

Member Update 3 of 14

Title: **Chemical contamination of grain from fungicide treated seed or fertiliser**

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Distribution

- GTA Members only. Please circulate to all appropriate internal parties.

1 Issue

All Australian grain, whether destined for the domestic or export market, is tested for pesticide residues to ensure it complies with Maximum Residue Levels.

Violations of Maximum Residue Limits affect the marketability of Australian export grain and can lead to:

1. a lower price per tonne to the grower;
2. the loss of certain chemicals to the industry; and
3. exclusion from certain export markets should the MRLs be exceeded.

While most growers understand the importance of grain storage hygiene, trucks and augers used to transport fungicide treated seed or fertiliser are often overlooked as a source of potential contamination.

2 Communication to your clients

GTA members are encouraged to

- 1 forward the attached GRDC Fact Sheet- Grain Marketing and Pesticide Residues to your clients/members;
- 2 include articles on the issue into newsletters; and
- 3 include the topic in a grower presentations..

GRAIN MARKETING AND PESTICIDE RESIDUES FACT SHEET

PESTICIDE USE: YOUR ROLE IN MARKETING RESIDUE-FREE GRAIN

Violations of Maximum Residue Limits affect the marketability of Australian export grain and can lead to a lower price per tonne to the grower and, potentially, the loss of certain chemicals to the industry. By observing several precautions growers can ensure that grain coming off their farm is compliant.



PHOTO: PAUL JONES

Inadequate cleaning of transport trucks can result in pesticides being transferred to clean grain and MRLs being exceeded.

All Australian grain, whether destined for the domestic or export market, is tested for pesticide residues.

While residue testing over the past decade has indicated a very high level of compliance – 99.7 per cent – violations of Australian and importing countries' Maximum Residue Limits (MRLs) have been detected.

These violations have several causes, including poor hygiene, inappropriate chemical use and failure to understanding the importing countries' MRLs.

Poor farm and transport hygiene

While most growers understand the importance of grain storage hygiene, trucks and augers used to transport fungicide-treated seed or fertiliser are often overlooked as a source of potential contamination.

Inappropriate chemical use

Off-label use of chemicals can result in MRL violations. This includes using higher rates than stated on the label recommendations and late spray applications that breach the withholding period.

KEY POINTS

- Grain samples are collected from each ship and tested for pesticide residues as it leaves Australia to ensure it is within Maximum Residue Limits (MRLs).
- A single MRL violation in one country can lead to punitive measures on all Australian grain exported to that country and damage Australia's reputation internationally.
- Consequences may include costs awarded against the exporter and/or grower resulting in a lower price per tonne paid for the grain. If repeated violations are detected with one chemical, that chemical may be banned.
- Growers need to ensure both pre-harvest and post-harvest chemical applications adhere to the industry code of practice.
- Only use registered products and observe all label recommendations including label rates and withholding periods.
- Trucks or augers that have been used to transport treated seed or fertiliser are often overlooked as a source of potential contamination. Pay particular attention to storage and transport hygiene.
- Compliance with Australian MRLs does not guarantee the grain will meet an importing country's MRL (which may be nil).
- Know your grain destination. If you are signing contracts, check the importing countries' MRLs to determine what pesticides are permitted on that crop.

Importing countries' MRLs

Australian MRLs are set based on the application of the pesticide under Australian use patterns (label rates) and Australian dietary intake. Where there is a lower or nil MRL overseas, using maximum label rates of a product could cause a MRL violation in the overseas country.

Traceback

If a sample is found to contain a chemical residue above the prescribed Australian MRL, a traceback investigation is undertaken to determine the cause and the findings are reported to the National Residue Survey office. This traceback investigation is carried out on grain samples taken from all grain delivered to receival sites around the country.

Where appropriate, the information is forwarded to industry and government authorities for action.

This feedback can highlight potential problems such as inappropriate chemical use. State departments may then work with industry bodies to educate growers about appropriate chemical use practices.

It is important to note that the sale of grain by growers that does not comply with the relevant domestic MRL standard may be illegal in some state jurisdictions.

What happens if an MRL is exceeded at a foreign port?

Where an importing country detects a residue violation in a bulk shipment, the

grain may be embargoed and the current rate of sampling of five to 10 per cent could increase to 100 per cent of that country's grain imports.

The costs incurred from this increased sampling activity are then passed on to the exporter and in some cases the importer in the destination country may also bear some of the cost.

If contamination is detected in a single container, the grain will be embargoed at the (overseas) port, incurring costs in the form of demurrage and damages. These costs can be in the vicinity of \$40,000 to \$50,000. The exporter may also be required to organise the retrieval of that container and return it to the country of origin.

In both instances, the Australian exporter may then endeavour to recover costs from the handler or from the individual grower.

In addition to the material costs to the parties involved, the reputation of the exporting country's grain is tarnished, a situation that may take many years to rectify.

Maintaining grain hygiene

There are several ways in which growers can ensure that their grain complies with MRLs.

1. Use only chemical products registered for that crop or for grain storage. Observe label rates and withholding periods.
2. Maintain and clean storage sites, in particular silos, augers, trucks, etc. that have held treated fertiliser or alternate products such as pickled grain. Where possible, use different storages and augers to handle and store these products.
3. Ensure any contractors involved in the transportation of your grain comply with the industry code of practice. An example of such a code can be found in the Useful Resources section.
4. Keep accurate records of all chemical applications (including treatment of fertilisers), chemical storage and cleaning activities on storages, trucks and handling equipment. Only complete a Commodity Vendor Declaration (CVD) form based on those records.
5. Know which market your grain is going into.

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CAUTION: RESEARCH ON UNREGISTERED PESTICIDE USE

Any research with unregistered pesticides or of unregistered products reported in this document does not constitute a recommendation for that particular use by the authors or the authors' organisations.

All pesticide applications must accord with the currently registered label for that particular pesticide, crop, pest and region.

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Importing countries may have lower MRLs than Australia. This is extremely important where growers are signing contracts (including forward contracts). The contract may state that the grower is not to exceed MRLs of the importing country. In some cases, this means you will be unable to use particular pesticides on that crop.

6. Clean grain storage and transport equipment. See below.

Cleaning

The goal of cleaning is to remove any residual dust or chemicals, and there are three methods of doing so.

- Sweeping or using compressed air followed by washing is the best option to safeguard grain transport and storage equipment.
- Compressed air by itself is also effective.
- Sweeping out with a broom is acceptable, but is unlikely to be as thorough.

If using contractors for grain transport, ensure they provide a declaration of cleanliness. The code of practice requires that the carrier retain records of cleaning and prior loads to determine the risk of chemicals contaminating the truck.

MORE INFORMATION

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USEFUL RESOURCES

Registered pesticides for Australian canola: The grower's guide to succeeding within domestic and international markets

www.australianoilseeds.com/__data/assets/pdf_file/0017/2906/Pesticides_Flyer.pdf

Harvesting equipment clean down guidelines – canola

www.australianoilseeds.com/__data/assets/pdf_file/0018/5562/AOF_Harvester_Clean_Down_Guidelines.pdf

Department of Agriculture, Fisheries and Forestry (DAFF) National Residue Survey

www.daff.gov.au/agriculture-food/nrs

International Grain Maximum Residue Limits for Grains

www.daff.gov.au/agriculture-food/nrs/nrs-australian-and-overseas-mrl-database/international_grain_maximum_residue_limits

Managing chemical cross contamination risks

www.dpi.vic.gov.au/agriculture/farming-management/chemical-use/agricultural-chemical-use/chemical-residues/managing-chemical-cross-contamination-risks

Chemical usage and outturn tolerances: Australian grains industry post harvest chemical usage recommendations and outturn tolerances 2012/13

www.graintrade.org.au/chemical_tolerances

Grain Industry Code of Practice

www.graintrade.org.au/node/670

Grain Carriers' Code of Practice

http://sarta.org.au/industryresources_graincodeofpractice.html

GRDC RESEARCH CODES

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