





# The Cutting Edge

The Association of Specialty Cut Flower Growers Trials tests the latest in cut flowers each year. Here are the results for this year's cut seed, perennial and woody trials from North Carolina State University and more than 40 trialers.

## By John Dole

ach year, catalog fever strikes cut flower growers when the new catalogs are sent out (for the youngerthan-30 age group, there is a comparable disorder known as Internet fever). From this point, it is hopeless. You order plants knowing they die 24 hours after the first 95° F day, even though the description says "heat tolerant." You order the rare Chinese species that typically grows 12 inches tall but "makes a great cut flower." Soon, the order stretches for three pages and you have forgotten all about what you needed.

Each year, the Association of Specialty Cut Flower Growers Trials tests the latest in cut flowers to determine those that do well and those that don't. In addition to trialing all the plants at North Carolina State University (NCSU), each of the trial programs for seed cut, perennial and woodies rely on volunteers to evaluate plants.

For the seed trial, we had a number of trialers from across the United States and Canada, of which 38 returned results. The trialers are primarily commercial growers of all-sized operations but also include a handful of universities and suppliers. For the perennial and woody tri-

als, we had 10 trialers, of which six returned results. In addition, all cultivars are grown and evaluated at NCSU in Raleigh, N.C., Zone 7. Trialers provide evaluations at the end of the year to NCSU. Full details including comments made by trialers about the cultivars can be found in the *Cut Flower Quarterly*.

#### **Seed Trials**

**Sunflower.** Sunflowers are a staple of many field-cut operations. This year, we had three cultivars in the trials, all of which scored very well. 'Sunrich Orange Summer' was uniform and fast •







Top, left to right: Cleome 'Sparkler Lavender'; Echinacea 'Primadonna'; Lisianthus 'ABC Lavender'. Bottom, left to right: Sunflower 'Sunrich Orange'; Sunflower 'Premier Lemon'; Eryngium 'Blue Glitter'. (Photos: John Dole)

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# Participating Perennial And Woody Suppliers

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flowering with golden-yellow petals and pollenless dark centers. For some trialers, 'Sunrich Orange Summer' flowered up to 10 days earlier than 'Sunrich Orange', but at least one trialer said both cultivars flowered on the same day. Stems were as long as most people wanted, up to 60 inches, and respondents noted a vase life of 6-14 days, with an average of 8.7 days. In our postharvest trials, we obtained 10 days using a holding preservative.

'Premier Lemon' scored a little lower than 'Sunrich Orange Summer'. While it was very fast flowering, the stem length was too short for many respondents. In some cases, the length was as short as 12 inches, but the average was

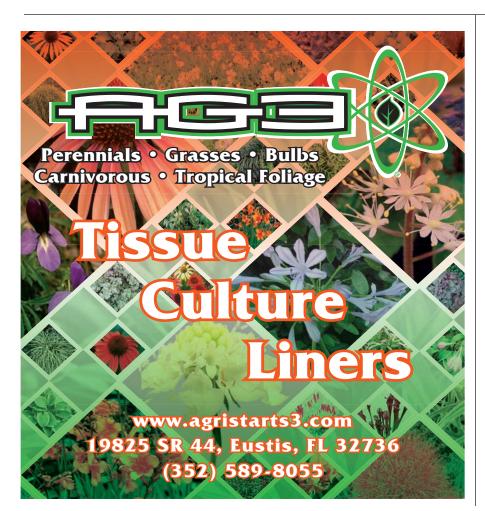
27 inches. In our trials, the stems flowered by mid-May after transplants were put out in mid-April — very short crop time. Respondents noted a vase life of 6-10 days, with an average of 7.8 days. In our postharvest trials, we obtained 12 days using a holding preservative and only nine days using just water.

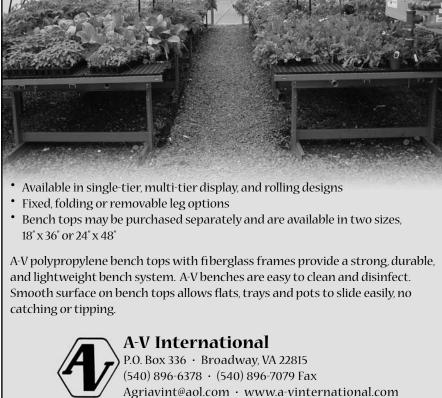
'Solara' scored well in all categories. It was uniform and fast flowering with golden-yellow petals and pollenless dark centers. Stems were as long as most people wanted, up to 60 inches, and respondents noted a vase life of 7-12 days, with an average of 9.3 days. In our postharvest trials, we obtained 12 days using a holding preservative and only nine days using just water.





Left: Solanum 'Pumpkin on a Stick'. Right: Pepper 'On the Top Round Red'.





Write in 741

**Eryngium.** Eryngiums are fascinating plants: prickly appearing but with great, interesting colors that look almost metallic at times. Eryngiums have been popular in Europe, and we tested a couple of cultivars in the perennial trials over the years. Unfortunately, they did not perform well for many people. The plants seemed to be rather susceptible to root rots and took a long time to reach flowering size. Plus, marketing a prickly thing isn't always easy. But, a little breeding and selection can make a difference with a plant.

Eryngium 'Blue Glitter' performed very well in the trials. For those of us who could start the plants early enough, they flowered rapidly, producing one to several stems per plant. Here in North Carolina, plants flowered by mid-June and lasted several weeks. We sowed the seed at the end of January. Certainly this is part of the trend to "annualize" perennials — shortening crop time and removing the need for a winter cold period to induce flowering.

Germination was good and plants were quite uniform for most of us. Others reported that some plants did not flower. Many of our plants flowered so much that there wasn't much plant left by the end of the season; however, we noticed some plants putting on a rosette of leaves in the fall. It will be interesting to see what overwinters. Trialers that did not get flowering this year noted that the plants were healthy; trialers were hoping to get flowering next year.

The most "interesting" observation was that the cut stems had a peculiar smell. One trialer reported a smell "like cow manure." Another trialer stated, "It was the pollen, as I never smelled it in the field. One event florist just rinsed the whole bunch of it off under water and had no further problems." People's reactions to smell often vary greatly and this may be the case, as many trialers did not mention an odor.

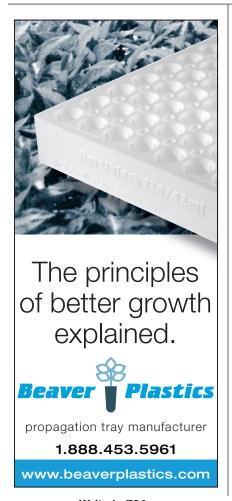
**Solanum.** It was a thorny year, not in terms of weather but in terms of plant materials. The mildly prickly eryngium and cleome weren't too bad, but the 'Pumpkin on a Stick' (*Solanum integrifolium*) was in a category of its own. One trialer said they were as brutal as roses. These unusual plants have great orange fruit that resembles squatty pumpkins. The fruit started out green and ripened to deep reddish orange. Some trialers didn't wait until they were ripe to harvest them but sold them green. Unlike pumpkins, the fruit were soft and would overripen to mush in some cases.

For those with short growing seasons, however, the fruit did not ripen by frost. The fruit were carried along 1- to 4-ft.-tall plants. The plants were somewhat branched, making where to cut a difficult question. The average number of stems per plant was about three. Responses to the 'Pumpkin on a Stick' ranged from quite positive to quite negative, as did customer responses. The stems were also a very attractive dark burgundy. The leaves were large, unattractive and bug magnets but that was not a major problem as the leaves were removed to show the fruit. The fruit were generally long lasting, with trialers reporting an average of a 19-day vase life.

Ornamental peppers. Continuing with the solanaceous theme, we also had three ornamental peppers in the trials. The best two appeared to be 'On the Top Round Red' and 'On the Top Round Bronze', with small, round fruit perched on the top of the plant (just as the name says). Our favorite was 'On the Top Round Red', but the two cultivars were very similar. The fruit started out very dark purplish-black and only ripened to red at the very end of the season. Those in cooler climates did not see the fruit ripen at all. ▶



Eragrostis 'Rubysilk'.





Write in 784 Write in 736

2006 ASCFG Seed Trial Results										
Cultivar (Company)	Yield (stems/plant)	Stem length (inches)	Marke	t apprecia Retail	ition rating* Consumer	Repeat again rating*	Ease of cultivation rating*	Average spacing (sq.inch/plant)	Average postharvest life (days)	
Celosia 'Bombay Figo' (KS)	0.9	<b>19.8</b>	<b>3.3</b>	3.3	<b>3</b>	<b>2.5</b>	<b>3.9</b>	<b>113.6</b>	<b>9.8</b>	
	0-1	7-30	3-4	3-4	2-5	1-5	3-5	36-216	7-14	
Celosia 'Bombay Firosa' (KS)	<b>1.1</b> 1-2	<b>19.6</b> 9-30	2.3 1-4	2.6 1-4	<b>2.7</b> 1-5	<b>2.5</b> 1-5	<b>3.6</b> 3-4	<b>111</b> 36-144	<b>8.8</b> 7-12	
Cleome 'Sparkler Blush' (GS)	5 3-7	<b>15</b> 14-16	<b>1.5</b> 1-2	1.5 1-2	3 3	1.3 1-2	3.7 3-4	<b>96.3</b> 64-144	<b>6</b> 6	
Cleome 'Sparkler Lavender' (GS)	<b>5.7</b>	<b>14.3</b>	<b>2</b>	<b>1.5</b>	<b>2.7</b>	1.3	3.7	<b>111</b>	<b>6</b>	
	5-6	14-15	2	1-2	2-3	1-2	3-4	81-144	6	
Cleome 'Sparkler White' (GS)	<b>4.3</b>	<b>14.5</b>	<b>2</b>	1.5	<b>2.7</b>	1.3	3.7	<b>111</b>	7	
	3-5	13-16	2	1-2	2-3	1-2	3-4	81-144	6-8	
Dianthus 'Sweet Scarlet' (PA)	<b>5.3</b>	<b>14</b>	<b>2.2</b>	3	<b>3.1</b>	<b>2.7</b>	4	<b>98.1</b>	9.9	
	0-16	9-18	2-3	1-5	1-5	1-5	2-5	36-192	7-14	
Delphinium 'Aurora Light Purple' (AT)	1.2 0-1	<b>24.8</b> 20-36	-	<b>5</b> 5	<b>4</b> 4	<b>4.2</b> 3-5	<b>3.2</b> 2-4	<b>136.8</b> 36-216	<b>10.3</b> 9-12	
Eragrostis 'Rubysilk' (CP)	<b>29.3</b>	<b>24.9</b>	<b>3.8</b>	<b>3.5</b>	3.8	<b>3.5</b>	<b>4.6</b>	<b>94.2</b>	<b>12.3</b>	
	1-225	17-36	3-5	3-5	2-5	1-5	2-5	32-204	7-30	
Eryngium 'Blue Glitter' (EB)	1.8	<b>16.3</b>	<b>4.5</b>	<b>4.7</b>	<b>3.6</b>	4	<b>4.3</b>	<b>121.1</b>	<b>11.9</b>	
	1-4	13-18	4-5	4-5	3-4	2-5	3-5	36-192	7-18	
Kale 'Bicolor Crane' (AT)	1 1	<b>20</b> 19-22	<b>4</b> 4	_	<b>3.8</b> 2-5	<b>4.3</b> 4-5	3.7 3-4	<b>88.3</b> 64-120	13 11-14	
Larkspur 'Sydney Blue Picotee' (KS)	<b>3.2</b> 1-12	<b>21.9</b> 14-38	<b>3</b> 2-4	<b>3.7</b> 2-5	3.7 3-4	<b>4</b> 1-5	<b>3.7</b> 3-5	<b>85.8</b> 24-168	<b>8.1</b> 7-12	
Lisianthus 'ABC 2-3 Green' (PA)	2.3	<b>17.2</b>	<b>3.5</b>	<b>3.8</b>	<b>3.8</b>	<b>3.1</b>	<b>3.4</b>	<b>49.4</b>	<b>12.9</b>	
	1-4	9-26	1-5	3-4	3-5	3-4	3-4	25-64	10-18	
Lisianthus 'ABC Lavender' (PA)	<b>2.2</b>	<b>16.5</b>	1	4	<b>4.3</b>	<b>3.8</b>	3.8	<b>42</b>	<b>12</b>	
	0-4	11-24	1	3-5	4-5	3-5	3-4	32-64	10-14	
Lisianthus 'ABC White 02153' (PA)	1.3 0-2	<b>16.6</b> 8-28	<b>1</b>	4 3-5	<b>3.8</b> 3-5	2.8 1-4	<b>2</b> 1-4	<b>46</b> 32-72	<b>13.5</b> 10-18	
Lisianthus 'ABC White GX12444' (PA)	<b>1.9</b>	<b>14.8</b>	3	3.3	<b>3.7</b>	3.4	2.8	<b>57</b>	<b>13.5</b>	
	1-4	8-26	1-4	2-4	3-5	1-5	1-4	32-81	10-18	

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



Write in 730 Write in 787

Cultivar (Company)	Yield (stems/plant)	Stem length (inches)	Market Whole.	t apprecia Retail	ition rating* Consumer	Repeat again rating*	Ease of cultivation rating*	Average spacing (sq.inch/plant)	Average postharves life (days)
Pepper 'On Top Candles Red' (FG)	<b>3.5</b>	<b>13.9</b>	3	3.6	<b>3.6</b>	<b>3.6</b>	<b>4.2</b>	<b>114.3</b>	<b>11.4</b>
	1-9	6-18	1-4	3-4	2-5	1-5	3-5	36-216	4-14
Pepper 'On Top Round Bronze' (FG)	3.6	18.1	3.3	3.5	3.3	3.2	4.4	<b>96.3</b>	<b>12.1</b>
	1-10	12-23	2-4	2-4	2-4	1-5	2-5	36-144	4-21
Pepper 'On Top Round Red' (FG)	<b>4.7</b> 1-10	<b>17.2</b> 14-23	3.7 3-4	3.8 3-4	<b>3.9</b> 3-5	<b>3.5</b> 1-5	3.9 2-4	<b>138.3</b> 81-216	<b>11.3</b> 7-14
Pepper 'Pumpkin on a Stick' (FG)	<b>2.9</b>	<b>25</b>	<b>1.5</b>	2.7	<b>3.4</b>	<b>2.7</b>	3.7	<b>113.1</b>	<b>19</b>
	1-5	15-48	1-2	1-4	2-5	1-5	2-5	36-144	12-28
Snapdragon 'Animation Royal Purple' (EE	6.1 6-8	<b>17.9</b> 15-24	3 2-4	<b>3</b> 2-4	<b>3.8</b> 3-4	<b>3.7</b> 3-4	3.7 3-4	<b>128.1</b> 81-144	<b>8.2</b> 8-9
Sunflower 'Solara' (EB)	1	<b>41.2</b>	<b>4.8</b>	<b>4.8</b>	<b>4.5</b>	<b>4.1</b>	4.4	<b>96.5</b>	<b>9.3</b>
	1	24-60	4-5	4-5	3-5	1-5	3-5	24-208	7-12
Sunflower 'Premier Lemon' (AT)	1	<b>27</b>	<b>4.3</b>	<b>4.4</b>	<b>4</b>	<b>3.6</b>	<b>4.5</b>	<b>94.8</b>	7.8
	1	12-48	4-5	3-5	3-5	1-5	3-5	24-208	6-10
Sunflower 'Sunrich Orange Summer' (AT)	1	<b>37.6</b> 23-60	<b>4.8</b> 4-5	<b>4.6</b> 4-5	<b>4.4</b> 4-5	<b>4.3</b> 2-5	<b>4.6</b> 4-5	<b>86.2</b> 25-162	8.7 6-14

Figure 1. The first row of data for each cultivar is the average and the second row is the range of responses. Note when only one response is listed, either only one person responded for that category or several responded and all gave the same rating. The single highest score and the single lowest score in each category for each cultivar have been dropped.

We liked the black fruit very much. The stems also were dark purple. By the time the fruit ripened, however, some looked old and wrinkled. The stems were a bit short, averaging 17 inches, but trialers were able to get a little less than five stems per plant. As with all peppers, the leaves are best removed because they wilt rapidly. In our postharvest trials, the cut stems lasted at least 10 days, with the average being 14-16 days depending on the treatment.

Trialers reported 7-14 days, with an average vase life of 11 days.

**Eragrostis.** One of the fun parts of the trial program is guessing how a plant will be received, and occasionally, we get it very wrong. Case in point was the grass 'Rubysilk'. This beautiful plant impressed us with its color and texture, but the multitude of thin stems left us wondering how to harvest it. We decided to harvest handfuls at a time and thought that the trialers wouldn't like that. Well, many folks didn't mind at all and loved the grass. Turns out others were doing the same thing we were and using handfuls of both the flowers and leaves for filler in bouquets.

Calculating the number of stems per plant was a bit tough, so you might want to be a little skeptical about that data point in Figure 1, left. We counted the stems on a few plants, resulting in more than 200 stems per plant. Others •





Write in 749

# Year Two Trial Results For Perennial Cultivars Planted In 2004

Cultivar (Company)	Plants Surviving (percent)	Yield (stems/ plant)	Stem length (inches)	Market appreciation rating*	Repeat again rating*	Ease of cultivation rating*
Echinacea 'Primadonna' (GB)	99	2.5	20.5	2.8	3.3	4
	98-100	0-6	18-24	1-4	1-5	3-5
Echinacea 'Comet' (GB)	94	12.8	21	4	4.5	4.8
	83-100	3-35	14-25	3-5	4-5	4-5
Lobelia 'Fan Salmon' (GB)	38	3.5	18.5	5	3	4
	0-63	0-7	18.5	5	1-5	3-5

<sup>\*1-5</sup> scale, with 5 being the best. Market ratings are based on sales to wholesalers, retailers or final consumers direct.

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

apparently counted just the number of handfuls and one trialer reported just one "stem" per plant. Stem length averaged 24 inches, suitable for a bouquet flower. Several respondents commented on the weak stems and mentioned lodging as a problem. Vase life was reported to be a respectable 12 days.

#### **Perennial And Woody Trials**

Currently, we are in the process of trying to reformat the perennial and woody cut flower trials due to problems with obtaining plant material and getting it to trialers. Consequently, we have only three cultivars in the perennial trial. We are, however, on year three of the woody trials. While some of the woody species are reaching production age, unfortunately, the number of trialers who still

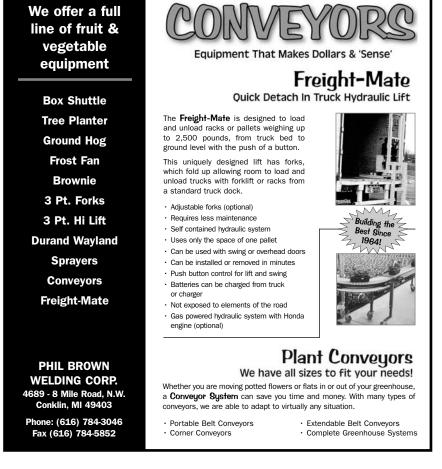






Left to right: Echinacea 'Comet'; Hydrangea 'Limelight'; Aronia 'Brilliant'.





have the plants is dropping. As such, the report is a bit limited and we have incorporated the woody data into the comments section.

**Echinacea.** Echinacea continues to be a great genus. We highlighted it in last year's report, and this year's cultivars also have done well. Echinacea 'Comet' is more like the original species, with long petals that droop with age, but the bright color was outstanding. Plants produced an average of 13 stems per plant at an average stem length of 21 inches. Trialers gave it the highest ratings of the three perennials in the trials. Echinacea 'Primadonna' was also nice but had a lower yield per plant, 2.5 stems.

Hydrangea. Two of the woodies that did well the first year after planting have continued to do well in the trials. Certainly, hydrangea 'Limelight' shows no sign of letting up. Trialers reported 20-25 stems per plant and great market appreciation. The large flower heads and strong stems make this a great cut. We tested vase life, which averaged 11 days when harvested at the green stage. Flowers harvested when more mature typically last longer.

Physocarpus. Physocarpus 'Diabolo' also has continued to perform well primarily as cut foliage. As the plants have grown larger, the number of harvestable stems per plant has increased to 35 stems per plant. We tested 'Diabolo' as cut foliage and had a vase life of 18-22 days.

Callicarpa. Callicarpa 'Early Amethyst' is also a heavy producer and very easy to grow, but postharvest is a problem as it shatters quite easily. The shattering in combination with the necessary leaf removal makes this cultivar less attractive as a cut.

Aronia. Aronia 'Brilliant' finally produced a good crop for us this year. The branches were loaded with deepred berries and were very attractive. The long stems were easy to cut, and while the berries were not hard, they were also not juicy. The lack of juiciness makes them less likely to be a messy problem for consumers. Other trialers have reported little fruit set. Either the cultivar takes time to mature or produces a variable crop from year to year. GPN

John Dole is professor of floriculture at North Carolina State University. He can be reached at john\_dole@ncsu.edu. Author's note: A hearty thank you to Judy Laushman, the Association of Specialty Cut Flower Growers, for organizing the trials and to the evaluators from all around the United States and Canada who returned their trial reports. Thanks also to the seed, perennial and woody plant companies for providing

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