



## Integrated Pest Management (IPM)

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Integrated Pest Management (IPM) involves selecting and using pest control methods to:

- maximise returns to growers, grain merchants and others in the industry; and
- minimise harmful effects on personal health and the environment.

**IPM uses a combination of pest control measures to enhance their overall effectiveness.**

GRAINSAFE encourages IPM because long-term reliance on chemicals to control stored grain insect pests is not possible. Reasons for this include development of insect resistance to chemicals, and more stringent standards on chemical residues in grain markets.

IPM practices for grain growers, grain merchants and bulk handlers include:

- maintaining high standards of hygiene to remove grain insect breeding areas;
- reducing grain moisture and temperature to slow insect population growth rates;
- increasing the use of non chemical alternatives - aeration; controlled atmospheres (for example, carbon dioxide or nitrogen);
- monitoring insect populations to determine if chemical control measures are necessary;
- knowing the requirements of the buyer or handler for chemical control - looking ahead and planning appropriate control methods;
- fumigating effectively - sealed silos;

- applying grain protectants (insecticides) and fumigants accurately to improve their effect and slow resistance development;
- managing insecticide resistance in insects;
- designing storages to allow easy cleaning and gas-tight sealing;
- controlling and rotating stocks of stored grains to ensure that they don't become sources of infestation - particularly important for merchants and commercial handlers of grain.

**IPM stresses hygiene in farm grain storages, headers, augers and other equipment.**

**It encourages graingrowers to examine alternatives to insecticides, including:  
aeration, controlled atmospheres, sealed silos and effective fumigation**

Accurate application of existing chemicals would also enhance their effectiveness and reduce resistance development.

**IPM is already practiced by Queensland's grain handling authorities.** This response is essential to ensure minimal use of chemicals for insect control, so as to meet the ever-tightening market standards for chemical residues and insects in grains.

If the grains industry is to remain viable, farm grain storage practices must improve as part of an industry-wide commitment to Integrated Pest Management.