



# Keeping Cuts Current

The most updated cut seed, perennial and woody trial results from growers all over the United States and trialers at NC State University.

By John Dole

Cut flower growers are a demanding group of people. Upon seeing a beautiful flower, most folks would comment first on how pretty it is. Not cut flower growers — they will ask “Can I make any money with that?” and “Sure it’s pretty, but will it last?” These questions are often followed with “How tall will it grow?”, “Does it have a good stem?” and “Are there any other colors?” Like I said — not an easy group of people to please.

Each year the Association of Specialty Cut Flower Growers (ASCFG) and North Carolina State University attempt to do just that — please cut flower growers. We evaluated more than 100 cultivars in three trial programs this year and are discussing the best ones in this article. The figures provide information on stem length, productivity and trialer’s ratings. In addition, for the first time, we asked trialers to report the postharvest life they were able to obtain, trying to answer that age-old question “Will it last?” Please keep in mind that most folks have not had the time to do any testing, so the vase life listed is without special treatments. NC State also conducted extensive postharvest testing on the most promising new cut flowers, and details will be presented in a future *GPN* article.

Each of the three trial programs rely on volunteers to evaluate the plants. For the seed trial we had 49 trialers from all over the United States, including Hawaii and Canada, of which 35 returned results. The trialers are primarily commercial growers of all size oper-

Figure 1. 2004 ASCFG Seed Trial Results. The first row of data for each cultivar is the average, and the second row is the range of responses. Note, when only one response is listed, either only one person responded for that category or several responded and all gave the same rating. After looking at the average, check the range of responses listed below each number to see how the cultivar performed at its best and worst. If the range of responses in the ratings is narrow and high, i.e., 3-5 or 4-5, the plant was a winner for most of the respondents and is likely to do well for you. The ‘Repeat Again Rating’ is particularly important because it indicates if the trialer would take the time, money and space to actually grow the cultivar again. If a cultivar sounds interesting but did not appear to do well, try it anyway. The cultivar may work well for you. (W=wholesale, R=retail and C=final consumers) See explanation of breeder codes (the two-letter abbreviations) at right.

Cultivar	Yield (stems/plant)	Stem length (inches)	Market appreciation rating <sup>a</sup>			Repeat again rating <sup>a</sup>	Ease of cultivation rating <sup>a</sup>	Average spacing (inch <sup>2</sup> /plant)	Average postharvest life (days)
			W	R	C				
<i>Ammi visnaga</i> ‘Casablanca’ (KS)	12.6 3-40	23.7 13-42	3.0 3	3.5 3-4	3.0 1-4	2.9 1-4	4.3 3-5	100 16-192	9.8 5-15
<i>Antirrhinum</i> ‘Experimental Potomac Early Lavender’ (PA)	7.0 1-15	23.6 18-32	4.0 4	n/a n/a	3.5 3-4	3.3 2-5	4.0 3-5	91 32-144	6.0 5-7
<i>Antirrhinum</i> ‘Exquisite Snow White’ (FG)	4.0 1-6	22.1 15-40	n/a n/a	n/a n/a	3.7 3-4	3.0 1-4	4.0 4	104 9-120	8.0 8
<i>Antirrhinum</i> ‘Glorious Coral’ (FG)	8.6 1-17	24.0 13-42	4.0 4	4.0 4	4.3 4-5	4.6 4-5	4.4 4-5	110 9-144	7.0 7
<i>Antirrhinum</i> ‘Glorious Dark Orange’ (FG)	10.3 1-22	25.3 13-42	5.0 5	5.0 5	4.3 4-5	4.0 2-5	4.0 3-5	99 9-144	7.0 7
<i>Antirrhinum</i> ‘Glorious Dark Red’ (FG)	10.8 1-14	23.9 17-42	n/a n/a	n/a n/a	4.7 4-5	4.0 3-5	3.8 3-4	99 9-144	8.0 7-9
<i>Antirrhinum</i> ‘Glorious Pearl White’ (FG)	7.8 1-14	23.7 17-38	n/a n/a	n/a n/a	3.8 3-5	3.8 2-5	3.8 2-5	122 9-192	7.0 7
<i>Antirrhinum</i> ‘Glorious Violet’ (FG)	10.3 1-22	24.3 13-41	5.0 5	5.0 5	4.5 4-5	4.3 3-5	4.3 3-5	77 9-144	7.0 7
<i>Antirrhinum</i> ‘Opus Apple Blossom’ (GD)	8.3 1-18	27.0 15-52	4.5 4-5	5.0 5	4.5 4-5	4.0 3-5	4.0 3-5	78 9-144	6.0 5-7
<i>Antirrhinum</i> ‘Opus Early Bronze’ (GD)	5.8 1-11	24.5 12-46	3.5 3-4	3.0 3	3.0 3	3.0 3	4.0 3-5	78 9-144	6.0 5-7
<i>Antirrhinum</i> ‘Opus Early White’ (GD)	6.0 1-12	22.6 14-41	4.5 4-5	5.0 5	3.5 2-5	3.3 1-5	4.0 3-5	103 9-144	6.3 5-7
<i>Antirrhinum</i> ‘Opus Ivory’ (GD)	7.8 1-18	23.5 12-42	3.5 3-4	3.0 3	3.5 3-4	3.0 1-4	4.0 3-5	78 9-144	6.0 5-7
<i>Antirrhinum</i> ‘Opus Lavender’ (GD)	7.8 1-14	23.3 13-45	4.0 4	4.0 4	3.3 2-4	2.8 1-4	4.0 3-5	95 9-144	6.3 5-7
<i>Antirrhinum</i> ‘Opus Pink Improved’ (GD)	7.6 1-16	24.6 14-48	3.5 3-4	3.0 3	3.8 3-4	3.3 1-4	4.0 3-5	104 9-144	6.3 5-7
<i>Antirrhinum</i> ‘Opus Plum Blossom’ (GD)	7.0 1-17	23.7 13-47	4.5 4-5	5.0 5	5.0 5	4.5 3-5	4.2 3-5	85 9-144	6.8 5-8
<i>Antirrhinum</i> ‘Opus Rose’ (GD)	5.8 1-16	25.4 13-46	4.0 4	5.0 5	4.4 4-5	4.0 3-5	4.0 3-5	108 9-144	7.4 5-12
<i>Antirrhinum</i> ‘Opus White’ (GD)	6.0 1-10	21.7 11-37	4.0 4	n/a n/a	3.5 3-4	3.0 2-4	3.5 3-4	95 9-144	6.0 5-7
<i>Antirrhinum</i> ‘Opus Yellow’ (GD)	7.1 1-16	23.4 15-35	4.5 4-5	5.0 5	4.5 4-5	4.3 3-5	4.3 3-5	95 9-144	7.7 5-12
<i>Antirrhinum</i> ‘Premier Appleblossom’ (FG)	7.2 7-8	17.1 11-24	3.0 3	3.0 3	4.0 3-5	3.3 1-5	4.3 3-5	122 9-144	7.0 7
<i>Antirrhinum</i> ‘Supreme Golden Yellow’ (FG)	6.0 1-16	29.0 21-35	n/a n/a	n/a n/a	3.0 2-4	4.0 3-5	4.0 4	99 9-144	n/a n/a
<i>Antirrhinum</i> ‘Supreme Light Lavender’ (FG)	4.5 1-10	23.0 15-37	n/a n/a	n/a n/a	4.0 3-5	3.8 3-5	4.3 4-5	101 9-144	7.0 7
<i>Antirrhinum</i> ‘Supreme Violet’ <sup>b</sup> (FG)	8.2 1-18	25.0 12-44	4.0 4	4.0 4	4.5 4-5	4.0 3-5	4.7 4-5	77 9-144	7.0 7

## variety information

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ations, but also include a handful of universities and suppliers. For the perennial and woody trials we had eight and 10 trialers, respectively, of which six and five trialers, respectively, were able to return results. Trialers provided evaluations at the end of the year to NC State. Full details — including comments made by trialers about the cultivars — can be found in *The Cut Flower Quarterly*.

### SEED TRIALS

Highlights of this year's trials included the release of three series that are likely to become important for cut flower growers: ProCut sunflowers, Sweet dianthus and Camelot digitalis.

**Sunflowers.** The sunflower ProCut series from SeedSense includes orange, lemon and bicolor cultivars. This well-matched series did very well in the trials. All were uniform, reliable and fast. 'ProCut Orange' flowered up to two weeks earlier than 'Sunrich Orange'. These single-stem cultivars produce medium-sized flower heads with a long postharvest life, averaging 7-9 days. One respondent wrote that it was their "favorite new sunflower," and another said it was the "Best sunflower I've grown in a few years!" Sunflower 'Double Quick' from SeedSense also scored very high in the trials. This large double-flowered sunflower had a short crop time but not as fast as the ProCut series.

**Digitalis.** One of the trends in ornamental breeding has been to shorten crop time by eliminating cold requirements for flowering. Delphiniums and Amazon dianthus are two notable examples. The next genus to get the star treatment is digitalis. With the release of Camelot from Goldsmith Seeds, digitalis has become a vigorous, rapidly flowering plant that does not require a cold treatment for flowering. At NC State we had uniform flowering in May from a late January sowing. Other digitalis cultivars, such as Foxy, will also flower the first year from seed, but Camelot is fast and uniform. Camelot is available in white, cream, lavender and rose. Plants were very productive, averaging 4-5



Top left: ammi 'Casablanca'. Top right: adenophora 'Amethyst'. Middle: helianthus Procut series. Bottom: persicaria 'Silver Dragon'.



### Spray Equipment For Bonzi Applications

Obtaining uniform and desired effects with spray applications of Bonzi can be influenced by the equipment used. A very important factor in Bonzi's activity is the volume of spray applied to the target plants. Variation in the spray volume as a crop is treated, can cause non-uniform plant heights. Also, variations in volume applied from one spray to another can result in differences in height control.

Backpack sprayers and hand held sprayers that are pumped up by hand are often used for treating smaller numbers of plants. This often causes problems due to the volume of spray solution applied changing as the pressure in the tank decreases and increases. Another major problem with pump sprayers is that they are often used to determine optimum rates before entire crops are treated. The application is then different when larger equipment is used in routine treatments.

It is better to use the newer backpack sprayers that maintain a uniform pressure with an electric pump and battery pack. There are small compressed-air sprayers that maintain uniform pressure; however they are most often used in research applications.

Generally, the best equipment for Bonzi spray applications is high volume hydraulic sprayers, when used properly. If the nozzle is too close to the plants, where the droplets are moving in a straight line from the nozzle, a high volume of spray will be applied directly on the plants and the coverage will not be uniform. It is important to keep the nozzle back from the plants so they are hit by the portion of the spray stream in which the droplets are swirling. Nozzles that deliver a fairly coarse spray are preferable to those applying a fine mist. Also, it is important to maintain the system and replace nozzles before they become excessively worn. Nozzle wear will affect droplet size, volume of spray and spray patterns. Check and calibrate nozzles often, replacing when necessary. To avoid or reduce spray drift, it is better to use larger droplet sizes.

There are several types of low volume or fog equipment that can be very effective in the application of insecticides; however, they are generally not preferred for Bonzi applications because they present a significant potential for higher levels of active ingredient to be deposited closer to the applicator than the plants. Additionally, with most low volume sprayers it is difficult to treat small blocks of plants. So the low volume equipment greatly reduces the amount of Bonzi that will reach the stems and/or growing media surface, which is an important target for source of control in most spray applications.

syngenta

**BONZI** Tip of the Month

## variety information

stems per plant, with some trialers harvesting up to 20 stems per plant. Stems were a bit short, averaging 19-22 inches, but long enough for most growers to use. Goldsmith notes that if the plants survive the summer heat, they will flower the next year with much longer stems, up to 3 feet tall. Digitalis is often grown as a summer or fall planted biennial for maximum stem quality, and Camelot should be tried this way also. Postharvest is acceptable for local sales, averaging 6-9 days, but too short for some trialers, especially those who ship. The main problem was that the lower florets dropped. Certainly this series would benefit from additional postharvest testing.

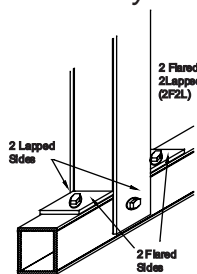
**Dianthus.** PanAmerican Seed has been busy remaking sweet william-type dianthus, and its hybrid Amazon dianthus is quite a milestone. These robust plants flowered the first year from seed, exhibited great heat tolerance and produced long stems. The Sweet series is more of a traditional sweet William, with shorter stems and a little less heat tolerance than Amazon. This is not surprising considering that the Sweet series is not a hybrid. However, Sweet dianthus still has much to offer the grower. It is uniform, rapid flowering — generally about 2-3 weeks before Amazon

Figure 1. 2004 ASCFG Seed Trial Results continued.

Cultivar	Yield (stems/plant)	Stem length (inches)	Market appreciation rating <sup>a</sup>			Repeat again rating <sup>a</sup>	Ease of cultivation rating <sup>a</sup>	Average spacing (inch <sup>2</sup> /plant)	Average postharvest life (days)
			W	R	C				
Antirrhinum 'Supreme Wine Red' <sup>b</sup> (FG)	11.0	28.0	n/a	n/a	4.5	4.3	4.3	99	7.0
	1-22	20-44	n/a	n/a	4-5	4-5	4-5	9-144	7
Brassica 'Rose Crane' (AT)	1.0	19.8	4.0	n/a	4.5	4.5	3.5	121	8.0
	2-5	16-76	4	n/a	4-5	4-5	1-5	60-216	8
Campanula rapunculus 'Heavenly Blue' (SA)	6.8	22.5	3.7	4.3	4.3	4.3	4.3	57	11.4
	1-14	18-31	3-4	4-5	3-5	3-5	3-5	36-108	7-14
Carthamus 'Superior Orange' (FG)	1.4	24.0	3.0	4.0	3.0	2.6	3.0	98	n/a
	1-3	17-36	3	4	1-5	1-5	1-5	18-192	n/a
Celosia 'Bombay Fiora' (KS)	3.1	20.1	3.0	3.8	3.6	3.3	3.7	93	7.9
	1-11	14-24	2-4	2-5	1-5	1-5	1-5	20-144	5-10
Consolida 'Chorus Violet' (AT)	3.5	27.3	1.0	2.7	2.7	3.0	3.6	31	10.5
	1-10	20-36	1	1-4	1-4	1-5	2-5	25-36	10-11
Consolida 'Sidney Lilac' (KS)	4.2	25.3	4.0	3.3	4.0	3.6	3.3	44	10.4
	1-15	14-39	4	2-4	2-5	1-5	1-5	16-120	7-21
Consolida 'Super Single Imperial Orchid' (FG)	5.4	22.5	4.0	4.0	3.7	3.8	3.8	61	8.5
	1-10	17-30	4	4	3-5	3-5	3-5	18-144	7-10
Dianthus 'Sweet Coral' (PA)	5.9	15.2	4.0	4.6	3.9	3.7	4.4	97	10.0
	2-12	8-28	4	4-5	2-5	1-5	2-5	36-216	7-16
Dianthus 'Sweet Purple' (PA)	5.8	15.1	3.3	3.6	3.6	3.5	4.4	87	9.0
	1-10	6-28	2-4	2-5	2-5	1-5	2-5	36-144	7-14
Dianthus 'Sweet Red' (PA)	5.5	15.2	3.4	3.6	3.6	3.5	4.4	91	9.1
	1-10	6-28	2-4	2-5	2-5	1-5	2-5	36-192	7-16
Dianthus 'Sweet White' (PA)	4.5	14.8	3.5	4.3	3.4	3.4	4.4	106	8.4
	1-8	8-28	3-4	3-5	1-5	1-5	2-5	16-216	7-11
Digitalis 'Camelot Cream' (GD)	5.2	21.8	4.0	5.0	4.1	4.3	4.6	122	7.3
	1-17	13-40	4	5	2-5	2-5	4-5	36-216	7-9
Digitalis 'Camelot Lavender' (GD)	5.3	19.6	3.7	4.5	4.1	4.1	4.5	107	8.6
	1-20	9-40	3-4	3-5	2-5	2-5	3-5	36-192	5-15
Digitalis 'Camelot Rose' (GD)	3.8	19.5	3.8	4.0	3.9	3.8	4.5	89	7.2
	1-7	9-40	3-4	3-5	3-5	1-5	3-5	36-144	5-10
Digitalis 'Camelot White' (GD)	4.9	22.4	4.0	4.7	3.8	3.9	4.4	112	6.3
	1-12	14-40	4	4-5	2-5	1-5	3-5	36-144	5-7
Eustoma 'Cinderella Blue' (GD)	2.4	19.5	3.0	3.5	4.3	3.8	3.4	52	10.8
	1-5	13-36	3	3-4	3-5	3-5	1-5	4-144	7-14
Eustoma 'Twinkle Blue' (GD)	2.4	15.2	3.0	3.0	3.6	2.6	3.1	51	9.8
	1-5	11-28	3	1-4	2-5	1-4	1-5	4-144	5-17
Eustoma 'Twinkle Blue Blush' (GD)	2.3	16.6	4.0	3.7	4.0	3.5	3.7	45	12.0
	1-6	11-27	4	3-4	3-5	2-5	3-5	4-144	7-17

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## variety information

— and productive. Stem length averaged around 15 inches with some trialers getting up to 28 inches. Postharvest life averaged 8-10 days. Sweet dianthus is available in white, coral, red and purple — the latter two colors were sometimes difficult to tell apart.

**Snapdragons.** This was the year of the snapdragon, with 22 cultivars submitted from three companies. Snapdragons have traditionally not done well in the trial program because they generally should be planted earlier than we can get the seed from the suppliers and out to the growers. However, that did not appear to be a problem this year, as a number of the cultivars did very well. The Opus series from Goldsmith received high marks from trialers. 'Opus Plum Blossum' and 'Opus Yellow' did well enough to be nominated for the 2005 ASCFG Cut Flower of the Year. Opus snapdragons produced 6-8 stems per plant, and stem lengths averaged 22-28 inches long. Certainly snapdragons are most impressive when grown in the greenhouse or tunnel, but many of these cultivars produced wonderful cuts outdoors.

**Campanulas.** For a number of years Sakata Seed America has been working on campanulas. Most growers are familiar with their

Figure 1. 2004 ASCFG Seed Trial Results continued.

Cultivar	Yield (stems/plant)	Stem length (inches)	Market appreciation rating <sup>a</sup>			Repeat again rating <sup>a</sup>	Ease of cultivation rating <sup>a</sup>	Average spacing (inch <sup>2</sup> /plant)	Average postharvest life (days)
			W	R	C				
Eustoma 'Twinkle Pink' (GD)	2.6	14.9	n/a	4.0	4.1	3.9	3.3	70	11.6
	1-5	11-19	n/a	4	3-5	3-5	1-5	24-144	7-15
Helianthus 'Double Quick' (SS)	2.0	38.5	4.5	3.3	4.0	4.4	4.6	98	9.1
	1-10	12-52	4-5	2-4	3-5	2-5	4-5	18-144	2-11
Helianthus 'ProCut Bicolor' (SS)	1.0	41.7	3.5	4.3	3.8	3.8	4.4	87	7.7
	1	24-60	3-4	3-5	2-5	2-5	2-5	18-144	4-12
Helianthus 'ProCut Lemon' (SS)	1.3	33.3	4.3	4.3	4.0	3.9	4.5	110	8.5
	1-5	12-60	4-5	4-5	2-5	2-5	3-5	18-192	5-11
Helianthus 'ProCut Orange' (SS)	1.3	37.4	3.7	4.0	4.0	4.0	4.4	92	9.6
	1-5	12-60	3-4	3-5	2-5	2-5	2-5	18-180	5-15
Lobelia 'Fan Blue' (EB)	6.4	16.2	3.0	4.0	4.2	4.2	4.3	101	7.8
	1-18	9-29	3	3-5	3-5	3-5	3-5	25-192	5-11
Matricaria 'Magic Lime Green' (PA)	6.9	13.5	3.3	3.5	4.0	4.2	4.4	162	9.4
	3-17	7-18	2-5	2-5	2-5	3-5	3-5	36-360	7-20
Matricaria 'Magic White' (PA)	6.6	17.5	3.7	3.2	3.4	3.4	4.5	131	8.4
	4-11	7-28	3-4	2-4	2-5	2-5	3-5	36-360	7-15
Matricaria 'Magic Yellow' (PA)	5.0	14.9	3.3	3.0	3.7	3.4	4.6	101	7.9
	1-11	7-22	3	2-4	3-5	1-5	4-5	36-360	7-12
Matthiola 'Aida Blueberry' (PA)	0.9	15.9	4.0	3.3	4.0	3.5	4.3	54	8.5
	0-1	8-24	4	1-5	2-5	1-5	3-5	36-144	6-15
Matthiola 'Aida Plum Light' (PA)	0.9	16.1	4.0	3.5	4.0	3.7	4.0	70	9.0
	0-1	8-24	4	1-5	2-5	1-5	3-5	36-192	6-15
Matthiola 'Prouesse Mix' (FG)	1.2	16.8	3.5	2.0	2.7	1.3	3.3	79	7.0
	1-3	8-29	3-4	1-4	1-4	1-2	1-5	36-144	7
Melinis nerviglumis 'Savannah' (EB)	18.7	20.5	3.7	3.0	2.8	2.9	4.2	113	13.7
	1-112	14-28	1-5	1-5	1-4	1-5	1-5	36-216	10-20
Zinnia 'Benary's Giant Lime' (EB)	8.7	18.3	3.3	3.3	3.5	3.5	4.2	107	7.2
	2-25	9-26	3-4	2-4	2-5	2-5	2-5	36-192	6-10
Zinnia 'Oklahoma Carmine' (EB)	12.5	16.5	3.0	4.0	3.8	3.8	4.5	113	8.1
	4-35	9-23	2-4	3-5	3-5	2-5	4-5	36-144	5-18
Zinnia 'Oklahoma Ivory' (EB)	14.6	16.4	2.5	3.0	3.0	3.4	4.4	106	7.6
	4-40	12-24	1-4	2-4	2-5	1-5	4-5	25-144	5-10
Zinnia 'Oklahoma Yellow' (EB)	12.8	16.2	2.8	3.1	3.3	3.6	4.2	97	8.4
	1-40	12-24	2-4	2-4	2-4	1-5	2-5	36-192	5-22

<sup>a</sup>1 to 5 scale, with 5 being the best.

<sup>b</sup>Ratings for this species should be viewed with caution as only one to three participants had enough information to provide ratings.

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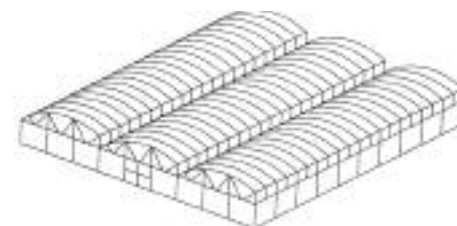
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## variety information

*Campanula medium* Champion series, which has become a staple of greenhouse or tunnel production. This year Sakata released *Campanula rapunculus* 'Heavenly Blue'. This cultivar produced sprays of small, pale purple, upright facing, bell-shaped flowers. Plants were productive, averaging seven stems per plant, and 23 inches long, with some folks getting up to 31-inch stems. Stems are thin but strong and easy to use in bouquets and arrangements. Vase life ranged from 7-14 days with the average being 11 days.

**Larkspur.** One of our old stand-by cut flowers, larkspur, received some attention this year. American Takii took the larkspur in a different direction with its 'Chorus Violet', the first spray type larkspur. It produced numerous stems topped with small, purple flowers. Stems averaged 27 inches long with a vase life of more than 10 days. Our plants showed a variety of plant habits, but this could be remedied by pinching plants when young. Kieft Seeds submitted larkspur 'Sydney Lilac' as part of their series bred for greenhouse or tunnel production. Several trialers used 'Sydney Lilac' in tunnels with great results. Stem length averaged 25 inches, a bit short for larkspur;

however, some folks had stems 39 inches tall, showing the potential for this cultivar. The 'Super Single Imperial Orchid' larkspur from Fred C. Gloeckner & Company also did well. Trialers loved the beauti-

ful color, and one person noted that it flowered well into summer. Stem length averaged 23 inches.

**Zinnia.** Ernst Benary of America has expanded the colors available in its productive Oklahoma zinnia

series. Carmine, Yellow and Ivory were tested in the trials and received high marks for productivity, more than 12 stems per plant, good stem length and a high degree of doubleness. The color of 'Oklahoma' ▶

Figure 2. ASCFG Perennial Trial Results for year one of cultivars planted in 2004. 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. (W=wholesale, R=retail and C=final consumers)

Cultivar	Plants flowering (percent)	Plants dead at end of summer (percent)	Yield (stems/plant) <sup>a</sup>	Stem length (inches) <sup>a</sup>	Market appreciation rating <sup>b</sup>			Repeat again rating <sup>b</sup>	Ease of cultivation rating <sup>b</sup>
					W	R	C		
Agastache 'Golden Jubilee' (GS)	84	13	7.4	18.1	2.0	4.0	2.5	3.4	4.4
	5-100	0-80	1-15	14-28	2	3-5	2-3	1-5	3-5
Campanula 'Bernice' (TN)	36	37	2.7	19.5	3.0	3.0	3.5	3.3	3.3
	0-100	0-100	1-5	14-21	3	3	3-4	3-4	3-4
Echinacea purpurea 'Ruby Star' (GS)	100	0	5.5	22.6	2.0	3.0	3.7	3.8	4.3
	100	0	3-8	16-32	2	3	3-4	2-5	4-5
Eryngium planum 'Blaukappe' (GS)	40	50	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	0-100	0-100	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Euphorbia dulcis 'Chameleon' (GS)	40	42	6.0	15.3	1.0	2.5	3.0	3.3	3.3
	0-100	0-100	6	14.5-31	1	1-4	3	1-5	1-5
Geum 'Fireball' (TN)	17	37	1.0	32.0	1.0	3.0	n/a	2.0	2.5
	0-100	0-100	1	32	1	3	n/a	1-3	2-3
Heuchera 'Florist's Choice' (TN)	25	26	6.0	22.2	n/a	n/a	2.0	2.5	4.0
	0-100	0-100	6	22.2	n/a	n/a	2	2-3	3-5
Heuchera 'Magic Wand' (TN)	17	19	7.0	23.5	1.0	1.0	2.0	2.0	3.0
	0-100	0-100	7	23.5	1	1	2	1-3	1-5
Lobelia 'Ruby Slippers' (TN)	77	12	5.6	31.2	4.0	5.0	4.0	4.4	4.4
	0-100	0-40	2-10	20-48	4	5	4	4-5	4-5
Persicaria 'Brushstrokes' (TN)	25	0	8.3	22.0	1.0	1.0	4.0	4.5	4.5
	0-100	0	2-12	17-28	1	1	4	4-5	4-5
Persicaria 'Silver Dragon' (TN)	39	17	40.0	24.6	1.0	3.0	3.7	3.7	4.0
	0-100	0-100	5-100	15.5-36	1	3	3-4	3-5	3-5
Zantedeschia 'Edge of Night' (TN)	0	20	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	0	0-100	n/a	n/a	n/a	n/a	n/a	n/a	n/a

<sup>a</sup>Data shown are from those respondents who harvested stems. Some respondents may not have harvested stems because they were too short. Flowering stems may be longer next year after plants are established.

<sup>b</sup>1 to 5 scale, with 5 being the best.

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## variety information

Carmine', in particular, received a lot of attention.

### PERENNIAL TRIALS

This year's perennial trial highlighted a few unconventional plants. Neither persicaria 'Brush Strokes' nor 'Silver Dragon' (Terra Nova Nurseries) were particularly notable as cut flowers but were great as cut foliage. 'Brush Strokes' has large, light green leaves with darker bronze markings, and 'Silver Dragon' has small, burgundy leaves that age to silvery green with burgundy veins. One trialer commented on 'Brush Strokes' that the "nice wide leaf provides different texture to arrangements," and another said "I am excited to use it in bouquets next year." 'Brush Strokes' does not produce flowers until very late in the season — only 25 percent of trialers had flowering. 'Silver Dragon' is much more floriferous, but to be honest, the flowers are small; the foliage is easier to use without the flowers. Stem length for both cultivars averaged 22-24 inches. Growers harvested eight stems per plant for 'Brush Strokes' and 40 per plant for 'Silver Dragon'. Interestingly, while consumers appeared to like persicaria and it worked well in mixed bouquets, the florists and wholesalers were appar-

ently less interested. One trialer noted that 'Brush Strokes' had a vase life of 12 days, and several tri-

alers reported that the vase life for 'Silver Dragon' was 11-31 days.

**Andropogon.** Another interesting

plant was the grass *Andropogon* 'Silver Sunrise', derived from our native grasses. This bluestem has a ▶

Figure 3. ASCFG Perennial Trial Results for year two of cultivars planted in 2003. 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. (W=wholesale, R=retail and C=final consumers)

Cultivar	Plants surviving (percent)	Yield (stems/plant) <sup>a</sup>	Stem length (inches) <sup>a</sup>	Market appreciation rating <sup>b</sup>			Repeat again rating <sup>b</sup>	Ease of cultivation rating <sup>b</sup>
				W	R	C		
Adenophora 'Amethyst' (WG)	67 0-100	13.8 4-30	28.0 11-44	4.0 4	4.0 4	3.7 3-5	3.3 2-4	4.3 3-5
Andropogon 'Silver Sunrise' (UN)	92 50-100	15.8 6-45	39.1 30-54	5.0 5	4.0 3-5	2.3 2-3	3.4 2-5	4.6 4-5
Campanula 'Kent Belle' (WG)	78 0-100	8.4 3-20	23.2 10.5-30	3.0 3	3.0 3	3.8 3-4	3.4 3-4	3.2 2-4
Careopsis 'First Choice' (WG)	25 0-100	50.0 50	15 15	n/a n/a	n/a n/a	3.0 3	3.0 3	4.0 4
Digitalis 'Pam's Choice' (GS)	13 0-50	1.0 1	14.5 14.5	n/a n/a	n/a n/a	2.0 2	1.0 1	1.0 1
Eupatorium rugosum 'Chocolate' (GS)	25 0-100	0 0	n/a n/a	n/a n/a	n/a n/a	n/a n/a	n/a n/a	n/a n/a
Helianthus salicifolius 'First Light' (WG)	72 20-100	18.4 2-40	28.7 10-24	2.0 2	3.0 2-4	3.7 3-4	3.6 2-4	3.2 1-4
Heliopsis helianthoides 'Summer Sun' <sup>c</sup> (GS)	50 0-100	26.0 12-40	24.2 16.5-30	2.0 2	3.0 3	3.0 2-4	3.0 2-5	4.3 3-5
Helleborus hybridus <sup>c</sup> (SF)	61 0-100	0.5 0-1	13.0 12-14	1.0 1	1.0 1	4.0 4	3.3 1-5	3.3 1-5
Kniphofia thompsonii snowdeniic (SF)	26 0-100	1.0 0-2	15.0 0-30	1.0 1	1.0 1	3.0 3	2.0 1-3	2.5 1-4
Lupinus 'Morello Cherry' (GS)	0	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Phlox 'Jeana' <sup>c</sup> (SF)	95 80-100	7.5 0-21	22.7 16.5-27.5	1.0 1	1.0 1	4.0 4	3.5 1-5	3.5 1-5
Rudbeckia triloba (GS)	50 0-100	10.5 4-15	36.5 24-48	1.0 1	2.5 1-4	4.0 4	3.8 1-5	3.8 1-5
Spiranthes 'Chadds Ford' <sup>c</sup> (SF)	35 0-100	1.0 1	10.3 8-12.5	1.0 1	1.0 1	3.0 3	2.0 1-3	2.0 1-3

<sup>a</sup>Data shown are from those respondents who harvested stems. Some respondents may not have harvested stems because they were too short. Flowering stems may be longer next year after plants are established.

<sup>b</sup>1 to 5 scale, with 5 being the best.

<sup>c</sup>Ratings for this species should be viewed with caution as only one to three participants had enough information to provide ratings.

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## variety information

bluish green color during the summer that darkens to burgundy in the fall. While one trialer thought it looked like a weed; another referred to the 39-inch-long stems as "a designer's choice at the retail florist." Trialers reported an average vase life of 10 days.

**Lobelias.** Lobelias have always been among my favorite flowers for their intense reds, blues and purples. Lobelia 'Ruby Slippers' is no different, with long spikes, averaging 31 inches, of rich red flowers that everyone seemed to appreciate. Postharvest is always a concern with lobelias, but the vase life of 'Ruby Slippers' ranged from 8-10 days.

**Echinacea.** The purple cone-flower is undergoing a revolution with many new and interesting forms and hybrids now on the market. This year's selection, *Echinacea purpurea* 'Ruby Star', is one of the standard coneflowers, but it is a great one. It produced 22-inch or longer stems topped with spectacular flowers. The large flowers have bright purple, horizontal petals with a rich, orange red cone. Trialers averaged a little more than five stems per plant.

**Campanula.** Campanulas are always interesting, and the trial included two species and adenophora 'Amethyst', a relative

of campanula. 'Amethyst' had long spikes of nodding, purple flowers. Stems averaged 28 inches long, and trialers harvested approximately 14 stems per plant. The plant was easy to grow and flowered over a long period. Campanula 'Kent Belle' also had purple flowers, but they were larger. Stems were approximately 23 inches long, and growers harvested eight stems per plant. Trialers reported an average vase life of nine days for 'Amethyst' and 11 days for 'Kent Belle'.

**Rudbeckia.** While many rudbeckias are best treated as an annual, *Rudbeckia triloba* can be handled as a short-lived perennial. This very productive plant produces sprays of dark-centered, yellow flowers on 36-inch stems. One

person noted that the "flowers make into arrangements quickly." Trialers harvested a little more than 10 stems per plant. The plant is easy to grow.

### WOODY TRIAL

As woody cuts have become increasingly important to the cut flower industry, the ASCFG realized it needed to address this area and established the Woody Cut Trials in 2003. The U.S. National Arboretum, two suppliers (Bailey Nursery and Spring Meadow) and 10 trialers have kicked off this program. Plants were received fall 2003 and spring 2004. Considering the interest in woody cuts, we are quite pleased to be able to fill this gap in our trial programs.

Only one problem: We don't have much to report at this time. Yes, most woody plants take some time to reach harvestable age, and of the 17 cultivars in the trial only a handful grew fast enough to have an idea of how they will do. We have included the comments and ratings for those species.


It is apparent already, however, that calliropa 'Early Amethyst' and hydrangea 'Limelight' are fast growing and productive plants. Here at NC State we harvested stems from our plants in the first year, as did a number of the trialers. Average stem length was 19 inches for 'Early Amethyst' and 18 inches for 'Limelight'. We expect longer stems next year as the plants begin to mature. Another ▶

Figure 4. ASCFG Woody Trial Results for year one of cultivars planted in 2004. Data shown are the average for all respondents. (W=wholesale, R=retail and C=final consumers)

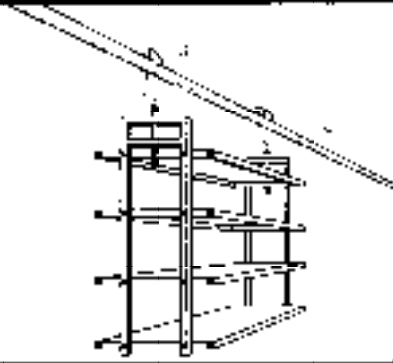
Cultivar	Plants flowering (percent)	Plants dead at end of summer (percent)	Yield (stems/plant) <sup>a</sup>	Stem length (inches) <sup>a</sup>	Market appreciation rating <sup>b</sup>			Repeat again rating <sup>b</sup>	Ease of cultivation rating <sup>b</sup>
					W	R	C		
<i>Aronia arbutifolia</i> 'Brilliant' (BA)	67	n/a	n/a	5.5	n/a	n/a	n/a	3.7	4.5
<i>Callicarpa dichotoma</i> 'Early Amethyst' (SM)	100	n/a	22.5	18.8	1.0	4.0	2.5	4.3	5.0
<i>Cotinus coggygria</i> 'Young Lady' (SM)	42	67	n/a	5.0	n/a	n/a	n/a	5.0	5.0
<i>Hydrangea paniculata</i> 'Limelight' (SM)	58	n/a	13.0	18.4	n/a	5.0	3.5	5.0	5.0
<i>Ilex verticillata</i> 'Berry Nice' (SM)	19	100	n/a	n/a	n/a	5.0	4.0	4.0	3.5
<i>Physocarpus opulifolius</i> 'Diabolo' (BA)	10	50	13.5	32.0	1.0	2.0	1.0	4.0	5.0

<sup>a</sup>Data shown are from those respondents who harvested stems. Some respondents may not have harvested stems because they were too short. Flowering stems may be longer next year after plants are established.


<sup>b</sup>1 to 5 scale, with 5 being the best.




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## variety information



Top: *nigella* 'Cramers Plum'. Bottom: *ilex verticillata* 'Winter Red'.

comment about 'Limelight' — the flower clusters are large and impressive. Although it is early, 'Limelight' already seems like a winner to us, as shown by the high ratings. *Physocarpus* 'Diabolo' was also impressive this summer. The bronzy foliage makes a great cut, with stems averaging 32 inches long.

### ASCFG CUT FLOWERS OF THE YEAR

**Fresh Cut Flower of the Year.** Top interior designers say that every room needs a splash of red. There is no easier way to introduce a little dazzling red to the home than with a few stems of *ilex* 'Winter Red'. 'Winter Red's' brilliant color coupled with the striking architecture of its bare branches will provide just the right amount of drama for any room.

Accolades are nothing new when it comes to 'Winter Red'. This multi-stemmed North American native is a winner of multiple awards. Available anytime from October through January with a profusion of large 3/8-inch fruits covering the stems. Plants are cold hardy in Zones 3-9 and should be spaced 3-5 feet or wider in the field and propagated by cuttings. Male and female flowers are on separate plants. Females are desired for berries, but males are needed nearby for pollination. It

generally requires five years to reach harvestable size.

Harvest when fruit are well colored. Cut stems may last up to 12 weeks in water; however, as with many species, the vase life in foam will be much shorter. Stems should be stored dry. Branches may be stored at 32° F for 1-3 weeks in moisture-retentive boxes. Cut stems with dried berries persist in the home for months in a dry container.

**Dried Cut Flower of the Year.** Funky is the best way to describe the bright purplish-bronze seed pods of *nigella* 'Cramers Plum'. Dramatic arrangements can be made with just 'Cramers Plum' in a glass vase or by combining it with a soft-textured dried grass to accentuate the strong lines of the *nigella*. These pods can be used either fresh or dried. Dried pods last for years if kept out of direct sun and dusted occasionally. The unusual flowers are occasionally harvested for fresh use.

This seed-propagated annual has narrow, highly dissected leaves and grows 18-24 inches tall. The tallest plants are usually obtained with direct seeding, which can occur either in the spring (cold climates) or fall (warm climates). Space plants 3x3 to 9x9 inches apart. Tight spacing encourages larger terminal flowers and fewer side branches.

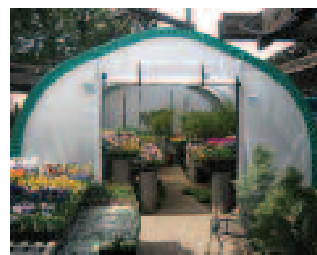
Harvest pods when fully expanded and well colored for fresh use and when firm to the touch for dried use. *Nigella* tends to reseed itself, so handle it accordingly. GPN

**John Dole is professor of floriculture at North Carolina State University, Raleigh, N.C. He can be reached by E-mail at [john\\_dole@ncsu.edu](mailto:john_dole@ncsu.edu).**

*Author's Note: Thank you to all of the evaluators who returned their trial reports. Unfortunately, the names of all the evaluators cannot be printed due to space limitations. In particular, I would like to compliment Chaz Gill, Betsy Hitt, Carolyn Ramsbotham and Vicki Stambach who participated in both the seed and perennials trials and returned evaluations on all of their trial plants. I want to thank the seed, perennial and woody plant companies for providing plants. I would also like to thank Betty Coleman for laboriously typing in everyone's comments; Ingram McCall and Diane Mays for taking care of the NC State University portion of the trials; Ingram McCall for data entry; and Leslie Tichner, Aliya Donnell, Brad Holland and Tim Ketchie for assisting with the NCSU trials.*

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