# Irrigation Requirement of Dryland-grown Taro: Comparison with Aroid Model. (A03-miyasaka204524-Poster)

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### Abstract:

To determine the water requirement of dryland-grown taro (Colocasia esculenta cv. Maui Lehua) and to validate SUBSTOR-Aroid v3.5, an aroid simulation model, four levels of irrigation were applied (50, 75, 88, and 100%) ET) during an initial experiment on Maui in 1997-98. A second field trial was conducted during 2000-01 at higher rates of irrigation (50, 100, 150, and 200% ET). Eight plants were harvested at 3, 5, 7, 9, 11, and 13 months, divided into leaf blades, petioles, and corms of the main plant, those of the sucker plants, and roots. Concentrations of nitrogen (N) were determined in the first fully expanded leaf blade at five months. Plants grown at 100% ET had greater fresh and dry weights of corms compared to all other irrigation treatments in the first trial. In the second study, plants grown at 100% ET had greater fresh and dry weights of corms than those grown at 50% ET and were not different from those grown at higher irrigation levels. The growth and N subroutines in the model were modified based on findings from the first field trial. Outputs from the revised model showed improved prediction of growth response to irrigation and N in the second experiment.

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