# Arbuscular Mycorrhizal Fungi Improve early Koa Growth. (S03-miyasaka205456-Poster)

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## Abstract:

To determine effects of an arbuscular mycorrhizal fungus (AMF) on early tree establishment, Acacia koa (koa), a valuable hardwood, was grown in the nursery with and without the AMF, Glomus aggregatum. In three field trials, koa seedlings were outplanted in January 1998, July 2000, and July 2001 on unfumigated land at two or three levels of phosphorus (P) fertilization. Pinnules were analyzed for P content biweekly. In the first study, inoculated trees had greater pinnule P between three to five months, and greater height, basal diameter, and dry weights of stems and leaves at 11 months compared to uninoculated trees. In the second and third trials, differences in tree height and basal diameter due to AMF inoculation were found only during the early months. The lack of growth differences at later measurement dates was associated with decreasing differences in pinnule P and increasing AMF colonization of roots of uninoculated plants over time. Thus, inoculation of koa seedlings with AMF in the nursery could have early beneficial effects on tree growth, but the persistence of growth differences could depend on seasonal weather patterns and native populations of effective AMF.

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