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# Ecosane and the Growth of Containerized Palms

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In his article "Facilitation of Hurricane Recovery in Miami" in the October 1996 issue of *Principes*, DeArmand Hull introduced to many of us a new product called Ecosane, an "enzyme activated stabilized biologic catalyst." Applied as a foliar spray, Ecosane's many benefits were cited. These included "increased [plant] growth rates; increased root mass; increased leaf size" and an enhancement of "the plants" tolerance to normal stresses such as varied watering, temperature fluctuations, and soil pH." Hull further asserted that "as a general rule, 3–5 years of growth are achieved in one year" when using Ecosane.

Such claims are rather impressive. However, the evidence presented was more anecdotal than scientific. The article intimated that Hull participated in a controlled test of the benefits of Ecosane. "Seedlings grown by this author from the same accessions and grown in identical media and conditions as those of [an Ecosane treated] garden but without application of Ecosane have consistently shown a growth rate of half of those grown with Ecosane." No further documentation was offered.

It would seem that the growing of test plants and control plants in two separate locations, each under the supervision of a different person, would not make for a very good evaluation of Ecosane or any other product. Also, careful examination of the photographs of the root masses of four pairs of treated and untreated plants (incidently, only one of which was a palm), suggested results could be seen after only three applications of Ecosane, presumably two weeks apart, in midwinter. But again, there was no documentation.

An additional photograph of treated and untreated palms can be found on the Ecosane Web page (http://www.ecosane.com/case_pin.htm) and in the Ecosane brochure. Four containerized "pinanga caesis" [sic] are shown. Two had been treated with Ecosane over a period of eight months. The other two had not been treated. The height of the treated plants is three times the height of the untreated plants. The page describes the differences as "unbelievable."

To better evaluate the benefits of Ecosane, a more tightly controlled experiment was conducted by this author during the first eight months of 1997. Seedlings of four species of palm were each divided into two groups. One group received a foliar spray of Ecosane, at the recommended concentration, every 2–3 weeks. (At the suggestion of Dr. Michael Bitz, who has used Ecosane very successfully (see Hull article *Principes* 40(4): 208), care was taken to ensure that some of the spray reached the potting medium.) The other group received no Ecosane. At the time the experiment began, there was no discernable difference in size or color between the groups of palms that would be treated and those that would not. Seedlings that were in any way unusual were not included in the experiment.

The palm species and number of palms in each group used are shown in Table 1. All palms in the experiment were grown in a mostly shaded location within a few feet of each other. However, with each spraying, the positions of the treated and untreated palms were switched to ensure that no minor light differences would have any effect. During this plant rotation, the untreated

*Table 1. Species and number of palms used in each group.*

| Species | No. treated | No. untreated |
|---|---|---|
| *Oenocarpus distichus* | 5 | 4 |
| *Cyrtostachys renda* | 6 | 6 |
| *Calyptrocalyx albertisiana* | 4 | 3 |
| *Nephrosperma vanhoutteanum* | 3 | 4 |
| Total | 18 | 17 |

palms were physically removed from the area of spraying to ensure they received no windborne Ecosane.

On those nights during the winter when the temperature was forecast to drop below 45°F, all seedlings were moved into a protected area


1–2. *Cyrtostachys renda.*

where the temperature never dropped below 46°, even on the coldest of nights. All palms were lightly fertilized in early April and early June.

During the eight-month test, there has been some variability in the growth rates of the palms within each of the eight cells. However, it is not


3–4. *Oenocarpus distichus.*

possible visually to tell which groups of palms were treated with Ecosane and which ones were not (Figs. 1–8). An examination of the root masses of the treated and untreated palms also showed no differences (Figs. 1–8).

While this experiment offers no evidence one



5–6. *Calyptrocalyx albertisiana.*

way or another about Ecosane's ability to increase the cold hardiness of palms or the growth rate of *field-grown* palms, it does suggest that the "phenomenal" and "dramatic" benefits of this product may be a bit of an exaggeration.



7–8. *Nephrosperma vanhoutteanum*