

Ethrel Controls Height and Increased Branching On Petunias



Benny Tjia
Dept. of Orn. Hort.
Univ. of Florida
Gainesville, Fl.

B-Nine has been the most widely used growth regulator on bedding plants to control height and is, in fact, the only growth regulator that is recommended for petunias. Several experiments during a three year period were conducted using granulated ethrel incorporated into the potting mix at transplanting, or as soil drenches or foliar sprays. In all cases petunias responded to the growth regulator application in terms of height, diameter, and branching habit (Tables 1, 2 and 3).

Five percent granulated ethrel was mixed thoroughly with the soil at planting at 0.25, 0.50 and 1.00g per 3" pot. Foliage spray and soil drench ethrel treatments were applied 15 days after transplanting (plants were 1 to 1.5 inches in diameter) at rates of 100, 250 and 500 ppm spray, and 100, 250, 500 and 1000 ppm, respectively, for soil drenches. Each plant was sprayed until runoff, and 25 ml of solution were applied for soil drench treatments. Ethrel was effective in reducing height and plant diameter (Tables 1, 2 and 3). Another added benefit of ethrel application was an increase in number of basal branches. In another experiment, "Chiffon Cascade" petunias were sprayed with 250 ppm ethrel 21 days after transplant to 3" pots. Basal branches that developed remained functional, growing and flowering normally after plants were transplanted outdoors in flower beds (Table 4).

Trials utilizing different cultivars have shown differences in sensitivity to ethrel application, the most sensitive being "Chiffon Cascade." Optimum growth regulation was observed at 250-500 ppm foliar spray for this cultivar. Other Cascade series, such as "Pink Cascade," were less responsive, and the most desirable growth regulation was achieved with 500-1000 ppm ethrel foliar spray.

Other added benefits were that basal branches increased significantly, and that a second application of ethrel was not necessary, whereas in other studies B-nine applications needed to be repeated (especially in Florida, where day temperatures often exceed 80°F in early spring). Flowering was delayed on all plants, regardless of method of treatment.

Table 1: Effect of Soil-Incorporated Granulated Ethrel on Growth and Flowering of Petunia "Pink Cascade."

Treatment	Number of Branches	Height (cm)	Diameter (cm)	Days to Flower
Control/3" pot	2.2	7.3	14.6	45
0.25 g/3" pot	4.9	1.6	10.1	52
0.50 g/3" pot	6.5	0.8	6.5	60
1.00 g/3" pot	4.7	0.4	4.6	64

Table 2: Effect of Ethrel Spray Applied 15 Days After Transplant on Growth and Flowering of Petunia "Pink Cascade."

Treatment	Number of Branches	Height (cm)	Diameter (cm)	Days to Flower
Control	3.6	2.0	12.2	49
100 ppm	4.2	1.4	12.4	51
250 ppm	5.8	1.2	11.0	54
500 ppm	7.6	1.2	11.6	56

Table 3: Effect of Ethrel Drench 15 Days Following Transplant on Growth and Flowering of Petunia "Chiffon Cascade."

Treatment	Number of Branches	Height (cm)	Diameter (cm)	Days to Flower
Control	3.5	5.3	14.3	48
100 ppm	8.9	2.5	9.6	57
250 ppm	10.2	2.1	8.9	65
500 ppm	10.2	2.1	7.3	70
1000 ppm	11.1	2.1	7.5	78

Table 4: Effect of Ethrel Spray, Applied 21 Days After Transplant and Plants Placed Outdoors, on Subsequent Growth and Number of Flowers of Petunia "Chiffon Cascade."

Treatment	Number of Branches	Number of Blooms After 57 Days	Number of Blooms After 72 Days
Control	4.0	6.0	14.5
250 ppm	11.8	9.0	19.4

