



Counting the Digitalis

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Digitalis, also known as foxglove, is common in many gardens. Its long spikes and spotted throats provide great architecture and color to any landscape or arrangement. We usually think of them as a biennial from seed, but Darwin Perennials, part of Ball Horticultural Company, has recently released three cultivars in the Foxlight™ Series: ‘Plum Gold’, ‘Rose Ivory’, and ‘Ruby Glow’. These hybrids boast new vibrant colors and flowers that face outwards instead of hanging down like traditional types. This trait allows the observer to easily see the speckled throats and stunning colors.

With these traits in mind we wanted to test out the hybrids’ potential as cut flowers. Ball recommends vernalizing (providing a cold treatment) the plants to guarantee flowering so we also tested three vernalization durations before planting.

Experiment Setup

Vegetative cuttings were received in December 2015, placed under mist and rooted for six weeks. The young plants were bulked (grown larger) in 4-inch pots until the end of February. Plants were then precooled at 50°F for one week.

To test vernalization durations, plants were then placed in a 45°F cooler for 4, 6, or 8 weeks. At the end of their cooling period they were moved to a greenhouse for one week, followed by one week outdoors under shade cloth before planting.

Number of stems produced, and stem length were recorded before stems were tested for vase life using the following treatments:

- 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).



Rooted cuttings ready for bulking.



Vernalization treatment.

After treatment, stems were placed in tap water and held at 68 ± 2 °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)/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.

Results

The length of vernalization did not make a difference in the number of plants that bloomed, or the overall production. All plants flowered regardless of the vernalization treatment. With that in mind we can recommend the shortest treatment of 4 weeks at 45°F to ensure blooming.

'Plum Gold'



Averaged one stem per plant with an average length of 14 inches. Using a preservative increased the vase life from 11 days to 14 days

Notes: Vibrant purple/red color with spotting in the throat. Stems also had a purple/red coloration. Foliage seemed to hold up better to vernalization treatment.

'Rose Ivory'



Averaged one stem per plant with an average length of 14 inches. Preservative doubled the vase life from 5 days to 10 days.

Notes: Unique flower shape, color and speckles. However, flowers lost color and often failed to open during postharvest. Stems also exhibited drastic response to gravity if not held upright.

'Ruby Glow'



Averaged two stems per plant with an average length of 15.5 inches. Preservative did not statistically increase the 8-day vase life.

Notes: Flowers were ruby on the outside with a dusty yellow/orange throat. Although the flowers were smaller than the other hybrids, the stems were long, straight, and strong. Stems also had a purple/red coloration. Plants exhibited lush, green leaves below flowers.

Conclusions

These hybrids definitely have some potential with their vibrant colors and reasonable vase life. 'Ruby Glow' and 'Plum Gold' would be the best two cultivars to start with as they produced higher quality stems and had better vase life than 'Rose Ivory'. By the end of the summer, 20 to 40% of our plants died. This is most likely due to the large amounts of rainfall that kept our fields saturated. *Digitalis* does not like to stay wet. Raised beds may be the best option if growers want to try these new varieties. More work should be done to determine the exact number of days needed for vernalization, and if a higher vernalization temperature can be used. For more information on Darwin Perennials and the Foxlight series visit darwinperennials.com.