

Design and bioformulation that improve implantation of *Lotus tenuis* in the flooding pampas

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In relative terms, the Flooding Pampa constitutes the most important area for raising cattle in our country. This activity relies on natural pastures, which show implantation and persistence problems in saline-alkaline lowlands (30% of the total area) for "traditional" legumes. In spite of its successful naturalization, the exotic legume *L. tenuis* (= *L. glaber* Mill.), considered a "keystone species" for these environments, presents survival problems during the seedling stage (its critical demographic stage). In an attempt to improve seedling survival, we have studied its relation with symbionts, by evaluating plant responses to the inoculation with experimental mixtures, formulated on the base of one or more *Rhizobium* and *Azospirillum* strains, including those recommended for commercial bio-formulated inoculants. Simultaneously, we have optimized an unequivocal technique for the identification of rhizobial bacteria, allowing its tracking and traceability in experimental and productive systems. With this purpose, we performed PCR (Polymerase Chain Reaction) amplifications of BOX repetitive sequences. Obtained results suggest the need of:

- a) Conducting complementary evaluations to those currently recommended by regulating organisms, for the accurate selection of strains destined to production.
- b) Evaluating the population dynamic of selected rhizobial strains in order to assess accurately their efficiency. The technique optimized in this work would allow that evaluation in a fast, cheap and reproducible way in any laboratory of standard complexity.

Key words: *Lotus tenuis* - PGPR - BOX-PCR- inoculant - NFB