Almond IPM: What does it mean?

What is IPM/IPDM?

IPM: Integrated Pest Management

IPDM: Integrated Pest & Disease Management

Integrate: (verb) *"to combine two or more things in order to become more effective"* (Cambridge Dictionary).

IPDM involves evaluating your pest and disease problems, then integrating appropriate strategies and practices into a systems approach to manage those problems more effectively in a crop production context. The complication is that you must consider impacts of your actions on the entire block or orchard, and side effects on biocontrol agents working "behind the scenes" preventing other pests from becoming problems. For example, using a non-IPM approach, applying some of the registered fungicides for a low-level rust problem may suppress the predatory mites that are controlling your pest mite populations. This in turn may create a larger problem, and lose you more money, as there is now nothing to keep the mites in check. The IPDM approach to the problem could involve improved sanitation to ensure complete defoliation of trees during winter, and choice of other fungicides that are known to suppress rust while being safe for predatory mites.

Costs, losses and thresholds

Australian almond producers operate under a production system that requires a high degree of financial risk and large amounts of annual expenditure to achieve the desired production. Damaged kernels cost money in lost marketable yield but there are also significant costs associated with preventing yield loss. If the costs of preventing loss are higher than the value of the potential loss, then the threshold damage levels are too low. The level of damage which is considered acceptable may vary between orchardists and is context-dependent. IPDM involves making personal choices about what you think is acceptable and what level of risk you're willing to accept. There are no firm rules and regulations.

Appropriate management options

Generally, a well-run IPDM program will result in reduced usage of synthetic pesticides. This is a natural consequence of considering the entire range of control options available, starting with orchard hygiene and other cultural aspects such as pest or disease resistant rootstocks, encouraging biocontrol agents, use of technology that disrupts pest communication systems (pheromones), and use of appropriate pesticides when required.

Orchardists using IPDM choose management options from within a strategic plan that recognises that:

- The orchardist is in the business of growing high-quality nuts.
- Pests, diseases and weeds are not problems until they cause economic losses.
- Completely eradicating pests and diseases is almost impossible but preventing their establishment is feasible.
- Cultural techniques, including crop hygiene, are preventative measures that limit initial pest and disease population size.
- Biological control agents may be cost-effective for pest and disease management but may require occasional help in extreme conditions.
- Chemical pesticides have a place in the strategy but should be chosen using knowledge of their target range, how they impact beneficial species such as pollinators and biocontrol agents, their approval and MRLs in target markets, resistance management strategies and re-entry periods.

Monitoring is the key

The key to IPDM success is to monitor your activities and keep good records of what you have done and the results of those actions. Records should be used to help you assess your current practices and honestly evaluate whether you are choosing the best options. This allows you to constantly refine your management strategy and cope with new threats.

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