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Vegetative Propagation of Yellow Ohia Lehua

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Objective

The purpose of this trial was to determine the effect of treatments with a commercial root-promoting product on the rooting of a selected yellow-flowering ohia lehua (*Metrosideros polymorpha*).

It has been reported by Bornhorst and Rauch (1994) that *Metrosideros polymorpha* is variable in its ability to root from cuttings. This trial was initiated to get more precise information on the best concentration of Dip'n Grow for the rooting of a relatively easy-to-root, selected yellow-flowering form of ohia from the University of Hawaii research station at Kula, Maui.

Methods

Uniform soft, vegetative, 4-inch long terminal cuttings were taken from rapidly growing container stock plants established in the UH-Manoa Magoon Shade House. A commercial root-promoting product (Dip'n Grow), which contains 1.0% IBA and 0.5% NAA, was used. The five treatments (Dip'n Grow at 1:1, 1:5, 1:10, and 1:20 dilutions and an untreated control) with 10 cuttings per treatment, were replicated five times in a randomized complete block design. The cuttings were placed in vermiculite in 6-inch plastic azalia pots in the UH-Manoa Magoon Shade House under intermittent mist (6 sec/2 min cycle).

Dip'n Grow was diluted with water to give the desired concentrations of the chemical. The quick-dip method of application was employed in which the basal ends of cuttings were dipped in solution for five seconds (Hartmann et al. 1990).

Rooting was evaluated after three months by determining the rooting percentage and measuring the length of the longest root per cutting.

Results

There was an increase in the rooting percentage up to the 1:10 dilution treatment and an increase in average root length up to the 1:5 Dip'n Grow dilution treatment (Table 1). It appears that the 1:1 dilution was too strong, as there was a decrease in both rooting percentage and average root length. It appears from these results that the optimum concentration of Dip'n Grow for rooting succulent terminal cuttings of this selection of ohia lehua is about a 1:5 dilution of Dip'n Grow, equivalent to 2000 ppm IBA.

Literature cited

Bornhorst, H.L., and F.D. Rauch. 1994. Native Hawaiian plants for landscaping, conservation, and reforestation. Univ. of Hawaii, HITAHR Res. Ext. Series 142.

Hartmann, H.T., D.E. Kester, and F.T. Davies, Jr. 1990. Plant propagation: principles and practices. Prentice- Hall, Inc., Englewood Cliffs, New Jersey.

Table 1. The influence of Dip'n Grow on rooting of yellow ohia lehua cuttings after three months.

Dip'N Grow (dilutions)	IBA (ppm)	Rooting percentage	Average root length (cm)
control	0	56	7.4
1:20	500	88	10.1
1:10	1000	100	11.7
1:5	2000	100	14.2
1:1	5000	96	13.0

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