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Pests of Crops and Stored Grain and Their Management

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Pests have always been silent enemies of agriculture, harming crops in the field and damaging grains after harvest. Their attacks reduce both the quantity and quality of produce, affecting farmers' income and food security. This article explains the major pests seen in Indian farms and grain storage areas in a simple, human-like manner. It also highlights practical management methods that farmers can easily understand and adopt in real life. The aim is to spread awareness about smart and sustainable pest control rather than depending only on chemicals.

Introduction

Agriculture supports millions of families in India, and healthy crops are vital for a good harvest. But pests—whether insects, beetles, rodents, or mites—can destroy crops at any stage. Some pests eat leaves, some damage roots, and others spoil grains kept in storage. In the past, farmers relied primarily on chemical pesticides, but this often led to resistance, high costs, and environmental issues. Today, Integrated Pest Management (IPM) offers a smarter, safer, and more sustainable way. It combines simple cultural practices with biological and chemical methods only when needed. This article presents the most common pests found in fields and storage structures, along with practical solutions that farmers can easily follow.

Pests of Field Crops

Pests of Cereals

a) Stem Borer (Maize & Paddy) : This pest attacks the growing shoot, causing dead-hearts. Farmers often notice white, empty ear heads at maturity.

Management: Choose resistant varieties, destroy leftover stubbles, use Trichogramma cards, and spray recommended insecticides when required.

b) Fall Armyworm (Maize) : Known for its fast spread, this caterpillar feeds aggressively on young leaves, creating shot-hole patterns.

Management: Remove egg masses by hand, set pheromone traps, use neem formulations, and apply chlorantraniliprole for severe cases.

Pests of Oilseeds

a) Mustard Aphid : These tiny insects gather on leaves and pods, sucking plant sap and slowing growth.

Management: Early sowing, encouraging natural predators like ladybird beetles, and spraying dimethoate when necessary.

b) Red Hairy Caterpillar: This caterpillar can strip entire plants of leaves, especially groundnut.

Management: Deep ploughing, using light traps, and applying recommended insecticides.

Pests of Pulses

a) Pod Borer: A major challenge in pigeonpea and chickpea, it feeds inside pods and reduces seed formation.

Management: Use pheromone traps, release Trichogramma, apply neem oil, or spray pyrethroids if the infestation rises.

b) Whitefly: Besides sucking sap, this pest spreads Yellow Mosaic Virus, a major threat to moong and urad crops.
Management: Use resistant varieties, remove infected plants, install yellow sticky traps, and apply systemic insecticides.

Pests of Cotton

a) Pink Bollworm
This pest damages cotton bolls from the inside, affecting both yield and fibre quality.
Management: Timely sowing, using pheromone traps, and spraying insecticides as per guidelines.
b) Whitefly
It sucks sap and encourages sooty mould on leaves.
Management: Avoid excess nitrogen, set up yellow sticky traps, use neem oil or systemic pesticides.

Pests of Vegetables

a) Brinjal Fruit & Shoot Borer
It bores into shoots and fruits, reducing market value.
Management: Remove damaged shoots, install traps, and spray spinosad.
b) Tomato Fruit Borer
Creates holes in fruits, causing rotting.
Management: Remove infested fruits, release Trichogramma, and apply safe insecticides.

Pests of Stored Grain

Common Stored-Grain Pests

a) Rice Weevil
This beetle bores holes in stored grains and reduces their weight.
Management: Clean storage spaces, dry grains properly, and fumigate using aluminium phosphide.
b) Red Flour Beetle
It prefers flour and damaged grains, leaving a foul smell.
Management: Regular cleaning, airtight storage, and proper fumigation.
c) Pulse Beetle
Common in pulses, it makes round exit holes.
Management: Sun-dry grains, mix neem leaf powder, and fumigate heavily infested stock.
d) Lesser Grain Borer
It turns whole grains into powder if left uncontrolled.
Management: Store grains in metal bins, reduce moisture, and fumigate properly.

Integrated Pest Management

IPM combines several simple and scientific methods:
- Cultural: Crop rotation, clean cultivation, deep ploughing
- Mechanical: Handpicking larvae, using traps
- Biological: Natural predators, Trichogramma, Bt formulations
- Botanical: Neem oil, azadirachtin
- Chemical: Safe pesticides when needed
- Storage: Proper cleaning, drying, and fumigation

Conclusion

Pests will always be a part of agriculture, but with the right knowledge, their damage can be significantly reduced. Farmers can protect their crops and grains by following integrated pest management practices, observing fields regularly, and avoiding unnecessary use of chemicals. A balanced approach not only saves money but also keeps the environment and consumers safe. By spreading awareness and adopting smarter practices, we can ensure healthier harvests and better food security for everyone.

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