Size Control For LANTANA

Lantana may be gaining popularity with consumers, but its spreading habit is causing headaches for growers. Here are some treatments to stop lantana spread.

By Jim Barrett and Rick Schoellhorn

The plant on the left is a nontreated New Gold lantana, and the one on the right received two sprays of B-Nine/Cycocel at 2,500/1,500 ppm. Plants are from the experiment shown in Figure 1. (Photos courtesy of Jim Barrett.)

Pictured are three New Gold lantana plants, all of which received a Bonzi spray. Left to right the rates were 20, 40 and 80 ppm. Plants are from the experiment shown in Figure 1.

Over the past few years, lantana has become one of the more popular spring crops, with several important uses for the grower and home gardener. Many new varieties with varying growth habit and flower color are now available to sustain its popularity.

Lantana is often used in hanging baskets and combination containers; however, when grown in a 1-gallon or smaller container, even the compact types can become too large. Over the past couple of years, one of the most common questions we have received about this variety is how to use growth regulators on lantana.

TESTING DIFFERENT PGRS

This winter, we performed a series of experiments using three different lantana varieties that have varying growth habits. Rooted cuttings of 'New Gold', 'Trailing Lavender' and 'Professor Raoux', all from the Nature's Best line, were obtained and planted in 4.5-inch pots on January 8, 2001. Treatments were applied on January 29. For treatments with two applications, the second application was applied on February 5. Plant width was measured on February 22, and the accompanying pictures were taken on February 25. Plants were grown in a greenhouse in Gainesville, Fla. and received a 20-10-20 fertilizer at 150 ppm with each irrigation.

As can be seen in the pictures and graphs, all of the chemicals were active on lantana, with each chemical providing some size control. A one-spray treatment containing a standard mix of B-Nine/Cycocel at 5,000/1,500 ppm was applied to all three varieties. This treatment produced plants with widths that were approximately 63 percent of the New Gold control plants (see Figure 1), 75 percent of the Professor Raoux controls (see Figure 2) and 67 percent of the Trailing Lavender controls (see Figure 3).

The optimum amount of size reduction for lantana varies greatly with variety, production styles and grower preferences. We will use a reduction of 1/3 for comparisons. For the B-Nine/Cycocel tank mix sprays, approximately 1/3 reduction in size was produced by two sprays at 2,500/1,500 ppm and a single spray at 5,000/1,500 ppm (see Figure 1). Bonzi at 40 ppm produced slightly more than 1/3 reduction in ➧

Pictured are Trailing Lavender lantana. The plant on left is the control, and one on the right received a Sumagic drench at 1 ppm. Plants are from the experiment shown in Figure 3.

Figure. 1. Results of sprays of either B-Nine/Cycocel tank mix or Bonzi on New Gold Lantana. Details of how the plants were grown and treated are in the text. Plant width at treatment was 14 cm. Plants from this experiment are shown on page 50.

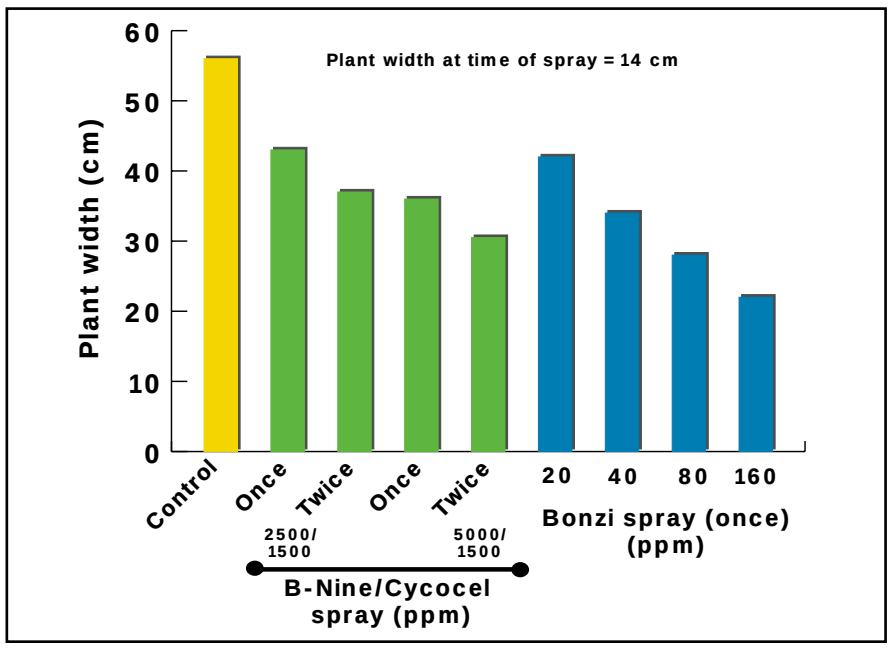
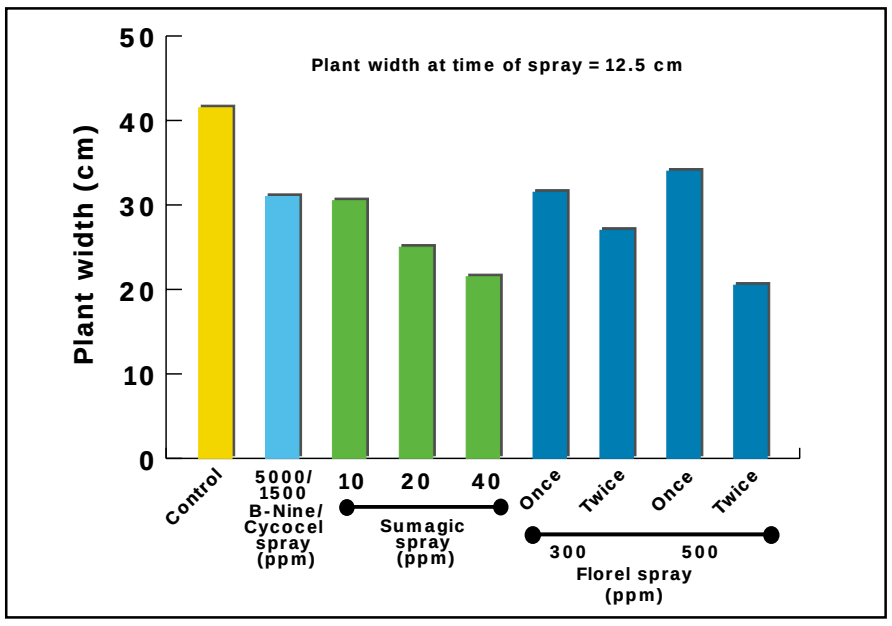


Figure 2. Plant widths for Professor Raoux lantana sprayed with either Sumagic or Florel. Details of how the plants were grown and treated are in the text. Plant width at treatment was 12.5 cm. An example of Florel-treated plants from this experiment is shown on page 54.



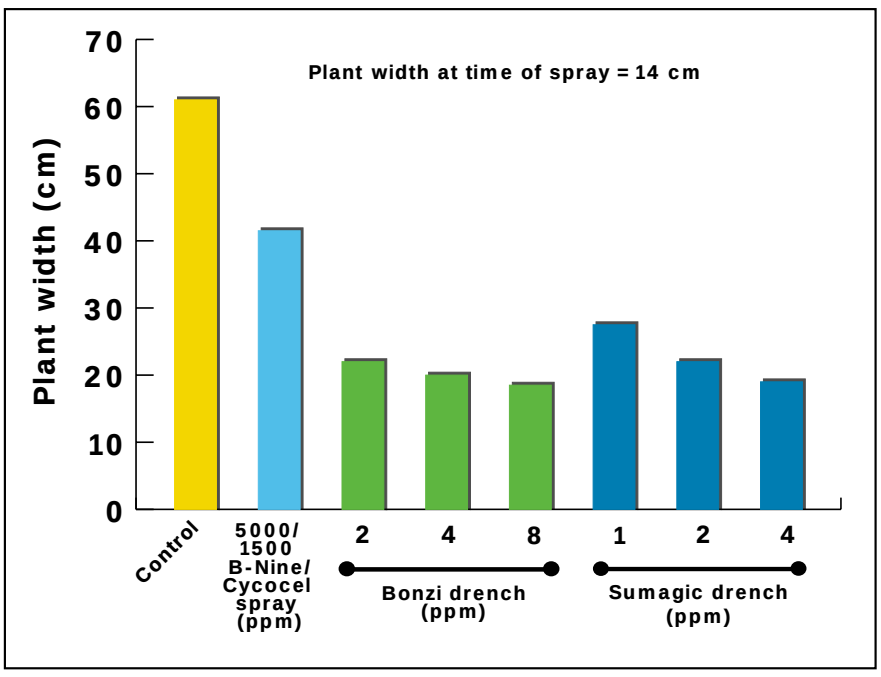
plant width on the New Gold plants (see Figure 1).

On Professor Raoux, Sumagic at 20 ppm provided approximately 1/3 reduction in width (see Figure 2). For Florel, two sprays at 300 ppm gave the 1/3 reduction in width (see Figure 2).

The Bonzi and Sumagic rates used in the drench treatments applied to the Trailing Lavender were all too strong and produced plants that were more compact than most growers would desire (see Figure 3). ➧

From left to right, these Professor Raoux lantana are control, Florel at 500 ppm applied once and Florel applied twice. Plants are from the experiment shown in Figure 2.

Figure 3. Trailing Lavender lantana given Bonzi and Sumagic drench applications. Volumes used were 60 ml per pot. The media did not contain pine bark. Details of how the plants were grown and treated are in the text. Plant width at the time of treatment was 14 cm. An example of the Sumagic drench is shown on page 52.



WHICH CHEMICAL TO USE

The results of these trials indicate that there is not a simple answer to the question of what provides control on lantana. Several chemicals work — the important thing is that you need to use something to achieve the best results. In situations where lantana size will be a problem, and especially for vigorous varieties with long internodes, a growth regulator program should be implemented before the plants become too large.

Growers have a choice of chemicals and strategies for lantana. Since several chemicals are active, growers can use whichever chemical they prefer or are familiar with. Bonzi and Sumagic drenches are obviously very active, so in situations were media applications are more convenient, that is a viable option. Growers will need to evaluate the use of the chemicals under their particular production situation to determine optimum rates and timing of application. The above rates will give you a place from which to start your experiments. GPN

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Production and sales of cut lilies have increased dramatically in recent years. According to the latest published USDA Census in 1998, over 76 million stems of cut lilies were produced in the United States, with a value exceeding $54 million. Many growers find the crop to be very profitable and relatively easy to schedule for year-round production. In addition, many florists prefer or demand locally grown lilies.

While it is true, in general, that shipping cut flowers long distances reduces quality, it is particularly noticeable in cut lilies. Cold storage of cut lilies, a standard practice to preserve freshness is, however, inevitable, and with the increase in global transportation, the duration and temperature of cold storage can vary greatly. The effects of cold storage on buds are not evident when plants are removed from the cold room, thus giving buyers little indication of cut stem quality.

At the University of Massachusetts, we have been investigating factors that affect postharvest leaf and flower quality of cut Asiatic and Oriental lilies. Unless otherwise stated, most of the experiments were conducted on 'Stargazer' Oriental lily harvested from a local commercial greenhouse. Our studies focused on means to improve overall quality of the cut stems, taking into consideration the quality of both the leaves and the flowers.

SENSITIVITY TO ETHYLENE

It is generally accepted that cut lilies are sensitive to ethylene and that treatment with silverthiosulfacte (STS) increases longevity. In fact, all cut lilies processed through the Dutch and New Zealand auctions have to be pretreated with STS. The benefit of treating cut lilies with STS, however, is debatable.

Van der Meulen-Muisers and van Oeveren studied 16 cultivars of Asiatic lilies and concluded that "the possibilities (of STS) for extending flower longevity are limited." I concur with that conclusion because exposure of freshly cut Stargazer stems, when exposed to 1 ppm and 10 ppm ethylene gas for 24 hours, showed no effect on leaf or flower quality. Pretreatment of those stems with STS induced early development of leaf yellowing, without any beneficial effect on the flowers. Furthermore, treatment with Ethylbloc (1-methylcyclopropene), another ethylene inhibitor, did not improve postharvest quality.

Our results indicate that Stargazer lilies are not sensitive to ethylene. On the other hand, when Stargazer was treated with