



Cooperative Extension Service  
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## Effects of XE-1019 and Pruning on *Pyracantha koidzumi* “Wonderberry,” *Photinia x fraseri*, and *Ligustrum x ibolium*<sup>1</sup>

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### NATURE OF WORK

There is a growing interest in the use of plant growth regulators on woody ornamentals to reduce vegetative growth and the frequency of pruning. Plant growth regulators are already used by utility companies as a cost-effective means of controlling tree growth around power lines (2, 3, 4). Chemical control of vegetative growth may prove to be a cost-saving alternative to pruning in nurseries as well.

XE-1019, an experimental growth regulator to be marketed as Sumagic (Chevron Chemical Company), effectively controls plant height in poinsettias, chrysanthemums, and several bedding plants (1, 5). It will soon be labeled for use on these species; testing is currently underway for its use on woody ornamentals. The purpose of this study was to evaluate XE-1019 as an alternative to pruning on three fast-growing woody ornamentals.

*Pyracantha koidzumi* “Wonderberry”, *Photinia x fraseri*, and *Ligustrum x ibolium* were grown in pine bark:Canadian peat:sand, 2:1:1, in 1-gallon containers. On September 19, 1986 the plants were pruned and 3.4 oz XE-1019 applied as a soil drench at a concentration of

25, 50, or 100 ppm. Plant height and width, recorded on September 19, 1986 and April 13, 1987, were used to calculate the growth index (height + width / 2).

**Table 1.** Effect of XE-1019 on the change in overall size.

XE-1019 Drench (ppm)	Change in Growth Index <sup>1</sup> after 7 months		
	<i>Pyracantha</i>	<i>Photinia</i>	<i>Ligustrum</i>
0	18.0 a	12.6 a	9.6 a
25	10.6 b	6.7 b	6.2 b
50	8.4 bc	6.3 b	5.5 b
100	7.1 c	5.9 b	5.2 b

<sup>1</sup>Growth Index = [height (in.) + width (in.)]/2; values with different letters within a species are significantly different at the 95% confidence level.

Drenches of XE-1019 at 25, 50, and 100 ppm equally decreased the overall growth rate of all three species except *Pyracantha* (Table 1). The growth rate of *Pyracantha* was decreased slightly more by a 100 ppm drench than a 25 ppm drench.

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XE-1019 was a significant factor in reducing the overall size of all three species as well (Table 2). At the three rates tested, XE-1019-treated plants remained small after 7 months unlike the untreated pruned and unpruned plants which both grew to about the same size. However, pruning proved to be the best method for obtaining a desirable habit of growth with *Pyracantha*, *Photinia*, and *Ligustrum*.

### LITERATURE CITED

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**Table 2.** Effects of XE-1019 and pruning on overall size of *Pyracantha koidzumi* 'Wonderberry', *Photinia x fraseri*, and *Ligustrum x ibolium*.

Treatments		Growth Index <sup>1</sup> 7 Months after Treatment		
XE-1019 Drench (ppm)	Pruning <sup>2</sup>	<i>Pyracantha</i>	<i>Photinia</i>	<i>Ligustrum</i>
0	No	28.6+/-1.7	27.0+/-0.9	21.3+/-1.0
25	No	23.4+/-2.0	22.9+/-1.0	18.4+/-0.9
50	No	21.5+/-1.9	20.7+/-0.7	16.7+/-1.1
100	No	19.1+/-1.2	21.1+/-0.6	16.8+/-1.1
0	Yes	29.8+/-1.5	21.7+/-1.2	16.9+/-0.6
25	Yes	20.7+/-2.3	14.7+/-0.6	12.2+/-0.3
50	Yes	16.5+/-1.2	15.1+/-0.5	11.5+/-0.4
100	Yes	14.5+/-0.9	15.2+/-0.7	11.2+/-0.4

<sup>1</sup> Values represent the growth index +/- the standard error of the mean; growth index = [height (in.) + width (in.)]/2. <sup>2</sup> Performed at the time of XE-1019 application.