



RESEARCH ARTICLE :

Investigations on effect of agro-chemicals on soil microflora and yield attributing characteristics of soybean

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SUMMARY : Soybean [*Glycine max* (L.) Merrill] is an important legume belong to family leguminaceae, sub-family fabaceae and genus *Glycine*. Being legume crop, it fix and utilize atmospheric nitrogen and improve soil fertility. Agrochemicals are potential threat for soil microorganisms and in the long term may alter their productive, protective and adaptive capacities (Soulas and Lors, 1999). The global drive for sustainable agricultural systems involves optimizing agricultural resources to satisfy human needs and at the same time maintaining the quality of environment and sustaining natural resources. The result in connection with efficiency of different agrochemicals on nodule count per plant and dry weight of nodule in soybean had temporarily effect and it was recovered at 50 DAS. Seed inoculation with Rhizobium @ 25 g/kg seed had increased effect from 30DAS to 50 DAS. The result with regard to bacterial population in soybean field were significantly influenced by bioinoculant *i.e.* Rhizobium. The bacterial population were inhibited by herbicides Alachlor in soybean and fungicide *i.e.* Thiram and carbendazim and insecticide endosulfan in soybean. After 30 days of spraying of chemicals the bacterial population were restored. With regard to Rhizobium population, the bioinoculants were significantly influenced the population in soybean field. The herbicides, fungicides and insecticide were significantly decreased bioinoculant population, maximum inhibition was observed in carbendazim treated plot at 30 DAS. The result with regards to Rhizobium population, bacterial population and fungi population were influenced by bioinoculant Rhizobium in field. While population were inhibited by alachlor, thiram, carbendazim and endosulfan in soybean field. The Rhizobium bacterial population and fungi population were restored after 30 days of spraying.

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