

Integrated Pest Management Principles Code of Practice



Integrated Pest Management (IPM) is defined as:

The control of pests by employing all methods consistent with economic, ecological and toxicological requirements while giving priority to natural limiting factors and economic thresholds.

"Pest" can be used for all insect pests, diseases and weeds encountered in crop production.

IPM means, effective pest and disease control using the most appropriate methods available.

Simple rules apply across all IPM programmes:

- Agrichemicals are only used when justified the decision to use an agrichemical being supported by well-defined thresholds, assessment techniques etc.
- Products are selected so that pest resistance to the agrichemical is minimised. Growers follow label instructions and industry guidelines regarding resistance management.
- Where recognised industry spray programmes are in place, Growers adhere to the resistance management techniques in the programmes, including sequence, rotating chemical classes, timing and minimum / maximum number of applications of specific products.
- Where industry programmes are not in place, Growers provide evidence that they adhere to resistance management instructions from the agrichemical label.

Growers obtain assistance with the implementation of IPM systems through training and / or extension as part of industry specific IPM programmes or from qualified advisors.

Growers participate in industry IPM programmes or illustrate their competence regarding IPM Practices with training or qualifications.

Growers demonstrate that they have implemented at least two activities that appears in each of the three main IPM topic areas (i.e. one within each of the 'Prevention', 'Observation and Monitoring', and 'Intervention' categories that follow).

Prevention

The adoption of cultivation methods that could reduce the incidence and intensity of pest attacks, thereby reducing the need for intervention.

Crop rotation, pest exclusion and soil management:

includes a range of techniques for reducing the build-up of pests, such as: appropriate crop rotation to minimise pest incidence; appropriate site selection and use of physical or biological barriers to avoid pest incidence; improving soil structure; increasing organic matter content; using mulches; sterilising soil and substrate by thermal (rather than chemical) techniques (e.g. steam, solarisation).

Selection of appropriate plant varieties and planting material:

Including the use of pest-resistant or pest-tolerant plant varieties, where available and commercially-acceptable; purchasing healthy (e.g. certified disease-free) planting material from a reputable supplier.

Good crop hygiene:

Includes the removal of infected or diseased plants and crop debris; controlling non-crop weeds that serve as hosts for crop pests; cleaning and disinfection of machinery and equipment.

Observation and Monitoring

Determining when, and to what extent, pests and their natural enemies are present, and using this information to plan what pest management techniques are required.

Crop monitoring:

Includes routine and regular inspection of pest incidence in crops; identification and inspection of the presence of natural enemies of pests; the use of pheromone and other relevant trapping systems for pest monitoring.

Using decision-support systems as a means to identify the need for, and/or timing, of intervention strategies:

Use data on the economic threshold levels of pest incidence as a basis for decision-making; time intervention applications on the basis of informed technical guidance; use data on temperature, humidity, rainfall, hail, frost etc., to guide the potential need for intervention.

Intervention

In situations where pest attack will adversely affect the economic value of a crop, it may be necessary to intervene with specific pest control methods, including plant protection products. However, where possible, non-chemical approaches should be considered.

Approved plant protection products can be highly effective in pest management and may be essential in some situations e.g. for controlling quarantine pests on crops for export. **However, where possible, every consideration should be given to the following range of intervention strategies:**

Use plant protection products selectively and in ways that reduce the risk of resistance developing:

including the use of approved selective plant protection products which have reduced adverse impact on non-target species (e.g. insect growth regulators, insecticidal soaps, mineral and vegetable oils, plant extracts); use plant protective products in a selective manner (e.g. seed treatment; spot treatments in situations where the pest is located in 'hot spots', rather than distributed throughout the crop); use bait treatments where appropriate; systematically alternate plant protection products from different chemical groups for effective resistance management. If quarantine pest species require control, to satisfy the regulations of an importing country, approved plant protection products can be applied, but a combination of other measures (e.g. pest-free or low pest prevalence areas; post-harvest commodity treatments) integrated to provide equivalent control should also be pursued.

Use natural enemies and other commercially-available biological methods of control:

including managing the cropping environment to enhance the levels of natural enemies (e.g. by providing favourable habitats); where appropriate, introduce predators and parasites for insect pest control (e.g. in greenhouse crops or in fields where cover spraying of plant protection products are not used); use appropriate commercially-available selective microbial control agents (e.g. *Bacillus thuringiensis*, insect-parasitic nematodes, insect-specific fungal and viral products); consider the use of other selective control methods, (e.g. mating disruption with pheromones, sterile insect technique).

Use other methods to control pests:

including mechanical methods, i.e. controlling weeds by mowing and/or mechanical cultivation; use of traps for insect pest control, etc.