

Integrated Pest Management



How can crop producers take a comprehensive, systems-based approach to weed, insect and disease management? Session stakeholders had plenty of ideas.

Most of us know what IPM stands for. What Michael Harding wants to know is, who's standing up and helping to make Integrated Pest Management a reality for Alberta's crop producers?

He starts with an accessible definition of the term.

“Integrated Pest Management is about taking all the knowledge and common sense we have and using that in our decision-making on how to manage insects, diseases and weeds,” says Harding, a Plant Pathologist with Alberta Agriculture and Rural Development.

“We use all of that knowledge and common sense to create the most efficient, flexible, safest and most sustainable crop production system we can. These principles apply to all crop production, from your own garden up to a 12,000-acre farm.”

Harding took part in an ACIDF Cropping Initiatives Issues/Solutions Session. He noted that in his experience, Alberta crop producers are well educated and highly conscientious about what they're doing in the field. They understand that pest management can and should involve a varied toolbox of approaches, from cultural practices like diverse crop rotations to crop protection products such as herbicides, insecticides and fungicides.

Still, why hasn't a conceptual understanding of IPM translated into more widespread use of IPM tactics?

“A lot is economics,” says Harding. “Given the number of dollars required to operate the farm unit, farmers have to grow a crop in a way that gives a good return. We can see a couple of results of this: less crop diversity with shorter rotations and greater use of crop protection products.”

Is an agronomic reckoning on the horizon?

Today's shorter, canola-heavy crop rotations are sometimes said to be agronomically unsustainable, potentially leading to a dangerous build-up of pests. As Harding observes, it hasn't worked out that way, at least not yet.

Much the same goes for the use of crop protection products, in which certain products are used seemingly past the bounds of rotational prudence. Many herbicide-resistant weed types are now known to exist. Consumers, too, may form a perception about the overuse of crop protection products in food production and demand reform of farming practices.

“People have been producing cereals and oilseeds on short rotations for years and nothing catastrophic has happened yet,” says Harding. “We are leaning heavily on the crop protection products, though. At some point, the bottom could drop out in a situational sense.”

Where should Alberta begin on the road to true Integrated Pest Management? For starters, Harding suggests we need to know more about what's out there. This is one area where he'd be directing research dollars.

“One thing we don't do very well in Alberta is that we don't survey or monitor diseases and weeds enough,” he says. “We do this well for insects, but we need better information on what's out there in terms of weeds and diseases.”

Producers are open to IPM ideas

The way Colin Felstad sees it, IPM represents a toolkit that Alberta crop producers need in order to be both productive and profitable. At the ACIDF Cropping Initiatives Issues/Solutions Session he attended, he urged that IPM should be a priority for agronomic research.

“What farmers are trying to do is maximize yield potential,” says Felstad, who farms near Westlock and is currently Chairman of the Alberta Canola Producers Commission. “Part of that is looking for cost-effective ways to manage insects, diseases and weeds.”

Traditionally, producers have relied on insecticides, fungicides and herbicides to get the job done. Today, however, Felstad sees sentiment shifting toward a more integrated strategy. Producers may want to control a certain insect, for example, but are now aware of the need to avoid killing beneficial insects too.

On Felstad’s own farm, some top insect and disease concerns have been cutworms, clubroot and sclerotinia in canola, and leaf diseases in cereals. If IPM is a better way to control these pests and others, he sees value for his business.

“People want to take a responsible, sustainable approach, as well as being financially sustainable,” says Felstad. “So I’d say farmers are very open to new ideas and that an integrated approach could have a lot of merit.”

Integrated Pest Management:

Issues identified by stakeholders

- develop Best Management Practices for pesticide resistance issues
- more work on pest forecasting
- develop decision-making tools around economic thresholds
- more non-chemical approaches to IPM
- understand crop rotation benefits and best rotation for my farm
- understand the role of beneficial insects
- development of new active ingredients

Integrated Pest Management:

Action items: what should be researched first

- develop Best Management Practices for pesticide resistance issues
- develop information related to pest forecasting
- strengthen prairie pest-monitoring network to include insects, diseases and weeds
- develop decision-making tools for assessing economic threshold
- search the world for non-chemical technologies and practices for pest management, then test and apply them here
- support continued development of beneficial insects as a tool to combat pests
- develop individual pest response plans where needed.