NETWORK PROJECT BUILDS STRATEGIES TO PROLONG PHOSPHINE

In this and coming issues of *Ground Cover* we are looking at the issue of grains biosecurity and the work being done under the auspices of Plant Health Australia


Dr Sharyn Taylor

PHOTO: BRAD COLLIS

By Catherine Norwood

■ A recent two-year review has identified several strategies for limiting the development of insect resistance to phosphine.

Plant Health Australia's Dr Sharyn Taylor coordinated the Grains Knowledge Network research and says options range from training and awareness programs to quality assurance, further changes to phosphine labelling and possibly an industry code of practice.

"The issue of insect resistance to phosphine is one of the major threats faced by the grains industry," Dr Taylor says. "It has been a fantastic product for growers and bulk handling companies – cheap, convenient, effective and accepted by all markets.

"Anything else would be more expensive and less user-friendly … and alternative products can have restrictions in some markets, so we need to ensure phosphine is used as effectively as possible and to prevent the further development of insect resistance."

The two-year project was an initiative of the Cooperative Research Centre for National Plant Biosecurity (CRCNPB) and was completed in June. Dr Taylor says several of the information gaps the project identified are already being addressed.

The GRDC launched its grain storage and extension project in 2009 to provide more detailed technical information about effective fumigation to growers, agronomic advisers and other relevant agricultural service providers such as silo manufacturers.

Dr Taylor says engaging with agricultural consultants is seen as particularly important because of their relationship with growers. "We have found that generally advisers consider their job finished once the crop is harvested. We're trying to encourage them to take a broader view and to include grain storage in their discussions with growers."

The project has also identified the need to develop a best-management-practice package, in conjunction with efforts to raise awareness about the causes and risks of phosphine resistance, as well as improving the availability of relevant training.

Dr Taylor says other possible strategies include improved labelling for phosphine-based products, which growers have identified as an issue.

"There have been some recent label changes, but there is still a view that some advice on phosphine labels is ambiguous. The core of the issue is that labels do not state clearly enough that misuse of the product in unsealed storages may lead to the development of insect resistance.

"Each grower and grain buyer needs to take a proactive role in managing this issue, as industry stewardship is the key to the solution.

"Understanding the problems caused by incorrect use of chemicals to control grain storage insects, ensuring that new silo purchases meet the new Australian standard for gas-tight structures, cleaning harvesters and storage structures and, if you're a grain buyer, asking for chemical use history on grain consignments will go a long way to maintaining the use of phosphine for the whole industry." □

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PROFESSIONAL APPROACH TO FARM BIOSECURITY

By Catherine Norwood

■ For WA grain grower Rod Birch, biosecurity is not an 'out there' issue; it is integrated into every aspect of his operations at Catalina Farms, near Coorow in WA's northern wheatbelt.

From the signs on the farm gate and a single point of entry for reporting all visitors to the property, to cleaning silos for grain storage and marketing – keeping pest threats off his farm protects his crop and adds to his bottom line.

As an executive member of the Grain Industry Association of WA, Mr Birch is a supporter of the National Grains Biosecurity Program. Coordinated through Plant Health Australia, the program has been designed to raise the profile of biosecurity and improve on-farm practices.

"Other industries have high standards that are mostly driven by consumers. Our grains industry needs to follow suit to protect our businesses from unwanted pests and maintain market access," Mr Birch says. He believes practising good farm biosecurity should be integral to any quality assurance program and will help to differentiate Australian grain to increasingly discerning buyers.

Mr Birch predominantly crops wheat, barley, canola and lupins, and while he uses an agronomist for advice and to check the health of his crops, he also regularly monitors them himself for key pest threats. He is constantly on the lookout for the unusual, which may represent a new exotic threat. His biosecurity efforts also directly address more seasonal pests at this time of year, such as stripe rust and aphids.

Early detection enables early response and the best possible chance for eradication of serious pests and diseases before they get out of hand.

Catalina Farms is kept meticulously clean to minimise opportunities for pests and disease to establish; sheds, silos and laneways are all kept free of weeds and farm equipment is regularly washed down. Mr Birch says fungal infections alone can reduce yields by 20 per cent, depending on the season. "It only makes sense to minimise this risk," he says and in doing so, he also keeps his chemical costs down.

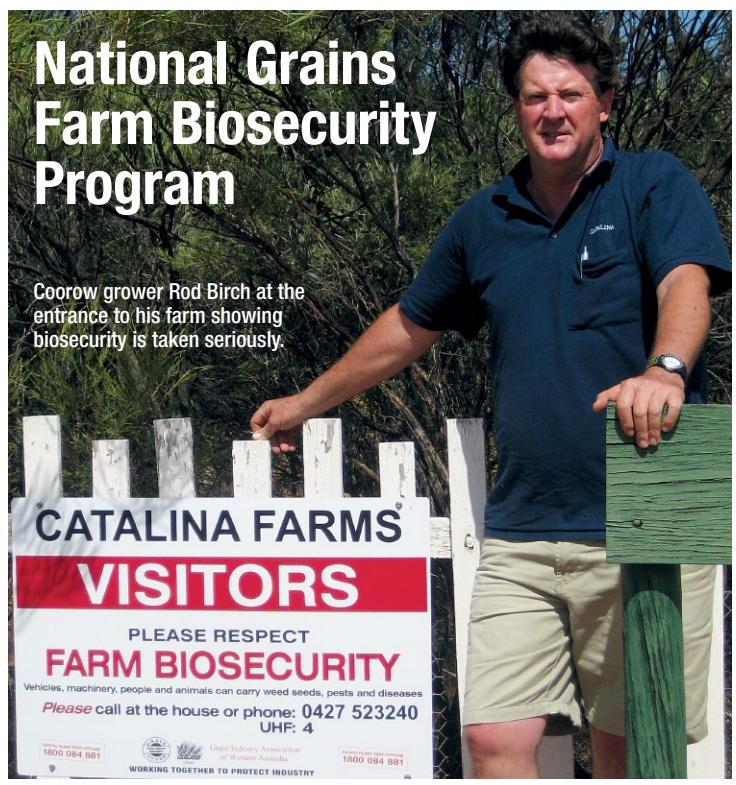
Staff play a role in the operation's biosecurity surveillance and management. "We make all staff aware of hygiene practices when they begin working here and have a farm hygiene protocol in the staff tea room as a reminder of basic farm hygiene requirements." For instance, all grains spills must be cleaned up immediately to reduce the risk of attracting vermin or stored grain insects.

All staff members working at Catalina Farms are provided with uniforms bearing the company logo for identification while working on-farm, which helps to reduce the risk of pests brought in on clothing from other areas. They also receive relevant training, including the use of chemicals, to ensure the right chemicals are used on the right crops and that grain is residue-free and safe for consumption.

"We also don't allow trucks on to paddocks. All our contractors know this and we have put in additional laneways to cater for this. There is a specific entrance for trucks, and all visitors to the property are required to report when arriving to ensure they are not travelling over paddocks."

In the Coorow region, crops will soon be haying off and Mr Birch expects to start harvest in November.

"All the equipment we use is cleaned with high pressure air and water hoses well in advance, to make sure there's no potential for contamination. The silos are cleaned to make sure they are free of insects or vermin and the area around them is clear of weeds. We start now so we won't be caught out by an early harvest," Mr Birch says.



Coorow grower Rod Birch at the entrance to his farm showing biosecurity is taken seriously.

PHOTO: LISA SHERRIFF

Grains biosecurity officers in each state are part of the National Grains Farm Biosecurity Program, designed to highlight the threat of exotic plant pests and biosecurity measures that can be taken to manage them.

Working with growers and agricultural consultants, Grains Biosecurity Officers are also helping to implement simple and effective measures on-farm to reduce biosecurity risks.

Plant Health Australia is coordinating the national program, which is funded by the grains industry together with state governments in Western Australia, Queensland, Victoria, South Australia and New South Wales.

GRDC Research Code NPB00011
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To obtain a free copy of the *Grains Farm Biosecurity Manual* or discuss biosecurity for your farm, contact your nearest grains biosecurity officer by visiting www.planthealthaustralia.com.au/biosecurity/grains

Lisa Sherriff, grains biosecurity officer with the Department of Agriculture and Food, WA, and Plant Health Australia, says the Catalina Farms biosecurity program is first rate. Many of the measures Rod Birch has introduced are inexpensive and in the long-run will save him considerable money.

"There are many small steps growers can take to improve their biosecurity. It's more about establishing procedures, like using certified seed or having visitors report to the farm office. It is something that should be integrated into, and adds value to, other aspects of farm management," says Ms Sherriff. □