

AREVIEW

Insect pest management in organic agriculture

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ABSTRACT

Organic farming is gaining popularity worldwide among the farmers, entrepreneurs, policy makers, scientists and other stakeholders as it minimizes dependence on chemical inputs, thus safeguarding quality of natural resources and environment. In organic farming, insect pest pose a major challenge since genetically modified crops and synthetic pesticides are not permitted for use in organic production systems. The underlying principle of integrated pest management (IPM) in organic system of cultivation involves application of ecologically sound practices. Major emphasis is given on use of multiple and various tactics incorporated into the cropping system design to prevent the damage caused by the insect pests. The key strategies of IPM of organic farming are selection of resistance/tolerance varieties, planting trap crops, following crop rotation, conservation of biological agents and soil quality management. However, enhancement of soil quality and cultural practices are sometime found to be insufficient to manage the pest below economic injury level (EIL). In such situations, augmentative release of biological control agent helps in rapid suppression of insect pests. For organic cultivation, biopesticides are used as a last option when the levels of pest population or damage are not acceptable. Since no single practice is effective for all possible insect pests that threaten the crop, a combination of such practices (IPM) is necessary to maintain the pest population below the EIL. These practices when used in a compatible manner could make organic ecosystem unattractive to pest species.

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