

Integrated Pest Management



Demand for more sustainable pest management

Increasing insect resistance to chemical use and an aversion to using toxic chemicals are prompting growers to find an alternative approach to pest management – Integrated Pest Management (IPM) can provide that alternative.

In the Corangamite/Glenelg-Hopkins region of south western Victoria where the Grain & Graze Program has invested in IPM research, farmers and advisors are participating in an IPM pilot course. The pilot course is designed to teach participants how to monitor paddocks and identify pest and beneficial insect species.

There are also two independent advisory groups which have incorporated IPM into their materials at a commercial level.

If you would like to get involved in the IPM course, see details overleaf.

What is Integrated Pest Management?

Integrated Pest Management manages insect pests by monitoring populations and replacing hard, broad spectrum insecticides with a combination of more selective insecticides and strategies such as baiting and seed dressings.

By using an IPM approach, crop and pasture pests are controlled by beneficial insects before they cause economic damage.

IPM uses naturally occurring predators and pathogens of insect pests as the primary control agent. This is supported by changes in farm practices to encourage beneficial species and discourage pests from breeding. Insecticides can still be used

as a backup, usually in a more targeted way, such as seed dressings and baits, rather than through a boom spray.

An effective and environmentally sensitive approach to pest management, IPM makes use of the life cycle of pests and their interaction with the environment, combined with the cautious use of pesticides.

Knowledge of the life cycle, timing and population dynamics of pests and beneficial species is needed, as well as regular monitoring to decide which measures are required.

Ultimately, IPM manages pest damage by the most economical means and with minimum risk to people, property and the environment.

Who is working on it?

Research into farm practices that encourage beneficial insects and discourage crop and pasture pests is being conducted in the Corangamite/Glenelg-Hopkins region of south western Victoria under the Grain & Graze Program. Significant on-farm monitoring is creating an understanding of the interaction between farm practices and insect populations. Coupled with trials of softer insecticides, applying current insecticides in a more targeted way and identifying the harbour created by areas of native vegetation, an integrated approach to pest management is being developed. IPM principles can work elsewhere, and are currently being trialled in the Central West-Lachlan region under the Grain & Graze Program.

What role does IPM play in mixed farming?

IPM offers the opportunity to reduce chemical use. Farmers who have trialled an IPM approach over the last two years have reduced their reliance on broad acre spraying with direct savings of between \$5/ha and \$30/ha. Some have taken the next step and are applying IPM to their entire farming operation.

What's required for an IPM approach?

A mindset change is key to an IPM approach. While the approach for each farm will differ, once the actions needed to encourage beneficials and discourage pests (or interrupt their breeding cycles) are understood, then the appropriate farm practices follow.

Time spent on the tractor spraying is often replaced with regular monitoring of paddocks. New skills may be required to identify the pests, the beneficial insects and the appropriate strategies to apply.

While IPM requires good, technical interpretation and may at first appear difficult to implement, the theories behind it are straightforward. By simply adjusting insecticide applications, growers can create a paddock environment where more beneficial species can grow because the conditions that harbour pests also provide an ideal habitat for beneficial species.

What are the outcomes?

While an IPM approach requires an increase in monitoring and labour time, it can result in better crop yields and lower spraying costs. It can also generate an increase in biodiversity and reduce the environmental impact.

Getting the right balance

Getting the right balance requires careful management of the insect populations. Farm practices that favour the beneficial populations and hinder the pests need to be identified. Cultivation, burning, weed control and grazing influence the balance of beneficial insects and pests we have. And while insecticides are still used in IPM, the type, along with how and when they are applied, is chosen with the beneficials in mind.

Pests and the beneficials needed to eliminate them:

Pest insect

Redlegged earth mite and lucerne flea

Slugs (*Deroceras Reticulatum*, *Milax gagates*)

Caterpillars (*Diamondback Moth*, *Heliothis*, *Armyworm*)

Aphids

European Earwigs

Beneficial insects that eat the pest

Predatory mites (*Bdellidae* and other species)

Native earwigs (*Labidura Truncate*)

Carabid beetles (*Rhytisternus*, *Notonomus*)

Carabid beetles, native earwigs

Brown lacewings (*Micromus Tasmaniae*)

Ladybird beetles (*Harmonia*, *Coccinella*, *Hippodamia*)

Carabid beetles



For more information contact:

If you would like to get involved in the **IPM course** for agronomists and farmers, contact Grain & Graze Corangamite/Glenelg-Hopkins Regional Coordinator, Cam Nicholson on 03 5258 3860 or 0417 311 098; Richard Price, National Coordinator, on 02 6295 6300; Gillian Stewart, National Extension Coordinator, on 02 6263 6042; Merryn West, Communications Officer, on 02 6263 6013 or visit www.grainandgraze.com.au

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November, 2007