RESPONSE OF EFFECTIVE RHIZOBIAL STRAINS AND THEIR COMBINATION ON SYMBIOTIC TRAITS AND YIELD OF SOYBEAN UNDER RAINFED CONDITIONS OF M.P. (INDIA)

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ABSTRACT
Field experiment were conducted for three consecutive years in the Kharif season of 1998-99, 1999-2000 and 2000-2001 at Research Farm of R.A.K. College of Agriculture, Sehore (M.P.). The findings revealed that the combined inoculation of Pantnagar 2 + Delhi 2 + Bj-1 rhizobial strains yielded the significant highest symbiotic traits viz. nodule number, their dry weight and shoot dry weight/ plant alongwith seed index (100 seed weight) and seed yield of Soybean over uninoculated control. The dual inoculation of Pantnagar 2 + Bj-1 rhizobial strains produced the significant symbiotic traits alongwith seed index and seed yield except the nodule dry weight/plant. Amongst the alone strains, Delhi -2 strain, produced the significiant highest nodule dry weight, seed index and seed yield while the significant higher nodule number and shoot dry weight have fetched through the incorporation of Bj-1 rhizobial strain alone over control in clay loam soil.

Key words: Rhizobial strain, Symbiotic traits, Soybean.
nodule dry weight and shoot dry weight at 50% flowering stage showed that combined inoculation of Pantnagar 2 + Delhi 2 + Bj-1 rhizobial strains observed to be the highest in significantly boosting the symbiotic traits over that of uninoculated control and Delhi-2 strain. While, this combined inoculation of three strains was noticed statistically at par with their single or dual inoculation which showed the synergistic effect of these three in sustainability of the symbiotic traits for better biological nitrogen fixation by soybean plants which inturn raised the nitrogen availability in the soil for succeeding crops. However, these findings are in close confirmity with those of Dubey and Tomar (1999).

Conclusion

The mixed inoculation of Pantnagar -2 + Delhi 2 + Bj-1 has been established effective and conducive to maintained the sustainability in symbiotic traits and soybean productivity in clay loam soil of Madhya Pradesh over that of uninoculated control and their alone or dual inoculation under rainfed conditions.

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