

research bulletin

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CONTROLLING THE GROWTH HABIT OF DWARF POT ROSES WITH UNICONAZOLE (SUMAGIC™)

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The Orange Sunblaze™ dwarf pot roses were treated with a single foliar Sumagic application of 0, 0.1, 0.2 and 0.3 mg a.i. of Sumagic per 5-inch pot. The most desirable growth retardation was achieved by applying 0.3 mg a.i.

INTRODUCTION

The pot roses are gradually making inroads in the floricultural market as a flowering house plant. The dwarf plants not only make an excellent flowering gift any time, but in many parts of the country, can be used in the garden and enjoyed year after year. Unlike the polyantha and floribunda pot roses, which often become unsightly in symmetry and size, the miniature pot roses appear to be a more desirable product. Even though the plants, including flowers are miniature in habit, upon being forced in 5 or 6 inch pots during a period of 6 to 8 weeks they generally become leggy, reaching heights of 10 to 18 inches and have numerous irregular lateral branches. During the winter of 1988-89 experiments were conducted at Colorado State University to determine if Sumagic, the latest growth retardant, would improve compactness and reduce the height of a number of crops (2,3) including the Miniflora rose Orange Sunblaze™ (variety: Meijikatar), a french product distributed by Conard-Pyle Company in the United States.

MATERIALS AND METHODS

Dormant plants of 'Orange Sunblaze'™ were received on 28 January 1989 from the Conard-Pyle Company. They had been grown in 4-inch pots and were repotted into 5-inch azalea pots on 30 January 1989 and spaced on a greenhouse bench at a density of 1 plant per sq ft. The growing

mix consisted of 1 soil, 3 sphagnum peat, 2 No 6 perlite (v:v:v). The plants were forced in a greenhouse heated to 62 day and cooled to 75 during the night. CO₂ was injected during daylight hours resulting in levels ranging from 600 to 1000 ppm. Three weeks after potting, 21 February the plants were treated with a single foliar application of Sumagic consisting of either 10, 20 or 30 ppm a.i. with plant receiving 0.1, 0.2 and 0.3 mg a.i. per pot, respectively. Control plants were sprayed with a tap water.

Data on plant height, diameter growth habit and days to flower were collected on 20 March 1989, 7 weeks after potting. The design was a Generalized Block with 3 replications having 5 plants each.

RESULTS

There were significant differences in heights between all Sumagic treated and untreated plants (Fig. 1). The plant height of the Sumagic treated plants was 10 to 40 % shorter than the untreated plants, Table 1.

Table 1. Height response of miniflora 'Orange Sunblaze' pot roses to Sumagic applications.

ppm a.i. of Sumagic	mg a.i./pot	% height of untr. plant
0	0	100
10	0.1	90
20	0.2	68
30	0.3	61

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Plants treated with 0.3 mg a.i. of Sumagic per pot were more compact than the untreated plants (Fig. 2) and had darker green foliage. Flowers on plants treated with the highest Sumagic™ concentration were well distributed over the plant and the peduncles were about 70% shorter than those on the untreated plants (Fig. 3). Flowering was delayed 3 to 4 days on plants treated with the highest Sumagic dose. Pot roses treated with 0.3 mg a.i. of Sumagic were 3 to 4 inches smaller in diameter than untreated plants or those treated with lower doses of Sumagic.

The plants were pruned back in early April and upon reflowering, those treated with the highest dose of Sumagic were still shorter, more compact and had much darker foliage than the untreated plants.

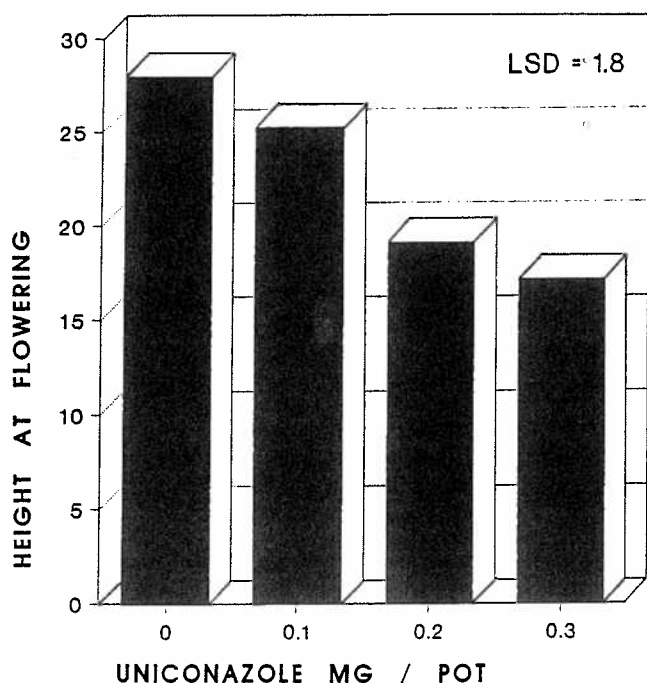


Figure 1. Height at flowering of 'Orange Sunblaze' pot roses treated with single application of 0, 0.1, 0.2 and 0.3 mg a.i. Sumagic™ per pot, 0, 10, 20 and 30 ppm a.i., respectively.

REFERENCES

1. Ferare, J. 1983. Dwarf pot roses. Colo. Greenhouse Grow. Res. Bull. 397:1-2.
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Figure 2. 'Orange Sunblaze' pot roses treated with single applications of Sumagic™ (uniconazole). Left to right 0, 0.1, 0.2 and 0.3 mg per pot. (0, 10, 20 and 30 ppm a.i. of Sumagic solution).



Figure 3. Differences in flower peduncle lengths of plants treated with 0, 0.1, 0.2 and 0.3 mg of uniconazole.