

Potential Bioagents for Insect Pests of Rice

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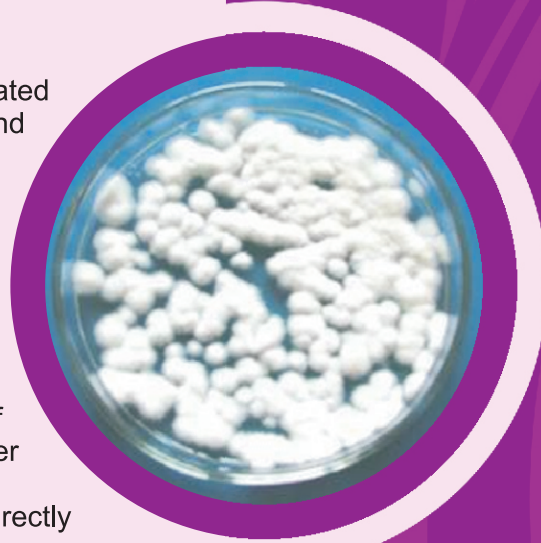
Application of synthetic pesticides leads to environmental hazards along with many health ailments. An ecofriendly approach is to use biopesticides in which pathogenic fungi kills the insect pests without causing harmful effects to the crop. Two fungal isolates viz, *Metarhizium anisopliae* and *Beauveria bassiana*, which are effective against leaf folder and Brown Plant Hopper (BPH) are potential bioagents. These two bioagents can be applied in farmers' field as recommended formulations in suspension spray with water.

Entrepreneurial Opportunity

- The cost of production for 50 kg of inoculum per day (for 200 days a year) will be around Rs.37, 00,000. which may give a net return of Rs.1, 50,00,000.
- Four to five packets are required for one acre which costs around Rs. 12 to 15.

Salient Features

- *Metarhizium anisopliae* and *Beauveria bassiana* isolated by CRRRI are highly effective against Leaf folder and BPH.
- These two fungi penetrate through intersegmental membranes. In addition these produce chitinase and protease which further enhance the efficiency against insect pests.
- The mode of action is haemolytic in nature.
- The formulations for these two fungi require low cost material and can be done by semi-skilled persons.
- Rice or Wheat powder (100g) as source of carbohydrate and as Nitrogen source dry fish powder (5g) are required per packet.
- The powder is dissolved in water and can be directly applied on the infected crop using sprayers.
- It is useful against multiple pests which exclude non target pests and the effectiveness persists even in unfavourable conditions.



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