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NOVEMBER 2007

Producing Ornamental Sweet Potato Vine Commercially

By Dennis Carey, Brian E. Whipker and Wayne Buhler



Ornamental sweet potatoes (*Ipomoea batatas*) are heat-loving annual vines that look great covering annual beds, hanging over walls or trailing down containers of all sizes. They form large swaths of brightly colored foliage in the landscape and look great as backdrops to brightly colored flowering plants. Good companions for ornamental sweet potatoes include coleus, dragon wing begonia, elephant ears, verbena, lantana, petunias, cordyline, spike dracaena, ornamental grasses, zinnia and many other full-sun, heat-loving annuals.

Ornamental sweet potato leaves vary in shape from cultivar to cultivar. They may be heart-shaped, lobed like sycamore or maple leaves, or deeply lobed like some Japanese maple leaves. They are primarily a foliage plant, but they will occasionally bloom in the landscape with pale lavender morning glory-like flowers. Most cultivars can grow runners more than 10 ft. long, while the newly developed Sweet Caroline series is a more compact grower.

Keys to Success

1. Avoid night growing temperatures below 55; F, which delay growth and increase production time.
2. Avoid letting the plants dry out.
3. High light levels are required to keep growth compact and maintain true

colors.

4. Plants need 100- to 200-ppm nitrogen fertilizer at each irrigation, alternating between 20-10-20 and 15-0-15 with normal micronutrient levels supplemented with some iron.
5. Pinching two weeks after potting results in bushier plants and can help recover plants that have gotten out of control.
6. Plant growth regulators can be used to slow growth.

Cultivars

Until recently, there were only a handful of cultivars available, but since 2002 breeding efforts at North Carolina State University (NCSU) have more than doubled the number of cultivars. The older varieties tend to be vigorous growers that become extremely large and can overwhelm a small bed or container. They are great for large annual beds and commercial sites. They can produce basketball-sized storage roots by the end of the season that can push soil and plants out of containers. The newer Sweet Caroline series releases are slower growing, more compact and ideal for home gardeners and small to medium containers. They do not form large storage roots. There are many exciting cultivars under development in NCSU's sweet potato breeding program. In the future, look for cultivars with filigreed leaves, a clumping (not vining) habit and increased flowering.

Liner Sources

NCSU has granted Bodger Botanicals an exclusive license to market the Sweet Caroline series of ornamental sweet potatoes. They are either plant patented or plant-patent pending and available only via Bodger Botanicals and their sub licensees. Older cultivars are widely available from annual liner producers. They are generally sold as rooted liners in 50- or 105-cell trays.

Popularity

The chartreuse-leafed varieties (e.g., 'Margarita', 'Sweet Caroline Light Green') are the most popular, making up almost 75 percent of the market. Dark purple-leafed varieties (e.g., 'Blackie', 'Sweet Caroline Dark Purple') are the second-most popular with almost 25 percent of the market. In the Sweet Caroline series, Bronze is the third-most popular and Red is the fourth-most popular. The other cultivars ('Tricolor', 'Sweet Caroline Green') are only a minor fraction of total sales.

Production

Liner production. Propagation is by cuttings. Plants root very easily into soilless media or oasis. Plant 2-3 node cuttings into 58- to 105-cell trays at one cutting per cell. Roots form in 4-5 days under mist. Herbaceous plant rooting hormones are generally not needed. Most cultivars are patented and may be propagated only by licensed propagators. An ideal temperature range for rooting is 75-80; F. Lower the temperature slightly after rooting, and increase light levels to harden off. Ornamental sweet potatoes like medium to high light levels. Cuttings prefer a pH from 5.5 to 6.2. Cuttings should be kept moist at all times but not saturated. Mist them several times per day until rooted.

Finish production. Ornamental sweet potatoes easy to grow. They rarely have pest or disease problems unless being grown next to a problematic crop.

Scheduling. Order liners from June of the previous year through April. They are shipped from December to April for spring production. Plants take 4-8 weeks to finish, depending on pot size.

Nutrition. Apply 100- to 200-ppm nitrogen (alternate 20-10-20 and 15-0-15) with each irrigation. They require average levels of micronutrients with a little extra iron.

pH. 6.0 to 6.5 Temperature. 72-80; F during the day; 55-65; F at night. Lower temperatures slow growth. Temperature is the critical for ornamental sweet potatoes. Growth stops around 45; F and should not drop below 40; F.

Light. Medium to high (4,000- to 7,000 foot-candles) are needed. Internodes will stretch under low light conditions, and the colors will not be true.

Plant growth regulators and pinching. Bodger Botanicals states that Sweet Caroline series sweet potatoes need no plant growth regulators and benefit from a single pinch two weeks after transplanting. Other cultivars also benefit from a pinching 1-2 weeks after planting. Plants may require an additional pinch in mixed containers to prevent them from taking over the container before the other plants have grown to size. They can become overgrown quickly and tangle with each other. Like coleus, they tolerate pinching well, so if sales are slow, pinch them to regrow quickly.

Plants respond to 2,500-ppm B-Nine (daminozide), but the effect is short-lived. Sumagic (uniconazole) at 5-10 ppm is effective, as is Bonzi (paclobutrazol) at 20 ppm. Higher rates of Bonzi and Sumagic will slow plant growth even more but can carry over and inhibit growth in the landscape. Florel (ethephon) has been shown to be effective on ornamental sweet potato at 500-1,000 ppm as a chemical pincher, but it is not labeled for use with sweet potato. These values are for middle-latitude states such as North Carolina. Southern states such as Florida will need to

use higher rates and northern states such as Michigan will need to use lower rates.

Water. Irrigate thoroughly and allow the plants to dry down slightly between watering. Avoid allowing the plants to wilt. Avoid excess watering.

Container sizes/time to finish. Ornamental sweet potatoes are recommended for 4- to 6-inch containers, combination pots/baskets and patio containers.

Pests and diseases. Pests and diseases are generally not a problem in ornamental sweet potato production. Sweet potato vines are particularly resistant to dodder and make a great plant to rotate into beds where dodder has been a problem in the past. They also are resistant to grasshopper feeding.

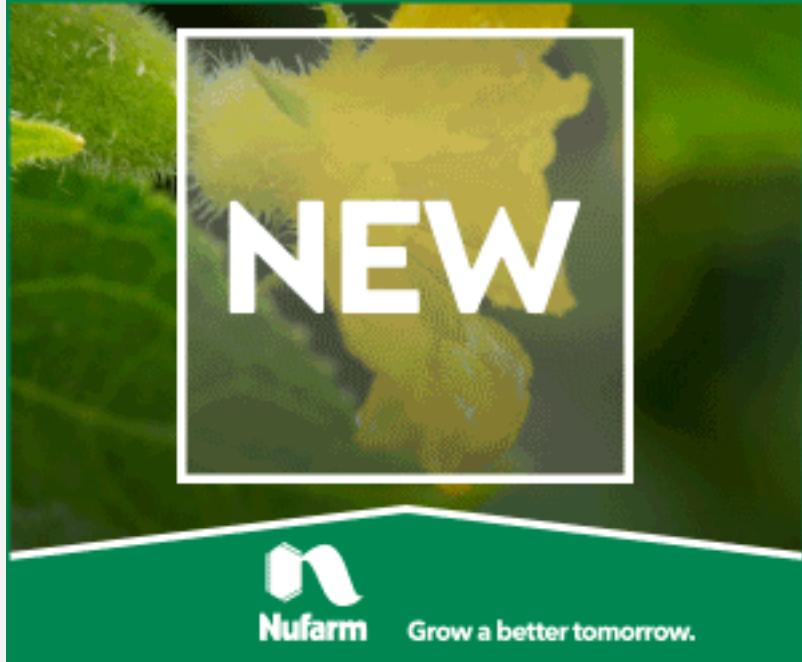
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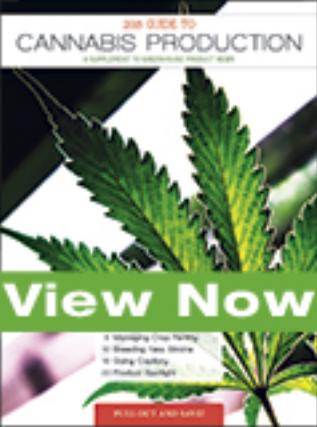
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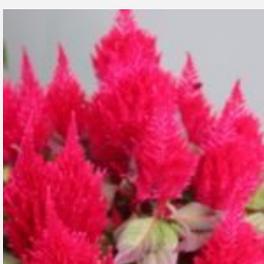
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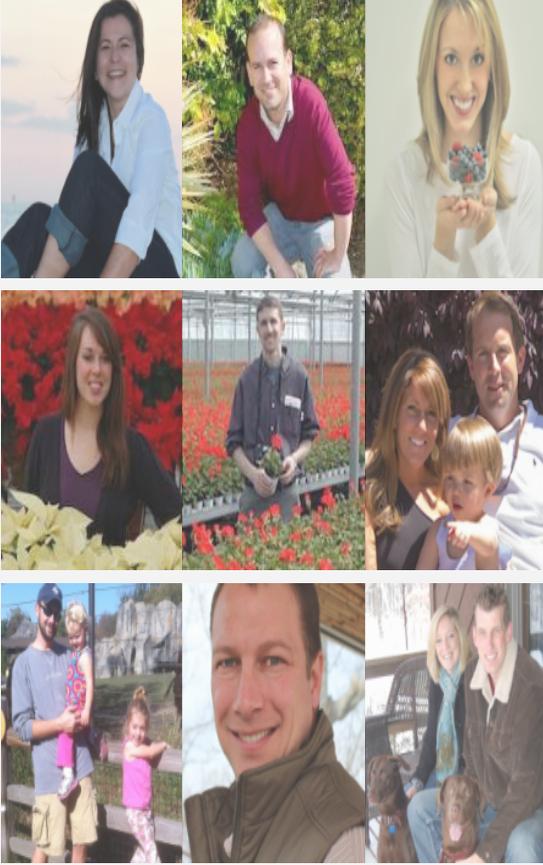
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