



Brief Note on Antifungal Bio Pesticides on Agriculture

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INTRODUCTION

Bio pesticides are currently used to control weeds, plant pathogens, and invertebrate pests. Bacteria, yeasts, fungi, and viruses are the microorganisms used. Bio herbicides are pesticides that kill herbs. An illustration of this is the insect *Cactoblastis cactorum*, which only consumes *Opuntia cactus*. A mycoherbicide based on the fungus *Phytophthora palmivora* was one of the first bio herbicides. In citrus orchards, it regulates the growth of milk weed vines. Bio pesticides are living substances that can disrupt insect pests life cycles in such a way as to minimize crop damage. Bio pesticides are made from natural enemies of pests like parasites, predators, and disease-causing fungi, bacteria, and viruses. The majority of biopesticides produced and utilized in India are derived from neem, *Bacillus thuringiensis*, NPV, and *Trichoderma*. In contrast, over 190 synthetics have been approved for use as chemical pesticides. Pesticides that kill or prevent the growth of fungi and their spores are known as fungicides. They can be used to control rust, mildew, and blight fungi, which harm plants. In other settings, they could also be used to control mold and mildew.

DESCRIPTION

Bio pesticides are a category that also includes plant-derived biochemical and bacteria. Fungi-based pesticides are just one example. Biopesticides only make up a small portion of the market at the moment, but their use is expected to expand more quickly than that of conventional synthetic pesticides over the next few years. One factor propelling biopesticides is the expanding organic produce industry. Biopesticides become more appealing as approval for novel synthetics becomes more difficult, existing synthetic pesticides are being pulled from shelves,

and weeds and microbes that are resistant to conventional pesticides are increasing. Overuse, improper use, and long-term use put pressure on a lot of chemical pesticides that are commonly used. Biopesticides can deter pests, disrupt mating, or spread a specific disease to invaders that would eat delicate vegetables and fruits. Biopesticides based on fungi up the ante. The majority of these products, with the exception of a few that are used in agriculture, are used in public health. Parasitic fungi are fungi that grow inside an insect's body and consume its internal tissue until it dies. The most commonly utilized fungi for the biological control of arthropod pests are these two genera. *M. anisopliae* and *B. bassiana* are the most widely used species in these genera for biological control of arthropod pests. The possibility of using insect fungal pathogens to combat vector-borne diseases like malaria has been raised by recent research.

CONCLUSION

Microbial insect pest control has typically been unsuccessful in the medical and agricultural sectors. In contrast to the majority of chemical insecticides, we propose that it may now be possible to develop a low-cost, environmentally friendly, and safe method for malaria control that will not be rendered ineffective by resistance evolution. Biologists, technologists, and development organizations will need to think outside the box in order to realize this potential. Crop protection has been provided by chemical pesticides to help meet global demand for food, feed, and fiber. Biopesticides (BPs), particularly fungi-based BPs, are a promising new option because of their high biodegradability and specificity, low likelihood of resistance development, suitability for integration into integrated pest management strategies, and almost no known health risks.

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