

Zinc Deficiency Symptoms of *Chrysalidocarpus lutescens*

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Chrysalidocarpus lutescens H. Wendl. is grown in large quantities by the nursery industry for use as an indoor foliage plant. The palm is ideal for this purpose, partly because it tolerates low light intensity and low humidity. Leaves of these plants occasionally appear abnormal but no disease-causing organisms have been associated with the problem. Palms can be so seriously affected that they are unsalable.

Twenty-four plants were grown hydroponically in order to determine whether or not the abnormal appearance was the result of faulty mineral nutrition. The experiment was conducted in a greenhouse covered with plastic shade cloth which limited sunlight to approximately 1000 foot candles at bench level. Temperatures ranged from 24 to 32° with infrequent extremes of 21 and 38°C.

A growing medium, free of contaminating minerals, was prepared by mixing equal volumes of perlite and silica sand. The medium was put into well-drained plastic pots and washed with distilled water, rinsed twice with 2% hydrochloric acid to remove acid-soluble contaminants and rinsed another five times with distilled water.

Three modified Hoagland and Arnon's (1) nutrient solutions were prepared to furnish plant nutrients. No zinc was added to one solution, ten times the recommended amount was put into the

second and the usual complete nutrient solution was used as a control. The plants were irrigated with the solutions weekly and with six liters of distilled water every three months to remove accumulated salts. Methods were similar to those reported in 1970 and 1978 (2, 3).

Plants that received the generally recommended amounts of zinc and ten times that amount appeared normal at the end of the experiment. Plants irrigated with the solution to which no zinc was added grew slowly and developed uniformly yellowish, extremely undersized leaves with very short pinnae. The latter were closely spaced on the rachis (Fig. 1).

The experiment revealed that symptoms of zinc deficiency in *Chrysalidocarpus lutescens* can seriously detract from the plant's appearance and marketability.

LITERATURE CITED

1. HOAGLAND, D. R. AND D. I. ARNON. 1950. The water-culture method for growing plants without soil. Calif. Agr. Expt. Sta. Cir. 347 (Rev. ed.).
2. MARLATT, R. B. 1978. Boron deficiency and toxicity symptoms in *Ficus elastica* 'Decora' and *Chrysalidocarpus lutescens*. Hortscience 13: 442-443.
3. ——— AND P. G. ORTH. 1970. Relationship of potassium to a leaf spot of *Ficus elastica* 'Decora'. Phytopathology 60: 255-257.



1. Zinc deficiency of *Chrysalidocarpus lutescens* showing stunted leaf with short, crowded pinnae.