

Biopesticides

Bioinsecticides, Biofungicides and Bionematicides are Rapidly Growing Market Segments and are Expected to Boost the Demand for Bio pesticides in Future

Introduction

Agriculture is adversely affected by numerous pests like bacteria, fungi, weeds and insects, leading to reduced yield and poor quality of the produce. Since 1960s, the most common method for pest control has been the intensive use of synthetic pesticides. Thereafter, Green Revolution technology of crop production could increase food production in developing countries through the intensive use of inputs like chemical fertilizers and pesticides etc. Bio pesticide is gaining interest because of its advantages associated with the environmental safety, target-specificity, efficacy, biodegradability and suitability in the integrated pest management (IPM) programs.

Thus, biopesticide is one of the promising alternatives to manage environmental pollutions. Though potential application of biopesticides in environmental safety is well known, it has gained interest in view of the growing demands for organic food.

Biopesticides have usually no known function in photosynthesis, growth or other basic aspects of plant physiology. Instead, they are active against biological pests. Many chemical compounds have been identified that are produced by plants to protect them from pests. These materials are biodegradable and renewable alternatives, which can be economical for practical use.

India biopesticides market is dominated by various unorganized players due to the expensive registration process. However, the market is also characterized by the presence of several large, organized players such as Pest Control India and International Panaacea Ltd.

Major demand for biopesticides came from cotton, Paddy crops, cereals, pulses and oilseeds as India is the largest consumer of pulses in the world and the second largest producer of cereals which include wheat, paddy, maize, millets and others. As next generation pesticides, biopesticides are gaining popularity in India.

Due to presence of higher pesticides residues in food crops, specifically on grains and increasing pest resistance, developed countries are posing strict regulations on use of some synthetic pesticides, which will affect the use of synthetic pesticides and will promote the use of biopesticides in the region.

Bio-pesticides typically affect only the target pest and closely related organisms, in contrast to broad spectrum, conventional pesticides that may affect organisms as different as birds, insects, and mammals. The Biopesticides market in India has witnessed a growth in recent years on account of governmental support, integrated pest management programme and rising demand for organic products fueled by growing health awareness among people.

The potential benefits to agriculture through the use of bio-pesticides are considerable. The interest in bio-pesticides is based on the advantages associated with such products which are: Inherently less harmful and less environmental load Designed to affect only one specific pest or, in some cases, a few target organisms Effective in very small quantities and often decompose quickly.

Biopesticides are used globally for controlling insect pests and diseases. Bioinsecticides, biofungicides and bionematicides are rapidly growing market segments and are expected to boost the demand for biopesticides in future. Globally, there are 175 registered biopesticideactive-ingredients and 700 products available in the market.

-----As per a Report released by FICCI

Demand for biopesticides in India is forecast to exhibit high growth in terms of both volume and value, estimated at respective compounded annual rates of 18.3% and 19% over the 2015-2020 period. Biopesticides Market is expected to reach USD million by 2021 from USD 23.92 million in 2015.

Some of the fundamentals of the book are synthesis of triazino benzimidazol as 1 biopesticides, synthesis and pesticidal activities of thiadiazolo S triazine and imidazol, synthesis and antimicrobial activities of pyrazoles, effects of penconazole on plasma membrane, metabolism of diclofop methyl , bleaching herbicides stimulate maize HMGR activity, soil transformation of acetochlor, propanil degrading amidase activity, inhibition of BTX B binding by RH 3421, KDR type resistance in German cockroach etc.

This is the first book of its kind which provides different parameters about bio pesticides. The book will not only be resourceful for new entrepreneurs but will also help the technocrats, research scholars and those who willing to know more about biopesticides.

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