Summary

The effectiveness of several strains of vesicular-arbuscular mycorrhizae (VAM) of the genus *Glomus* on the DM yield, extraction of N, P and K, and fungal infection of *Leucaena leucocephala* roots was studied under greenhouse conditions in an Inceptisol (pH 5.2, 17 ppm P, and 69 ppm K) at the Escambray experiment station, Cuba.

The soil was collected at a depth between 0 and 20 cm and was autoclaved for 1 h at 1.5 atmospheres for sterilization; 1.5 kg-pots were used, arranged in randomized blocks with three replicates.

VAM strains tested were *Glomus fasciculatum*-1, *Glomus manihoti*-2, *Glomus* sp.-3, *Glomus* sp.-4, *Glomus* sp.-5, *Glomus* sp.-6, and *Glomus* sp.-7. Each pot was inoculated with 10 g MVA at planting. Two plants were left per pot, being fertilized with 25 kg/ha of N as NH_4NO_3 and 50 kg/ha of K as KCl. Soil moisture was maintained at 60% field capacity. The first cutting was carried out at 40 days after planting, at 5 cm above the ground. Subsequently, three cuttings were carried out every 28 days to determine DM yield and N, P, and K extraction; root color, rate of colonization, and rhizobia density were also observed.

The results indicated that *L. leucocephala* cv. Peru is highly dependent on mycorrhizae. DM yield and N, P, and K extraction increased with VAM inoculation, especially with strains *G. manihoti*-2 and *Glomus* sp.-3.