

Tolerance to salinity and alkalinity of rhizobia isolates from the Salado River Basin: a sustainable alternative to improve the quality of the inoculants for *Lotus tenuis* in this region

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The Salado river Basin (SRB) is the most important area for cattle ranch production in Argentina. This activity is based on the use of natural pastures because the edaphic and climatic conditions restrict the implantation and persistence of "traditional legumes" in saline-alkaline lowlands (30% of the total area). *L. tenuis* is an exotic legume well adapted to these conditions, but in spite of its successful naturalization, the survival of this species during the seedling stage is limited and is a critical step for further implantation (Miñón et al., 1990). With the aim to improve seedling survival and forage quality of this legume, the genetic diversity of native rizobia that establish symbiosis with *L. tenuis* was evaluated, for further selection of isolates with a better symbiotic efficiency than commercial inoculants in saline soils. A high genetic diversity was found among the rizobia of the SRB (Estrella et al., 2007). The symbiotic performance of one native isolate was superior to that strains recommended for commercial formulations of inoculants tested under control and salt stress conditions. RFLP analysis of 16S rDNA genes of native isolates with better symbiotic performance revealed that the taxonomy of *Lotus tenuis* symbionts is not only restricted to *Mesorhizobium loti* species, the type species to *L. tenuis* and *L. corniculatus* (Saeki and Kouchi, 2000), and can involve other species and genus. It can be concluded that populations of rizobia in soils of the SRB are a source of genetic and symbiotic variability that can be used to obtain high quality inoculants for *L. tenuis*.

References

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