



Effect of Pesticides and Fertilizers on Present Day Agriculture

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DESCRIPTION

Agricultural production in India increased dramatically during the last four decades. Leading to an era of food self-sufficiency, this has played a key role in growth of Indian economy. Importantly, this growth signifies the production of 28 percentage of the Gross Domestic Product (GDP) and recent remarkable growth was achieved through the uptake of newer technologies in the form of high yielding crop varieties, chemical fertilizers and pesticides. It is also important to know that Indian agriculture has advanced lengthy way from a period of frequent droughts and susceptibility to food scarcities. Pesticides are the agrochemicals desired to manufacture for the control of pest. When these were dispersed in the environment they become pollutants, leads to the contamination of surrounding the ecosystem. Although, they are been good contributors towards improvement of agricultural productivity and crop yields. The contamination of many field soils and transportation of contaminants in soil is depending on many parameters with relevant flow and it is understood by the progress made in the previous decades. It is well understood that the contamination by pesticides in agriculture sector is mainly because of heavy and continue usage for protection of crops and this conditions of pesticides usage will leads to the many obstacles such as decrease in the soil fertility and effect of pesticides on beneficial soil micro flora by limiting their growth and biochemical activity, this circumstance will cause the effect on the plant growth and also crop yielding. The Impact of pesticides on the environment contains the effects of pesticides on non-target species. Majority of the insecticides, herbicides and fungicides reaching the destination other than their targeted object because they are sprayed throughout the agriculture fields. Runoff of water across and besides agriculture field will transmit a pesticide residue into the aquatic environments and an airstream can transmit the

toxic pesticides residues to the other field and also to the social areas, this causes possible disturb to the other species. Although, many traditional physicochemical techniques were employed for the environmental clean-up of contaminated sites but these not basically liable because of the cost and yielding of other toxic end products. In contrast, recently many of the researchers find the biological route for the cleaning of pesticides contaminated sites using the microorganisms as biological weapons. The degradation of pesticides is the major concern worldwide and eco-friendly degradation has gained more importance. In this context, pesticide degradation by microorganisms has been studied over the past few decades, as soil microorganisms are able establish the biosphere's key reservoir of biological diversity.

CONCLUSION

Microorganisms are most desirable biological tools, because of their ability of resistance to various pesticides, their metabolic capacity for the degradation of toxic compounds and converting them into nontoxic forms. Agricultural soil is the rich source of microorganisms were in most of the studies on degradation of many toxic compounds have been reported by using soil microorganisms. Isolation of selected pesticide resistant microbes from the soil is the major task for finding the resistant microorganisms. Many bacteria were found able utilizers of pesticides and can grow with presence of toxic substances. Previously, many *Pseudomonas* sp. isolated with intention of gaining the resistant over pesticides for the degradation purpose. Conversely, species of *Burkholderia* are also found potent degraders of many of toxic compounds. Importantly, Tubeconazole and propiconazole tolerant *basidiomycetes* sp. were isolated and studied for degradation, it was reported that only lower concentration of fungicides can be degraded.

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