

Effects of Pesticides on Agricultural Land

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DESCRIPTION

Biofertilizers are existing microorganisms that improve plant nutrition by either by organizing or improving nutrient availability in lands and soils. Various microorganisms like beneficial fungi and bacteria are currently using as Biofertilizers, as they effectively colonize the rhizoplane, rhizosphere or root interior. The commonly using Biofertilizers are Rhizobium, Azotobacter, Azospirillum and blue green algae (BGA) which are using from long time. Azotobacter is a Biofertilizers mainly for crops like wheat, maize, mustard, cotton, potato. Rhizobium is used for legume crops. There are different types of Biofertilizers like Cyanobacteria, Phosphate solubilizing microorganisms, AM fungi, Silicate solubilizing bacteria. Biofertilizers are classified into 5 types Nitrogen Fixing Biofertilizers, Phosphate Biofertilizers, Biofertilizers for Micro-nutrients, Plant Growth Promoting Rhizobacteria, and Compost. Phosphate Biofertilizers are again subdivided into Phosphorous Solubilizing Biofertilizers, Phosphorus Mobilizing Biofertilizers.

BENEFITS

Biofertilizers are the material that comprises microorganisms, which aids in improving the growth of plants and trees by increasing the supply of essential nutrients to the plants. The Biofertilizers are mainly used to Increase crop yield by 30-40%. Stimulate the soil naturally, Refurbish natural soil fertility. Biofertilizers are divided into different groups like Free-living Biofertilizers, Associative Symbiotic Biofertilizers, and Symbiotic Biofertilizers. The Biofertilizers are used by three ways there are seed treatment, Seeding root dip, and main field applications. Sometimes using Biofertilizers may cause harmful effects so some precautions should be taken. Bacteria inoculants should not diversified with fungicide, insecticide, fertilizers and herbicides. Seed treatment with inoculant should be done after treated with fungicides. Thought the Biofertilizers are low cost

and eco-friendly there are several restrictions to limit the usage of the Biofertilizers there may be infrastructural, environmental, financial, marketing, unawareness etc.,. The components of Biofertilizers include Bio Compost which is one of the eco-friendly product, Tricho-Card (eco-friendly and non-pathogenic product used in horticultural and ornamental plants), Azotobacter (protects the roots from pathogens present in the soil), Phosphorus (essential nutrient) and Vermicompost which is Eco-friendly organic fertilizer as it contains vitamins, hormones, organic carbon, sulphur, antibiotics that help to improve the quantity and quality of yield. Biofertilizers is a eco-friendly and cost-effective. Biofertilizers keep the environment free from contaminants and chemicals as they are natural fertilizers. They protect plant from the risk of plant diseases. Biofertilizers do not lead to any type of pollution and contamination. These microorganisms trap atmospheric nitrogen and change it into nitrates and nitrites and provide it to the plants. They also change insoluble phosphates into the soluble forms required by the plants. Rhizobium plays an important role in trapping atmospheric nitrogen. Nitrogen fixation is a method of translating the di-nitrogen molecules into nitrogen compounds. For example, several bacteria convert insoluble forms of insoluble forms into soluble forms. As a result, the plants will obtain the nitrogen and nutrients.

CONCLUSION

It was found that dry land agriculture can advantage most from Biofertilizers. Due to temperature variation, in the coming days there will be even more dry land areas universally. Biofertilizers are thus a hopeful and better option for ecological agriculture. In the future, protests of the soil community may predict the competitive chance of Biofertilizers in a specific soil and help to efficiently produce adapted Biofertilizers for each specific application.

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