

Effect of Ecosane on Palm Growth

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Ecosane 5000 is described on its label as “a stabilized package used to stimulate micro-flora for specific symbiotic reaction with tropical plants.” It has been reported by Hull (1996) that foliar applications of Ecosane stimulated palm growth considerably in nurseries and thus facilitated recovery in Miami from Hurricane Andrew.

Object of Experiment

This experiment was aimed at assessing the effect of Ecosane on palm growth. The species used for the experiment were *Ptychosperma elegans* and *Washingtonia filifera*. Single palms 18–24 months postgermination were used. They were grown in potting soil in 2-gallon pots. Fertilizer (12-4-12 with trace elements) and irrigation were applied, but no pesticides. The *Ptychosperma* were grown in part shade; the *Washingtonia* were in open sun.

Methods

Plants were allocated to treatments according to size to achieve uniformity, hence no pretreatment growth or size record was taken. Replicates and treatments were separated by walkways.

Table 1. Results of Ecosane experiment with *Ptychosperma elegans*.

	<i>P. elegans</i>			
	Ecosane		Control	
	No. palms	Mean growth	No. palms	Mean growth
Replicate 1	4	78.5	5	51.5
Replicate 2	4	62.5	6	62.0
Replicate 3	6	78.0	6	67.0
Replicate 4	6	74.0	6	76.3
Totals	20	1475.8	23	1488.8
Means		73.8		64.7
Standard deviation		+20.5		+15.5

Treated palms received Ecosane at 5 fl. oz. per gallon of water, sprayed to run-off on both upper and lower surfaces of the fronds, on 3/18, 4/18, 5/30, and 7/6/97. Untreated palms were sprayed similarly with clean water using a clean sprayer. The numbers of palms in treated and untreated groups are listed in Table 1. The growth of the youngest frond on each palm at any time was measured in terms of its height in centimeters above the soil surface as described by Smith and Romney (1963). Fronds were measured on 3/29, 4/18, 5/7, 5/25, 7/9, and 8/5/97. Growth of each plant over the period of the trial is expressed as aggregate frond extension over the 20 weeks of the trial. Measuring of *Washingtonia* was stopped during the trial because it was found difficult to do accurately.

Results

There was no visual difference in size or frond color between the treatments for either species, but there was considerable variation in the size of the *Ptychospermas* by the end of the trial (Table 1). Although the mean growth of treated palms was 14% more than untreated palms, the large standard deviations show that 66% of the growth data fell, as follows: Ecosane treated—53.3 to 94.3 cm, untreated—49.2 to 80.2 cm. Owing to the large variation, the variance was not analyzed, but the means are clearly not significantly different. Under the conditions and time frame of the experiment, Ecosane had no noticeable effect on palm growth.

LITERATURE CITED

HULL, D. H. 1996. Facilitation of hurricane recovery in Miami. *Principes* 40(4): 208–211.
 SMITH, R. W. AND D. H. ROMNEY. 1963. Third Ann. Rept. Research Dept., Coconut Indust. Board, Jamaica, pp. 24.