

**Ornamental Sweet Potatoes:  
Virus Presence, Container Studies and  
Landscape Performance**

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**Nature of Work:** Ornamental sweet potatoes have gained considerable interest among green industry professionals over the last five to ten years. The LSU AgCenter has been actively involved in evaluating ornamental sweet potatoes for landscape performance. In addition, recent studies at the LSU AgCenter have determined that some cultivars contain one or more viruses not currently found in food crop sweet potatoes. These primarily include sweet potato leaf curl virus and C-6 virus. LSU AgCenter efforts have utilized meristem-tip culture procedures to produce plants apparently free of these viruses from Marguerite, Blackie, and Tricolor. Virus tested versus contaminated cultivars have been compared in container studies.

The sweet potato weevil quarantine has also been an issue in some southern states resulting in regulation of where ornamental sweet potato cultivars can be grown and transported. In Louisiana, distribution of ornamental sweet potatoes into “sweet potato weevil free” areas is regulated by the Louisiana Department of Agriculture and Forestry. The sweet potato weevil-free parishes in Louisiana are Claiborne, Lincoln, Jackson, Union, Winn, Ouachita, Caldwell, LaSalle, Morehouse, Richland, Franklin, Catahoula, West Carroll, East Carroll, Madison, Tensas, and Concordia. These parishes are contiguous and are located in the northeastern portion of the state. Ornamental sweet potato plants originating from or grown in a sweet potato infested area may not be shipped to sweet potato weevil-free areas in Louisiana or to sweet potato weevil-free areas of other states. In Mississippi, the three coastal counties (Hancock, Harrison, and

Jackson) are infested with sweet potato weevils – the other counties in Mississippi are considered weevil-free. Approximately two-thirds of Texas (south and central) is invested with sweet potato weevils. Most of north Texas is considered sweet potato weevil-free. Alabama and Arkansas only accept ornamental sweet potatoes grown in weevil-free areas.

Landscape performance of commercially available ornamental sweet potatoes has been evaluated in Louisiana (1). More recent studies were initiated in 2001 and 2002. Black Beauty, Ace of Spades, Tricolor (Pink Frost), Marguerite, Blackie, and Summer Frost cultivars were trialed in 2001. Some of these same cultivars, along with virus-tested plants, are also being evaluated in 2002. Four-inch containers of recently rooted vines were planted in mid-April 2001 in raised beds located in full sun at Burden Center in Baton Rouge. Spacing was 3-feet between plants with ten plants per cultivar. Approximately 1 lb. N/1000 ft<sup>2</sup> StaGreen Nursery Special 12-6-6 was broadcast over the rows immediately after planting. No additional fertilizer was applied during the evaluation period. Plants were mulched to a depth of 2 inches with pine straw and supplemental drip irrigation was provided as needed to prevent stress. No pruning was conducted. Visual quality ratings were made twice monthly from May through October using a scale from 1 to 10 (1=worst, 10=best). Included in this rating were foliage color/appeal, growth habit, and vigor. Visual quality ratings were averaged to determine a monthly and yearly mean.

**Results and Discussion:** Blackie, Black Beauty, Ace of Spades, Tricolor, and Marguerite were good landscape performers in 2001. Visual quality ratings ranged from a year-average of 8.5 for Marguerite to 4.7 for Summer Frost (Table 1). No significant differences were observed between the black-foliage cultivars (Blackie, Black Beauty, and Ace of Spades) in terms of landscape performance. Results seen in 2001 were similar to results previously reported for 1999 (1).

Initial container studies comparing virus tested and virus contaminated cultivars showed no difference in visual quality ratings of Blackie and Marguerite (data not shown). Some reduced shoot numbers were evident in virus contaminated Blackie and Marguerite and reduced shoot dry weight occurred with Blackie, but not Marguerite (data not shown).

**Significance to the Industry:** Ornamental sweet potatoes have considerable potential for commercial and residential use in Louisiana. Continued efforts will hopefully determine the superior black foliated cultivar. Work is also progressing to identify and remove viruses from existing and newly released ornamental sweet potato cultivars. New cultivars are currently being evaluated by the LSU AgCenter for virus presence and potential release. The possibility of obtaining vegetative plant material of virus-tested stock of some cultivars is available by contacting the authors.

Table 1. Visual quality ratings of ornamental sweet potato cultivars during 2001.

Cultivar	May	June	July	August	September	October	Year Average
Blackie	6.5	7.0	7.0	8.0	7.5	8.0	7.3
Black Beauty	6.5	7.0	7.0	7.5	7.5	8.0	7.3
Ace of Spades	6.5	7.0	7.5	7.5	8.0	8.0	7.4
Tricolor	7.0	8.0	8.5	8.5	8.0	8.0	8.0
Summer Frost	4.0	4.5	5.0	4.5	5.0	5.0	4.7
Marguerite	8.0	8.0	9.0	9.0	9.0	8.0	8.5

Note: Visual quality ratings are average of two monthly readings and based on a scale from 1-10 (1=worst, 10=best)

### Literature Cited

- Owings, Allen, Drew Bates, and Stephen Crnko. 2000. Landscape Performance of Ornamental Sweet Potatoes – 1999. Proc. Southern Nursery Assoc. Res. Conf. 45:432-434