Summary

A field experiment was conducted at the State of Chiapas, México, to evaluate the establishment and production of *Leucaena leucocephala* without inoculation and inoculated with different *Rhizobium* strains (*Rhizobium* LA-11, CIAT-1967 (TALL-1145), J-5, CIAT 0042 (NGR-8)) in a randomized block with four replications. The trial was carried out in a Luvisol with pH 5.1, 1.2% of O.M., 0.076% of N, and 3.0 ppm of P. The number and height of plants, and DM production were measurement at 15, 52 and 78 weeds after planting. All treatments, except controls were fertilized with 60 kg/ha of P.

The results showed differences ($P < 0.05$) for *Rhizobium* CIAT-1967 and CIAT-0042 in all parameters. The persistences of plants decreased over time, except with the below strains. Also the best DM production was obtained with this strains. The results showed that the specifity of the symbiosis is a very important factor for the establishment and production of *L. leucocephala* in acid soils.