

# Summary

The effectiveness of *Rhizobium* strains ENCB 31, ENCB D17, and CIAT 0042 and 1967 (TAL 1145) to form nodules in *Leucaena leucocephala* was evaluated in a sandy Fluvisol of the Instituto Nacional de Investigaciones Forestales y Agropecuarias (INIFAP), Chiapas, Mexico, at 40 m.a.s.l. and 2000 mm precipitation. Bacteria within the nodules were identified with specific antibodies, which were stained with fluorescein isothiocyanate for their microscopic identification under ultraviolet light. Four weeks after planting *L. leucocephala*, 200 nodules were extracted from 10 plants selected randomly in each treatment (*Rhizobium* strains). Strain dominance was determined in smears of the nodular juice (antigen), which were tested with different antibodies.

*Rhizobium* strain CIAT 1967 was dominant, with 57% of nodules; CIAT 0042 was found in 41% of the nodules; ENCB D17 in 18%; and

**ENCB 31 in 42% of the nodules. Results showed that rhizobium strains compete with native strains in the field in nodule formation.**

**Immunofluorescence allowed the detection of a high number of nodules with double occupancy, that is, formed by two rhizobium strains.**