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Producing Potted Purple Velvet Plants

By John M. Dole and Laurence C. Pallez

Combining Florel and photoperiod manipulation can help control plant size and prevent growth of malodorous flowers.

The rich, purple, velvety leaves naturally draw people to touch them. (Photos courtesy of John Dole)

Rich, purple, velvety leaves make *Gynura aurantiaca* an irresistible plant to touch and buy. Not surprisingly, gynura is known as the purple velvet plant or, more imaginatively, the purple passion plant. The genus gynura consists of approximately 100 species of herbs and small shrubs native to tropical regions of Africa and Asia. Cultivated species such as the purple velvet plant have attractive green and purple foliage and are grown as hanging baskets and potted plants. The purple color is caused by numerous, small, deep purple hairs that cover the leaves and stems. Small, young plants grow upright; older, larger plants will become more vine-like. While the purple velvet plant has always been popular with indoor gardeners in North America and Europe, it is a natural for colorful spring sales as a small potted plant.

The small, yellow-to-orange flowers are striking against the purple foliage. The flowers, however, are malodorous (think about what attracts flies) and detrimental to sales. They are also carried terminally, interrupting cutting production. Purple velvet plants must remain vegetative for successful stock plant production and finished plant marketing. Flower number tends to increase as plants mature, making flower inhibition even more critical for mature stock plants.

The striking, yellow-to-orange flowers are attractive but malodorous.

CONTROLLING FLOWER PRODUCTION

Our research focused on preventing flowering through Florel, photoperiod control, light-intensity manipulation and combinations of photoperiod and light intensity. Although 1,200-4,800 ppm Florel completely inhibited flowering of purple velvet plants, plants were stunted and cutting harvest was impossible. Also, high concentrations of Florel decreased the purple coloration of the foliage (loss of the foliar hairs). Interestingly, lower application rates of 150-300 ppm promoted flowering. The 600 ppm rate inhibited shoot length, making it potentially useful for growth retardation of finished plants, but allowed a small number of flowers to develop. As a result, Florel was not acceptable for preventing purple velvet plants from flowering, but may be useful for growth retardation.

An 8-hour photoperiod increased plant quality. Plants had the largest vegetative shoot number and the brightest purple color, compared to 12- or 16-hour photoperiods. All of the shoots were reproductive under the 16-hour photoperiod, making the purple velvet plant a long-day plant. However, the number of flowers increased with time, indicating that photoperiod alone is not suitable for control of flowers.

Increasing the shade level increased the number of purple velvet vegetative shoots and could be used commercially for stock plant production. Increasing the shade level from 0-60 percent (3,950-1,150 foot-candles, 790-230 $\mu \cdot mol \cdot m_{-2} s_{-1}$) increased the number of vegetative shoots but did not completely eliminate flowering.

Plants grown under an 8-hour photoperiod and 60 percent shade had the most vegetative shoots. The combination of an 8-hour photoperiod and 60 percent shade overcame increased flowering due to increased plant maturity. The plants grown under 60 percent shade and short days had 94 percent vegetative shoots 102 days after placement in treatment. Growing plants under an 8-hour photoperiod and 60 percent shade from fall to spring is recommended to maintain vegetative stock plants and produce high-quality, marketable plants.

CULTIVATION INFORMATION

Propagation. Stem tip cuttings, 1.5-3 inches long, and root readily under tents or light mist. Excessive mist may result in diseases during propagation. Cuttings rooted in plugs will be ready to transplant in 3-4 weeks. Cuttings can also be directly propagated in the final container. Generally, three cuttings can be placed in a 4-inch pot, 3-5 in a 5-inch pot, and

Figure 3. Short days increased number of vegetative shoots

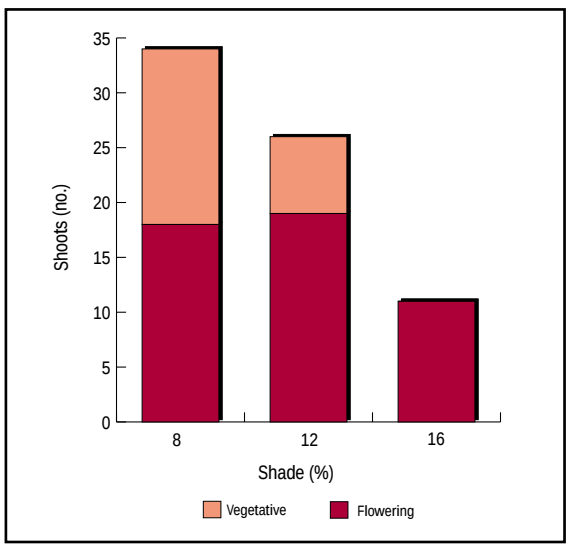


Figure 4. Decreasing light levels increase number of vegetative shoots.

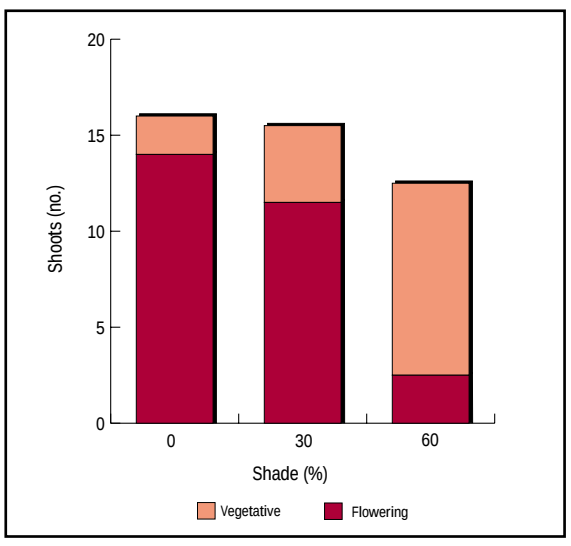
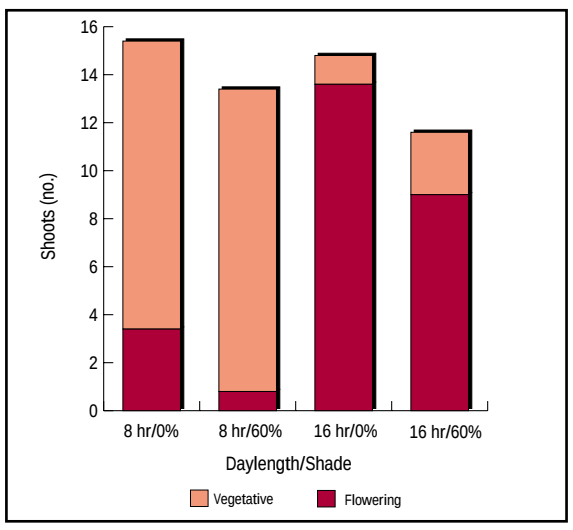


Figure 5. Flowering is inhibited the most with a combination of 8-hour daylengths and 60 percent shade.



five or more in an 8-inch hanging basket. Greater numbers of cuttings will result in a faster finish, and more cuttings than indicated would be beneficial if they are available. Potted plants and hanging baskets can be grown pot to pot for the first 2-3 weeks after transplanting, then spaced apart as leaves become large. Potted plants in 2 1/4- to 4.5-inch pots may not need to be spaced if marketed promptly.

Production. Growth is best between 65-75° F; growth and development slow at temperatures below 55° F. Do not overwater; allow the medium to moderately dry, then thoroughly water. Any medium that is well-drained and has a pH of 6.0-6.5 is acceptable. At least one pinch is usually required for 4-inch or larger pots or hanging baskets. Young, fresh growth has the brightest color, and plants may need to be pinched more than once if a large plant is required. Little work has been done on nutritional levels; we used a nitrogen rate of 250 ppm after roots were established. Lower fertilizer rates would probably be just as effective. Crop time for small plants in 2 1/4- to 4-inch pots will average 6-7 weeks from sticking cuttings; 4.5- to 5-inch pots will require 2-4 additional weeks.

Insects and Diseases. Aphids are a common insect problem on young plants. Aerial and root mealybug and scale can become problems on stock plants, especially those forgotten in the overhead space. Slow growth and chlorotic foliage may mean the presence of root mealybugs. Purple velvet stock plants are especially prone to root rot and growers should avoid overwatering. Botrytis, Rhizoctonia, Phytophthora and Fusarium can all be problems during propagation and on stock plants. Be sure to monitor media pH and EC of old stock plants to maintain vigorous growth or repropagate stock plants frequently.

Marketing and Postharvest. While purple velvet plants are colorful, a bright purple or pink pot or pot wrap can really make small potted plants stand out, especially for spring sales. Hanging baskets should be marketed when full but before the shoots begin to vine. Rooted cuttings and other small plants can add color to dish gardens.

Purple velvet plants maintain their colors in bright light in the home. In low light, the hairs on the leaves become less dense and the foliage appears more green. Luckily, flowers are rarely produced indoors. Homeowners should be encouraged to fertilize the plants monthly if they are placed in bright light.

Summary. Purple velvet stock and finished plants should be grown under an 8-hour photoperiod and 60 percent shade (1,150-1,525 footcandles, 230-305 $\mu \cdot mol \cdot m_{-2}s_{-1}$ maximum light intensity) to maintain vegetative growth and reduce flowering. Florel sprays are not commercially useful for preventing flowering but may be useful for controlling vine lengths. Mature stock plants are more prone to flowering than young, freshly propagated, finished plants. GPN

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