

INTERACTION OF *RHIZOBIUM JAPONICUM* STRAINS AND SOYBEAN GENOTYPES

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ABSTRACT

The objective of this study was to examine the interactive effects of different Rhizobium japonicum strains on agronomic traits of different soybean genotypes. In this two factor factorial field experiment, inocula of three Rhizobia strains (TAL-379; TAL-377 and their mixture) along with uninoculated (control) were compared on four soybean genotypes, i.e., NARC-III, NARC-IV, NARC-V and William-82. All the 16 treatment combinations were arranged in randomized complete block design with four replications. The inoculation increased the plant traits of all the soybean genotypes. The genotype NARC-IV produced higher seed yield followed by William-82, NARC-III and NARC-V. The inoculum strains and soybean genotypes interacted significantly and positively to affect nodules and pods plant⁻¹, as well as grain and biological yields. The strain A was found to be the most efficient and in combination with NARC-IV and William-82 increased plant height, nodules and pods plant⁻¹, grain protein content, grain and biological yields. The strain B only affected the seed yield and plant traits of William-82 significantly and exhibited strain by genotype specificity. The mixture of strain A & B manifested similar to that of strain A in association with NARC-IV and William-82 for the traits measured but caused significant seed yield increase only in NARC-III.