really liked them; Stem length may have been better under more favorable soil moisture conditions - I had a potential market for the zinnia stems if the stem length had been at least 45 cm (18 inches) - That never happened so I distributed the flowers around the department to favorable reviews - the blooms themselves were marketable; Will grow for early zinnias and rely on others for late season; Harvested both plantings until frost 6/15-10/4 and 7/19-10/4 (Zone 6/7); I would grow again, but only to see if mildew was less the next time - If still prevailed, I would try other varieties; Not nearly as rigorous as ‘Sun Gold’; More affected by the heat and drought than ‘Sun Gold’ - Would like to try again under more normal weather conditions; Plants still healthy in October (Zone 4).

***Zinnia elegans* ‘F1 Sun Gold’**

Good qualities: Nice intense yellow (8); Large flowers (5); Flowers mostly double (4); Resists powdery mildew (2); Good branching, branches yield usable flowers (double); Attractive flower form; Very few single/semi-doubles until late in cutting stage; Excellent vase life, kept double flowers throughout season; Plant size good; Super fast crop; Phenomenal bloom size with really nice, long, sturdy stems; Color excellent, the name ‘Sun Gold’ describes it beautifully - Heavy bloomers despite dry and very hot conditions - Vase life 1 week or more; No netting needed, form; Uniform color.

Problems: Powdery mildew (3); Too short (2); Susceptible to powdery mildew, but not more so than other zinnias; Not as long stemmed as ‘Benary Giants’ - No real difference between this and the ‘Benary Yellow’; Even with a mid and late season drought, leaf diseases were still an issue; Similar to ‘Sun Cherry’ although they seemed to be a little more stunted and yellower; No insect problem until late in season, then Japanese beetles were heavy; None, even without support net.

Additional comments: *Editor’s note: See the Postharvest Report in this issue for vase life and handling information.* Similar to ‘Benary Giant Yellow’ (2); Would not choose to grow ‘Sun Gold’ over ‘Benary Yellow’; Benary Giant Series has a better yellow, taller plants = longer stems; While this comes only in yellow, pink and red, the florists really liked them; Stem length may have been better under more favorable soil moisture conditions - This color seemed to be more susceptible to powdery mildew late in the summer than was ‘Sun Cherry’ - The powdery mildew seen in early Sept. would have made ‘Sun Gold’ unmarketable but not ‘Sun Cherry’; The yellow was beautiful - It was the deepest, most vibrant yellow of all my zinnias - I would grow these again; One customer came back for a bunch of these yellow flowers several weeks in a row; I would only grow again to see if mildew problem was better - If not, I would try other varieties; Better than the Benary series yellow in bloom size and color - Will certainly plant this again; Hope they give us the whole range of colors eventually, will we ever see a blue zinnia?; Still great in October (Zone 4).



2002 ASCFG National Cut Flower Perennial Trials

by John Dole
North Carolina State University

Helenium ‘**Helena Gold**’ and ‘**Helena Red Shades**’ performed exceptionally well in the first year, producing large numbers of stems, averaging 27 inches long. The durable plants survived the summer well and were scored very high by the participants. ‘Helena Gold’ produced sprays of bright gold and ‘Helena Red Shades’ had bronze/yellow bicolored flowers. Trialers noted that the number of flowers per stem varied, complicating harvest and bunching.

In the second year *Eupatorium candidum* continued to perform well, producing stems up to 3 feet long topped with beautiful silvery pink flower clusters. Unlike other eupatoriums, *E. candidum* stayed a manageable size in year two, yielding more than 6 stems per plant. We noted a problem with aster yellows disease in our plantings. The postharvest life was phenomenal, however, with cut stems lasting 19 or more days. *Physostegia* ‘**Summer Spires**’ was also impressive in the second year. It produced large numbers of multibranching spikes of bright pink flowers on long 28-inch stems. Both plants were quite hardy as 100% survived the winter for our trial participants.

Based on trial results, the top five performers are automatically nominated for the ASCFG Cut Flower of the Year competition. The rankings are based on the combined ratings score: market appreciation (average of wholesale, florist, and consumer) + repeat again + ease of cultivation for those cultivars where more than two trialers responded. Thus, from the 2001 trials *Achillea millefolium* ‘**Weiss Wonder**’, *Helenium* ‘**Helena Gold**’, *Helena* ‘**Red Shades**’ and *Phlox paniculata* ‘**Miss Violet**’, and *Physostegia* ‘**Summer Spires**’ are nominated as Cut Flowers of the Year and will join other nominations from ASCFG members.

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. 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: All cut flower growers should thank the perennial producers for providing the plant materials and the growers for producing the plants, collecting data and submitting trial reports. The growers paid \$100 for shipping expenses and agreed to provide data for at least two years. Plants were donated by three perennial producers who shipped the perennial plugs or dormant roots directly to the trialers. I would especially like to compliment Chas Gill, Betsy Hitt, Vicki Stambach, and Bob Wollam who participated in both the seed and perennials trials and returned evaluations on all of their trial plants. I would also like to thank Betty Coleman for typing in everyone’s comments, Ingram McCall and Sarah Lane for watching over the North Carolina State University portion of the trials, and Sarah Lane, 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 the ASCFG possible.



Participating Perennial Suppliers

Here & Now Gardens (HN)
P.O. Box 6
Gales Creek, OR 97117
(503) 357-5774
fax (503) 357-3858

Green Leaf/Yoder/Benary (GL)
2369 Old Philadelphia Pike
Lancaster, PA 17602
(717) 299-0300
fax (717) 299-7162
www.green-leaf-ent.com

Walters Gardens (WG)
P.O. Box 137
Zeeland, MI 49464
(888) 925-8377
fax (800) 752-1879
sales@waltersgardens.com
www.waltersgardens.com

Participating Growers

Region 1 (2002)
Chas Gill
Kennebec Flower Farm
Bowdoinham ME

Region 2 (2001 and 2002)
Bob Wollam
Wollam Gardens
Jeffersonton VA

Region 3 (2001 and 2002)
Betsy Hitt
Peregrine Farms
Graham NC

Region 5 (2001 and 2002)
Christina Wager
Christie's Plantmart and Greenhouse
Coronation Alberta

Region 6 (2001 and 2002)
Vicki Stamback
Bear Creek Farm
Stillwater OK

Region 8 (2001 and 2002)
Sam Barkley
Barkley's Woodstock Floral
Portland OR

Region 8 (2001 and 2002)
Paul Sansone
Here and Now Garden
Gales Creek OR

John Dole/Ingram McCall/Sarah Lane
(2001 and 2002)
North Carolina State University
Raleigh, NC

Trial Results for Year 1 of Cultivars Planted in 2002. First row of data for each cultivar is the average and the second row is the range of responses. Note that when only one response is listed in the range line, either only one person responded for that category or several responded and all gave the same rating.

Cultivar	Plants flowering %	Plants dead at end of summer %	Yield ^① (stems/plant)	Stem length (in) ^①	Market appreciation rating ^②			Repeat again rating ^②	Ease of cultivation rating ^②
					W	R	C		
<i>Calamagrostis</i> 'Karl Foerster' WG	33.3 0-100	33.3 0-100	0.0 0	26.0 26	4.3 4-5	5.0 5	1.0 1	1.0 1	4.5 4-5
<i>Crococsmia</i> 'Emily McKenzie' HN	82.5 0-100	34.9 0-100	2.4 0-10	18.6 12-24	3.5 3-4	4.0 4	3.7 3-4	3.9 2-5	3.7 2-5
<i>Gentiana makinoi</i> 'Royal Blue' HN	34.4 0-100	81.8 0-100	1.3 0-7	11.4 0-30	3.5 2-5	4.0 3-5	4.0 3-5	4.0 3-5	2.5 1-3
<i>Helenium</i> 'Helena Gold' GL	100.0 100	6.5 0-39	3.3 0-10	27.5 15-40	4.0 3-5	5.0 5	4.7 4-5	4.8 4-5	4.7 4-5
<i>Helenium</i> 'Helena Red Shades' GL	100.0 100	5.7 0-34	3.4 0-11	26.8 15-40	4.5 4-5	5.0 5	4.8 5	4.8 4-5	4.7 4-5
<i>Lysimachia</i> 'Alexander' WG	36.7 0-100	29.3 0-100	0.0 0	10.0 10	1.0 1	1.0 1	1.0 1	4.3 3-5	4.7 4-5
<i>Nepeta subsessilis</i> WG	75.0 0-100	32.6 0-100	4.0 0-10	16.0 12-20	1.0 1	1.5 1-2	2.4 1-3	3.6 1-5	4.4 3-5
<i>Pennisetum</i> 'Karley Rose' WG	100.0 100	12.5 0-50	28.4 3-80	25.8 14-36	3.0 3	2.7 1-4	3.3 1-4	4.0 1-5	3.8 1-5
<i>Phlox paniculata</i> 'Miss Violet' HN	48.1 0-100	59.8 0-100	2.1 1-10	15.0 0-30	4.5 4-5	5.0 5	4.7 4-5	4.6 4-5	4.4 3-5

^①Data shown are from those respondents who harvested stems. Some respondents may not have harvested stems because stems were too short. Flowering stems may be longer next year after plants are established. See comments section for more details.

^②1 to 5 scale, with 5 being the best. Market ratings are based on sales to wholesaler (W), retailers (R), or final consumers (C) direct.

Trial Results for Year 2 of Cultivars Planted in 2001. First row of data for each cultivar is the average and the second row is the range of responses. Note when only one response is listed in the range line, either only one person responded for that category or several responded and all gave the same rating.

Cultivar	Plants surviving	Yield ① (Stems/Plant)	Stem length (inches) ①	W	Market appreciation ②		Repeat again rating ②	cultivation rating ②
					R	C		
<i>Achillea millefolium</i> 'Weiss Wonder' (HN)	100	18.2	20.8	4.5	4.5	2.8	4.0	5.0
	100	0-42	2-36	4-5	4-5	1-4	1-5	5
<i>Aconitum arendsii</i> (HN)	95.0	4.0	32.0	3.5	4.5	5.0	5.0	4.5
	85-100	0-7	20-44	3-4	4-5	5	5	4-5
<i>Eupatorium candidum</i> (HN)	99.0	6.5	30.2	3.0	4.0	4.0	4.0	4.7
	96-100	0-20	25-36	3	4	3-5	3-5	4-5
<i>Inula grandiflora</i> (GL)	72.3	5.3	18.0	1.5	1.5	1.5	1.0	4.5
	0-100	0-15	12-24	1-2	1-2	1-2	1	4-5
<i>Iris siberica</i> 'Caesar's Brother' (GL)	97.3	1.0	18.0	-	-	2.0	5.0	5.0
	92-100	0-3	18	-	-	2	5	5
<i>Leucanthemum</i> 'Polaris' (GL)	98.3	13.0	26.5	1.0	2.0	3.3	2.3	4.3
	95-100	7-22	20-40	1	2	1-5	1-5	3-5
<i>Penstemon digitalis</i> 'Glacier' (HN)	75.0	10.1	30.8	4.5	4.7	4.3	3.8	4.4
	0-100	5-17	16-48	4-5	4-5	3-5	2-5	3-5
<i>Physostegia</i> 'Summer Spires' (HN)	100.0	5.8	28.0	3.0	5.0	4.0	4.3	4.7
	100	0-13	22-37	3	5	4	4-5	4-5
<i>Stipa</i> 'Brautschleier' (HN)	96.3	6.8	28.0	2.0	2.0	2.7	1.7	4.0
	85-100	0-20	22-36	1-3	1-3	1-4	1-3	3-5

① Data shown are from those respondents who harvested stems. Some respondents may not have harvested stems because stems were too short. Flowering stems may be longer next year after plants are established. See comments section for more details.

② 1 to 5 scale, with 5 being the best. Market ratings are based on sales to wholesaler (Whole.), retailers, or final consumers (Cons.) direct. Ratings for some species should be viewed with caution as only one or two participants had enough information to provide ratings.

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.

2002 Perennial Cut Flower Trial Cultivar List - Year 1

Calamagrostis 'Karl Foerster'

Good Qualities: Beautiful plants.

Problems: Died at end of summer - This didn't seem to be as tough as other plants in the trial; This just wasn't a very exciting plant to me.

Additional comments: I would try this again.

Crococsmia 'Emily McKenzie'

Good Qualities: Delicate, bright orange color (5); Vigorous grower; Exotic feel, holds up well as cut; We will see how well they do next season - I think we may have a difficult time growing them here (Zone 6b); Vigorous bulbs, I was surprised by how well these did.

Problems: Flowers don't last long after cut; Smaller, less height than 'Lucifer'; Short, not sure if hardy; Small corms get lost easily in planting - Not sure this is hardy to Zone 6b; Bulbs arrived without being graded - Many were so tiny that I threw the whole mess in a bulb crate and grew them in that all summer; Grasshoppers; Some insect problems to foliage only.

Additional comments: Similar to *Crococsmia* 'Lucifer'; Nice yellow, orange color, multiplies rapidly - I hope the plant will survive and thrive - It would be useless for me unless bigger.

Gentiana makinoi 'Royal Blue'

Good Qualities: Stiff stems with brilliant gentian blue, long vase life; Color, late flowering (Zone 5); This plant may also have a difficult time in this area because of dryness and heat (Zone 6b); Beautiful color - These plants were beautiful - Large healthy plants.

Problems: Need acid soil, needs 4-5 years to reach peak production; Not very vigorous; I think that they just can't take our summers (Zone 7a) - But well worth the time and effort if you could get them to work; Grasshoppers; Aphids, whitefly.

Additional comments: Similar to the straight species, *Gentiana makinoi*; Excellent cut flower in cool climates (Zone 7) - will not flower in Zone 8 and up; Hardiness?; I wish I could grow this - I understand pH should be low (4.0) and shade and wet feet are advised; We need to be told these things when we receive the plants; Mine were planted, broke dormancy, grew for about a month and died in the drought.

Helonium 'Helena Gold'

Good Qualities: Profuse yellow flowers, thick stems!, some side shoots long enough to use; Nice plant, branches well; Very good vase life like *H. kanaria*, better than *H. magnificum*, nice even color; Nice for fall color, late blooms; It was very tough and durable, the colors were wonderful in both varieties, did not seem to have any noticeable pest problems - I liked these very much and will definitely use again, sold every stem; Beautiful color, large healthy plants, strong stems, vigorous.

Perennial Trials

continued

Problems: Some sprays hard to cut - either too large or too small; Massive stems, need to be pinched, have to let all flowers open and groom off spent ones; Army worms.

Additional comments: *Editor's note: See the Postharvest Report in this issue for vase life and handling information.* Very similar to *Helenium kanaria*, but different color, *kanaria* is lemon yellow; Need to pinch early (10 inches) to get more usable stems, otherwise, produces massive stems almost too big to use; I have grown helenium in the past - It is not a great cut, but would be ok if it bloomed in Sept/Oct - It blooms in Aug. when color doesn't sell.

Helenium 'Helena Red Shades'

Good Qualities: Great fall color (3); Yellow fades to burnt orange/red thick rim, some side shoots long enough to use; Very good vase life, great autumn color, red in a *kanaria*; Easy to grow, can't wait till next year; It was very tough and durable, the colors were wonderful in both varieties, did not seem to have any noticeable pest problems, I liked these very much and will definitely use again, sold every stem; Nice color range, large healthy plants, strong stems, vigorous.

Problems: Some not 'red shades' (came in yellow) - Hard to decide where to cut; Wants to throw only a few very large stems; Army worms.

Additional comments: *Editor's note: See the Postharvest Report in this issue for vase life and handling information.* Similar to *Helenium kanaria*; Need to pinch at 10 inches so it will throw more smaller stems; I have grown helenium in the past - It is not a great cut, but would be ok if it bloomed in Sept/Oct. - It blooms in Aug. when color doesn't sell.

Lysimachia 'Alexander'

Good Qualities: Bright variegated foliage (2); Very impressive; Maybe good for bouquet work, good grower; Beautiful plants.

Problems: Too short (4), hopefully taller in year 2; Flower seems insignificant.

Additional comments: This is a variegated sport of *Lysimachia punctata*; *punctata* suffers from petal shattering without postharvest silver; Not sure if yellow flower will be accepted with foliage; Foliage may make this interesting as a cut but...

Nepeta subsessilis

Good Qualities: Nice color (4); No insect or disease problems (3). Nice mint-like flower on bright foliage, very interesting look, herbal fragrance; Looks good going into winter - we hope; Vigorous grower; Seemed to be very easy to grow; Blue is always a good color; Very vigorous, long bloom period, beautiful plants.

Problems: Grasshoppers; Too short; Not sure when to cut, browning of old florets; Looks weedy but will wait until next year for good assessment; A little short, I am not sure about

the plant's habit, hard to get straight stems.

Additional comments: Similar to other nepeta; Hopefully will be taller next year.

Pennisetum 'Karley Rose'

Good Qualities: Great grass; gives movement to arrangement - mauve rose; Looks good going into winter - we hope; Good strong clumps; Nice bear grass-like foliage, flower plumes 8 inches long and feather like; Nice for bouquet work; Good color, a tough plant, will get better every year.

Problems: Too short yet (2); Limited market; This is just a weedy looking grass - Nothing special about foliage or seed head; Grasshoppers. **Is there a species/cultivar to which this plant is similar?** Very similar to wild pennisetum on the dry side of Hawaii, the big island; Similar to *Pennisetum rubrum*; Similar to many other pennisetums; I have grown straight species as annual with some results.

Phlox paniculata 'Miss Violet'

Good Qualities: Great wedding color, in high demand during summer, violet color very deep, clean foliage; Very similar to other phloxes, no powdery mildew; A very nice color and is the first phlox I've ever had live at all (Zone 6b) - Hopefully next year we will see some good results from this one; Large flower size, nice color.

Problems: Slower grower than 'Ice Cap' or other whites; Bare roots were small but did grow - Inadequate watering caused most to die - Will see how other do next year; Plants were in very poor shape on arrival - By the end of summer 3 plants bloomed, 2 of them were "Violet" and the other was pink with a dark eye; Grasshoppers; Deer like it.

Additional comments: Similar to other *Phlox paniculatas*; Mildew resistant; Color is ok but nothing spectacular.

2001 Perennial Cut Flower Trial Cultivar List - Year 2

Achillea millefolium 'Weiss Wonder'

Good Qualities: Profuse flowering all summer long; soft, lacy white flowers; Very healthy; Bright white color, good vase life, very vigorous; Really vigorous.

Problems: Stops flowering unless cut back - can get matted - later cuts short and thin; Very severe drought - I hope to have a few plants come spring 2003; Must be divided every 2-3 years; Floppy habit and it is an undistinguished white yarrow.

Additional comments: Similar to wild white yarrows; Similar to the straight species - but with smaller flowers, dull color; Best pure white achillea I have seen, better vase life than most millefoliums.

Aconitum arendsii

Good Qualities: Excellent fall color, stiff stems, long vase life, can take multiple frosts and still be cuttable.

Problems: Never flowered, died in our climate (Zone 8a); Bulbs rotten when arrived 2001, too

bad; Too much West Coast production - market flooded.

Additional comments: Similar to other aconitum, this is the fall aconitum; Very vigorous - must be dug and divided every 2-3 years, corms store poorly, replant quickly (Zone 6).

Eupatorium candidum

Good Qualities: Lasts in arrangement; light and medium pink, great height; Nice pink color, good vase life; This is a prolific grower with nice flowers and beautiful foliage.

Problems: Very severe drought - worst in 135 years. All dried - we ran out of irrigation water; Must pick open for good vase life; Aster yellows - big problem.

Additional comments: *Editor's note: See the Postharvest Report in this issue for vase life and handling information.* Similar to other eupatoriums; No, not like other eupatoriums; Stems very usable, not too big like some other eupatoriums; This is the only test plant from 2000 that was worth growing.

Inula grandiflora

Good Qualities: Good growth.

Problems: Short plants, teeny, didn't do much yet; Plants were all dead by the end of the summer.

Additional comments: Too common; Ugly and short, was this a joke?

Iris siberica 'Caesar's Brother'

Good Qualities: Easy to grow.

Problems: Only a few short flowers; Not good for our climate (Zone 8a); We had severe drought - all died; My market is saturated with Siberian iris, very hard to sell even this beautiful thing.

Additional comments: None.

Leucanthemum 'Polaris'

Good Qualities: Pretty "wildflower" look, white with yellow center, productive; Good stem length, tall, good vase life; Easy to grow, nice thick strong stems, vigorous.

Problems: Deformed flowers - short towards end of summer; Looks like a 'Shasta daisy', has no market value, mums look better; The problem with these is the market is weak and the thrips are strong; Cucumber beetles.

Additional comments: *Editor's note: See the Postharvest Report in this issue for vase life and handling information.* No market value; Similar to all other Shasta daisies.

Penstemon digitalis 'Glacier'

Good Qualities: Productive; Very vigorous, nice tall plant; Plants received from Here & Now were all dead, but I grew this plant from seed and it is a strong and prolific grower; This one looks like a nice vigorous plant; No problems.

Problems: Not very showy; Insignificant flowers; The plants arrived in such poor condition that I am afraid that they never had a chance.

Additional comments: Similar to *Penstemon digitalis 'Husker Red'* (2) but with green stems; Good from seed or division.

Postharvest Handling of New Cut Flowers

By Frankie Fanelli, John Dole, Beth Harden, Bill Fonteno, and Sylvia Blankenship
North Carolina State University



Proper 'follow-through' is the key to success when hitting a golf ball, shooting hoops or providing a product to a customer. You spend a great deal of time, energy and money growing fabulous cut flowers but the job is not yet over. You must figure out the best *follow-through* or, as we know it, the best postharvest treatments to assure that the harvest gets to market in top condition and stays fresh as the consumer expects. The postharvest testing of twenty-two herbaceous species and cultivars we conducted last summer will help you make future postharvest handling decisions. The purpose of our work was twofold: 1) to determine the vase life of new cut flowers from the ASCFG trial and other research programs in a simulated consumer environment and 2) to determine the effect of hydration and holding preservative solutions on vase life.

Let us tell you what we did first! Field-grown flowers were harvested at the optimum stage into buckets of tap water. The stems were taken inside and sorted into groups based on various characteristics, i.e. stem thickness, stage of maturity, number of flowers. All stems were cut to the same length of 12, 14, or 16 inches and divided into four groups. Two of the groups were placed in containers of hydrating solution while the other two groups remained in tap water for 4 to 5 hours. One group from the hydration solution and one group from the tap water were placed into mason jars filled with 300 ml (10 fl. oz.) of floral holding preservative, one stem per jar. The remaining two groups were placed in mason jars filled with 300 ml (10 fl. oz.) of deionized water, one stem per jar. Chrysal Professional RVB Hydrating Solution was used at a 0.2% rate and Chrysal Professional #2 Processing Solution was used at a 1% rate.

In summary, the following treatments were used:

- Hydrator only
- Holding preservative only
- Hydrator followed by holding preservative
- Water only

The jars were placed in a simulated consumer environment with a temperature of 68 ± 4 EF under 250 to 500 fc. light for 12 hours a day. The flowers were observed daily and terminated when a consumer would throw out the flowers, criteria were specific to each species.

Perennial Trials

contin-

Physostegia 'Summer Spires'

Good Qualities: Tall, purple flowers, spike nice for center of arrangement; Easy, flowers are a little thicker on the stem than other cultivars.

Problems: First cuts were excellent, second cuts were thinner, a real winner; All died - severe drought; Still suffering from poor condition of plants on arrival - They will probably really do something next year.

Additional comments: *Editor's note:* See the *Postharvest Report* in this issue for vase life and handling information. None.

Stipa 'Brautschleier'

Good Qualities: Vigorous grower, different flower head.

Problems: Nondescript; Just another grass - boring; Wrong climate? - Never flowered, foliage only got about 12 inches long (Zone 7a).

Additional comments: Similar to pennisetums and miscanthus; Not any interest found by anyone; Too similar to other grasses to stand out.

Important note on our procedures: We used deionized water because everyone's tap water varies greatly in quality while deionized water is consistent and easily reproducible. Also, our tap water may change over time which would confuse our results. If your tap water is poor quality with a high pH and soluble salt level, you may not get as long a vase life as we did with the water-only treatment. Note also that deionized water tends to increase vase life, thereby reducing the difference between floral preservatives and water-only treatments and making it appear as if preservatives were less useful. Finally, products from other floral preservative companies may be equally useful. We used products from only one company because we did not have enough stems to test each cultivar in all the possible products.

The following are some of the highlights - results for all species are listed alphabetically in Table 1. In Table 2 we have listed the criteria by which each species was judged as unacceptable.

Several species and cultivars had an excellent vase life. *Celosia* 'Toreador Red' lasted 13.5 to 34 days, *Dianthus*

Postharvest Handling of New Cut Flowers

continued

'Amazon Neon Duo' 14 to 15.5 days, *Dianthus* 'Bouquet Purple' 12 to 20 days, *Eupatorium candidum* 20 to 24 days, *Eustoma* 'Alice Pink' 15 to 22 days, *Helenium* 'Helena Gold' 11 to 16 days, *Physostegia* 'Summer Spires' 10 to 15 days, and *Zinnia* 'Benary's Giant Lime' up to 23.5 days. The vase life of only a few cultivars was less than the 7-day minimum we need for a new cut flower including *Dahlia* 'Naomi' and 'Thalia' and *Helianthus* 'Stella Gold'.

Several cultivars performed well in just water. *Eupatorium candidum* and *Zinnia* 'Benary's Giant Lime' had a vase life of 24 days. While the hydration-only treatment reduced the vase life of *Eupatorium candidum*, it was still a quite respectable 19.6 days. 'Benary's Giant Lime' vase life was greatly reduced when hydration was combined with holding preservative. Within one day the flower margins turned brown and began curling. Vase life of *Zinnia* 'Sun Cherry' and 'Sun Gold' was also reduced when the hydrator was combined with the holding preservative. *Achillea* 'Cassis' lasted 12 days in water while hydration and holding treatments slightly reduced vase life.

Two of the Karma series dahlias, 'Naomi' and 'Thalia', held at 6-7 days regardless of the treatments. However, this dahlia series has caught our eye, particularly the deep velvet red of 'Naomi', so we will do more work with it next season. Floral preservatives also had little effect on the vase life of *Helianthus* 'Lemon Éclair'.

Several species responded well to the holding preservative. *Eustoma* 'Alice Pink' gave us 15 days in the water-only treatment but the holding preservative added another six days. The flower form of 'Alice Pink' contributed to its long postharvest life as it flowers opened up the stem with rosebud-like flowers that remain somewhat tight. The bottom flowers gradually turned brown while the upper flowers were still in color. We terminated 'Alice Pink' when half of the flowers were browning. Both *Dianthus* 'Amazon Neon Duo' and 'Bouquet Purple' had staying power with more than 14 and 12 days, respectively. The holding preservative slightly increased the vase life of 'Amazon Neon Duo' while increasing 'Bouquet Purple' a full week. 'Amazon Neon Duo' is truly Amazon in size, which may contribute to its holding power. We terminated both *Dianthus* when 25% of the florets were brown.

Leucanthemum 'Polaris', *Gladiolus callianthus*, *Physostegia* 'Summer Spires', *Scabiosa atropurpurea* 'QIS Deep Red', and *Trachelium* 'Summer White' and 'Summer Purple' all benefitted to varying degrees from the holding preservative-only treatment. The *Scabiosa* gained only one day but less stem drooping occurred. The unique pincushion-shaped burgundy heads easily catch on other stems or table edges and break off, so special handling is necessary. However, we must add that when used in an arrangement, this little fellow always draws the first inquiries. *Celosia* 'Toreador Red' responded very well to holding preservative - so well, up to 34 days - that the flowers almost dried in the vases before exhibiting bent neck or yellow foliage. Certainly the 13.5



to 17.5 day vase life obtained with water-only or hydrator-only is more practical.

The postharvest life of *Helenium* 'Helena Red Shades' was just about the same, 11-12 days, for all applications except the combination of the hydrator and holding preservative that cut the time in half. The combination of hydrator and holding preservative caused necrotic spotting on the foliage while the stems in the holding preservative yellowed. Similarly, hydrator plus holding preservative decreased the vase life of *Helenium* 'Helena Gold'. Necrotic blotching was also observed on the foliage of *Helianthus* 'Stella Gold' that was treated in the hydrator only or the combination hydrator and holding preservative. Combining both hydrator and holding solutions slightly reduced this sunflower's vase life.

Acknowledgements. We would like to thank the American Floral Endowment for providing the funding for the postharvest research. The plant materials were made available through the ASCFG National Seed Trials, funded by the ASCFG and seed and plant suppliers (see trial reports in this issue). We also want to thank Ingram McCall and Diane Mays for producing and harvesting many of the cut flowers and assisting with the postharvest work.

Table 1. Vase life of 22 specialty cut flowers treated with a hydrator only, holding preservative only, both hydrator and holding preservative or water only. Note high quality deionized water was used - if you have poor quality water, expect shorter vase life. ‘No effect’ and ‘Okay’ indicates that the treatment was neither beneficial or detrimental. ‘Not helpful’ indicates that the treatment reduced vase life compared to the water-only treatment but was not as much as a ‘Detrimental’ treatment.

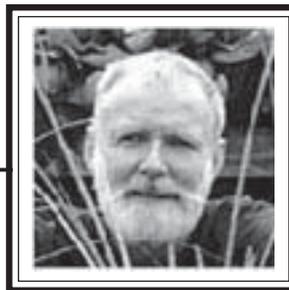
<i>Species</i>	Hydrator only	Holding only	Hydrator + holding	Water only	Hydrator only	Holding only	Hydrator + holding	Water only
<i>Acchillea millefolium</i> ‘Cassis’	9.2	9.6	10.5	12.1	not helpful	not helpful	not helpful	best
<i>Celosia</i> ‘Toreador Red’	17.5	33.2	33.8	13.5	no effect	best	best	okay
<i>Dianthus</i> ‘Amazon Neon Duo’	13.8	15.4	15.5	14.0	no effect	best	best	okay
<i>Dianthus</i> ‘Bouquet Purple’	12.5	18.6	19.9	12.1	no effect	best	best	okay
<i>Dahlia</i> ‘Naomi’	6.0	5.7	5.4	5.6	no effect	no effect	no effect	okay
<i>Dahlia</i> ‘Thalia’	6.5	6.6	6.5	6.0	no effect	no effect	no effect	okay
<i>Eupatorium candidum</i>	19.6	23.5	23.7	24.0	not helpful	no effect	no effect	okay
<i>Eustoma</i> ‘Alice Pink’	16.1	21.6	17.5	15.2	no effect	best	no effect	okay
<i>Eustoma</i> ‘Malibu Purple’	9.0	12.5	7.3	9.2	no effect	best	not helpful	okay
<i>Gladiolus callianthus</i> (<i>Acidanthera</i>)	9.4	10.1	10.5	9.1	no effect	best	best	okay
<i>Helenium</i> ‘Helena Gold’	14.3	16.3	10.9	16.2	no effect	no effect	detrimental	okay
<i>Helenium</i> ‘Helena Red Shades’	11.3	11.0	6.2	12.0	no effect	no effect	detrimental	okay
<i>Helianthus</i> ‘Lemon Eclair’	8.3	8.5	7.8	7.8	no effect	no effect	no effect	okay
<i>Helianthus</i> ‘Stella Gold’	6.3	7.9	5.1	6.7	no effect	no effect	detrimental	okay
<i>Leucanthemum</i> ‘Polaris’	9.4	12.5	10.6	10.3	no effect	best	no effect	okay
<i>Physostegia</i> ‘Summer Spires’	10.3	14.9	15.4	9.8	no effect	best	best	okay
<i>Scabiosa atropurpurea</i> ‘QIS Deep Red’	7.6	8.1	6.5	7.2	no effect	best	no effect	okay
<i>Trachelium</i> ‘Summer Purple’	7.9	13.3	9.5	9.9	detrimental	best	no effect	okay
<i>Trachelium</i> ‘Summer White’	9.1	12.5	6.6	9.2	no effect	best	detrimental	okay
<i>Zinnia elegans</i> ‘Benary’s Giant Lime’	19.0	15.5	1.3	23.5	no effect	no effect	detrimental	best
<i>Zinnia elegans</i> ‘Sun Cherry’	13.3	6.9	6.7	11.7	no effect	detrimental	detrimental	okay
<i>Zinnia elegans</i> ‘Sun Gold’	12.0	9.3	7.8	11.1	no effect	detrimental	detrimental	okay

Table 2. The criteria by which the vase life of each species was terminated.

<i>Species</i>	<i>Reason for termination</i>
<i>Achillea millefolium</i> ‘Cassis’	Brown florets, bent neck, yellow foliage, wilting
<i>Celosia</i> ‘Toreador Red’	Bent neck, yellow foliage
<i>Dianthus</i> ‘Amazon Neon Duo’	Brown florets
<i>Dianthus</i> ‘Bouquet Purple’	Brown florets
<i>Dahlia</i> ‘Naomi’	Petals curled
<i>Dahlia</i> ‘Thalia’	Curled petals, blueing
<i>Eupatorium candidum</i>	Brown florets, wilting, some shattering
<i>Eustoma</i> ‘Alice Pink’	Brown florets
<i>Eustoma</i> ‘Malibu Purple’	Brown florets
<i>Gladiolus callianthus</i> (<i>Acidanthera</i>)	Dead florets
<i>Helenium</i> ‘Helena Gold’	Brown florets, bent neck, yellow foliage
<i>Helenium</i> ‘Helena Red Shades’	Brown florets, bent neck, yellow foliage
<i>Helianthus</i> ‘Lemon Éclair’	Curled and brown petals
<i>Helianthus</i> ‘Stella Gold’	Brown and twisted petals, yellow foliage
<i>Leucanthemum</i> ‘Polaris’	Curled and brown petals
<i>Physostegia</i> ‘Summer Spires’	Shattered
<i>Scabiosa atropurpurea</i> ‘QIS Deep Red’	Shattered, bent neck
<i>Trachelium</i> ‘Summer Purple’	Brown florets
<i>Trachelium</i> ‘Summer White’	Brown florets
<i>Zinnia elegans</i> ‘Benary’s Giant Lime’	Brown petal edges, wilted, centers had <i>Botrytis</i>
<i>Zinnia elegans</i> ‘Sun Cherry’	Curled petals with bluish edges, undersides turned green
<i>Zinnia elegans</i> ‘Sun Gold’	Brown petal edges, wilting

Letter from the President

by Bob Wollam, Wollam Gardens



Research is what enables us stay ahead of others. Research is the basis of our being innovative and unique in what we grow. Research is the engine that makes specialty cut flowers really “specialty”. As you read through this issue of the *Quarterly*, you’ll be overwhelmed by the amount of information included here. You’ll read about so many new flowers that might be good to try and many that might set you apart from your competition. What an advantage we can create for ourselves by paying attention to all this information!

Thanks to Dr. John Dole, Betsy Hitt, and the ASCFG Research Committee for helping us through

all the trials and sorting out all the information from the trialers.

Under John’s direction, the seed and perennial trials have become an important part of belonging to the ASCFG.

Thanks also go to the trialers who have taken the time to grow, keep track of and report back on their selections. Their efforts benefit all of us.

I have been involved in different ASCFG trials myself for 6 years and look forward to them every year. Making a wild guess, with the exception of peonies (these haven’t been included in the trials) I would

say that more than half of my perennial cut flower sales come from plants that have been included in our perennial cut flower trials. These include specific varieties of *Phlox*, *Tricyrtis*, *Monarda*, *Chelone*, *Baptisia*, *Crocsmia*, *Eupatorium*, *Sedum*, and several grasses.

This year I also included myself in some of the annual trials (about 15 sunflower varieties and an equal number of lisianthus as well as a few others). There were lots of real winners and already in 2003 I’m planning to grow a few of the sunflowers, the dianthus ‘Amazon Neon Duo’, and more than half of my 10,000 lisianthus plants will be ones I trialed last year. I really loved the ‘Malibu Peach’, the ‘Twinkle Deep Blue’, and the different Balboas.

The ASCFG is committed to trialing new material each year and we are hoping that a new woodies trial will be established in 2003. Meantime, thanks again to all the trialers, the plant and seed companies who provide the testing materials, and Dr. John for his leadership and tireless good works.

Bob

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Culture Profile

by Philip Katz, PanAmerican Seed

Dianthus 'Amazon Neon Duo'

PanAmerican Seed offers one of the widest and most varied ranges of F₁ hybrid dianthus in the marketplace today. Several of the varieties – including new ‘Amazon Neon Duo’, ‘Bouquet Purple’ and ‘Cinderella Mix’ – deliver exceptional performance for both commercial greenhouse and field producers.

The newest addition to PanAmerican’s F₁ hybrid dianthus offerings is ‘Amazon Neon Duo’. What is significant about the name? Well, virtually everyone has a mental image of ‘Amazons’ – a tall, physically powerful, proud race – a perfect description for this hybrid. ‘Neon’ is used to describe the bright, glowing color of the flowers. ‘Duo’ describes the cherry- and purple-colored flowers. These two colors are found on separate plants in a 50:50 ratio. Now that the name is defined, let’s examine how this new dianthus may fit into your production.

One of the most common inquiries my seed-breeding colleagues and I hear when whenever we visit growers is the oft-repeated refrain, “What’s new this year?”. Truly, the question is not only “What’s new?”, but “What’s different?”. Of all the great cut flower breeding I have seen in the last ten years, ‘Amazon Neon Duo’ absolutely and definitively answers the question of “What’s new and what’s different?”.

For those growers inclined to lump all dianthus in as Sweet Williams, *do not call ‘Amazon Neon Duo’ just another Sweet William*. As an interspecific hybrid, ‘Amazon’ will grow taller, with stronger, thicker flower stems than any Sweet William you have ever seen. The flower head is distinctly different as well. While Sweet

Williams have a round globular flower head, ‘Amazon Neon Duo’ has a much broader, flatter, more umbelliferous flower head.

‘Amazon Neon Duo’ performs best when transplanted from a 200 cell plug. From sow to transplant, this requires approximately five weeks. Recent research indicates a 392 cell plug tray may also give successful results, and reduce plug production time to four weeks.

Seed should be sown in well-drained, disease-free medium. Seed should be covered with coarse vermiculite at sowing to maintain humidity around the seed during germination. Supplemental lighting is not required. Irrigate plug trays thoroughly, but allow soil to dry slightly between irrigations. Optimal air temperature during plug production is 65-70F (18-21C). Begin weekly fertilization of plugs during stage 3, alternating 20-10-20 with 14-0-14 @ 50 ppm. By stage 4, increase fertilization to 100 ppm.

Seed is vigorous, and should be sown at 1 seed per cell to avoid the labor and expense of thinning. Seed is sold at a minimum germ standard of 90%. PanAmerican does not recommend direct sowing of ‘Amazon Neon Duo’.

Growers should transplant ‘Amazon’ directly into the field or greenhouse. Do not let plugs become root bound or stretch in the plug tray. Weak stems and unhappy growers result from stressed dianthus plugs. Plugs should be transplanted at a range of 2-3 plants/ft² (20-30 plants/m²). Growers report a



support netting of 6x8in (15x20cm) works well, with one plant per square. Smaller squares, such as chrysanthemum netting should be avoided for ease of harvest.

A single layer of support netting is sufficient. Despite the very strong stems of ‘Amazon’, it is strongly advised not to transplant into the field without support netting. Rains occurring just before harvest can cause water buildup in the broad flower head, leading to a potential for lodging. Play it safe, even when growing in the greenhouse, and use one layer of support netting.

‘Amazon Neon Duo’ does not require vernalization in order to produce flowers. ‘Amazon’ can be successfully transplanted in early spring or in autumn. We do not recommend commercial cut flower growers transplant in late spring, as all dianthus tend to flower with short stems under periods of high heat and light.

Once established, ‘Amazon’ easily tolerates low temperatures as do other dianthus. Information from Chicago-area growers indicates field-grown ‘Amazon’ will tolerate midwest winters and produce an outstanding crop the following spring. In areas of mild winters, or during greenhouse production, autumn transplant to harvest timing can range from 18-20 weeks. Spring transplant to harvest timing may range from 12-13 weeks. Of course, these times may vary, depending on environmental conditions, plant health, nutrient status, etc.

Best overall stem quality is achieved when ‘Amazon’ is grown under a full sun regime.

Once established, fertilize with 200ppm calcium nitrate on a weekly basis. Avoid ammonium nitrate, as it may induce soft or stretching stems.

Culture Profile

continued

Although insects have not been observed to produce damage, growers should always monitor their production locations for the presence of western flower thrips, aphids, mites, the usual suspects.

Disease issues have not been reported on leaves or flowers. Preplant soil sterilization, leveling beds to avoid low spots where water can collect, are common good housekeeping practices for avoiding trouble. Since 'Amazon' is a rather vigorous grower, it will tend to out compete weeds once established. Controlling weeds prior to transplant or during plant establishment is always recommended.

Harvesting should commence when at least four to six open flowers are present. While our research has not indicated a sensitivity to ethylene, growers have reported 1-MCP or Ethylbloc™ appears to enhance postharvest life. Vase life of up to three weeks is possible when stems are harvested at the proper stage, acceptable postharvest procedures are employed and good sanitation in vase solutions is practiced.

Growers on the West Coast have harvested both mixed color bunches as well as mono-color bunches. As the primary stems possess a thick caliper, most growers make five-stem bunches. Secondary stems may also be harvested, although they will not be as thick as the primary stems.

One additional benefit from 'Amazon Neon Duo' is fragrance. As few fragrant cut flowers are marketed, those that do possess a fragrance stand out from the pack. The pleasant, peppery fragrance of dianthus 'Amazon' can be a welcome addition to your production in 2003.

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'Astoria'	short petals, single	2.5-3"	28"
'Pompon'	pompon, double	2-2.5"	24"
'Giant Ray'	rays, double	5-5.5"	24"
'Fan'	short petals, semi double	2-2.5"	24"
'Pommax'	semi-ball, double	3"	30"
'Duchesse'	peony, double	3.5-4"	28"
'Benary's Princess'	tubular petals, double	3.5-4"	28"
'Compliment'	short rays, double	4-5"	30"
'Standby'	tubular petals, double	3-4"	30"
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Grower Profile

Percy & Louise Schmeiser, Schmeiser Enterprises, Ltd.,
Bruno, Saskatchewan
by Will Fulton



The following is not an *homage* to Franz Kafka. If your jaw does not drop from incredulity during the reading of this article, then you are probably too cynical to be farming.

Percy and Louise Schmeiser were wed in October of 1952 and now have five children and fourteen grandchildren. During the entirety of their lives together they have been farming. Primarily they have grown canola, although Percy says he has also grown some wheat, some oats and some peas. Canola, formerly known as rapeseed, is a crucifer closely related to mustard. Grown for its seed oil, it is used extensively in processed foods.

Like many ASCFG members, Percy and Louise are seed savers. Gradually over the last fifty odd years they developed canola seed that performs very, very well for their location. Their canola, the canola they developed through years of careful and tedious screening and saving, had reached the stage to where it could be replanted in the same field for four consecutive years without that field having to be left fallow and without developing disease (most commonly for canola: black leg, *Leptosphaeria maculans*). That is quite a phenomenon. Canola seed such as, oh, let's say for example, Monsanto's Roundup Ready® canola, a genetically modified seed, should be planted in the same field only once every four years, otherwise it is likely to develop disease.

Prior to 1999, when, you shall soon learn, circumstances forced them to buy new seed, they had not purchased any seed since 1993.

The Schmeisers' seed saving and well-learned farming practices earned them consistently bumper crops. Not once during their fifty years growing canola did they ever file a claim against

their crop insurer.

In addition to the canola, Louise also grows garden produce organically. In fact, Percy told me that between Louise and him they farmed 150 acres without chemical pesticides or fertilizers. The total acreage of their production fields was over 1000.

So Percy and Louise had had a good and prosperous and respected life together in Western Canada. Besides their successful farm, Percy had served as the Mayor of Bruno as well as in the Provincial Parliament, and they also owned a farm equipment dealership. And they had developed strains of canola seed that were to be a proud part of the legacy they would leave to their 14 grandchildren. They had hoped to celebrate their golden wedding anniversary during the deserved leisure of their retirement years.

In 1997, Percy was clearing vegetation from the area near power poles on the perimeters of his property with Roundup. A few days later he and Carlyle Moritz noticed that some of the canola growing there had not died. At first Percy thought he had made a mistake with the application mix. Then he considered that perhaps the canola beside the road had developed a resistance to glyphosate, the active ingredient in Roundup, and the most potent of all herbicides.

Canola is a relatively primitive crop that does not fruit uniformly and must therefore be harvested and left in piles in the field while the pods dry. Consequently some shattering occurs and seed thus deposited on the soil stays viable for six to ten years, especially considering the no-till practices favored on the prairie. So Percy and Carlyle contrived an

experiment. Mixing a new batch of Roundup and using one half of their 80-foot sprayer, they sprayed a three-acre area in and around the power poles. Their findings: 60% of his canola did not die from the Roundup application, and most of that which survived grew in

clumps that were heaviest beside the road and thinned out as they went into the fields.

This was not good news to Percy, because he didn't want a Roundup Ready® gene in his canola mix. Percy, like many canola and flower farmers, likes to give his fields a Spring burn with chemical herbicides like glyphosate before planting his crops. If glyphosate is ineffective against anything coming up, then he has to either make another pass with something more dangerous, like 2-4D, for example, or more costly, or he has to live with the invading seed which makes plans for growing anything other than canola problematic. (Please recall, dear reader, that Roundup Ready® canola grown in the same fields more than once in four years is more susceptible to blackleg than was Percy's saved seed.) Either way it increases his production costs.

And so Percy, staying in farmers' character, sighed and kept on farming.

A short time later, men from Robertson's Investigators, representing Monsanto, called upon Percy and Louise to inform them that they were growing seed containing Monsanto's Roundup Ready® gene without having paid proper tribute, and that they must do so immediately. Since Percy and Louise had never intentionally purchased any such seed, they declined Monsanto's invitation.

When farmers knowingly choose to purchase seed containing Monsanto's modified genes, they must sign a contract with Monsanto agreeing to pay a fee of approximately \$15 per acre per

crop year. This is, of course, in addition to what they have already paid for the seed itself and what they will pay for Monsanto's Roundup in order to make the purchase of the seed somewhat sensible. The contract also contains various clauses waiving blame, pledging allegiance, promising silence and other such supplications which lawyers do dream up to entertain one another. Neither Percy nor Louise had ever signed such a contract. Someone who had done so, however, told Percy this story. He had signed a contract with Monsanto to plant 200 acres. Once he had finished sowing the seed provided however, it covered, in fact, 208 acres, because, as some of you may know, it is very difficult to precisely estimate the acreage a specific quantity of seed will sow. When Monsanto, as was their right according to the contract signed by the farmer, went through his books and discovered the difference, they not only billed him for the eight extra acres, but claimed that the entire crop was now theirs and that they would be fining him an additional \$120 per acre for 200 acres, to boot.

When Percy and Louise declined to pay Monsanto for something they did not purchase nor did want, Monsanto came after them. They sued. They told CBC radio that Percy Schmeiser, who was a well-known and respected citizen of Saskatchewan remember, had stolen their property. They sued and they won!

It didn't matter that Percy and Louise had not stolen the seed. It didn't matter that Monsanto had no proof that the seed had been stolen. It didn't even matter that by trial time Monsanto had dropped all charges of any seed thievery by the Schmeisers. When the case went before Canadian Federal Judge W. Andrew Mackay, he ruled, on March 29th of 2001, in favor of the multibillion dollar Monsanto corporation, finding Percy guilty of having Monsanto genetics on his land and of not having advised Monsanto to come fetch it. It did not matter, Mackay ruled, how the genetic material got there, all that matters is that the

landowner knew or *should have known* that it was there.

Let's consider both what one should have known and what Monsanto would do if you called them to "fetch" their genetic property. Shall we?

The following agricultural crops have been genetically modified, patented for such, and released on the marketplace: corn, cotton, canola, soybeans, flax, squash, papaya, bananas, strawberries, sugar beets, potatoes and tomatoes. Among gm crops that are soon to be introduced are rice, wheat and alfalfa. Some of these crops are cross pollinators and some are self pollinators, but even among the latter some outcrossing is common. It is not known exactly how far pollen can drift or, for that matter, insects carry pollen, but 3 kilometers has been documented by an Australian study. And the prairie breezes of Saskatchewan are rarely called gentle.

In fact, the canola seed itself, tiny, round and smooth, can be picked up and blown about as far as the prairie wind chooses. In fact, whole bushels of combined canola plant can be picked up by wind devils at your neighbor's place and dumped in your fields. Seed supplies of all of the cross-pollinating and many of the self-pollinating crops have been found to have trace contamination from gm marker genes. The problem is so widespread that even seed suppliers who try very hard to keep their seed pure of gm contamination are admitting that the task is nearly impossible. Remembering that canola seed has dormancies of six to ten years, and assuming that most canola growers in Saskatchewan know all of this, then "should have known" becomes "it doesn't matter how it got there". And yet, Monsanto is appealing the decision to get the words "knew or should have known" stricken from the ruling! If you discovered glyphosate-

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tolerant canola on your farm, would you call the various genetic modifier corporations and tell them to come fetch their genes? How would they do it? It looks identical to non-gm canola. Would they wait until it gets blackleg? I doubt it. They'd probably spray it, wouldn't they? Then what: pull up whatever survived? And in the case of canola, wouldn't they have to do the same thing for the next six to ten years? Meanwhile you would be making a living by...?

Well, you could try being a Monsanto snitch. I understand they have rewarded nifty leather jackets for that. Turn in your neighbor and wear our jacket proudly. Percy says he has seen a couple of farmers so attired. Are the Darwin Awards still accepting nominations?

The Schmeisers were ordered to pay Monsanto fifteen dollars for each of their 1030 acres, plus the value of their crop, which was \$105,000, another \$25,000 for "punitive and exemplary damages", and, later, \$153,000 for Monsanto's court costs (they had requested some \$750,000). Their own court costs, to date, exceed \$200,000. That represents their life savings. But what really hurts the Schmeisers comes through loud and clear in this excerpt from the trial. When Percy was asked "And why did you go out and buy new seed?"

He responded, "On the advice of you because you felt I should use completely new seed for '99. And that—I'd just like to add a few comments to that. I think that after you told me to go and purchase new seed to sow my 1999 crop, I think that was—I think that was one of—I'm sorry. I think that was one of the hardest things I ever had to do because it—I'm sorry—because it was seeds that took years to develop and I had to get rid of it. I'm sorry."

Monsanto is not sorry. Since Mackay's ruling they've been on a mission. Apparently their corporate motto has become 'we've never met a farmer we wouldn't sue'. Not that meeting is requisite. They are threatening and suing farmers all over North America. The Troy Roush family of Indiana and the Rodney Nelson family of North Dakota being two of the better known examples among the many. Claims that Robertson Investigators use bullying tactics, and rumors that Monsanto agents fly over canola fields and spray Roundup to obtain evidence, and that they have purposefully released seed to the whims of the prairie winds have been heard. Rumors that Monsanto is giving away free

seed in African and South American countries are also heard. Hey, the first hit is free.

Adventitious transgenic presence is a learned term used to express the notion that manure happens. (And prayer is called "directed intentionality".) If the rumors just mentioned are true, then it's nudged adventitiousness; I'd say. And it is an adventitious presence that is rapidly making it more and more difficult and expensive to choose not to grow genetically modified crops. Numerous important questions are raised by all of this, and E. Ann Clark of Guelph University enumerated several so succinctly, that, with her permission the CFQ will reprint them here.

- "Why should non-GM growers be obliged to adjust their rotation and herbicide schedules and field design in order to protect their crops from contamination from neighboring GM crops?"
- "Why should non-GM growers have to absorb costs of coping with gene flow that is unwanted, involuntary, and unavoidable—or face prosecution?"
- "Why should those who have managed their crop specifically for the high-premium GM-free market be forced to lose the premium because of contamination from neighboring land?"
- "Why should any farmer be forced to accept GM contamination in the seed they sow in their own land?"
- "Why should taxpayers be obliged to support the mushrooming government infrastructure needed to monitor, regulate, and negotiate GM crops in the marketplace, and the virtually endless costs of recalling contaminated seed and food products from the market?"
- "Why should consumers have to pay more for food that is worth no more (and arguably, less to them) because the costs of dealing with unwanted GM both on the farm and in the marketplace must, necessarily, be passed on to the consumer?"
- "Why should all growers be penalized by plummeting crop prices, even when a minority of the growers choose to grow GM, causing traditional clients to refuse to buy GM-contaminated grain and choose instead to patronize off-shore sources?"
- "Since when do importers have to buy GM grains, just because we want to grow them?"
- "What happens when the traits that move are not just herbicide tolerance, but vaccines, pharmaceuticals, plastics and industrial enzymes?"
- "When is the Canadian [or U.S.] government going to stop promoting the commercialization of a technology which has so clearly been released prematurely into the marketplace, and which so clearly externalizes its true costs of production involuntarily and unavoidably to its own citizens?"

Continued on page 46

Back to Basics

by Dave Dowling

Farmhouse Flowers and Plants



Selling Methods

Before you grow your cut flowers, you should have an idea of where and how you will be selling them. A field full of beautiful cut flowers won't pay the bills until they are sold somewhere. Five common methods may be used to market your cut flowers: Farmers' Markets; Subscription Sales; Wholesale; Pick-Your-Own; and Direct to Florist. Many growers use several of these methods to market their products, or start with one method and evolve to include others also. All these methods require careful planning to ensure you will have product available for as much of the year as possible.

Farmers' Markets can be an easy way to wet your feet in cut flower sales. You grow your flowers, drive them to the market and sell them to eager customers who just love your flowers and rave about them every week. It isn't quite this easy. Getting into a good market can be difficult. Some are full, or may not want more flower growers. Many have waiting lists for new vendors. Farmers' market customers are usually fairly loyal to their favorite vendor and may walk right past your booth to visit *their* flower grower. Don't expect to be an instant success at a market, it can take weeks or months to get a regular customer base. Visiting markets in your area is a great way to find one that may work for you. Be sure to consider locations that are an hour or more away from your farm when looking for a market. Every market is different.

Farmers' markets are for growers who like to interact with people. If you'll get all worked up if a customer

damages a flower, or you have a short temper, you should send someone else to the market.

Subscription Sales work if you want to stay small and sell bouquets to a group of people and businesses on a weekly basis. You'll need to do some advertising or enlist co-workers and friends to be your customers when you start out. Quality products and quality service will spread your reputation by word of mouth and increase your customer base each year. With subscription sales you can limit the number of customers and the length of your season to suit your needs.

Wholesale selling works if you can grow large enough quantities to supply a wholesale florist on a regular basis. You will get a lower price per stem than a farmers' market, but your delivery and selling time will be less than a farmers' market. This method requires a relationship with the wholesaler, and a knowledge of what he will buy and in

what quantity, and then being able to deliver the goods when needed.

Pick-your-own involves having customers come to your farm and wander your fields to pick flowers. A convenient location is needed as well as having someone available during business hours to assist customers. This type of marketing can take a long time to get established. Liability insurance is also more of an issue when customers are actually on your property, and not just buying your flowers at a market.

Direct to Florist sales can demand a higher price than the wholesaler, sometimes as much as a farmers' market. Regular delivery is important. Florists don't want to see you every few weeks when you may have some flowers available. Florists need flowers every week. They can buy from the wholesaler any time and may expect the same from you. A weekly delivery schedule usually works fine. Many flowers that don't ship well, such as cosmos and zinnias, are great for florist sales. Taking a bucket of sample flowers to your local florists is the best way to get your foot (and flowers) in the door.

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Postharvest

by Gay Smith, Pokon & Chrysal

Sorting Out the Products



before disposal. Companies chose different paths to counter EPA's registration requirement. Two (Rogard and Chrysal) are in the process of registering systemic silver treatments.

"What's the difference between pre-treatments and flower food?" How often have you heard that question - from yourself or from other growers? You - and they - are not alone. Confusion does exist in the world of postharvest products.

After the Madison conference, Bob Wollam and I were chatting about this very topic when Bob caught me short. He said we (Pokon & Chrysal) have "too many products." He said flat out that it's difficult for him to stay on top of the different treatments.

I was surprised. I always figured that growers preferred tailor-made treatments. In fact, sometimes I find myself wishing we had more options to better customize our recommendations. After all, Americans love choices! But in the case of postharvest logistics, Bob made me realize that less is better.

This column is in no way an infomercial about Chrysal, but I think there is need for specific information about the postharvest treatments available. I'll do my best to specify brand products regarding the treatment options, but I apologize upfront for any omissions. They're not calculated; in fact, at Chrysal we know our biggest competitor is not another chemical company; rather it's the grower, bouquet maker, wholesaler and florist who uses just plain old tap water.

Omitting treatment solutions along the chain of life feeds consumers' ongoing perception that flowers are expensive, don't last, and aren't worth it. I cringe when I hear industry people at every level tell me they don't put anything in the water because

"Flowers move through so fast it doesn't make a difference." I equate that to raising a child on fast foods and TV then wondering why the little tyke is chubby and has a short attention span.

Consider some of the physiological factors that affect flower longevity:

Ethylene

Bud drop, petal shattering, leaf abscission and premature senescence are common responses to the effects of ethylene. Ethylene damage can arise from internal as well as external sources. This odorless gas is a naturally-occurring growth hormone that increases the rate of senescence. Commonly used to get those green bananas out of Costa Rica and onto our kitchen counters, ethylene allows to ship fruit around the world and ripen at destination. But it is a killer for flowers. Ethylene is produced not only by some fruits, flowers and veggies, but combustion engines, rotting plant materials, cigarette smoke, bacteria, yeasts and fungi all produce ethylene.

Ethylene protection for flowers is most effective through systemic treatments of silver thiosulfide (STS). Comprehensive treatment requires a solution containing a minimum of 20 ppm of silver.

The U.S. Environmental Protection Agency pulled STS from the market in the late 90's and required manufacturers to register the product. It was outlawed because silver is a heavy metal and cannot be dumped down the drain. It must be neutralized

Chrysal hopes to have its STS product available on the market by spring 2003. Rogard is in the middle of the registration process, and Floralife introduced 1-MCP, a product that provides external protection sold under the brand name of Ethyl-Bloc.

Sanitation

Maybe our Puritan fathers were over the top on their cleanliness decree, but sanitation is important. Flowers arrive in postharvest channels loaded with bacteria, soil, enzymes, and yeast on their stems. Sometimes *Botrytis* spores are lurking. It makes no sense to process freshly harvested blooms in dirty buckets. Not only will bacteria plug up the vascular system of your stems, it will also gas those poor blooms to death. Bleach is okay, but provides only a short-term biocide effect. Add a biodegradable detergent for better results from your scrubbing efforts.

Exudates

How do you handle crops that exude enzymes and secretion products when cut from their mother? Leaf residues and these secretions block the sensitive vascular structure inside stems. Anyone handling astilbe, sunflowers, alchemilla, dahlias, campanula or erigeron know these crops hate to be left dry too long after harvest, are wilt-sensitive and benefit greatly from a hydration drink. Frank Arnosky put Chrysal's OVB on the specialty cut flower growers' map when he referred to the product during his Texas summer harvest testimonial at the 2002 Conference.

Hormones Out of Balance HRT to the Rescue!

Most bulb crops suffer major hormonal imbalances when blooms are cut from bulbs or rhizomes. The imbalance can negatively affect bloom development, foliage quality, color stability and overall vase longevity. Alstro growers recognize this imbalance in premature leaf yellowing. Iris growers know that some varieties suffer incomplete floret development - buds start to crack open, but instead curl in and turn brown. Many tulip varieties suffer premature yellowing of foliage while their stems gooseneck over the top of the sleeves. Many Oriental varieties and some Asiatic lilies suffer rapid leaf yellowing making the stems appear old before their time. Several products are available which restore hormonal balance, alleviating the negative effects of harvest. These treatments provide additional vase life as well as improved foliage and flower development.

Pre-treatment vs. Flower Food

What's the difference between grower pre-treatments (i.e. STS or hydration) versus a processing solution? Sugar. Usually, the first drink following harvest (pre-treatments) is most efficient if the solution contains little or no sugar. The difference between the solution you fill buckets with for market display and what you add to your vase at home is the amount of sugar in the formulation. Regardless of what you give as the first drink after harvest, once the harvest shock starts to subside, flowers start to starve unless you provide a nutrient source. Sugar is needed for petal turgidity, color stabilization, bloom development and vase performance.

All flower food solutions contain 3 basic ingredients: biocides, acidifiers and nutrients (sugar). Flowers love sugar and so do bacteria. Floralife and Chrysal provide formulas with

different levels of sugar depending on the use. "Low dose" examples include T-Bags or Chrysal Professional #2 and Floralife Professional. "Full load" flower foods are found in bulk powder or consumer packets.

Use a low dose flower food for sales display - when you want your blooms to be turgid and look great, but not blow open too fast. Use full load flower food when you are soaking foam

or filling a vase for your kitchen table

The stress of harvest is significant for many crops. Many physiological activities (enzyme secretions, bacterial contamination, hormones out of balance, ethylene protection) can negate vase performance. Using pre-treatments and the appropriate display solutions act as an insurance policy to counter these forces of nature and insure customer satisfaction. Happy customers are repeat customers!

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Lemons and Lemonade

by Janet Foss, J. Foss Garden Flowers

Dahlia

If ever a flower was a lemon it has to be the dahlia. For years I've struggled with a love/hate relationship with this flower. Knowing full well I live where dahlias are king, I knew that somehow I had better make lemonade out of whatever I could.

Dahlia heads pop off way too easily. The wholesale price is pathetic. Many of the flowers are so heavy the plants can't support them. The plants themselves often lodge from the slightest wind or heavy rain. The flowers last less than a week in a vase. A good variety produces so many flowers; I get sick of cutting them and begin praying for frost. Other varieties produce so few I stress over how much space they're taking up and how little money I am making. Some stems are so weak they break and will not hold up in a bunch. Others are so thick it's impossible to make a ten-stem bunch, let alone expect a florist to use them in arrangements. Building up stock is expensive, and no matter what rare beauty you think you've found, your competitor has it too.

This leaves you wondering: how could there be so many thousands of dahlia varieties out there and every grower ends up with the same twenty varieties? Planting them is back breaking and time consuming. The whole garden can be monitored by their affinity for aphids, slugs, weeds and diseases. Then after you are sick and tired and overly exhausted from a busy season and just want to go on vacation they need to be dug up and divided and stored.

Obviously, dahlia season has just ended, and thousands of dahlia are out there waiting to be dug and divided. This is the time I always swear that there will never be another dahlia planted on my farm.

The next spring, I wonder what

happened: how did all these dahlias get planted?

It's because dahlias are beautiful!

Especially the blacks, purples, reds and salmons. Many dahlia colors and textures are not found in any other flowers. They also get planted because all my customers - who, of course, are always right - want them. Most importantly, they are planted because there is another person on this farm who thinks they are simply the coolest, prettiest flowers available.

Ready for some simplicity in dahlia production, I must admit I enjoyed growing Karma dahlias last year, not that the plants were nicer or prettier or healthier. Several dahlias are equal to Karmas, or even better. But Karmas are easy because they come in as plugs, and can be transplanted like any annual. We spaced ours 12 inches apart in rows 5 feet apart. When the season is over they are tilled in and new plugs are ordered for the next season. Karma dahlias are expensive and I was apprehensive to try them knowing that we would only get 27.5 cents per stem.

Some of the varieties were very profitable, especially 'Thalia'. One customer described it as "yellowish, pinkish purplish". It was the perfect dahlia - good producer, nice color (whatever it was), perfect stems, didn't need much disbudding, and strong enough to stand on its own without staking. It was not commonly available in the Seattle wholesale market, which was nice for me.

It was so easy to plant Karmas dahlia that I am considering producing cutting-grown plants from my own favorite dahlias. The reason is that even though all Karmas are supposed to be good for cutting, and I am sure they are, not all the varieties produce what I am looking for. A limited number of varieties are available as cutting-grown dahlia from commercial plug producers. While more varieties are coming, there will never be as many available as there are tuber-produced varieties, and the cutting-produced



varieties will likely all be trademarked.

On the plus side for dahlias is that they have seldom been trademarked, there are so many varieties available that are excellent for cutting. I'm not ready to give that up and totally count on trademarked

commercial cutting stock for fear that we would lose much of diversity that is now available.

Many commercial growers who produce dahlias in gallon pots use cuttings instead of tubers. They dig only a few clumps of tubers and force the plants ahead in the greenhouse, taking cuttings from the new growth. Dahlia cuttings are easy and root all season long, but late-season cuttings will not produce enough flowers the first season. This makes it important to force the tubers ahead and have well-rooted 72 plugs by the last frost date. I have rooted them with regular commercial potting soil right in 72 plug trays, and held them until they were ready to set out.

While I enjoyed some of the Karma series dahlias and plan to use them in the future, we didn't really get any marketing benefits from using Karmas. They sold simply because they were dahlias. I really like the idea of cutting-grown plugs and the ease of planting simplifies dahlia production. While I think growers can produce their own plug trays of non-trademarked varieties, I believe commercially produced plugs will be easier and can only hope they will be more affordable as demand increases.

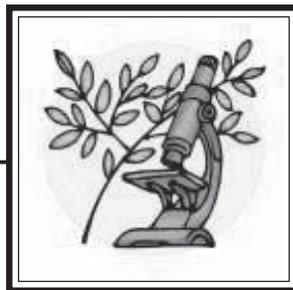
Here are my ten favorite dahlias:

1. 'Martinique' - dark red.
2. 'Adorable You' - pale lavender cactus
3. 'Maverick' - fuchsia
4. 'Winter Ice' - pale lavender and white water lily
5. 'Vigor' - tall yellow
6. 'Glowing Embers' - true red
7. 'Dana Iris' - true red cactus
8. 'Thalia' - Karma Series
9. 'Chilson's Pride' - pink and white
10. 'Blue Streak' - nice medium lavender

Research Update

by Megan Weddington

NC State University, Raleigh, North Carolina



Flowering Herbaceous Peonies

Cut Flower Production of Balloon Flower

Platycodon grandiflorus A. DC., commonly known as the balloon flower, has been grown primarily as a garden or bedding plant. Recently, pot and cut flower cultivars were introduced. Researchers at The Hebrew University of Jerusalem have concluded a 4-year evaluation of the cut flower production of balloon flowers grown for several flushes under mild winter conditions. They observed the effect of temperature and light conditions on growth and flowering

The balloon flower is a hardy herbaceous perennial normally propagated from seeds. It forms a storage root (crown) at the end of the growing season that goes dormant in late autumn. A certain cold period is required to break dormancy.

To observe the effect of splitting crowns, crowns were left intact or divided into 2-4 smaller units. To observe the effect of cooling, crowns were cooled at 35.6F/2C for 12 weeks prior to planting or stored in uncontrolled room conditions (64.4 to 80.6F/18 to 27C). Three-year-old crowns were used and all were stored or cooled in wet vermiculite.

The first flush of flowers occurred January 1, two months after planting, and lasted for five weeks. Crown cooling remarkably increased flower production and quality. The cooled crowns produced longer stems and more flower buds per stem. The divided crowns produced fewer stems and fewer buds per stem than the intact crowns. The second flush, occurring the first two weeks of May, also demonstrated that the highest quality flowers were obtained when intact crowns are cooled. This flush produced the longest stem lengths (up to 82.2cm)

and greatest number of flower buds per stem (12-19 buds). The third flush, occurring at the end of July, yielded the most number of stems per plant (up to 13 stems); however, stems were significantly shorter (46.5-54.6 cm). The final flush, initiated October 13, produced fewer and lower quality flowers.

Neither daylength nor plant origin (seed or crown) influenced time of flowering. However, long days significantly increased the number of flowering stems and plants grown from crowns produced more, longer stems.

Flowering was observed at 4 day/night temperatures: 62.6/53.6F (17/12C), 71.6/62.6F (22/17C), 80.6/71.6F (27/22C), and 89.6/80.6F (32/27C). The lowest temperature resulted in no flowering and plants at the highest temperature produced a fewer number of stems that were thin and short. The middle range temperatures resulted in high quality flowers.

Six weeks is the minimum cold treatment duration required to break dormancy. This study tested cooling periods of 0 to 16 weeks and found a cooling time of 12 weeks resulted in optimal flower production.

GA₃ treatments as a crown dip or plant spray application did not affect flowering time and often reduced flower production and quality.

Halevy, Abraham H., Eitan Shlomo, and Ofra Ziv. 2002. Improving Cut Flower Production of Balloon Flower. HortScience. August. Vol. 37(5), pp. 759-761.

Peonies are widely used as garden plants in temperate climates, but are less common, though highly valued, as a cut flower due to their short

flowering season. Grown mainly in cold climates, peonies require a period of cold temperatures to break bud dormancy and allow flower development. Research conducted at The Hebrew University of Jerusalem aimed to prolong the marketing time of the peony by advancing its flowering time. First flower initiation and development was determined for the Golan Heights, where the winter temperature ranges from 35.6-82.4F (2-28C) and summer temperatures vary from 64.4-89.6F (18-32C). Three growing environments were tested: container-grown (heated and unheated greenhouses), open field-grown, and covered field-grown. Methods used to advance flowering were cold treatment and application of GA₃. Cultivars observed were 'Sara Bernhardt', 'Karl Rosenfeld', and 'Duchesse de Nemours'.

Plants treated with a combination of cooling (10 weeks at 35.6F/2C) and GA₃ flowered early. Flower malformation and weak stems resulted from 250 mL of 500 ppm GA₃ indicating this amount was excessive. The optimal GA₃ treatment for plants in containers and ground beds was determined to be a soil drench of 250 mL of 100ppm GA₃. Production in an unheated greenhouse resulted in a higher flowering percentage and stronger stem compared to production in a heated greenhouse. 'Sara Bernhardt' flowers produced in a greenhouse, treated with cooling and GA₃, were of marketable quality in January.

The beginning of natural flowering of open field-grown plants was near the end of April and lasted 2-3 weeks.

GA₃ treatment (250 mL soil drench) advanced flowering of 'Sara Bernhardt' and 'Karl Rosenfeld' by only one week. Repeated GA₃ applications reduced flower production and stem strength. Covering field plants in unheated plastic structures advanced flowering of all observed cultivars by one month. Though flower yield was slightly lower in the covered field, stems were longer. It is also worth noting that GA₃ doubled the flower production of the field grown 'Karl Rosenfeld' and 'Duchesse de Nemours'.

Halevy, Abraham H., Menashe Levi, Meashe Cohen, and Vered Naor. 2002. *Evaluation of Methods for Flowering Advancement of Herbaceous Peonies*. *HortScience*. October. Vol. 37(6), pp. 885-889.

Postharvest Care of *Campanula medium*

Campanula medium L. 'Champion Blue' and 'Champion Pink' are two cultivars of Canterbury bells bred for cut flower production. *Campanula* is a biennial, but these cultivars flower in 18-23 weeks allowing for cost effective production. Research conducted at Oklahoma State University thoroughly examined the factors involved in postharvest handling of cut *Campanula* to maximize storage life, color development in flowers opening after harvest, and vase life using cold storage, 1-MCP, sucrose, and floral foam.

Cut stems were held wet or dry for 0, 1, 2, or 3 weeks at 35.6F/2C. Vase life decreased as storage duration increased. Storage method (wet or dry) did not affect vase life or the percentage of flowers opening during storage. However, the percentage of flowers senesced at vase life termination was greater for dry-stored stems and this percentage increased as storage time increased. Cold storage of Canterbury bells should be limited to one week in a wet solution.

Three pretreatments were tested and followed by a sucrose pulse. The 4-hour pretreatments were: heated floral

solution (100.4F/38C), 1-MCP + room temperature floral solution (71.6F/22C), and room temperature floral solution. Floral solution consisted of deionized water and 200 ppm 8-HQC. A 24-hour pulse of sucrose at 0, 5, or 10% was added to the vase solution. The longest vase life was achieved with a combination of 5% sucrose pulse and 1-MCP pretreatment (10.4 days) or heated floral solution (10.3 days). Sucrose concentration of 10% consistently decreased the percentage of flowers opening during the treatment and increased the percentage of flowers senesced at the end of vase life.

Increasing sucrose concentration also resulted in color intensity fading in flowers opened at time of treatment as well as those that opened during treatment. Pretreatment methods did not appear to affect flower color.

Vase solutions and substrates were tested by holding stems in foam or in solution amended with 0, 0.5, 1, 2, or 4% sucrose. The foam was thoroughly soaked in the appropriate solution prior to use. Stems held without foam, in a 1 or 2% sucrose solution had the longest vase life (12.2 days) and lowest percentage of senesced flowers. Shortest vase life (2.3 days) resulted from stems in foam with a 0.5 or 1% sucrose concentration. The 4% sucrose concentration was actually detrimental to the flowers as it encouraged senescence.

Light levels were examined at 10 and 110 $\mu\text{mol}\cdot\text{m}^{-2}\cdot\text{s}^{-1}$. Light levels did not affect vase life or percentage of senesced flowers at vase life termination. However, flowers that opened under high light displayed a more intense color than those that opened under low light. Light levels also did not affect flowers already open when treatment began.

Bosma, Theresa, and John M. Dole. 2002. *Postharvest Handling of Cut Campanula medium Flowers*. *HortScience*. October. Vol. 37(6), pp. 954-958.

Increasing Vase Life of *Eustoma*

Various combinations of BA and sucrose were applied to cut *Eustoma grandiflorum* Shinn. cv. Heide. Researchers studied the effect of these treatments on vase life, changes in sugars and ethylene in the flowers and changes in respiration. The treatments were BA alone, sucrose alone, BA before sucrose, BA after sucrose, and BA + sucrose. BA was applied at 50 ppm and a 4% sucrose solution was used. Pulses were given once for 24 hours each.

Both BA and sucrose pulse treatments prolonged vase life by inhibiting flower senescence. BA increased ethylene production but sucrose suppressed ethylene production. Stems treated with BA before sucrose had greater longevity than stems treated with the other combinations; however, all the combination treatments prolonged vase life more than BA or sucrose applied alone. The sugar content of the florets were greatest in the combination treatments, suggesting that application of BA and sucrose together increases the sink strength in the flowers and accelerates the translocation of sugar from the vase solution to the flowers.

Huang, Kuang-Liang, and Wen-Shaw Chen. 2002. *BA and Sucrose Increase Vase Life of Cut Eustoma Flowers*. *HortScience*. June. Vol. 37(3), pp. 547-549.

Have you considered how you might serve the ASCFG?

If you have a vision or ideas or just want to get involved this is your opportunity to be heard! Do you know an ASCFG member who would make an effective Board member but is too shy to nominate herself? Tell us! Nominations are now open for Vice-president, President, and Regional Directors for Region Seven (West), and Region Eight (Northwest). For more information on what's involved and what's in it for you, please contact the ASCFG office, or Janet Foss at Jfoss@ispwest.com

Insect Growth Regulators - the Gift of Eternal Youth

by Stanton Gill, University of Maryland



Are you interested in keeping insects youthful but unable to damage your plants? We cannot prevent *you* from getting older but we can stop the development of insects, and effectively stop their lives. Kind of a Romeo and Juliet scene where the insect gets to die young.

To understand how this works you must understand that arthropods such as insects and mites have an exoskeleton - a skeleton on the outside - made up of chitin. In order to grow, an insect or mite must shed its skin repeatedly through its youthful development. It also must

change from an immature stage to a sexual mature adult.

These processes are controlled by juvenile hormones, chitin synthesis, and ecdysome production.

The chemistry of how these insects form their exoskeleton and molt has been studied and materials have been developed that mimic these natural processes in the insect. Since humans, birds, reptiles and other animals do not form chitinous exoskeletons we are not affected by these chemicals.

Manmade chemicals that control

juvenile hormones, chitin synthesis, and ecdysome production are called Insect Growth Regulators (IGRs) and control the insect's or mite's development during the immature stages. The chemicals cause the insects

to improperly form new layers of skin, fail to molt properly, or fail to emerge from the pupal stage. The end result is that the immature insects die before reaching sexual maturity.

There are now several Insect Growth Regulators (IGRs) and one mite growth regulator (MGR) on the market. They do not all work on insects in the same way or on all pests. Let's see if we can sort this out so you can use these products wisely.

Insect Growth Regulators and Manufacturers:

Insect IGR - Brand name (Growth Regulator)	Chemical name	Company selling product
Adept	Diflubenzuron	UniRoyal
Citation	Cyromazine	
Pedestal	Novaluron	UniRoyal
Confirm	Tebufenozide	UniRoyal
Talus	Buprofezin	SePro
Distance	Priproxfen	Valent USA Corp
Enstar II	Kinoprene	Wellmark International
Orazin	Azadirachtin	
Azatin	Azadirachtin	Olympic
Nemix	Azadirachtin	Triology
Aza-Direct	Azadirachtin	Gowan Company
Precision	Fenoxycarb	Whitmire

Mite Growth Regulator and Manufacturer:

Mite growth regulator – Brand name	Chemical name	Company selling product
Hexygon	Hexythiazox	Gowan Company

IGRs and What They Control:

Brand name	Pest controlled	Re-entry Interval	Comments
Adept	leafminers, armyworm, whitefly, fungus gnat larvae, shore fly larvae	12 hours	Rates are 2 oz/100 gallons and 4 –8 oz/100 gallons, depending on pest
Citation	Leafminers, fungus gnat larvae, shorefly larvae	12 hours	Rates 2 and 6 oz/100 gallons of water
Distance	Whitefly, psylla, soft and armored scale, fungus gnat larvae, caterpillars, mealybug, aphid (suppression only)	12 hours	2 oz/100 gallon for fungus gnats, 6-8 oz/100 gallons for foliar sprays
Azatin	Aphids, beetles, fungus gnats, caterpillars, psylla, thrips, weevils, whitefly	4 hours	
Ornazin	Aphids, beetles, fungus gnats, caterpillars, psylla, thrips, weevils, whitefly, scale and nematodes	12 hours	One difference between Azatin and Ornazin is the level of limonoids in the products. Limonoids are extract from the neem seed coat.
Aza-Direct	True bugs, midges, mites, aphids, beetles, fungus gnats, caterpillars, psylla, thrips, weevils, whitefly	4 hours	With Aza-Direct the esters and fats have been removed. This reduces the tendency toward rancidity. Because fats and esters have been removed the product will last up to 3 years on the shelf.
Nemix	Aphids, beetles, fungus gnats, caterpillars, psylla, thrips, weevils, whitefly	4 hours	Last about 1 year on the shelf.
Pedestal	Thrips, caterpillars, leafminer, and whitefly	12 hours	Rates 6-8 oz/100 gallons
Enstar II	Mealybug, whitefly and fungus gnat larvae	12 hours	Not on the market yet. Expected sometime in 2003
Talus	Whitefly, soft and armored scale, fungus gnats	To be determined	
Hexygon	Immature spider mites	12 hours	Prevents eggs from hatching



Vancouver: A Preview by Mark Koch

I recently had the opportunity to travel on business to Vancouver, the site of this year's ASCFG National Conference. This is the first time in the history of the ASCFG that we will have a conference outside the United States. And it's about time; in our bylaws we state that we are a North American association, not just an association for the Red, White and Blue. So here we come Canada!

The flight into Vancouver is spectacular. Few things on this planet are as majestic as the Canadian Rockies. It's hard to imagine a more beautiful backdrop for a city. Upon arrival at the Vancouver airport I was pleasantly pleased to see sunshine – in mid November! (I really think that it really doesn't rain as much as they say in the Pacific Northwest – it's just a well-orchestrated conspiracy to keep the rest of us who live in drought-stricken areas and are longing to see verdant forests and grass that is actually green from wanting to move there.) I was again pleased when I visited the currency exchange and each of my US dollars magically became \$1.52 Canadian. This makes travel to Canada pleasantly affordable. I also found very affordable airfares into Vancouver on Alaska Airlines.

I met with Roy Snow who, as many of you know is chairman of the 2003 conference. I had a chance to go over the conference with him, visit the Auction, and tour the Fairmont Hotel Vancouver.

Next year's tour will be excellent. The stop at the Vancouver Auction will be a real treat. The Dutch style auction will be very informative and educational for our members. Roy and I met with Henk Grasmeyer, the

Marketing Manager for United Flower Growers (the BC area cooperative that manages the auction). Henk is rolling out the red carpet for our group. They have a short 10-minute video that gives a nice introduction into how the auction works. This will be nice for our membership as most have not seen a flower auction before. The auction will also provide a springboard for such other topics as floral promotion and marketing. The most amazing thing to me when I was there was that I learned that under this system, the local corner market has the same buying power as the largest Vancouver area wholesaler. The Auction is operated by growers, not buyers. The aim is to sell as many flowers as possible. It must be working since Vancouver has one of the highest per capita consumption rates of flowers in North America.

I found the floral industry in the Vancouver area to be most interesting. There are many large-scale greenhouse operations that utilize the latest in Dutch technology and efficiency. A wide variety of flowers and foliage is produced in the local area.

On to the hotel. My gosh! We will definitely be taking a step upward. The hotel Vancouver is operated by Fairmont. This is a five star international hotel. It is located in the heart of downtown Vancouver and is within walking distance of a multitude of upscale shops, restaurants, galleries, Chinatown, the waterfront and many other attractions. For those of us who sometimes feel the need to get out of the hotel, this will be great.

The Fairmont Hotel Vancouver is wonderfully furnished and flowers abound – and I am pleased to say that I did not see one artificial arrangement! Completely restored, this 1939 gem has wonderful guest rooms, excellent meeting facilities and a very, very attentive staff. The highlight will be our banquet which will be held on the top floor of the hotel, a wonderful banquet hall with a 360 degree panoramic view of the harbor and downtown Vancouver. We will have the floor completely to ourselves. We won't have to worry about a wedding reception next to us this year. (Although I must admit, Garth Brooks does have a better voice than our very own Rudolf Sterkel.)

continued page 54

The ASCFG Welcomes its Newest Members

- Keith Baldwin, N.C. A & T University, Greensboro, NC
- Laura Baldwin, Reba & Roses, Hillsborough, NC
- Sheila Bali, Oakwud Nurseries, Foxboro, MA
- Steve Bogash, Penn State Coop. Ext., Chambersburg, PA
- Denis Chandler, Bloomsberry Flowers, Georgetown, DE
- Hope Cochran, Hope's Harvest, Middletown, DE
- Sarah Dirks, Brevard, NC
- Andrea Gagnon, LynnVale Studios, LLC, Gainesville, VA
- Barbara Jewell, Jewell's Produce, York, Prince Edward Island
- Marc Kessler, Terra Bella Floral Design, Chico, CA
- Marian F. Maloney, Memory Orchard, Tupelo, MS
- Michael A. Mellano, Mellano & Co, San Luis Rey, CA
- H. Chris Wien, Cornell University, Ithaca, NY



Regional Reports

Region One Northeast

**Connecticut, Massachusetts, Maine,
New Hampshire, New York, Rhode
Island, Vermont, Maritime Provinces,
Ontario, Quebec**

Ed Pincus, Third Branch Flower

Twig season, the time between the blaze of color in the Vermont fall and the coming snow, used to depress me. It meant the end of our growing season, a time of unremitting steel gray clouds pressing hard on the barren landscape. But now we sell twigs (red twig dogwoods, yellow twig dogwoods, coralberry, *Ilex verticillata*) and *voila*, the barren landscape may yet turn green.

We grow no annuals, so the winter is a time to research new varieties, new growing techniques and new equipment. As the farm grows larger and production increases, we also look for new customers. Air shipping has become much more difficult since 9/11. We are no longer known shippers on many airlines. Right now we are reduced to three airlines. One of them may be in bankruptcy. To become a known shipper, each airline must send a representative to make an on-farm visit. This means someone from, say, Boston, has to fly to Burlington, Vermont. He or she must then rent a car, drive for an hour, spend 5 minutes on the farm, and then return to Boston. Not many airlines are willing to do this.

The ASCFG has made significant steps to help market what the membership grows. An important innovation has been to re-design the Buyers' Guide as a marketing tool for growers who ship locally or nationally. Its success relies on those growers who ship flowers availing themselves of the opportunities offered. If you do any

shipping, submit a free business description. Better yet, place an ad - anything from a small black and white ad up to a 4-color full-page ad.

We hope to deliver the Guide at no charge to a very wide range of flower buyers. Any suggestions for mailing lists or approaches to distribution would be greatly appreciated.

Including marketing as an additional function of the ASCFG is the next logical step for the Association. As we continue our activities of education, networking, supporting research, we expect members will reach new customers and new markets.

Have a good winter!

Region Two

Mid-Atlantic

**Delaware, Maryland, New Jersey,
Pennsylvania, Virginia, West Virginia**

**Dave Dowling, Farmhouse
Flowers and Plants**

Mark your calendar for Tuesday, February 4th for the Maryland Greenhouse Growers Winter Short Course to be held at Brookside Gardens in Wheaton, MD. Topics to be covered include Keith Cramer of Cramers' Posie Patch with "Growing Cut Flowers in a Haygrove System"; Ethel Dutky from the University of Maryland Plant Diagnostic Laboratory with "How to Stay Ahead of Cut Flower Diseases"; Rudolph Sterkel of Benary Seed Company on "Cut Flower Production" and "New and Must Try Cut Flowers". The cost for MGGA and ASCFG is \$35.00. For more information contact Hank Doong at (301) 937-4166 or e-mail hdoong@att.net

As you can see, *The Cut Flower Quarterly* is now in color. This process for this improvement started in motion months ago. Three cheers to Judy and Linda at the ASCFG headquarters for getting all the technical ducks lined up to make this possible. The added cost for color printing is surprisingly little and should be offset by ad revenue.

In December you should have received a notice about changes to the ASCFG Buyers' Guide and Membership Directory. These changes will create a colorful Buyers' Guide that will be a sales tool for grower members who supply florists and wholesalers. The new Buyers' Guide will be distributed free to floral buyers around the country. Current ASCFG members will also receive a free copy. If you haven't decided to place an additional display ad, the deadline in January 31st. Get that ad together or have Linda at the ASCFG office prepare one for you.

The Membership Directory (Phone Book) will be a listing of all current ASCFG members and will be distributed to all members. Be sure to return your Membership Profile before January 31st so Judy won't have to call to remind you. If you have lost yours, ask Judy for a new one *before* the deadline.

By now the seed orders are placed and plugs have been ordered. But it's not too late to try something new. You should try to have something new for your customers each season. By having new cut flowers to offer you can stay a step ahead of the competition, whether that competition is a vegetable farmer at your farmers' market just starting to grow flowers, or even the President of the ASCFG. Give a few of the new varieties you'll find in this issue of the CFQ a try. Do you know the reason ASCFG members are a step ahead of the pack? Hint: You'll find it in your mailbox four times a year.

This winter the Dupont Circle Farmers' Market in Washington, DC will be open year-round. This market isn't a cash cow for me, it's a whole herd of cash cattle. The prospect of having a wintertime market can be daunting when I have never had to have cut flowers much past early November. I am growing (or *trying to grow*) callas, iris, tulips, lilies, anemones, ranunculus, and sunflowers in the greenhouse. Growing may be the easiest part. Keeping the flowers (and me) warm in the dead of winter in a parking lot with just an E-Z UP tent with sides and a propane heater may be a challenge. Clear shower curtains on the front let customers see what I have available and help keep the heat in. The customers at this market are faithful and I expect they'll attend snow or shine.

The Mid-Atlantic Regional Meeting for 2003 is still in the planning stages. Let me know if you have suggestions for a location or topics to be covered.

Grower Profile *continued*

It seems to this writer that agriculture means a lot more to North America in terms of real wealth produced than anything and everything that these DNA-manipulating corporations have ever or may ever offer. The value of herbicide-tolerant grains and legumes is particularly suspect, especially if it's forcing farmers into bankruptcy or feudalism. It gets increasingly more difficult to distinguish between the value of gm canola, a globally unpopular, and in many countries illegal, commodity, and the value of a noxious weed. Were a state or province to put Roundup Ready® canola on its noxious weed list, how would they go about ridding themselves of that pest? Glyphosate wouldn't work. In fact, you'd probably have to outlaw glyphosate just to give Roundup Ready's® competitors a fighting chance.

Straying further, the author of this piece cannot resist mentioning notions which fomented during a recent reading of Dr. Jeremy Narby's [The Cosmic Serpent](#), which was published in 1998 about the same time that Monsanto was dropping like a jaguar from its fractured perch in the ancient overhanging liana onto poor Percy's Canadian backside. Dr. Narby's hypotheses suggest that DNA itself is intelligent and communicative, not only within its DNA

Region Three Southeast

Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee

Jon Landwer, Dragonfly Farm

Would I be alone if I said good riddance to 2002? It was a year of such intense angst. A rotten year for me and so many others. For starters, I didn't plant enough, thinking that sales would be lackluster. You know in this business, projection is everything. Thinking three months in advance can be difficult in an anemic economy. That makes me think perennials and woodies should be an integral part of any specialty cut flower grower's crop list. I'm changing my varieties around. Well, goodbye 2002 and welcome 2003. This is the year of Vancouver! I can't wait!

communities, but without as well, with any species or with individuals within a species who have learned to be receptors. If one accepts Dr. Narby's theory, as does this writer if for no other reason than it makes cospeciation plausible for him, then genetic modification begins to resemble the blind bludgeoning methods of early brain surgeons: trepanning, lobotomies, electro-shock 'therapy'. If DNA is intelligent and communicating, then how is our tampering with the message skewing what all the evidence suggests has been an exceedingly harmonic conversation? Have we introduced babel to the cosmic dialogue? Are we so eager to translate our governments at the molecular level? Koyanisqatsi is accelerating.

The Schmeisers are appealing Mackay's decision to the Canadian Supreme Court. This may be one of the single most important judicial events in human history. Its influence on the future of agriculture will be felt globally. His opponent can seriously outspend him. Donations to his defense fund may be sent to "Fight Genetically Altered Food Fund, Inc.", Box 3743, Humboldt, SK, Canada, S0K 20A or contribute online at www.percyschmeiser.com. And please direct some intentionality to Percy and Louise, their five children and fourteen grandchildren.

Now, there were many good things that happened last year. Such as:

- I learned how to effectively sow and finish snapdragon and delphinium plugs in 200's. Finish is the key word.
- With the help of a fellow member from California we are now formulating and mixing our own liquid injection fertilizers, saving us a bunch of money.
- The Madison conference proved to be much, much more than expected. I met so many new members who share the same passion for growing. And I talked to several existing members who, kindly, taught me a few tricks of the trade.
- I learned that you can't really drink compost tea. It's much better for the soil flora and fauna balance. I'm going to start using it this year as it just seems to makes good sense.

There is actually a lot more, but our space limits our content. The point I wanted to make is that the ASCFG membership value goes way beyond what any other organization has offered as support. We have an incredible tool at our disposal that gives us the technical and marketing expertise that is just an email or phone call or visit away.

On February 1st we are going to have our Regional Meeting here in Central Florida. Another chance to network with fellow growers from around the Southeast. I am currently planning the talks and tour schedule and would like to have your input. Please call me at (352) 589-6768 or email me at landwer@atlantic.net or come by and see me if you're in town. Let's plan our meeting together. If you're not in the Southeast, no matter. Come down and get warm and fuzzy in Florida. Looking forward to seeing you!

Region Four Midwest

**Iowa, Illinois, Indiana, Michigan,
Minnesota, Missouri, Ohio,
Wisconsin**

Mimo Davis, WildThang Farm

Sitting here on New Year's Eve with the wood stove blazing, the turkey's smoking, and the hot cocoa is just perfect! It's hard to believe that a few short months ago we were all here running for the tent to escape the outrageous heat. It's amazing how the seasons move, and I know this time is coming, but I'm never really ready for it! I always wish for one more good week! I spend some time after it gets cold in denial that winter has arrived and only admit the denial when my workers (in a slightly elevated tone) tell me that it is 28 degrees out, as I rattle off a list of things I want to get done for the day.

I'm Mimo Davis, the Midwest Regional Director, and I hate the cold!

I joined the ASCFG 6 years ago, my first as a flower farmer. In this association I have met the most amazing folks, who have taught me how to better handle the wintertime blues with season-extending hoophouses. I have three hoophouses filled right now with freesia, ranunculus, stock, sweet pea, anemones, mini-sunflowers, and snapdragons. On a daily basis, I run into the hoops for nothing else but the escape of the bitter reality, and to dream of warmer, more prosperous times, ahead. I love winter growing the best! The pace is slower and I have more time to actually watch the flowers grow. Fewer pests (with the exception of the propane bill); the crops experience less stress and so do I.

Season extension seems to be the buzz this year - a way to set ourselves

apart from the growing numbers of veggie farmers with a bucket of cheap flowers. This phenomenon has transformed season-extension from an extra or luxury item to an integral part of the growing season for flower market farmers. Maybe my extension should be a few hundred feet of cheap arugula! After years of "the real farmers" laughing as we sold what they viewed as "weeds, I do appreciate that finally flowers are beginning to be viewed as a viable farm crop. The next challenge is to get them to change the market value.

We do get a substantial amount of reward, both monetary and spiritual, from florists, when after months of pulling flowers out of shipped boxes, their faces light up when they see the first fresh cut flowers of the season, right off the farm! They know summer is on the horizon.

Speaking of summer, we had such a good time at last year's Regional Meeting in July! Over one hundred folks sweating, laughing, learning and sweating some more! Sorry if you missed it. Shame on you if you miss it again!

The 2003 Regional Meeting is going to be the same time as last year (early July) - no solid date as yet, but you can plan on the first week in July. Nancy Kapelak of Illinois will be our host, and although not confirmed as a tour site, Ball Seed is nearby. That's just one of the fun things in the works for the Midwest Regional Meeting. This event should not be missed! Look for more details to come.

Lastly, I want to say thank you for allowing me to serve as your Regional Director. I am looking forward to the opportunity to do service for an organization of folks who have served me the past six years so well. I wish you prosperous growing. Keep in touch!

Region Five North and Central

**Colorado, Kansas, Montana, Nebraska,
North Dakota, South Dakota, Utah,
Wyoming, Alberta, Manitoba,
Saskatchewan**

Mark Koch, Koch Industries

I'm back in the saddle again. I write to you as the newly elected Director for the North & Central region after having been off the Board for a few years. Prior to that I served two terms as Treasurer and one as Regional Director. I am quite familiar with the Association and have been a member for over 10 years. I have always enjoyed serving on the Board and participating in the Association's activities. We are indeed a fun and interesting group of people.

Let's look at a quick snapshot of our region. Who are we and where are we located? Currently Region Five includes Colorado, Kansas, Nebraska, Utah, Montana, North Dakota, South Dakota, Alberta, Manitoba and Saskatchewan! I didn't pull out my atlas, but I'm pretty sure that we are the largest geographical region in the Association. Gosh, we must be half the continent. Just think of the range of growing climates! However, in terms of our membership, our region is among the smallest in the ASCFG. We currently have 28 members; 3 in Canada and 25 in the US. Kansas *dominates* the region with 9 members.

However, I look at our region and see a region that has been quite dormant. I am particularly concerned to see such a large drop in our Canadian membership. We have 24 inactive members in Alberta alone. (I can only wonder if there is some backlash from losing the Great One, Wayne Gretzky to a US team as well as the Winnipeg Jets.) I would really like to stimulate our region and would like to hear from you. I need your ideas. Because we are so large, the

Regional Reports

continued

concept of a *regional meeting* almost seems like an oxymoron. I am willing to travel to any area in our region – yes even you Manitoba – where there is someone willing to help host a short one-day get together. I will help with the planning and the Association's office will handle mailings and registration. If anyone is interested in helping with such an event or has thoughts and/or comments regarding our region, I would *really* like to hear from you. To encourage this response I am offering a free copy of Allan Armitage's new edition of *Specialty Cut Flowers* to the first Region 5 member who sends me a fax, e-mail or drops me a call. Bob Wollam, our current president, has challenged each ASCFG region to hold a Regional Meeting each year. I would like to do this. However, I need other members to participate. Regional meetings are a fun and informal way to share ideas, chat with old friends, and make new acquaintances. They don't need to be complicated and can be held in conjunction with other industry related events.

From the standpoint of the Association, I am certainly glad to see that the ASCFG will be holding our annual conference in Vancouver this year. It's about time we crossed north into Canada. I hope that it does affirm our commitment to our members north of the 49th parallel. I can't help but think that this conference will also help our region in some way. Having just been to Vancouver last month, I think this year's conference will be great and I strongly encourage all of you to attend. Vancouver is a world-class city. The tour will be outstanding. The visit to the flower Auction will be a real eye-opener.

Best wishes to all for a healthy, peaceful, prosperous and happy New year!

Region Six South

**Arkansas, Louisiana, New Mexico,
Oklahoma, Texas**
Dianne Cousins,
Texas Sown & Grown, Inc.

As your new Regional Director, I would like to start by giving a huge "Thank You" to Frank Arnosky for his and Pam's many years of dedication and service as Regional Directors to the ASCFG. Over their years as growers they have gone above and beyond the call and were duly recognized at the annual convention in Madison last year by receiving the Outstanding Service Award. In other words, they are going to be a tough act to follow!

Just a little bit about myself.... I have been a member of the ASCFG for just two years and am starting my third season as a cut flower grower. Our farm is located just southwest of Houston in Richmond, Texas. We live on 5 acres of land and I am able to grow on 3 of those acres. I sell my flowers directly to florists in Houston. We are not a self-sustaining farm yet. My husband works as an engineer during the week and a farmer on the weekends. I work 7 days a week on the farm in addition to being a mother of three (one at home and two in college). We hope that the flower business can add to our income when my husband retires in a couple of years.

Obviously, I will be offering a different perspective than Frank's. I hope that I can make a valuable contribution to the membership in this region. This organization has been such a wonderful resource for me as a beginning grower that I really felt the need to offer something back. One of my goals is to be a source of encouragement to all the other beginning growers in our area. I would urge you all to take advantage of everything that the ASCFG has to offer; beginning with the bulletin

board. I know that there are so many of you out there who are hesitant to ask your questions in "public". Believe me, I have been right out there asking the "dumbest" questions possible and never once felt put down or laughed at. On the contrary, many very experienced growers would not hesitate to answer. This just blew me away at first, but it happens on a regular basis. I've never met a bunch of people more willing to share information and support each other in our efforts. Even as a beginner you always have some experience that can be of value to someone else; don't hesitate to share!

I guess the most important thing I've learned this past year was to define my market niche. I started out thinking that I wanted to be the next Frank Arnosky in the Houston area and got all gung ho over trying to sell bouquets to Whole Foods Stores. At the end of that first season I found that I actually hated making bouquets, they were very labor intensive, and I couldn't get nearly as much money as I could by selling directly to florists. I also found that I was good at developing relationships with the florists and really liked it. Every person's farm and individual circumstances are different so it's really important to find out just what works for you and your family.

There are tons of new growers in Texas! I was lucky to meet a lot of you in Madison. I remember my first season poring over all the books, reading till I thought I'd go cross-eyed and my brain would explode! So many decisions to make; it was mind boggling and confusing. I think I can speak for most growers in Texas, the bottom line was always, WWFD (what would Frank do)? The realization that I have come to is that you just have to overcome the "fear factor" and dig in and do it. You are not going to be perfect your first, second, or third season; you will make "mistakes". The great thing is that you are given a second chance the next

season to get it right. The learning curve in this business is definitely a severe one!

In future columns I plan on highlighting new members in our region. I'd love to hear from you and welcome any questions or suggestions you might have. We will be having a Regional Meeting sometime next summer. The date and place have not been set yet, but I will keep you posted. Please email me at cousins@wt.net with any program ideas. Feel free to email or call me (281-342-4185) at anytime or come by and visit!

Region Seven

West

Arizona, California, Hawaii, Nevada
Mike M Mellano, Mellano & Co.

Not available at press time

Region Eight

Northwest

Alaska, Idaho, Oregon, Washington, British Columbia
Ralph Thurston, Bindweed Farm

The Northwest suffered a nasty cold spell the week of Halloween, setting records for lows and low highs. Places in western Washington that sometimes never see the low teens all winter reached them in mid-autumn. Here in East Idaho we reached 4 degrees, and the high hovered around freezing for almost a week. Needless to say, we weren't cutting any flowers.

The weather is one of the most important factors for any grower, even for those growing in climate-controlled greenhouses (after all, low temps mean high heat bills). Zone hardiness, rainfall, high temps and low are crucial influences on our decisions. Unfortunately, plant research information usually arises in areas where the weather is unlike other places.

In Ireland, where the weatherman's
The Cut Flower Quarterly

job is equated in difficulty to that of the Maytag repairman's - misty this morning, drizzle this afternoon - plant information is relatively stable throughout the country, but in a continent as big as ours all bets are off on the reliability of any information gathered.

Despite the fact that much research is done in warmer climates, however, growers elsewhere can infer how plants will react in their own areas by using the databases common on the internet. Since researchers often give the dates and sometimes the temperature ranges of their work, a grower can find the weather information for the area of research and extrapolate it to his own.

Unable to resist a bargain, an experiment, or a challenge, last summer I purchased a thousand Dutch iris late into the growing season. Though I knew they preferred cool weather, after consulting Allan Armitage's book I thought there was a slim chance of getting a crop. The mean temperatures of Athens, Georgia for the last planting period attempted there (March, harvest in May) matched those in my area eight to nine weeks later.

Armitage discourages such late planting - it turns out rightly so. A week of 105 degree highs may have had something to do with only seventy percent of my iris casting their bloom in the two weeks surrounding the first of August. Though I still made a small profit, I benefitted most from discovering a connection between the Georgia climate and my own.

Information gleaned elsewhere need not be useless. With a little work we can apply research done in one area to our own. The translation will always be imperfect, of course, with daylengths, light intensities and temperature ranges still differing greatly from place to place. But once we discover relatively close connections from another climate to ours, the possibilities open up considerably.



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EMPLOYMENT

INTERNSHIP In 2003 Wollam Gardens is offering short-term work experiences for those interested in growing cut flowers. We will consider 2 to 6 week periods in which you will seed, plant, weed, cut, process, and sell cut flowers at our 11-acre farm which sells to florists and at farmers' markets in the Washington, DC area. Housing provided in our historic farmhouse. Check our website www.wollamgardens.com then call Bob at (540)937-3222.

FARMHOUSE FLOWERS & PLANTS in Brookeville, Maryland is searching for experienced cut flower growers and interns to come on board as we expand to include year round production. Just north of Washington, DC and a short drive to the Atlantic beaches, we sell at four farmers markets a week (in season) and to florists in the Maryland/DC area. Call Dave Dowling at 301-963-5044, email farmhouseflowers@aol.com, or visit FarmhouseFlowers.com for more information.

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PUBLISHING SCHEDULE

Issue	Deadline
April	March 1
July	June 1
October	September 1
January	December 1

All articles, features, display and classified advertising must be received by these deadlines for publication.

ADVERTISING

The Cut Flower Quarterly welcomes advertising. For display advertising, contact ASCFG for current advertising insertion order form. Classified ads are FREE TO MEMBERS.

Contact Judy Laushman
at (440) 774-2887
ascfg@oberlin.net

PanAmerican Seed
continued



Balboa Series

Lisianthus (*Eustoma*), Single Malibu Series

Perfect, well-rounded series for spring and fall production. Stem length is 33 to 43 in. (0.9 to 1.1 m). Excellent seedling vigor, spray characteristics, stem strength and stem caliper. Faster flower production (by 1 to 2 weeks) and less rosetting than comparable varieties. Can also be produced successfully during Winter using HID lights. Allow 13 weeks from transplant to harvest. Part of the "V-M-L" (Ventura, Malibu & Laguna) single-flowered Lisianthus series. 'Malibu' Series colors for 2003: 'Blue Blush', 'Blue Rim', 'Deep Blue Improved', new 'Deep Rose', 'Lilac Improved', 'Purple Improved', 'Rose', 'Rose Rim', 'White'.

Lisianthus (*Eustoma*), Single Ventura Series

Ideal series for low-light/low-temperature production conditions of Winter. Stem height of 30 to 39 in. (0.8 to 1.0 m). Earliest-flowering series (by 1 to 3 weeks) with very little rosetting. Single flowers on super-strong stems. Allow 16 weeks from transplant to harvest. Part of the "V-M-L" (Ventura, Malibu & Laguna) single-

flowered lisianthus series. Dark purple flowers start out as green buds (GB). 'Ventura' Series colors for 2003: 'Blue', 'Blue Blush Improved', 'Blue Rim', 'Deep Blue', 'Deep Rose', 'Peach', 'Purple', new 'Purple GB', 'Rose', 'White'.

***Antirrhinum* Monaco Series (Group 2, 3)**

Well-suited to difficult "transition" production period from Summer (Group 3, 4) to Autumn/Winter (Group 1, 2) Stem height of 39 to 54 in. (1.0 to 1.4 m). Tolerates warm Autumn conditions without flowering too quickly, and produces high-quality flower spikes when Autumn weather is unusually cool and dark. Perfect for Winter production in warmer climates. Performs well where moderate temperatures and little fluctuation in daylength prevail, such as near the Equator. Monaco Series colors for 2003: 'Baltimore Rose', 'Red', 'Rose', 'Violet', 'White', new 'Yellow'.

***Trachelium* Lake Series**

Mildly scented, long day-flowering series with a large central umbel surrounded by smaller side umbels. Height of 2.5 to 3.5 ft. (75 to 105 cm). Naturally branched plants do not require growth regulators. Used by florists as filler or as an elegant "mono" bouquet. Light and elegant foliage. 'Lake' Series colors for 2003: 'Lake Avalon' (pink), 'Lake Forest Blue', new 'Lake Forest White', new 'Lake Michigan White', 'Lake Powell Improved' (white), 'Lake Sunset Improved' (burgundy red), 'Lake Superior Improved' (dark purple), 'Summer Blue Wonder' (light blue), 'Summer Lake Superior' (dark blue).



Monaco Series

Use the ASCFG home page to find:

Check Us Out!

www.ascfg.org

- Information on ASCFG Regional Meetings
- Updates on National Conferences
- Links to other floral organizations and industry associations
- ASCFG Forum - exchange of ideas news and references from growers archived and easily accessed

Sherman Nursery



'Cardinal'

Ilex verticillata 'Winter Red'

Winter Red Winterberry has excellent dark green foliage that turns bronze in fall. Bright red, 3/8" wide fruit is borne in abundance, even as a young plant. Fruit remains red almost to spring. Requires a late male variety for pollinator.



'Winter Red'

Cornus sericea

'Cardinal'

Cardinal Dogwood is grown for its colorful, cherry-red stems, but also adds interest with its yellowish-green summer twig color.

Viburnum opulus

'Roseum'

Common snowball viburnum is a shrub popular for its large, double white flowers in April-May. It is a very showy, profuse bloomer.

Sorbaria sorbifolia

Ash leaf spirea is popular for its attractive, deep green, fern-like foliage and large plumes of creamy white flowers in June.



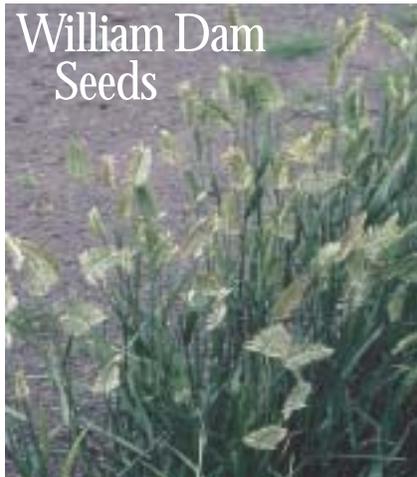
'Miss Canada'

Syringa x prestoniae

'Miss Canada'

Miss Canada lilac is a very hardy lilac showing off single, very bright pink flowers mid-June. It is a vigorous, non-suckering plant.

William Dam Seeds



Wangenheimia lima (vulcan grass)

'Vulcan'

An annual grass that has strange fan-like seedheads which can be used in cut or dry arrangements. Effective as a mass planting. Height 70cm/28".

'Vulcan'

Agastache 'Hazy Days'

A tall plant with dark green foliage and long, rosy spikes. Long lasting as a cut flower with a pleasant lemony fragrance. 100cm/36" height.

Cerithe 'Pride of Gibraltar'

Late season flowering (begins to bloom as other flowers are ending their show) and very frost tolerant. Fleshy dark foliage with brilliant blue-tinged bracts and purple bell-shaped flowers. 'Pride of Gibraltar' has been selected for cutflower use because it has longer stems than other varieties. Exotic filler. Ht. 90cm/36".

Helianthus Starburst Mix

Semi-double (fluffy centers surrounded by long petals) flowers in golden yellow, lemon yellow, with same coloured or dark centres. A mix of Panache, Aura, and Lemon Aura and Blaze (red). Semi-dwarf plants can be pinched for multiple stems with smaller flowers.

Helianthus 'Jade'

Creamy to pale green small flowers, petals and centres. This was the most unique color we have seen in our trials. When flowers are just open they have a beautiful lime-green color. Semi-dwarf (90cm/36"), multi-branching habit.

'Prairie Sun'

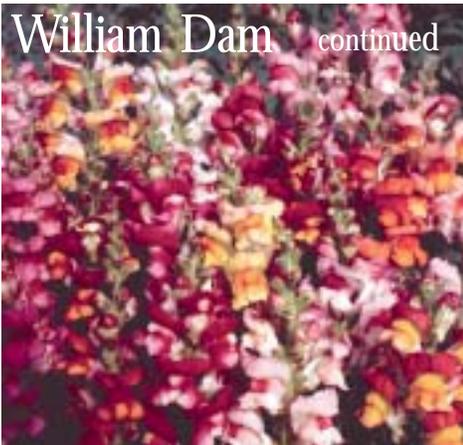
Papaver 'Oase'

Peony-flowered poppy. Feathery, fully double in clear pink. Green seed pods are suitable for cutting, they make an unusual curly stem. FSN.

Rudbeckia 'Prairie Sun'

AAS and Fleuroselect 2003. A novelty rudbeckia that has green-centred flowers with lemon-edged, golden yellow petals. A strong garden performer in heat and drought. Ht 60cm/24".





'Brazilian Carnival'

***Antirrhinum* 'Brazilian Carnival'**

Tetra mix of unusual bright bicolours and mottled flowers. Tall mix for garden and cutting use.

***Panicum* (Millet) 'Purple Majesty'**

AAS Gold Medal Winner 2003 and the most asked-about item in our trials this summer. The plants have striking purple/burgundy foliage that grows to 1-1.5m/3-5ft. Millet plants branch from the bottom making multiple side stems. The immature seed spikes can be used in dramatic flower arrangements, or left on the plants for birds to eat.

***Achillea* 'Cassis'**

Awarded the FSQ for being a fully first-year blooming yarrow. Produces many blooms on long strong stems in a claret-red colour. Dries to a black currant colour for which it was named. Ht 60cm/24". Blooms June-Aug.

***Rudbeckia* 'Primadonna Deep Rose'**

Much improved purple coneflower, first year blooming with huge initial blooms. Large, rosy-pink flowers on strong stems for cutting or as a tall border plant. Extremely drought tolerant. We were impressed by how quickly it grew and by the amount of bloom it had in its first year. Ht. 90cm/36" Blooms July-frost.

For more information on the varieties in this issue:

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ASCFG Seed Trials

2003 Buyers' Guide

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Vancouver *continued*

The hotel has three restaurants, from a wonderful informal 1950's style diner to a cozy lounge to a nice upscale restaurant with great ambiance. The food was superb. Being from landlocked Colorado, I took advantage of every opportunity for salmon. It's ok to treat yourself to something special every now and then. (That's also the excuse I used when I submitted my expense report.)

Getting to the hotel was very easy. There are private shuttles that take passengers from the airport to downtown area hotels at a low cost. If I remember correctly, it was \$8.00. It only took 20 minutes. I took a cab back, and it wasn't that bad, \$25.00, especially if a couple of people share the cost.

This year's conference will be one to remember. Getting to go to Vancouver is a treat. Don't miss this one. For those of you who haven't been to a conference in a while or have never been - what an opportunity you have

this year! The Growers' School will take place November 12, the tour on the 13th and the conference on the 14th and 15th. So take advantage of the exchange rate and plan on attending. See you in Vancouver - eh!

ASCFG Conference and Trade Show



"Specialty Cut Flowers Inside and Out"
November 12-15, 2003

Letter from Oberlin

The start of a new year is traditionally the time to begin new projects. You're looking at our most ambitious new project so far.

The move from a one-color newsletter to a four-color magazine has been a long time coming. It's proven to be more of a challenge – and taken a bit longer - than we'd anticipated, but the result will be rewarding and long lasting. The goal is to increase advertising revenues to help offset the cost. The hope is that as growers find this beautiful “new” publication, they'll come to the ASCFG, wondering what the organization is all about.

What it's about, of course, is more than color photos. The content is information you'll not find anywhere else. (Unless you were at an ASCFG Conference and were able to talk to fifteen knowledgeable growers and industry specialists. Simultaneously. At your convenience.) The connections here would take years to make on your own.

Another connection you can make in 2003 is to the wider floral industry. Your entry in the ASCFG Buyers' Guide will expose your company and your floral products to wholesalers, retailers, supermarket buyers and florists across the country. Your display ad - whether it's a half page in full color or a business card size tucked into a corner - will double that effectiveness. The format of the Buyers' Guide will be much simpler than the old Membership Directory, but its distribution will be much wider.

If you haven't yet taken the steps to participate in the Buyers' Guide, do it today. Contact the office if you need more information.

This year brings new members to the ASCFG Board of Directors. Some have been on the Board before, and some have been so active in the Association you may have thought they already were Board members. I'm looking forward to working with Mim Davis, Mark Koch and Dianne Cousins as they plan Regional Meetings for the year; and with Betsy Hitt and Ray Gray as they work to keep the organization financially stable (Betsy) and the Board organized (Ray).

Best of all, the ASCFG now has a more permanent part-time office staff. Linda Twining has proven to be the Holy Grail of assistants - she's what I've been looking for all these years. When you call the office, please be sure to thank her for everything she's done for the ASCFG, and for me. To list it all would take another five pages.

Finally, a few corrections: the photo of Will Fulton is several years old, as anyone who's seen Will lately can attest. The photo in Stanton Gill's column is not Stanton, merely an acquaintance. We hope to have current photos in the next issue.

Innovation 2003



Amazon Neon Duo Dianthus



Balboa White Lisianthus



Monaco Yellow Snapdragon

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Ageratum 'Blue Horizon'

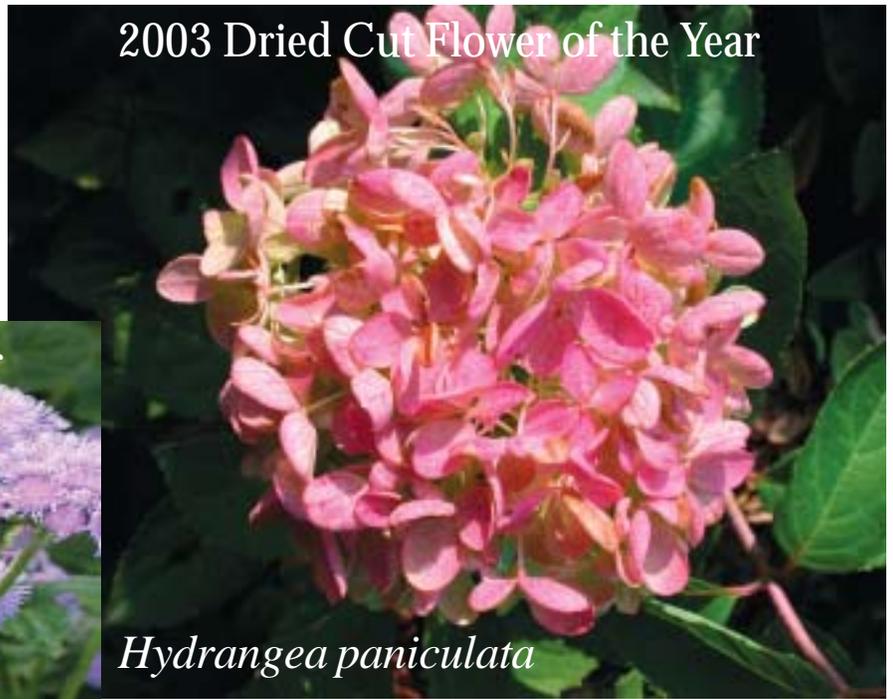
- Produces 30-inch flowering stems.
- Perfect as a filler in bouquets and arrangements.
- Provides unique blue color.

2003 Fresh Cut Flower of the Year



Ageratum 'Blue Horizon'

2003 Dried Cut Flower of the Year



Hydrangea paniculata

Hydrangea paniculata

- Hardy from Zones 2-8.
- Bears large pyramidal clusters of white flowers.
- Useful as a fresh or dried flower.



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Cut Flower Growers, Inc.
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