

GROWTH RATES OF PLEOMELE AND DRACAENA

Pleomele and *Dracaena* are becoming major field nursery crops in Hawaii. Yet, production estimates of present plantings were based on figures produced in Florida. Stevens and Criley (Horticulture Digest No. 33, August, 1976) have made measurements of growth on Oahu. However, no figures are available for the Hilo area where major plantings are being established.

In the Spring of 1977 the Nursery Practice class at UH-Hilo conducted a series of observations to measure growth over a 70-day period in *Pleomele reflexa*, *Dracaena marginata*, *D. fragrans*, and *D. fragrans* var. *victoriae*. Twenty plants of each variety were randomly selected for measurement from the commercial field plants of Big Island Plant and Foliage in the Panaewa area of Hilo in cooperation with Mr. T. Kitagawa. All of the plantings were about one year old at the start of the measurements. The *D. fragrans* var. *victoriae* plants were about 5-6 feet tall. The *D. fragrans* and *D. marginata* were about 3-4 feet tall and the *Pleomele reflexa* which has a trailing habit had branches about 2-3 feet long at various distances from the ground. The number of branches per plant and the planting distances are listed in Table 1. The soil was a Histosol composed pri-

Table 1. Growth rates in *Pleomele* and *Dracaena*

Plant	No. shoots per plant	Cane growth per plant (in.) in 70 days	Spacing (in.)	Estimated Production Cane/sq ft/yr (ft.)	*Estimated Production Cane/ac/yr (ft.)
<i>P. reflexa</i>	2.5	24.8	12 x 30	4.2	126,000
<i>D. marginata</i>	4.4	9.0	15 x 15	2.4	72,000
<i>D. fragrans</i>	1.0	4.9	15 x 15	1.3	39,000
<i>D. fragrans</i> var. <i>victoriae</i>	2.7	10.1	24 x 24	1.1	33,000

*Based on 30,000 sq. ft. of growing area per acre

marily of crushed aa cinder and organic matter. Fertilizer (16-6-8) was applied at the rate of 500 lbs/acre/yr in four applications.

Growth measurements are given in Table 1. These measurements have also been extended to show estimated production per square foot per year and estimated production per acre per year. Although this extension is not a true assumption because of variation in temperature and rainfall during the year, it does give us an estimate of production for planning future plantings. Future measurements are planned to give us more accurate estimates. We hope these estimated production figures will aid those who are considering growing these ornamentals.

William S. Sakai
UH-Hilo, College of Agriculture
Thomas Y. Kadota, Jr.
Big Island Plant and Foliage