Verbena **Enduro Series**

THIS ADVANCEMENT IN LANDSCAPE VERBENA WON'T CYCLE OUT OF COLOR AND IS HARDY TO THE LOW TEENS!

By Kristopher Carlsson

ew Enduro from Ball FloraPlant is a breakthrough in landscape verbena for its extended flowering. Northern breeding trials show Enduro won't cycle out of color — even in summer temperatures up to 100° F. In the South, Enduro can be planted in summer or fall, with over-winter hardiness to the low teens. This series is available in three colors for 2014 sales and is easy to grow. Here are our culture recommendations for success.

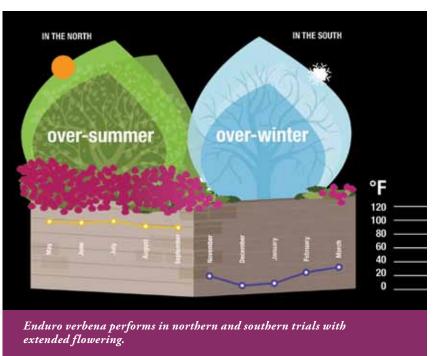
Propagation

Choose a well-drained medium with an EC of 0.75 to 0.80 and a pH of 5.8 to 6.2. Stick cuttings within 12 to 24 hours of arrival. Cuttings can be stored overnight, if necessary, at 45 to 50° F. Soil temperature should be maintained at 68 to 73° F

until roots are visible.

Once roots are visible, the media should be kept moderately wet and never saturated. This will prevent iron deficiency and the associated chlorotic foliage, which can develop. As rooted cuttings are removed from mist, apply a broad spectrum (strobilurin) foliar fungicide. Begin fertilization with 75- to 100-ppm nitrogen when roots become visible. Increase to 150- to 200-ppm nitrogen as roots develop. As the rooted cuttings develop, high light and moderate air temperatures should eliminate the need for chemical plant growth regulators (PGRs).

Enduro verbena should be pinched during propagation to improve branching and habit; plants can be pinched seven to 10 days before transplanting. Enduro verbena rooted cuttings should be ready for transplanting 24 to 28 days after sticking.



Growing On to Finish

Use a well-drained, disease-free, soilless medium with a pH of 5.8 to 6.2. Maintain night temperatures at 62 to 64° F and day temperatures at 71 to 79° F. Keep light intensities above 5,000 foot-candles while maintaining moderate temperatures. Low light levels promote stem stretch and poor flowering. Enduro verbena flowers year-round, although shortest crop times will occur under late spring and summer conditions.

Enduro verbena can be grown cold four weeks after transplant using night





temperatures as low as 32° F and day temperatures 71 to 79° F. Growing Enduro cold will reduce the need for PGR applications and extend crop time for all pot sizes by two to four weeks depending on average daily temperature.

During the first 10 to 14 days, water media sparingly and never saturate. Allow the media to dry somewhat between watering. Avoid extended periods where the media is saturated, as this will cause root system problems. Avoid wet foliage in areas where powdery mildew can be a problem.

Enduro verbena have moderate to heavy fertilizer requirements to keep the plants growing vigorously. Reducing the feed causes the plant to become woody and foliage quality to decline. Use a balanced fertilizer at 225 to 300 ppm every watering to ensure maximum growth and flowering. Excessive phosphorous and ammoniacal nitrogen will promote unwanted vegetative growth. Both should be provided in very limited quantities. Controlledrelease fertilizer can be used to supplement a liquid feed program. Leach pots periodically with clear water to avoid buildup of salts.

CULTURE CONNECTION

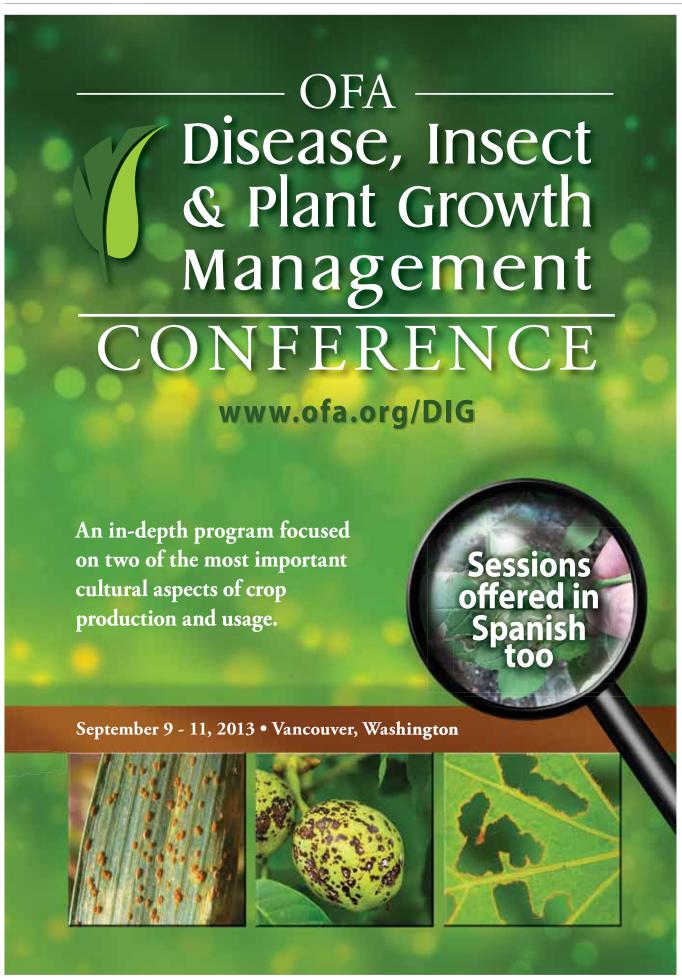
CROP CULTURE REPORT

Enduro verbena should be pinched seven to 10 days after transplanting. When pinched, plants should be actively growing with roots at or near the edge of the pot. Plants can be sheared one to two times as needed if the crop must be held. Florel promotes branching and improves the habit of Verbena. Any application of Florel should be avoided within

eight weeks of sale. A range of 300 to 400 ppm, applied one to two times, should be used as a guideline.

Controlling Growth

A tank mix of Cycocel (750 to 1,500 ppm) and B-Nine (2,500 to 3,500 ppm) applied seven to 10 days after







Troubleshooting

Problem: Plant collapse Causes: Wet media for an extended period (Pythium, Botrytis)

Problem: Excess vegetative growth

Causes: High ammonia concentration in the soil; over-fertilization under low light conditions; low light levels and over-watering; wet media

Problem: Poor branching Causes: Low fertilization during early stages

Problem: Foliage necrosis Causes: Drying out the plant between irrigations; high soluble salts in the soil; powdery mildew

Problem: Foliage chlorosis Causes: Low temperatures

pinching will encourage the naturally mounded habit of Enduro verbena. Similar results occur with a B-Nine spray (3,000 to 4,000 ppm).

Multiple applications can be made as needed. These recommendations for plant growth regulators should be used only as general guidelines. Growers must trial all chemicals under their particular conditions.

For more product culture information, and to download plant resources, visit www.ballfloraplant.com.

Kristopher Carlsson is global product manager with Ball FloraPlant. He can be reached at kcarlsson@ballhort.com.