

Podranea Height Control with XE-1019

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ABSTRACT

Foliar sprays of XE-1019 at 3, 6, 9, 12, 15, 18, and 36 mg a.i.·liter⁻¹ were found to be effective in controlling the height of Podranea ricasoliana. However, at higher concentrations (greater than 12 ppm), undesirable leaflet curling and reductions in leaflet size were observed. All treatments lost effectiveness in controlling internode elongation during week 4 and 5.

INTRODUCTION

Podranea ricasoliana, or Queen of Sheba vine, is a potential new pot plant for florist sales. The flowers are very attractive and highly fragrant. The foliage is compound, dark green, and very glossy. However, its growth habit is that of a vine; it requires height control. Attempts to regulate internode elongation with daminozide (B-Nine) were unsuccessful; foliar sprays of 2500, 5000, and 7500 mg a.i.·liter⁻¹ (ppm) were all ineffective. Therefore, a simple dose/response experiment was initiated by varying the concentration of XE-1019 sprays applied.

MATERIALS AND METHODS

Rooted cuttings of podranea were potted 1 per 15.2 cm pot and grown in a 18°/24°C (night temperature/venting temperature) greenhouse. XE-1019 was applied to established plants as a foliar spray using 204 ml·m⁻² (0.5 gallon per 100 ft²) as the application density. Concentrations used were 0, 3, 6, 9, 12, 15, 18, and 36 mg a.i. XE-1019/liter (ppm). At application, the plant shoots averaged 7.8 ± 3.7 cm in height and had 3.3 ± 1.0 nodes each. Plant height and node number was again recorded 2 and 4 weeks after sprays were applied. By week 4, most of the plants had flower buds present, and the experiment was terminated.

RESULTS AND DISCUSSION

No treatment effect was observed 2 weeks after applications (Table 1). By week 4, plants were exhibiting a linear response to XE-1019 concentration in height and node number. There was a reduction in leaf length (of the entire compound leaves) correlated with XE-1019 concentration (observational data). Also, individual leaflet margins were curled upward on plants receiving 15 or more ppm XE-1019. This was considered undesirable as it made the plants appear wilted.

Based on these results, podranea should be sprayed with 9-12 ppm XE-1019 for best results. The plants in these treatments were commercially acceptable; they had an attractive height/width ratio and lacked the undesirable leaf curling and excessive reduction in leaflet size. It was noted that the plants began to "grow out" of the XE-1019 effect during week 4 and 5, regardless of the concentration applied. Podranea should be sprayed every 3-4 weeks to maintain height control up to full bloom.

Table 1. Podranea plant height and node number 2 & 4 weeks after spraying with XE-1019 at 0, 3, 6, 9, 12, 18, or 36 mg a.i.·liter⁻¹ (ppm)².

XE-1019 (ppm)	2 wks after spray		4 wks after spray	
	Plant ht (cm)	Node no	Plant ht (cm)	Node no
0	12.0 ± 1.2	6.0 ± 0.4	27.4 ± 3.0	8.3 ± 0.5
3	11.0 ± 1.0	5.3 ± 0.4	22.0 ± 1.5	8.0 ± 0.3
6	15.2 ± 1.6	6.4 ± 0.3	23.7 ± 2.4	8.2 ± 0.6
9	13.1 ± 1.7	5.8 ± 0.6	20.0 ± 2.7	6.6 ± 0.6
12	12.6 ± 3.6	6.3 ± 0.3	18.6 ± 2.0	6.7 ± 0.6
15	10.5 ± 1.9	5.0 ± 0.7	17.9 ± 2.9	6.3 ± 0.9
18	11.5 ± 1.8	6.0 ± 0.5	15.9 ± 2.3	6.9 ± 0.7
36	9.6 ± 1.2	5.3 ± 0.4	13.6 ± 2.0	6.2 ± 0.5
	NS ^Y	NS	***	**

²Mean ± SE based on 12 replicates.

^YXE-1019 concentration linear effect nonsignificant (NS), significant at 0.001 ≥ α > 0.001 (**), or at α ≤ 0.001 (***).