Decision Making
for Insect Management
in Grain Crops

An introduction to Integrated Pest Management

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The aims of the workshop

- Introduce and discuss the principles of an IPM approach.
- To provide practical examples of how you can implement IPM tactics.
- To get you thinking, discussing, sharing experience.

Why IPM?
A way to reduce our reliance on insecticides

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Why do we need to find ways to reduce our reliance on insecticides?

- Insecticide resistance
- Pest and secondary pest outbreaks
- Off target impacts (natural enemies, human, environment)
- Consumer demand

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What are some of the barriers you face in implementing IPM?




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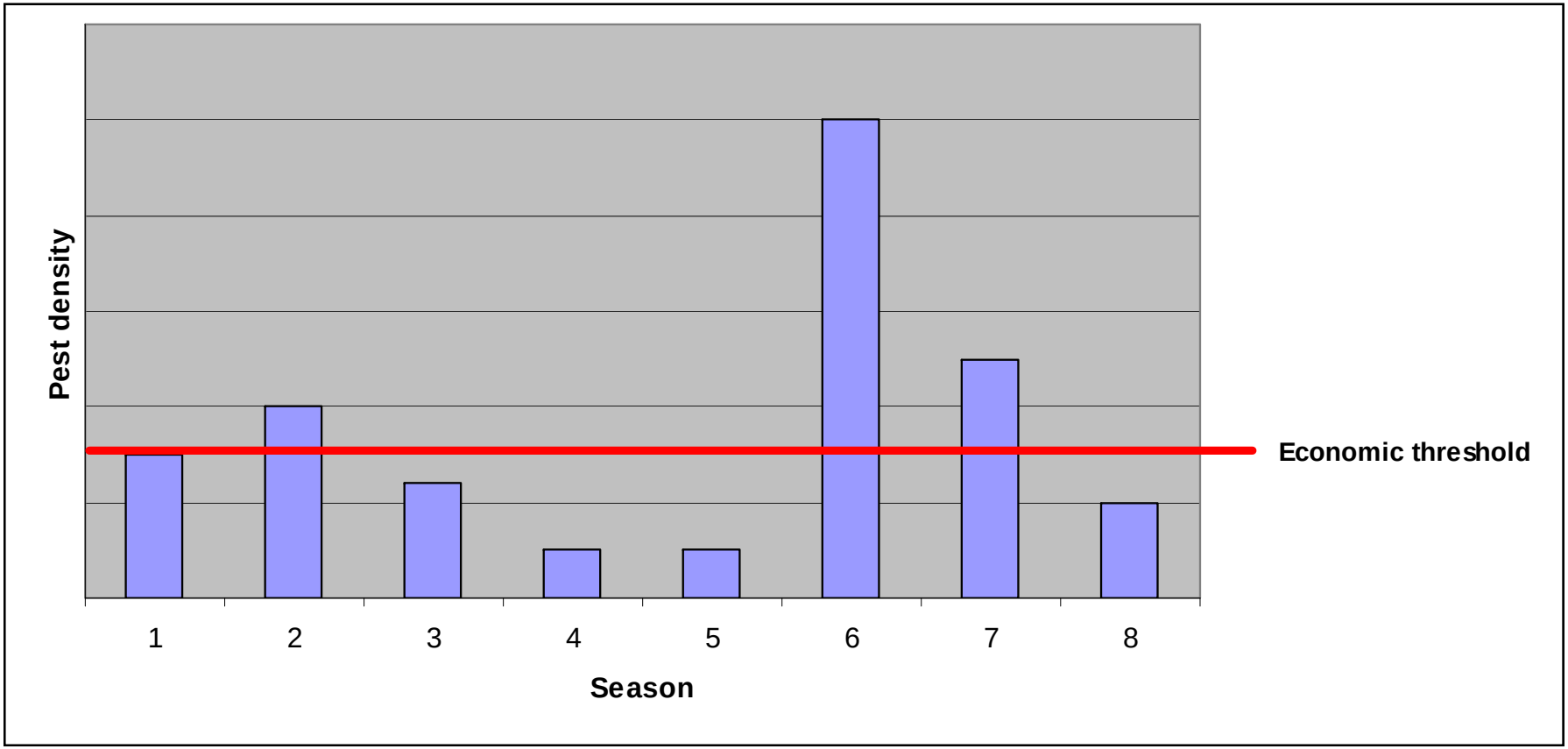
"I tried to go soft, but the pest pressure was so high that I had to spray or I would have lost everything. I won't be risking that again!"



A framework for IPM – assessing and managing risk

	IPM in practice
Know the signals	Paddock histories and weather data inform predictions of pest pressure (**risk**)
	Pest trapping and forecasts of outbreaks inform decisions (**risk**).
Informed decisions	An appropriate monitoring schedule underpins informed decisions (**risk**)
	Economic thresholds guide control decisions
Know the pest	Pest ID is fundamental to correctly targeting management tactics
	A knowledge of pest biology and ecology provide an understanding of how the pest, crop and management tactics interact (**risk**).
	An area Wide Management approach within your region may be critical for some pest species.

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A framework for IPM

	IPM in practice
Cultural control	Cultural practices can suppress and/or disrupt pest populations (stubble management, rotations) **risk**
	Resistant varieties reduce the susceptibility of the crop
Biological control (Natural regulation)	Beneficials make a valuable contribution to reducing pest abundance
	Biopestcides (NPVs, metarhyzium) have minimal off-target impacts.
Strategic pesticide choices	Use pesticides strategically and with beneficials / non-target insects in mind
	Diversify control options to manage the risk of resistance developing (**risk**)

Best bet strategies have been devised to get you started

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Northern region – Canola best bet IPM strategy

	Canola aphids	Rutherglen bug (RGB)
Summer / autumn	Assess risk (virus) High risk where • Summer rainfall creates a *Brassica* green bridge • Warm conditions favour early aphid build-up and timing of flights If high risk: • Use an insecticide seed treatment to manage virus spread (e.g. BWYV) by green peach aphid Manage *Brassica* weeds and volunteers (ideally area wide) 3-4 weeks before sowing Sow early to promote early flowering in spring before aphids peak	Monitor crops for RGB and other pests during establishment (note: see "establishment pest best bet strategy"). High risk if • Warm conditions in late summer/autumn • Weeds drying off in or near crop and RGB moving (walking) into seedling crops If spraying: • Border spray infested areas of crop and nearby host weeds • Monitor for re-invasion and the need for repeat application Remove summer/autumn weeds (especially fleabane, wireweed and capeweed) in or near crops 3-4 weeks before sowing.
Winter	Monitor crops for aphid colonisation from late winter when daily temperatures start to rise. High risk where • Mild winter • Green peach aphid present on vegetative plants • Forecast is for warm and dry conditions that favour aphid development • No beneficial activity and/or aphid parasitism	Increased risk where: • Abundant weed hosts over winter allowing build up of local populations

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