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Determining the Effects of Saltwater Infiltration on Taro (*Colocasia esculenta*) Production in American Samoa

Taro (*Colocasia esculenta*) is a root crop which serves as a staple food in American Samoa. Increasing salinity of coastal areas, due to rising sea levels, is negatively affecting taro production. The objectives of this research were to identify the salt tolerance threshold (maximum salt level a crop tolerates without losing productivity) for the most common locally grown taro cultivar ("Lalelei o Samoa") and to rate the salt tolerances of 3 different cultivars using a relatively quick, simple method. We anticipate the salt tolerance threshold for "Lalelei o Samoa" taro cultivar to be at approximately 30 mM NaCl solution. Among the cultivars, we expect "Lalelei o Samoa" to be the most salt tolerant. The salt tolerance threshold for "Lalelei o Samoa" will be determined by measuring plant dry weights of taro grown in pots in a greenhouse, for 5 weeks at 8 concentrations of NaCl (0, 10, 20, 30, 40, 50, 100, 150, mM). The method used for rating the relative salt tolerances of 3 taro cultivars will involve growing the cultivars in pots in a greenhouse for 5 weeks at two electrical conductivity (EC) levels. The formula $[\text{plant dry wt. at EC 4.5} / \text{plant dry wt. at EC 0}] \times 100$ will be used to determine the relative salt tolerance rating of each cultivar. Information from this research, will be useful for future evaluation of newly developed cultivars for salt tolerance in American Samoa.

Keywords: Taro, *Colocasia esculenta*, Lalelei o Samoa, salinity, salt tolerance