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Integrated Pest Management (IPM)

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Integrated Pest Management (IPM) is an effective and environmentally sensitive approach to pest management that relies on a combination of common-sense practices. IPM programs use current, comprehensive information on the life cycles of pests and their interaction with the environment. This information, in combination with available pest control methods, is used to manage pest damage by the most economical means, and with the least possible hazard to people, property, and the environment.

The IPM approach can be applied to both agricultural and non-agricultural settings, such as the home, garden, and workplace. IPM takes advantage of all appropriate pest management options including, but not limited to, the judicious use of pesticides. In contrast, *organic* food production applies many of the same concepts as IPM but limits the use of pesticides to those that are produced from natural sources, as opposed to synthetic chemicals.

History:

IPM extended the concept of integrated control to all classes of pests and was expanded to include tactics other than just chemical and biological controls. Artificial controls such as pesticides were to be applied as in integrated control, but these now had to be compatible with control tactics for all classes of pests. Other tactics, such as host-plant resistance and cultural manipulations, became part of the IPM arsenal. IPM added the multidisciplinary element, involving entomologists, plant pathologists, nematologists, and weed scientists.

In the United States, IPM was formulated into national policy in February 1972 when President Nixon directed federal agencies to take steps to advance the concept and application of IPM in all relevant sectors. In 1979, President Carter established an interagency IPM Coordinating Committee to ensure development and implementation of IPM practices. (references: "The History IPM", BioControl Reference Cente

Aims of IPM:

– Reduce the use of synthetic organic pesticides
– That are environmentally sound
– Pest minimal risk of human health
– Re-useable return on investment
– Provide consumable safe food

Principles of IPM:

– Identification of key pests and beneficial organisms
– Defining the management unit, the Agro-ecosystem
– Development of management strategy
– Establishment of Economic thresholds (loss and risks)
– Development of assessment techniques
– Evolving description of predictive pest models

Tools of IPM:

Monitoring :

Keep tracks of the pests and their potential damage. This provides knowledge about the current pests and crop situation and is helpful in selecting the best possible combinations of the pest management methods.

Pest resistant varieties :

Breeding for pest resistance is a continuous process. These are bred and selected when available in order to protect against key pests.

Cultural pest control :

It includes crop production practices that make crop environment less susceptible to pests. Crop rotation, cover crop, row and plant spacing, planting and harvesting dates,