Inoculation with arbuscular mycorrhizal (AM) fungi has often promoted increased growth of plants but very little work has been done in the tropics to evaluate the effects of inoculation on the establishment and development of seedlings in forests. Desmoncus orthacanthos Martius is a scandent palm present both in early and late succession, and consequently can be used in restoration processes. A test was conducted to determine the effect of AM on the establishment of Desmoncus orthacanthos in tropical forest in the Yucatan Peninsula, Mexico. Thirty inoculated and 30 non-inoculated seedlings were introduced in two sites of different successional age, a mature forest and an eight-year old abandoned cornfield (acaual). Survival and growth parameters were evaluated after 12 months. Leaf area and phosphorus, but not height, were greater in inoculated than non-inoculated plants in the forest but not in the acaual. However, mycorrhizae had a clear effect on plant survival in both sites, with a threefold increase in survival of inoculated compared with non-inoculated plants based on an odds ratio. The results suggest that inoculation will be important to increase the establishment of this commercially important palm.

Keywords
Arbuscular mycorrhizae, tropical palm, seedlings establishment, tropical forest, abandoned cornfield, acaual.