

## Palauan Taro Upland Performance Trial Progress Report

. Dwight Sato

### **Trial Location:**

Area: Pepeekeo, Hawaii Elevation: 300 ft Irrigation: Rainfed conditions.

### **Plant and Harvest Date:**

Date Planted: 5/22/98

Date: Harvested: Chinese = 12/8/98, Palau taro=1/12/99

### **Plant Spacing and Plot Layout:**

Plot Size=4.5 x 12

Replication=3

Plant Spacing: 1.5 x 4.5 ft

### **Data:**

Yield Main Corm:

Yield data included the estimated weight of the main corms per acre, average main corm weight, and the number of keikis per main plant. Palau-10 gave the highest corm yield, followed by Palau-20 and Palau-1. In comparison, the Chinese taro had the lowest corm yield. A leaf aphid infestation occurred in late July. Aphid feeding damage may have resulted in the very low yields for the Chinese taro. Results are shown in graph form in figure 1-3.

Leaf Disease Comparison:

Good vs. damaged leaves were averaged for each taro variety on October 13, 1998. After a rainy period in which damaged leaves began appearing. The damage to the leaves were mainly the result of Phytophthora Leaf Blight. Good leaves were viewed as marketable leaves for using in lau lau while damage meant unmarketable for use as lau lau leaves. P- 10 and P-8 had the highest amount of marketable leaves. Results are shown in figure 4.

Taste Test:

The Palauan taro corms were pressure cooked at 15 psi for 1 hour and taste tested using the staff at the Waikeke Experiment Station. The best tasting Palauan taros were P- 10 and P-20 but the panel participants commented that they preferred Lehua maoli having a richer taste and texture. Results are shown figure 5.

Processor Adoption:

Palau- 1, 10, and 20 corms were given to a Hilo poi processor. The general feedback received was that the color on the resultant poi was bad (not purple) and that the taste was inferior to the norm (Lehua type poi). Adoption failed.

P-1 and P-20 corms were given to another Hilo poi processor. Adoption failed, again for the same reasons.

Wetland taro growers in Waipio processed their own taro into poi Although I received very good comments on the yield potential for the Palau taros, in general, similar comments were received in terms of the lack of purple color and lesser taste qualities. They did indicate that they will try to further propagate P-1 and P-20 and try to incorporate these varieties into their taro mix for the poi market to possibly supply bulk material.

P-8 corms were given to a local chipping processor. Adoption failed due to the high acidity factor in the finished product.

### **Summary:**

In general the Palauan taros were very resistant to the Phytophthora leaf blight and possibly foliar aphid injury and resulted in higher corm yields as compared to the Chinese taro variety. P- 1, P- 10, P-20, and P-8 were good tasting table taros but did not exhibit comparable taste qualities to the standard market variety, Lehua. Poi products made from the Palauan taros all failed at the grower and processor level in relation to color and taste. P-8 which exhibited some potential as a good leaf variety in a previous trial, failed as a chipping variety due to the acidity factor. Two wetland taro growers in Waipio plan to further propagate P- 1 and P-20 to further advance test these varieties in their production and market channels. Request that improved germplasm be selected and tested for market acceptance qualities.

Fertility Nutrients Applied (expressed in. elemental form lbs/ac):

N=256  
P= 60.2  
K= 199  
Ca= 308  
Mg= 266

Soil Analysis:

Begin-soil test

Soil Analysis	Results
PH	5.8
P PPM	54
K ppm	268
Ca ppm	
Mg PPM	

458 92

End soil test

Soil Analysis	Results
pH	5.9
P PPM	64
K ppm	264
Ca ppm	728
Mg PPM	

202