



RESEARCH PAPER

Comparative study of PSB and NPK consortia affecting the yield attributes of hybrid maize

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Abstract : The experiment was conducted during *Kharif* season of 2016 for analyzing the response of different biofertilizers and varying doses of fertilizers on yield attributes of hybrid maize at Agronomy Main Research Farm, Orissa University of Agriculture and Technology Bhubaneswar. The experiment was laid out in a randomised block design replicated thrice with 12 treatment combinations. Among the different liquid biofertilizer treatment combinations, the combined application of NPK consortia + RDF (T₁₁) resulted in maximum cob length (22.2 cm), grain weight cob⁻¹ (194.49 g), and other yield attributing characters at harvest. Similarly, application of 60 Kg P₂O₅ ha⁻¹+ NPK consortia along with recommended doses of N and K, produced maximum grain yield (6.51 t ha⁻¹) which was at par with T₁₂, T₁₀ and T₉ and superior to all other biofertilizer management practices. Thus, under the same level of nutrients, NPK consortia proved to be the best followed by PSBII and PSBI among the three biofertilizers used for inoculation of maize seeds. This might be due to presence of all types of biofertilizers (N fixing- *Azotobacter*; P solubilising- *Burkholderia*, K solubilising- *Bacillus*) bacteria in NPK consortia. Combined application of inorganic source of nutrient and biological fertilizer gave the highest crop yield in this study.

Key Words : Rhizobacteria, Consortia, Inoculants, Soil fauna, PSB, Biofertilizer, Inorganic

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