Multi-function horticulture: the case of Integrated Pest Management (IPM)

Denise Bewsell, Ag Research Ltd., New Zealand
Geoff Kaine, Ag Research Ltd., New Zealand
Jo Vigliaturo, Department of Primary Industries, Box Hill, Australia
David Williams, Department of Primary Industries, Box Hill, Australia

Introduction
Horticulturalists are under increasing pressure with regards to pest and disease management. They must simultaneously produce a high quality, blemish free crop to sell, whilst balancing demands to conserve or even improve the natural environment by reducing chemical use. In this environment of multi-function horticulture, many extension and education programs are focussed on increasing the adoption of Integrated Pest Management (IPM). IPM is often regarded as the solution to the dilemma outlined above, but does this reflect reality for growers?

Purpose of poster
Our project investigated the adoption of pest and disease management strategies amongst apple growers in Australia. We used consumer behaviour theory as a framework for investigating this issue. This poster provides an outline of our results and the implications for extension and education.

Major points or information to be shared

• We found that the particular combination of pest and disease management practices that best suit an orchard will depend on the particular circumstances of that orchard. Consequently, efforts to construct an index or scale of integrated pest management use are misguided (unless all orchards are the same and all integrated pest management practices are suitable).

• Our findings also suggest there is no reason to expect a consistent relationship between pest and disease management and orchard size, farm income, operator education and experience. Unless, of course, a particular management technique exhibits scale economies or requires a formal education qualification to implement. We did not discover any indication that this was the case.

• These findings imply that growers follow a deliberate and systematic process of learning about, experimenting with, and evaluating management options within the particular context of their orchards (given the constraints imposed by the realities of commercial production). That is, growers follow a decision process that resembles complex decision making when establishing a pest and disease management regime.

Conclusions
We have found that the particular combination of pest and disease management techniques a grower employs largely depend the mix and intensity of pests and diseases present in their orchards and the range of control options available to them. In short, climate, topography, orchard isolation and crop mix determine the type and intensity of pest and disease pressures growers’ experience. Their management of these pressures is determined by the mix of chemical and biological options available for managing pests and diseases, and the effectiveness of those options.
Educational importance
In a multi-functional environment for horticulture, extension and education programs need to address the variety of circumstances faced by growers. There is no one-size-fits-all program. IPM is not always the best solution for some growers.