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ECUADORIAN *Rhizobium* ISOLATES: CHARACTERIZATION OF PHENOTYPIC PARAMETERS AND YIELD UNDER FIELD CONDITIONS.

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RESUMEN. The study aimed to determine the influence of *Rhizobium* isolates on phenotypic parameters and yield of common bean (*Phaseolus vulgaris* L.) genotypes under field conditions. A total of seven strains previously isolated, characterized and genetically identified from soils of Loja province were inoculated on seeds of Mantequilla and Rojo Calima genotypes, besides the inoculation of wild type strain *Rhizobium etli* CNPAF512. Seeds were pelletized with the inoculants and planted in dry season of Sandy Loam soil. Nodulation parameters, biomass, yield components and agricultural yields were assessed. The results showed high capacity of nodule formation and biomass production by the treatments inoculated with isolates and wild type strain for both genotypes, compared with the native strains (control and mineral fertilization treatments). *R. miluonense* (isolated from Catamayo), *R. tropici* (isolated from Saraguro) and wild type strain had a remarkable effect on these parameters. These treatments had similar behavior for yield components, mainly in the number of pods and weight of grains per plant. The genotypic variability was higher for agricultural yields, where the best treats for Mantequilla genotype were obtained with *R. tropici* isolated and mineral fertilization application, however no significat differences were observed among them. For Rojo Calima the wild type strain and *R. miluonense* showed the best results. This study validates the use of efficient interaction among *Rhizobium* species and bean genotypes to achieve yield increases through sustainable agricultural methods and to reduce the application of nitrogen fertilizer.