

# Cultural Methods of Integrated Pest Management (IPM)

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## ABSTRACT

Integrated Pest Management (IPM), also known as Integrated Pest Control (IPC) is a broad-based approach that integrates practices for economic control of pests. IPM aims to suppress pest populations below the economic injury level (EIL). The UN's Food and Agriculture Organization defines IPM as "the careful consideration of all available pest control techniques and subsequent integration of appropriate measures that discourage the development of pest populations and keep pesticides and other interventions to levels that are economically justified and reduce or minimize risks to human health and the environment.

**Keywords:** Integrated Pest Management; Economic injury level; Agriculture

## OBJECTIVES

1. Solve pest problems.
2. Identify different methods of pest management—their benefits and limitations.
3. Describe the value of beneficial insects.
4. Keeping plants healthy and preventing plant stress helps plants to better withstand and repair the damage caused by an insect or mite pest. Some evidence indicates that healthy plants resist infestation by pests better than plants with low vigor.

## CULTURAL METHODS OF IPM

### Soil Preparation

Providing a favorable soil environment encourages the growth of healthy roots, increasing access to water and nutrients, preventing stress, and making the plant more resistant to pests and diseases than plants in poor soil. Covering the soil with several inches of mulch(organic) protects the plant in several ways: reducing soil water loss to evaporation, minimizing weed competition, providing nutrients, and creating a suitable environment for earthworms and microorganisms that keep the soil loose for roots and break down organic material to release nutrients.

### Plant Selection

Select plants that are sturdy and have well-developed root systems. Diseases and insects in young seedlings can start in greenhouses or plant beds and later cause heavy losses in the garden when the pests are introduced along with the seedlings.

### Rotation Planting

Planting two similar crops in successive years tends to increase pest problems. Many vegetables are closely related and have the same pests and diseases. Some insects hibernate in the soil or litter around plants or lay eggs in or on the host plant. Do not grow the same kind of vegetable in the same place each year.

### Interplanting

It is the practice of planting a fast-growing crop between a slower-growing one to make the most of your garden space.

### Planting Dates

Some insects do not overwinter locally but migrate from southern states each year. Time plantings so that most of the crop avoids the peak of insect infestations. Early squash should reach maturity before the pickleworm arrives

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## Weed Management

Weeds and grasses can shelter both pests and beneficial insects. Spider mite problems are fewer, for example, if broadleaf weeds near fruit trees are removed. If the weeds are closely related to the crop plants, they can harbor pest insects and should be removed. Pests with a wide host range—such as armyworms, crickets, cutworms, flea beetles, grasshoppers, lygus bugs, slugs, snails, stink bugs, and thrips—often inhabit weedy areas and can move to nearby desirable plants. Before planting, mow weedy areas and continue to mow on a regular basis. It is important to mow weeds before a crop is established to prevent insects from moving to the desirable plants.

## Trap Crops

Trap crops are plant stands that are grown to attract insects or other organisms like nematodes to protect target crops from pest attack. Protection may be achieved either by preventing the pests from reaching the crop.

## Advantages

- Cultural controls are generally the cheapest of all control measures because they usually only require modifications to normal production practices
- Sometimes they do not even require extra labour, only careful planning required.
- Reduced amount of broad-spectrum pesticide use in the environment reduced chance of pests developing resistance towards a specific pesticide-reduced health risk to humans reduced health risk to pets and organisms that aren't being targeted-less harm for the environment

## Disadvantages

- Its use requires regular monitoring
- It cannot be used for all pests
- It can be hard to determine when to use sprays
- It doesn't work with all environments and practitioners have to understand how IPM works and follow practices consistently

## CONCLUSION

In some situations, cultural control aimed against one pest may improve conditions for other pests. Furthermore, not only pests, but also defenders may be affected by changes in management practices. To be effective, the farmer therefore needs a thorough understanding of what is happening in the field and Cultural control is a method of crop protection using careful timing and a combination of agronomic practices to make the environment less favorable for the increase of certain pests or diseases.