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Efficacy of B-Nine™ and Bonzi™ on *Clerodendrum ugandense* as a Flowering Potted Plant.

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BACKGROUND

C. ugandense is a day neutral semi-woody spreading shrub. Thus, high rates of PGRs are needed to control growth in order to produce a marketable flowering potted plant, i.e., to a standard of 1.5 to 2 times the height of the container. The objectives of this study were to determine the efficacy of: a) B-Nine (daminozide) at 2,500, 5,000, 7,500 or 10,000 ppm (sprays to runoff); and b) Bonzi™ (paclobutrazol) drench applications at 5, 10, 15, 20, 25, 30, 35 or 40 mg a.i./pot.

MATERIALS & METHODS

Semi-woody rooted cuttings *C. ugandense* with 4-6 leaf pairs of were planted on 16 March 2004. All cuttings were planted one per 6-inch container filled with Promix. Plants received ambient light levels in the greenhouse with temperature set points of 86° F day/73° F night (latitude 30.43N). Plants were fertilized at every irrigation with Peters™ 20-10-20 water-soluble fertilizer at the rate of 200 ppm N. All plants were pinched on 23 April to four leaf pairs. All PGR treatments were applied 1-week later.

RESULTS

B-Nine did not affect days to flowering, days to harvest, height, number of laterals, number of inflorescences, internode length or number of leaves of *C. ugandense* (Figure 1).

Figure 1. Effect of B-Nine sprays on growth and flowering of *C. ugandense*. Left to right, control, 2,500, 5,000, 7,500 or 10,000 ppm.

Bonzi™ had significant effects on plant growth and flowering (Figures 2, 3 and 4). Days to flower (control = 48 days) were reduced with all Bonzi™ treatments. The range was13 to 19 days. Days to harvest (control = 68) were reduced by a range of 13 to 24. Height (30 inches) was also reduced or Bonzi™ treatments with a range of 17 to 24 inches. The number of laterals was reduced by Bonzi™ at 15, 20, and 30 mg a.i./pot (~3 laterals). Bonzi™ did not significantly affect number of inflorescences.

Internode length was reduced by all treatments when compared to controls. Bonzi™ at 5 and 10 mg a.i./pot reduced internode length by 0.5 to 0.75 inches compared to controls. At 15, 20, 25, 30, 35, and 40 mg a.i./pot, internode length was reduced by a range of 1.2 to 1.5 inches.

The number of leaves were reduced at 10, 15, 20, 25, 30, 35, and 40 mg a.i./pot, compared to controls, with a range of 49 to 62 leaves.

Figure 2. Effect of Bonzi™ drenches on growth and flowering of *C. ugandense*. Left to right: Control, 5 mg a.i./pot, 10 mg a.i./pot, 15 mg a.i./pot, 20 mg a.i./pot, 25 mg a.i./pot, 30 mg a.i./pot, 35 mg a.i./pot, 40 mg a.i./pot.

Figure 3. Effect of Bonzi™ at 10 mg a.i./pot drench on *C. ugandense*.

Figure 4. Effect of Bonzi™ at 40 mg a.i./pot on growth and flowers of *C. ugandense*.

CONCLUSIONS

In this study, the most effective application rates of Bonzi™ were drenches at 5 to 15 mg a.i./pot. This was based upon reduction of plant size to 1.5 to 2 times the height of the pot and visual quality. This was also based on the number of leaves for these rates that were not different from controls or the 5 mg a.i./pot. Bonzi drenches at 10 and 15 mg a.i./pot reduced the number of leaves, indicating that the plants reached maturity earlier. The reduction of leaves with 10 and 15 mg a.i./pot did not detract from the visual quality of the plants because the proportion of leaves to size of plant remained appealing.

IMPACT TO THE INDUSTRY

1. Bonzi™ drenches at 10 or 15 mg a.i./pot produced highly marketable plants. The PGR should be applied one week after plants have been pinched to four leaf pairs.

2. B-Nine™ had no effect on plant growth or flowering. Thus, it is not a suitable PGR for this species.

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