GROWTH REGULATOR NOTES

Enhancement of Branching on Dwarf Brassaia (Schefflera arboricola)

Known branch-inducing agents were applied as single spray applications to recently pinched plants of Dwarf Brassaia. These were growing in 6-inch plastic pots in a 1:1 volcanite-wood-shavings mix. The automatic irrigation regime delivered about a pint of diluted fertilizer (100 ppm N, 135 ppm K) twice daily. The data were recorded 6 and 10 weeks after treatment. A final evaluation of the number of breaks which had developed was taken at week 26.

All sprays initially increased bud break over the controls. The most attractive plants resulted from the PBA and Cytex treatments. Ethephon depressed growth, partly because the plants de-

Treatment		Height (cm)		Diameter (cm)		Av. No. Breaks per plant		
Chemical	Rate (ppm)	6 wk	10 wk	6 wk	10 wk	6 wk	10 wk	26 wk
Control		37.8	41.9	46.0	50.2	.6	1.9	3.6
PBA[1]	100	37.4	45.1	43.8	45.4	.8	3.8	2.4
PBA	200	36.4	42.2	38.4	40.9	1.2	3.0	4.4
Cytex[2]	100	37.4	43.5	42.0	43.7	1.1	3.6	4.2
Cytex	200	36.6	41.9	45.2	45.5	.9	4.4	4.6
Ethephon[3]	200	33.1	37.6	39.7	39.9	1.1	4.0	5.2
Ethephon	400	23.4	40.1	14.9	20.7	1.4	3.4	3.6

foliated 2 days after treatment, and partly because of the retarding effect of ethylene. The petioles of leaves on ethephon treated plants were short and the new growth somewhat rosetted. At the highest rate, 400 ppm, there was dieback from the terminal.

(1) PBA is 6(benzylamino)-9-(2-tetrahydropyranyl)-9-H-purine supplied by Shell Development Co.

(2) Cytex is a seaweed-derived product supplied by Atlantic & Pacific Research, Inc.

(3) Ethephon is 2-chloroethanephosphonic acid supplied by Amchem, Inc.

(4) N-6-BA is N-6-benzyladenine purchased from ICN Biochemicals.

Enhanced Plantlet Development From Leaf Cuttings of Pilea 'Moon Valley'

Following a dip in a 50 ppm rooting solution, 180 large leaves of Pilea 'Moon Valley' were rooted in vermiculite under intermittent mist. Three weeks later, when leaves were rooted, 6 leaves were sprayed with cytokinin or ethephon solutions. After a suitable period for drying, the leaves were replaced under mist. After 6 and 10 weeks, data were taken on number and length of plantlets.

Treatment		No. plantlets per leaf		No. plantlets 1 cm or longer at 10 wk
Chemical	Rate (ppm)	6 wk	10 wk	
Control		4.7	6.2	5.2
PBA[1]	50	3.2	8.4	3.2
	100	1.1	8.4	5.8
	200	5.2	7.2	7.2
Cytex[2]	50	1.8	10.0	4.0
	100	2.8	10.1	4.0
N-6-BA[4]	50	2.6	13.1	5.6
	100	3.4	9.7	5.2
	200	2.6	10.4	3.2
Ethephon[3]	100	1.7	9.5	2.7

While Cytex and N-6-BA gave large numbers of plantlets, the portion developing to 1 cm or greater was lower than for PBA because of competition among all the shoots. In all cases, the productivity of plantlets was as good at 50 ppm as at higher concentrations. There was high mortality in the ethephon treatment, coupled with delay in plantlet development and elongation.

Improvement of Bud Break on Polyscias guilfoylei victoriae

The variegated, lacey Panax, *Polyscias guilfoylei victoriae* shows a strong apical dominance and upright habit of growth. More attractive plants can be produced by pinching to induce lateral branching, but the development of chemical branching compounds offer an alternative approach. Single and twice-repeated sprays (2-week interval) of three branch-inducing agents were applied to rooted cuttings to stimulate lateral bud break. The growing conditions were as described for the Dwarf Brassaia. Data were recorded after 6 weeks.

Treatment		Plant		Av. length of
Chemical	Rate (ppm)	Height (cm)	No. breaks	break (cm)
Control		32	3.1	9.4
PBA[1]	100 (1X)	16.6	2.5	5.6
PBA	100 (2X)	13.2	3.8	3.9
Cytex[2]	100 (1X)	21.9	2.1	6.4
Cytex	100 (2X)	20.2	2.3	7.0
Ethephon[3]	200 (1X)	19.2	6.4	5.9
Ethephon	200 (2X)	16.1	7.3	4.6

On unpinched plants, the cytokinins did not stimulate more breaks than the control, even with a repeat spray. Ethephon-treated plants defoliated during the first week after treatment with new growth not appearing until 5 weeks. Many lateral buds did sprout but elongated slowly. Ethephon, in general, also served to retard the growth.

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