

**TITLE:** RESPONSE OF *Eucalyptus benthamii* TO INOCULATION WITH ARBUSCULAR MYCORRHIZAL FUNGI

**AUTHORS:** SANTOS, R. F<sup>1</sup>.; CRUZ, S. P<sup>1</sup>.

**INSTITUTION:** 1. UNIVERSIDADE FEDERAL DE SANTA CATARINA- UFSC CAMPUS DE CURITIBANOS, RODOVIA ULYSSES GABOARDI, 3000 - KM 3, 89520-000, CURITIBANOS – SC.

**ABSTRACT:**

Species of *Eucalyptus* have the ability to be associate with both ectomycorrhizal and arbuscular mycorrhizal fungi, but the later symbiosis is poorly understood. Studies about inoculation with these two groups of fungi are important because they may provide data about species that can be useful and benefic in silvicultural practices, as well as ecological relationships between both symbionts. The goal of this study was to evaluate the effects of arbuscular mycorrhizal fungi on height and diameter of *Eucalyptus benthamii* seedlings. Work was carried on under nursery conditions in Curitiba – SC, at Viveito Primon. We tested seven treatments with thirteen repetitions in a completely randomized design. Treatments were: T1) control; T2) inoculation with *R. clarus* SCT720A, T3 – inoculation with *R. clarus* RJN102A, T4 – coinoculation with *R. clarus* SCT720A and *R. clarus* RJN102A, T5 – inoculation with *G. margarita* MGR275A, T6 – inoculation with *G. margarita* RRM344B, T7 – coinoculation with *G. margarita* MGR275A and *G. margarita* RRM344B. In each experimental unit we used 82ml of commercial substrate and 4.1ml of inoculum and four dormancy-broken seeds were placed. Thinning was done seven days after sowing so that only one seedling was kept in each pot. Evaluations included plant height and diameter and data were collected 30 days after sowing. Results were submitted to the ANOVA. Neither means of plant height nor diameter were different among the tested treatments. On the other hand, studies done by other researchers show that statistical differences regarding parameters related to inoculation are most likely to be detected only 90 days after emergence or later. Hence further evaluations are needed in order to confirm the benefits of inoculating *Eucalyptus benthamii* seedlings with arbuscular mycorrhizal fungi.

**Keywords:** eucalipto, mycorrhiza, symbiosis, morphology

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