

# Perennial Project - Production and Postharvest

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Perennials are gifts that keep on giving. With the bonus of planting once, and harvests over multiple years, these plants are must-haves for field cut flower producers. Perennials offer a wide variety of shapes, colors, and postharvest durability. However, it can be difficult to find the right varieties and cultivars in today's industry, which is breeding for compact plants. Through our trialing we provide recommendations on a number of perennials for you to try.

We received rooted liners from Ball Horticultural Company, and planted three blocks of 12-16 plants each. All flowering stems were harvested and measured if over 12 inches in length. Stems were then processed by recutting to a similar length and putting them into a vase life study. These are the treatments we used during our postharvest trial:

- 1) Hydrator only (4 hours)
- 2) Holding preservative only (2 days)
- 3) Hydrator for 4 hours followed by holding preservative for 2 days
- 4) Tap water only (as a control)

Floralife Hydraflor 100 was used as the hydrator at 1.0 ounce per gallon, and Floralife Professional was used as the holding preservative at 1.3 ounces per gallon (the rates listed on the packaging). After treatment, stems were placed in tap water and held at  $68 \pm 2^\circ\text{F}$  under approximately 200 foot-candles of light for 12 hours per day. The vase life for each stem was recorded. Termination point was typically when 50% of the flower(s) or florets on the stem were brown, wilted, drooped over, etc. This study helps us provide accurate information how long these flowers will last and how to increase vase life.

If you are looking for more information on our postharvest trials or production information on the varieties we tested in years past, check out any of our articles in *The Cut Flower Quarterly* or go online to: <https://cutflowers.ces.ncsu.edu/>.

## Agastache 'Blue Boa'

*Production:* 100% of plants bloomed with an average yield of 21 useable stems per plant. Stems averaged 14 inches long.

*Postharvest:* Overall, stems lasted an average of 8 days in tap water. With the addition of holding preservative for 2 days, the vase life was increased to 9 days.

*Notes:* 'Blue Boa' took a little while to get started, but did produce throughout the growing season. Flowers continued blooming after harvest, and were lavender to violet. With its great mint-like fragrance it can add another dimension to arrangements.

*Final Thoughts:* Fragrant filler with production all season long.



## Agastache 'Blue Fortune'

*Production:* 100% of plants bloomed with an average yield of 43 stems per plant. Stems averaged 19.5 inches in length.

*Postharvest:* The average vase life increased from 8 days in tap water to 9 days using holding preservative for 2 days.



'Blue Fortune'

**Notes:** 'Blue Fortune' differs from 'Blue Boa' in several aspects. The flowers are a lighter lavender, but the stems are much longer, easier to cut, and stronger due to thickness. It bloomed throughout the summer providing multiple harvests. When cut, it releases a licorice-like fragrance.  
**Final Thoughts:** Sturdy filler with long stems, and reliable production throughout the growing season.

**Coreopsis 'Cerise'**

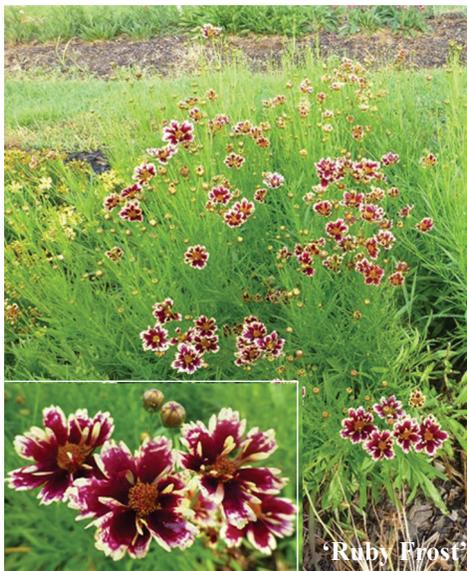
**Notes:** Stems were short, brittle, and branched, producing a low quality cut. Although plants produced a large number of flowers, we were not able to get stems long enough to conduct postharvest tests.  
**Final Thoughts:** Not recommended for cut flower use.



'Cerise'

**Coreopsis 'Ruby Frost'**

**Production:** 100% of plants bloomed, with each plant producing an average of 53 stems. Stems were an average of 15 inches.  
**Postharvest:** Vase life in tap water averaged 8 days, and was not affected by hydrator or preservative.  
**Notes:** 'Ruby Frost' was by far the most prolific bloomer throughout the entire growing season. The flowers are a beautiful red and gold. Although it produced a plethora of stems, in postharvest new buds failed to open, decreasing its potential.  
**Final Thoughts:** Has great potential as a filler for small bouquets if it is used quickly after harvest.



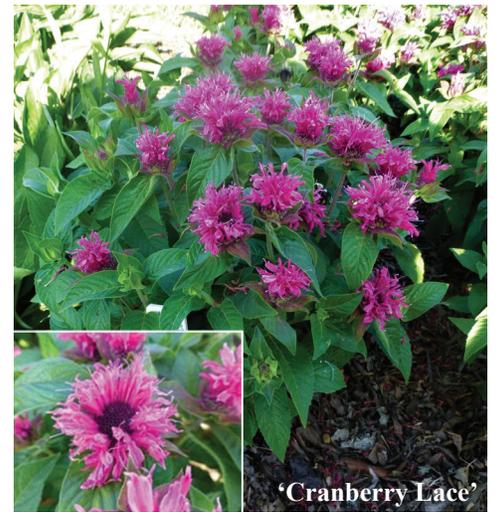
'Ruby Frost'

**Helenium 'Ruby Tuesday'**

**Notes:** Plants did not produce stems long enough to harvest or obtain postharvest data.  
**Final Thoughts:** Not recommended for cut flower use at this time.



'Ruby Tuesday'



'Cranberry Lace'

**Mondarda 'Cranberry Lace'**

**Notes:** Too short for production and postharvest experiments.  
**Final Thoughts:** Not recommended for cut flower use.

**Monarda 'Jacob Cline'**

**Production:** 100% of plants bloomed, with each plant producing an average of 9 useable stems. Stems were an average of 15 inches. 23% of plants died by the end of summer.  
**Postharvest:** The longest vase life was in tap water at 7 days. Hydrator and holding preservative did not statistically increase vase life.  
**Notes:** The stems often fell over and curved, so netting may be needed. Plants flowered throughout the growing season giving steady production. We experienced periods of heavy rain and intense heat, causing our plots to lose quite a few plants by the end of the summer. Make sure to have adequate drainage.  
**Final Thoughts:** It has potential, but may require more labor to produce high quality stems.



'Jacob Cline'

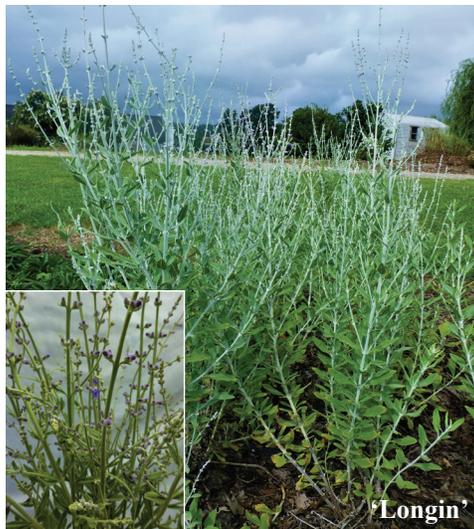
### **Perovskia ‘Longin’**

*Production:* 100% of plants bloomed with each plant producing an average of 23 useable stems. Stems were an average of 18.5 inches long.

*Postharvest:* There was a no difference between any of the treatments. The overall average vase life was 5 days.

*Notes:* Although the vase life is short, ‘Longin’ does have silver-grey, long, straight stems and a great fragrance. The purple flowers do not open well, and shatter during postharvest.

*Final Thoughts:* Not highly recommended for use as a cut, but it could provide great fragrance and color contrast with its silver-grey stems for events where a long vase life is not needed.



### **Rudbeckia ‘Viette’s Little Suzy’**

*Production:* 100% of plants bloomed with each plant producing an average of 13 useable stems. Stems were an average of 15 inches.

*Postharvest:* Hydrator, holding and hydrator + holding treatments all increased vase life to 18 days compared to 12 days in just tap water. We recommend using holding preservative, if nothing else, as it also decreased the variability in vase life.

*Notes:* Plants produced one large harvest about midsummer. Harvesting was relatively easy as stems were a good length and held high above the foliage. Flowers had a long vase life and colors did not fade after harvest.

*Final Thoughts:* Highly recommended due to its long vase life, ease of harvest, and gold-yellow color.



### **Salvia ‘Burgundy Candles’**

*Production:* 100% of plants bloomed, with each plant producing an average of 8.5 useable stems. Stems were an average of 13.5 inches long.

*Postharvest:* No treatment statistically improved vase life from an average of 5 days.

*Notes:* Very slow to start, and there was no peak harvest throughout the season. Plants may need a season to bulk up for better harvest. Flowers were a deep purple and had a great fragrance.

*Final Thoughts:* Not highly recommended at this time as the stem length and vase life were on the short side, but future seasons may provide different results.



### **Veronica ‘Charlotte’**

*Production:* 100% of plants bloomed with each plant producing an average of 4.5 useable stems. Stems were an average of 12.5 inches in length. 6% plants died by the end of the summer.

*Postharvest:* There was no statistical difference between treatments, but the holding preservative did increase the average vase life from 13 to 15 days.

*Notes:* This was one of our favorites, because it had a variety of attractive characteristics like variegated leaves, white flowers, and upright habit. However, with an average length of just over 12 inches, and low production numbers, it may be difficult to justify growing this as a cut.

*Final Thoughts:* Main drawbacks are the shortness and minimal production, but with a great vase life it should be considered. Stem length may be longer next year.



### **Veronica ‘Tranquility’**

*Production:* 100% of plants bloomed with each plant producing an average of 13 useable stems. Stems were an average of 13.5 inches.

*Postharvest:* The average vase life was 11 days and no treatments statistically increased it.

*Notes:* The upright habit made harvesting easy and each plant produced a high number of stems. Stems were usually straight and flowers continued to open during postharvest.

*Final Thoughts:* Recommended for cut flower use due to the high production and long vase life. Stem length may be longer next year

