Response of Macadamia Integrifolia to Mulching as a Correction to Nutrient Phosphorus Uptake Inefficiency. (S04-porter214439-Poster)

Authors:

- G.S.Porter* University of Hawaii @ Manoa, Honolulu, Hawaii
- R.S.Yost University of Hawaii @ Manoa, Honolulu, Hawaii
- M.Nagao University of Hawaii, Hilo, Hawaii

Abstract:

Recently foliar P in macadamia nut (Macadamia integrifolia) orchards of more than 10 years has been decreasing. This occurs in spite of high to extremely high levels of soil phosphorus (more than 500 mg P/kg). A field study of the effects of husk and shell mulch is underway to correct this apparent root inefficiency in such high and environmentally risky levels of soil P. Treatments are a ring of mulch, 1/3 cubic meter, applied around the trunk at two sites (300 cm (120in) and about 75 cm (30in) annual rainfall). At the wet site large masses of fibrous root growth into the mulch occurred in 6 mo., while trees at the dry site showed little growth into the mulch. Shell and husk mulches are being compared at the dry site, because of differing infiltration and water retention properties. Leaf monitoring reveals strong, cyclical variation in foliar P with maxima during the winter months and minima during the summer. This despite the isothermic temperatures (200 North). No increases in foliar P have been noticed at the wet site 18mo. after mulch application - as expected. Response of mature macadamia to fertilization often occurs 18 to 36 months after application.

Corresponding Author Information:

Guy S. Porter University of Hawaii @ Manoa St. John 102, 3190 Maile Way Honolulu, HI 96822-2232 phone: 808 956-2635 fax: 808 956-3894 e-mail: guyp@hawaii.edu

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