Australian Government

Australian Pesticides and Veterinary Medicines Authority

Fenitrothion Proposed Regulatory Decision

Submissions Received

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Chemical Review
Australian Pesticides and Veterinary Medicines Authority
GPO Box 3262
Sydney NSW 2001

Via Email: chemicalreview@apvma.gov.au

Notice under section 34AB of the Agricultural and Veterinary Chemicals Code: Fenitrothion reconsideration – proposed decisions on reconsideration.

To whom it may concern

I write in response to a request for comments on the Notice under section 34AB of the Agricultural and Veterinary Chemicals Code: Fenitrothion reconsideration – proposed decisions on reconsideration (Notice).

Unless otherwise stated, this response:

a) Deals with the use of fenitrothion as a post-harvest storage treatment of cereal grains. Comments on other uses are outlined in Section 10.
b) Refers to cereal grains as wheat, barley, oat, sorghum, triticale, cereal rye and maize only. A reference is made to wheat as an example, given the same management systems for all cereals apply.

Contents

1. National Working Party on Grain Protection

This submission is presented on behalf of the Australian grain industry by the National Working Party on Grain Protection (NWPGP) and deals with cereal grain related uses of fenitrothion only.

The NWPGP:

- Is the industry body responsible for providing management and leadership to industry in the areas of post-harvest storage, chemical use, market requirements and chemical regulations.
- Is facilitated by Grain Trade Australia and the Chair is funded by Grains Australia.
- Has members across the entire grain supply chain.
- Hosts an annual conference providing participants with the latest research and developments, in the area of post-harvest storage and hygiene, chemical usage and outturn tolerances, international and domestic market requirements, and regulations.
- Co-ordinates and provides government with industry views on chemicals in use on grain and associated products.
- For further details, refer to http://www.graintrade.org.au/nwpgp

2. Consultation Process

It is noted in the Notice and associated "Fenitrothion – Review Technical Report" (Technical Report) that "*the APVMA seeks comments from members of the grain industry on their ability to manage the risk to international trade associated with fenitrothion through this consultation, before a final decision against the trade criteria is made for uses on stored cereal grain*".

To provide confidence to the APVMA that the grain industry has been adequately consulted, the NWPGP formed a Working Group to consider the Notice and develop a response as documented in this reply.

The membership of the Working Group included:

- Grain Growers
- Grain Producers Australia
- Grain Trade Australia
- GrainCorp
- Grains Australia
- Grains Research & Development Corporation
- Queensland Department of Agriculture
- Stockfeed Manufacturers Council of Australia
- Sumitomo Chemical Australia
- NWPGP (Chair of Working Group)

Each industry organisation has consulted with their members and provided input into this response, in the relevant areas of interest. Given the breadth of members across the grain supply chain from the above, it is reasonable to assume the majority of industry has been consulted and provided with the opportunity for input into this response. For example, Grain Trade Australia (GTA) Members trade over 95% of grain in Australia.

In addition, the following further industry consultation and feedback on this Notice has occurred:

- Chair NWPGP has provided the Notice to an industry distribution list including:
    - Grower groups.
    - Grower advisory groups including various agronomists, agronomy groups and agricultural consultants.
    - Bulk Handling Companies.
    - Grain trading and marketing companies.
    - Domestic grain processors.
- At the 5-6 June 2024 NWPGP Grain Storage and Protection Conference a separate agenda item dealt with this Notice and proposed industry response. Several speakers also raised the matter during the conference.

3. General Comments

The grain industry prides itself on compliance with regulations, with a major focus on workplace health and safety. At all times, when operating storage facilities and in particular, using chemicals such as fenitrothion, employers as far as reasonably practicable provide a safe workplace and system of work so that employees, advisers and contractors are not harmed or injured at work.

A chain of responsibility applies to all stakeholders to take all reasonably practicable safety measures to eliminate or minimise potential harm or loss. This includes compliance with regulatory requirements for dangerous goods and hazardous chemicals during transport, storage and use.

When using chemicals, a number of workplace health and safety measures are implemented, including but not limited to:

- Ensuring machinery and equipment is appropriate for its use and is maintained.
- Ensure all staff, advisors and contractors are aware of hazards and appropriately trained and instructed in the hazards of chemicals.
- Ensuring all workers are equipped to work safely around chemicals, including the use of personal protective equipment that may or may not be noted on chemical labels.

While many grain markets require pesticide residue free grain, there remains a vital role for grain protectant use in the industry. Market and consumer pressure are also placing pressure on the future use of protectants such as fenitrothion.

To maintain the use of fenitrothion, industry uses a range of management tools and communication/advocacy strategies to advise on the most appropriate treatment based on market requirements. In general terms, that advice includes:

- Before using any grain protectants, read and follow all the label directions.
- Consult the intended grain buyer to ensure the market accepts the selected products.
- If required attend and complete a Stewardship or online training course before purchasing grain protectants.
- Supplement use of protectants with practices such as good hygiene, structural treatments, aeration cooling, and regular monitoring of grain in storage.
- Document usage, generally including correctly completing a commodity vendor declaration form when selling the grain.
- Seeking advice on correct usage from industry experts, e.g., for growers, from the GRDC funded national team of grain storage specialists.
- Maintain or replace application equipment to ensure safe and accurate application follows label directions.

With the above in mind, industry continues to rely on grain protectants such as fenitrothion and implements measures to ensure they remain effective against stored grain insects, while maintaining market access.

4. Current Usage and Registration

a. Registrations

Current Registered Grain Protectant Uses on 1000 EC products:

SITUATION	PEST	STATE	RATE	WHP	CRITICAL COMMENTS
Structural Treatments Cereal grain storage on farm, produce stores, feed and flour mills, warehouses and processing plants, transport equipment, animal feed bins.	Stored product insect pests including susceptible and Maldison-resistant grain weevils, flour beetles, saw-	All States (in WA for use by bulk handling authorities only).	1 L in 100 L water [1000 gai/100 L]	90 days (for processing into food for human consumption or stock food)	Apply 1 L of spray over 20 square metres of surface, or to the point of runoff.

SITUATION	PEST	STATE	RATE	WHP	CRITICAL COMMENTS
Grain Protection All cereal grains stored in bulk for periods of 3 - 6 months.	toothed grain beetle, tropical warehouse moth and Indian meal moth (but not lesser grain borer).		1.2 L in 100 L water (12 ppm) * [1200 gai/100 L]		Apply 1 L diluted spray per tonne to the grain flow. The spray rate measured in litres per hour must equal the auger or elevator uptake in tonnes per hour, e.g. for an uptake of 20 tonnes per hour the nozzle(s) must deliver 20 L per hour.
Grain Protection All cereal grains stored in bulk for periods less than three months.			0.6 L in 100 L water (6 ppm) * [600 gai/100 L]		
Surface Treatment Bulk stored cereal grain, stacks of bags etc.			1 L in 100L water [1000 gai/100 L]		At monthly intervals during summer and 2 - 3 months intervals during winter, apply 1 L of spray over 20 square metres exposed grain surface, or to the point of runoff on bags.
Grain Protection	Pests as above plus lesser grain borer		Rates as above plus Sumithrin Synergised Grain protectant at the recommended rate		Apply 1 L of mixture per tonne of grain.

Proposed Grain Protectant Uses on 1000 EC products:

ALL STATES

SITUATION	PEST	Protection Period	RATE	WHP	CRITICAL COMMENTS
Grain Protection All cereal grains stored in bulk	Stored product insect pests including susceptible and Maldison-resistant grain weevils, flour beetles, saw-toothed grain beetle, tropical warehouse moth and Indian meal moth (but not lesser grain borer).	Up to 6 months	1.2 L in 100 L water (12 ppm) *	90 days (for processing into food for human consumption or stock food)	Apply 1 L diluted spray per tonne to the grain flow. The spray rate measured in litres per hour must equal the auger or elevator uptake in tonnes per hour, e.g. for an uptake of 20 tonnes per hour the nozzle(s) must deliver 20 L per hour.
Grain Protection All cereal grains stored in bulk for periods less than three months.		Up to 3 months	0.6 L in 100 L water (6 ppm) *		

b. General Comments

At the 2024 NWPGP Annual Grain Storage Conference, delegates were asked a live poll "How important are grain protectants to control insect pests?" There were 85 responses as follows:

A) Not important at all 0%
B) Somewhat important 20%
C) Very important 59%
D) Can't do without them 21%

The above poll highlights the important role protectants play in the grain industry.

Despite some minor differences on some fenitrothion labels, the current label directions for use are clearly understood by industry. Given the lack of evidence of residues above the Australian MRL, it is reasonable to assume that industry complies with these label directions.

The proposed changes to label directions for use as a post-harvest storage treatment of cereal grains are supported by industry. The proposed changes will assist industry to continue to comply with those label directions, via several improvements such as:

- The changes promote effective use.
- Provide clarity on label directions, improving industry understanding of requirements.
- Provide consistency across labels.
- Bring those labels up to a more contemporary status.
- Ultimately, will assist market access compliance.

It is noted that proposed labels will continue the general wording of "*Other Limitations – In stored grain in WA – for use by Bulk Handling Authorities only*". It is generally regarded that Bulk Handling Authorities do not exist under any current legislation. Industry refers to all commercial providers of storage services as "Bulk Handling Companies (BHCs)". Sumitomo have advised they wish to remove this limitation in WA and propose registration in all Australian states.

Refer also to the definition as listed in the document Australian Grains Industry Post Harvest Chemical Usage Recommendations and Outturn Tolerances 2023/24 of:

"*Bulk Handling Authorities – for those chemicals where the label states "In WA for use by Bulk Handling Authorities only", the following definition applies:*

a) A person who carries out a business of storage of grain for reward; and
b) Does not carry out that business on a farm; and
c) The business operates in Western Australia; and
d) *A Bulk Handling Company (BHC), operating as a commercial entity without any regulatory oversight or control*".

Given that label changes are being proposed, it is recommended the APVMA, if the above definition and proposed change is appropriate, begin the process of altering all labels of relevance with this industry accepted BHC terminology.

c. Current Usage Pattern

Fenitrothion is currently used on a range of cereal grains at both label rates for cereals destined for the domestic and export market. It is used for short-term storage insect protection and for longer term protection as per the higher label rate.

There is no restriction by commodity of the use of fenitrothion, noting that insect resistance strategies and market requirements may influence its use (see later comments). Nor is there a restriction on its use by grade within a commodity, whether those grades are industry developed or created by an individual stakeholder i.e., for wheat, it may be used for wheat destined for human consumption and for stockfeed.

Key areas of the supply chain where fenitrothion is used are as follows:

On-farm

- Fenitrothion is used for protection against insect infestation during storage of cereal grains on farm:
    - It is used throughout the year following harvest.
    - Grain is supplied to the domestic or export market where MRL restrictions do not create conditions where it is unsuitable for use.
    - It may be used to prevent infestation in seed for sowing in the following season.
    - It may be used to prevent infestation in grain held on farm for feeding to stock.
- It is generally used in combination with Spinosad or Deltamethrin to provide broad spectrum protection.
- Fenitrothion is used in a range of storage types, which are unsealable and therefore cannot be successfully fumigated.

Bulk Handling Companies (BHCs):

- Fenitrothion is used for grain treatment for insect control mainly in eastern state BHCs.
- Fenitrothion is used in combination with Methoprene and either Deltamethrin + Piperonyl butoxide or Spinosad. These combinations are rotated to reduce/avoid the build-up of insect resistance.
- Both the lower 6ppm and higher 12ppm treatment rates are used depending on the timeframe needed to store and outturn grain, while complying with the withholding period.
- To manage insect resistance issues, fenitrothion as a grain protectant is rotated with chlorpyrifos-methyl.
- Fenitrothion is used in a range of storage types, which are unsealed and therefore cannot be adequately fumigated. These are mainly horizontal sheds.
- Fenitrothion is vital as a grain protection treatment for malting barley. The other organophosphate chlorpyrifos-methyl is not permitted for use on malting barley hence the loss of registration of fenitrothion for the large malting barley market would result in difficulty in managing malting barley during storage:
    - There would be increased risk of insect infestation especially during the latter half of the year following harvest, noting the malting industry require grain supplied throughout the year.
    - For the export market, there is often limited ability to fumigate grain, and the logistics of blocking an export terminal during a fumigation make that problematic.
    - Alternative treatments such as methyl bromide, which enable a more rapid fumigation, are not permitted on malting barley given its negative impact on germination.
    - The same logistical and insect treatment options are required for any supplier of malting barley to the domestic industry. This applies to BHCs and malting barley sourced ex farm.
- Eastern state BHCs use fenitrothion as a structural treatment where markets permit such treatments (i.e., MRLs exist or there is limited risk of residues carrying over to grain subsequently stored). As one of a limited number of options available, continued registration for structural treatment is seen as vital, given that the potential continued registration and uses of chlorpyrifos-methyl are being reviewed in various markets and internationally.

Grain for the Human Consumption Market:

- Where the domestic market has no restrictions on the use of fenitrothion, it may be used to maintain grain in storage to enable insect free grain to be supplied throughout the year.
- Grain for this market may come from on-farm or from BHCs.
- As noted above, fenitrothion is the only permitted organophosphate for use on malting barley.

Grain for the Stockfeed Market:

- Other than BHCs, there are two main sectors involved in the supply of grain to the stockfeed industry.
- Large stockfeed companies who may or may not process their own feed, generally have a rapid turnover of commodities. Hence the use of fenitrothion is very limited, given that the withholding period for the higher label rate treatments would restrict stock availability. The lower rate treatment is logistically challenging also, hence the tonnage treated with fenitrothion use for this sector is low.
- Smaller stockfeed sectors who have adequate storage may use fenitrothion where it is commercially viable to purchase and store grain for extended periods of time.
- As with other industry sectors, fenitrothion is generally used to treat grain in unsealed storages.

Given the requirement for control of stored grain insects throughout the year, there will continue to be some incentive for fenitrothion use on all cereals. This will be conditional that all sectors of industry continue to manage any market requirements and market access risks.

5. Insect Control

Grain protectants have been used by the grain industry since the 1960s. Unlike fumigants, protectants are designed to provide up to 9 months of protection from insect pests and are intended to protect uninfested grain, not to treat infested grain.

There are no chemical knockdowns available for stored grain and all fumigation or controlled atmosphere knockdowns require gas-tight sealable storage to be successful. For storages which cannot be sealed, all pest prevention options are required, including protectant chemicals. Grain protectants are specifically targeted to be used in unsealed storage structures that are not suitable for fumigation. It is impractical and not economically feasible for the entire Australian storage system to be sealed and therefore not rely on grain protectants.

Since the widespread development of resistance to malathion in grain beetles in the 1960s and 1970s it has been impossible to control the main suite of stored product pests with a single grain protectant.

Currently, there are only six registered grain protectants available in Australia. These include the organophosphates (OP) fenitrothion and chlorpyrifos-methyl, the pyrethroid deltamethrin, the insect growth regulator methoprene, and the bacterium-derived spinosad. None of these materials can control the full spectrum of major stored grain insect pests at registered rates either because of insect resistance or because of poor efficacy. Therefore, they are applied as mixtures.

Insect resistance is already well advanced in several of the major insect pest species to one or more protectants. Currently, the lesser grain borer, *Rhyzopertha dominica*, is the most difficult to control and several treatment regimes have been specifically developed to manage this pest.

A single OP is effective against *Sitophilus oryzae*, *Tribolium castaneum*, and *Cryptolestes ferrugineus* but not *Rhyzopertha dominica* or *Oryzaephilus surinamensis*. One or more insect species may infest a grain storage. To achieve control of all these major pest species that may infest grain, currently a three-way combination is adopted by the industry that consists of Spinosad, an OP (e.g. fenitrothion, chlorpyrifos-methyl), and s-methoprene.

Fenitrothion is affective against Sitophilus oryzae, which the mixing partners (Spinosad or Deltamethrin) are not. The alternative to fenitrothion is chlorpyrifos-methyl, but the latter is not approved by industry for use on malt barley and is accepted by fewer export markets.

As grain protectants remain an integral part of a broad pest and resistance management strategy, the industry still needs to use them either independently or in rotation with a fumigant as part of the resistance management strategy. Due to the unavailability of pirimiphos-methyl (the other OP), the industry relies heavily on two OPs: chlorpyrifos-methyl and fenitrothion, the latter has also been used as a structural treatment as noted in this submission. It would be a strategic failure for the grain storage industry if fenitrothion is removed from this very limited list of grain protectants available in Australia.

6. Market MRLs

Cereal grains from Australia are traded domestically and exported internationally to over 50 markets. Each market has their own MRL regulations and MRLs for specific chemicals such as fenitrothion. MRLs may vary for each cereal grain or be applied across all cereal grains, such as:

- An MRL for fenitrothion.
- No MRL for fenitrothion, relying on acceptance of a default MRL from another market (i.e., Codex, EU, USA).
- No MRL for fenitrothion and no default to other market MRLs, hence a default MRL may apply (e.g., 0.01mg/kg), or a zero tolerance may apply.
- Different MRLs for human consumption and for stockfeed.

As the applicable market MRLs may alter over time, and the nature of those MRLs that apply is sometimes difficult to understand, industry adopts an advocacy strategy whereby common sources of information are used to fully understand regulations as they apply at the time of shipping consignments to customers.

There is a range of information available to industry to determine the applicable market MRL for the respective consignment and cereal grain commodity. In addition, this information may be sourced from:

- Chair, NWPGP who supplies this information to industry on request.
- Via listing in commercial contracts such as where certification of a customer MRL listing is required.
- Via use of independent inspection companies who obtain representative samples of a consignment and following laboratory analysis, supplying certification attesting to the actual chemical levels on the consignment versus the required level (i.e., the MRL).
- Via other sources such as the NRS or commercial database subscription services.

Based on the above, it is reasonable to assume that industry has ready access to market requirements for fenitrothion MRLs on all cereal grains. Compliance with market requirements is considered to be high based on the ongoing market access enjoyed by Australian cereal grains and the lack of market complaints and vessel rejections due to not meeting those MRLs.

For reference, as an example, the following table lists the recent top 10 by tonnage destinations for Australian wheat and the applicable importing country regulated fenitrothion MRL (as of 4 June 2024) for wheat for human consumption. Customer MRLs may vary, noting that a cereal grain such as wheat may be used for human consumption or for stockfeed.

Market	Fenitrothion MRL for wheat, as at 4Jun24 (mg/kg)
Australia	10.0
China	5
Indonesia	0
Philippines	6 (Codex)
Japan	1
Yemen	6 (Codex)
Vietnam	6
South Korea	0.01 (default)
Thailand	6 (Codex)
Malaysia	6 (Codex)

In the above example, given the range of MRLs that apply for this relatively small but important list of countries, all of which have a lower wheat fenitrothion MRL than Australia, it is reasonable to assume that industry only sources wheat (and other cereal grains) that meets each market requirement and has and continues to enjoy market access based on those management systems.

While industry supports the proposed changes to the fenitrothion label, industry also supports retention of the existing MRLs for fenitrothion on cereal grains in Australia. There is no evidence to support such a change and industry agrees with the APVMA as outlined in the Technical Report that *"Based on the available data, the existing fenitrothion MRLs for GC 0080 Cereal grains at 10 mg/kg, CM 0654 Wheat bran, unprocessed and Wheat germ at 20 mg/kg remain appropriate for the post-harvest use on stored cereal grains".*

While residues from cereal grain treatments may transfer to other commodities such as oilseeds and pulses, industry uses a range of management systems as outlined in this response to ensure that market requirements for fenitrothion residues on these commodities are met. Industry agrees with the APVMA *"It is recommended that the existing MRLs for SO 0088 Oilseeds at 0.1 mg/kg and VD 0070 Pulses at 0.1 mg/kg continue to remain appropriate".*

As with all MRLs set by the APVMA, industry encourages the APVMA to liaise closely with Food Standards Australia New Zealand (FSANZ) to ensure consistency with both MRL lists. Hence, given the APVMA has not recommended any changes to the MRLs for fenitrothion, industry encourages no changes to the FSANZ MRLs.

7. Industry Management Systems

7.1 General Comments

Acknowledging there are a range of regulations that industry must comply with when using chemicals and marketing cereal grains, industry focusses on a system of self-regulation. That system has two underlying elements:

- Compliance with any applicable regulation; and
- Industry self-imposed conditions.

As a responsible supplier of cereal grains for human consumption, stockfeed or industrial purposes, industry ensures that food safety expectations of consumers are met, and customers are supplied with the quality of product they stipulate in contracts.

As noted in the Technical Report and in this submission, there are some markets with a lower MRL for fenitrothion than in Australia. On that basis, industry does accept some form of risk when marketing grain to those markets. Despite the lack of suitable MRLs, data provided with this submission indicates a low level of fenitrothion residues on cereal grains supplied to domestic and export markets.

The following section documents in details how industry manages those market expectations. Various systems are used to minimise that market risk including but not limited to where practicable:

- Commodity Vendor Declarations
- Segregation
- Stock selection / Blending
- Sampling and testing

7.2 GTA Code of Practice

The Code of Practice for the Management of grain along the supply chain (Code) https://www.graintrade.org.au/grain-industry-code-practice is a practical guide for participants in the grain industry to achieve the standards and expectations of domestic and export customer requirements. Customer requirements include those stipulated in contracts and mandatory regulatory requirements (that must be met) at the Australian State, Territory and Federal levels and international and overseas country level.

GTA developed the Code over 8 years ago and compliance with the Code is mandatory for GTA members. To assist industry to adopt the Code and implement its requirements, associated with the Code are:

- A range of industry standards.
- Ancillary Codes of Practice, such as the Grain Transport Code.
- Technical Guideline Documents (TGDs) that support and provide greater detail of various components of the Code.

Whilst each industry participant manages their own operations based on the needs of its customers,

their own commercial operations, internal procedures and systems, the Code focuses on common standards, operating procedures and documented processes. In adopting the Code all participants accept they are each responsible for implementing the necessary systems, procedures, and processes to achieve the purpose of the Code.

Adoption of the Code provides all industry sectors including governments, researchers and consumers with confidence that processes exist in Australia to successfully manage various expectations of the market. In relation to chemicals such as fenitrothion, this includes the following key points:

2.1 On-Farm Activities

- *Complying with regulatory requirements and controls at all times.*
- *All chemical treatments to storages, handling equipment and grain are applied as per regulatory and industry requirements.*

2.3 Storage Facilities (i.e., Bulk Handling Companies)

- *For management of live stored grain insects, industry follows the principles of Integrated Pest Management.*
- *Any chemical use should comply with all label directions.*
- *The use of chemicals should be done to follow industry guidelines and to meet regulatory requirements and customer specifications.*
- *All chemical treatments to grain should be done to ensure compliance with applicable maximum residue limits (MRLs).*
- *Only legal chemical treatments for grain, storages, structures and surrounds are to be used.*

2.4 Chemical Use

- *Industry is committed to complying with relevant Australian and International chemical regulations. The grain industry provides a product that is considered safe for human and animal consumption.*
- *A whole-of-chain approach applies to food safety and chemical residue management and the provision of grain according to customer requirements through a combination of:*
    - *Australian State, Territory and Federal Government legislation.*
    - *Industry quality assurance systems and general practices.*
- *At all times, the grain industry must comply with all regulatory controls for chemicals.*
- *Under the Code, the following industry sectors are required to actively participate on a continuous basis in the NRS grains residue monitoring program, and to comply with any NRS directions applying to that program:*
    - *All grain organisations out-turning on the domestic market to an end-processor (who is not defined as a primary producer).*
    - *All bulk grain exporters.*
    - *All container exporters.*
    - *Where relevant, operators of facilities who provide grain as part of the above services.*
- *As required by legislation industry will not trade (i.e., supply) in grain on the domestic or export market that contains a chemical in violation of relevant legislation.*
- *At all times, chemicals are applied:*
    - *To comply with label directions for those chemicals.*
    - *To comply with MRLs for those chemicals.*
    - *To minimise the cross-contamination of grain subsequently handled through any infrastructure.*

    - *To comply with the Strategy to Manage Resistance to Grain Protection Chemicals in the Australian Grain Industry to prolong the life of phosphine and other stored grain Protectants.*
    - *Abiding on outcomes, recommendations and activities of the National Working Party on Grain Protection as determined and published following each year's annual conference.*
- *All involved in the grain supply chain, including producers, storage providers and marketers are to be aware of the relevant domestic and international MRLs applying to grain. These are outlined in the Australian Grain Industry Post Harvest Chemical Usage Recommendations and Outturn Tolerances publication and on the NRS and GTA website.*
- *Grain is only outturned:*
    - *Following compliance with the legislated label directions such as Withholding and Ventilation Period.*
    - *When in compliance with customer and/or regulatory MRLs that apply to that grain.*
    - *Where applicable, following analysis of grain to confirm chemical residue levels are in compliance with customer and/or regulatory MRLs.*

2.7 Marketing

- *Industry will actively cooperate with the Australian Government and relevant industry organisations to:*
    - *Understand existing market requirements.*
    - *Keep updated with changing market requirements and advise industry and the Australian Government where those requirements change.*
    - *Maintain access to existing markets.*
    - *Meet all of the requirements of its markets, including those related to food safety, quality and quarantine.*

As can be seen from the above there is a significant emphasis on industry compliance with market contract and regulatory requirements in relation to grain supplied, covering aspects of chemical use and residues such as for fenitrothion. There are many other clauses required to be complied with in the Code, covering similar statements as those above. As stated previously, the emphasis is on industry self-regulation. Continued market access in those markets with tighter MRL restrictions on chemicals such as fenitrothion shows industry compliance with the Code.

GTA operates a complaints procedure under the Code, whereby if any customer or industry participant lodges a complaint on any aspect of the Code, a process occurs which is in compliance with the Australian Standard "Customer Satisfaction – Guidelines for complaints handling in organizations" (ISO 10002:2004, MOD).

Relatively little tonnage is traded by industry participants outside of GTA Members. Again, given the lack of reported non-compliance, lack of complaints under the Code and continued market access, it can be assumed compliance with market expectations for MRLs for example, is also high.

7.3 On-farm Stewardship Guide

The On-farm Stewardship Guide "Growing Australian Grain – Safely managing risks with crop inputs and grain on farm" (Stewardship Guide) was developed by Grain Producers Australia and is signed off by all major grain groups in each Australian state and nationally. Its main purpose is to maintain the recognised integrity of Australian grain as safe food and feed. Similar to the post-farm Code

outlined above, it outlines a range of practices growers use to comply with regulatory and customer requirements in relation to use of chemicals such as fenitrothion.

Thus, the Stewardship Guide is a key document along with the Code to verify and expound the virtues of the Australian grain industry in terms of compliance with customer and community expectations when growing, handing and marketing grain.

The Stewardship Guide covers two main aspects of growing grain:

- Meeting the requirements - how grain farming businesses can meet key legal obligations under statute and common law and basic market requirements.
- Other practices to consider - these practices may help growers to produce reliable, quality grain and manage risks.

As per the Code a range of practices are outlined relating to chemical use such as fenitrothion. Not all are listed below, however key requirements include the following:

- *Check that your farm complies with all relevant state and Australian regulations. The Stewardship Guide describes ways to meet some of these requirements in a grain farming system.*
- *Comply with the requirements for crop inputs, and technologies that you use (e.g., chemical use labels, trait licences or stewardship agreements).*
- *Comply with current label/permit and state regulations for all agricultural chemical use. Note that labels and permits are specific to a product and not always replaceable with a generic product with the same active ingredient for a given use.*
- *If your contract defines a destination market, check whether it has more stringent maximum residue limits (MRLs). If it does, your chemical program may need to be adjusted so that these MRLs are not exceeded.*
- *Ensure staff, advisors and contractors have suitable skills, experience and qualifications.*
- *Within 24 hours of each chemical application make an accurate record, to be kept for at least 2 years according to state regulations and label requirements.*
- *Declare to the buyer all treatments of stored grain and in-crop chemical use as required.*
- *The grain owner provides a commodity vendor declaration (CVD) or other delivery documentation as required with all sales of grain.*
- *Declare all use of post-harvest treatments and comply with industry codes and stewardship programs to avoid double/excess treatment further along the supply chain that may cause residue limits to be exceeded.*
- *Meet requirements specified in contracts for maximum residue limits (MRLs) and pest control measures.*
- *Prevent grain being contaminated by structural treatments and grain protectants in breach of MRLs.*

The Stewardship Guide thus outlines the processes for growers, who may be the first user of a chemical, must undertake to ensure any requirements of the customer or regulations are met. It can be found here https://www.grainproducers.com.au/australian-grains-guide. It is also referenced when discussing with grower advisors (i.e., agronomists, chemical re-sellers) market requirements and expectations of the market in relation to chemical use on farm.

When liaising with overseas markets, including customer and regulatory authorities, elements outlined in the Stewardship Guide and Code are referenced in those discussions to outline industry management systems used to assist compliance with market requirements.

7.4 Grain Standards

GTA Trading Standards are critical to facilitating trade and are an integral part of the grain industry self-regulatory framework provided by GTA. The purpose of Trading Standards is to ensure that all grain market participants have clarity as to exactly what is being bought and sold. GTA produces the wheat and other cereal grain Standards that are reviewed annually by the GTA Trading Standards Committee (Committee) and presented to members and industry for comment in draft form before they are adopted for the forthcoming season.

In addition to developing the Trading Standards, the Committee reports and make recommendations to the industry on all matters of relevance addressed by the Committee such as chemical and other food safety matters.

Those Trading Standards are developed for each cereal grain commodity based on a range of factors. These include but are not limited to:

- Customer contracts.
- Importing country Government regulations for quality or quarantine.
- Relevant food safety laws, international protocols and standards such as those developed by Cartagena and Codex Alimentarius Commission.

All cereal grain Trading Standards include a range of quality parameters, be they physical properties, defective characteristics or contaminants present in the grain. Trading Standards are applied to all commodities received for that applicable season and dates are set when the season switches over and the new season Standards are to apply.

The tolerances for each quality parameter have been set based on experience of market forces. For many years those Trading Standards have contained various food safety parameters and tolerances in relation to chemicals. Those have not significantly changed since initial inclusion.

As an example, in industry wheat Trading Standards, the following is stated:

"***Maximum Residue Limits***

Maximum Residue Limits (MRLs) are the maximum amount of a chemical residue or its metabolite that is legally permitted on or in an agricultural commodity. The Australian Pesticides and Veterinary Medicines Authority (APVMA) sets MRLs. These MRLs are set at levels which are not likely to be exceeded if the agricultural or veterinary chemicals are used in accordance with approved label instructions and can be found on the ComLaw website at https://www.legislation.gov.au/F2023L01350/latest/versions

Australian MRLs may differ significantly from those prescribed by foreign countries and the International Codex Alimentarius Commission. Consequently, grain exporters must be aware of MRLs of importing countries and which countries accept Codex MRLs. Foreign country MRLs may be

accessed directly from foreign government websites. Industry should always confirm the accuracy of these MRL listings through their own means."

And

"***National Residue Survey***

The National Residue Survey (NRS) gathers information and supplies chemical residue results on domestic and export grain commodities. The NRS results show Australian grain is of a high quality with respect to residues and contaminants. All grain exporters, container packers, bulk export terminal operators, Bulk Handling Companies and processors are encouraged to actively participate in the NRS grains residue monitoring program. Contravention of an overseas MRL may cause the rejection of cargoes resulting in severe financial cost being incurred and potentially jeopardising Australian grain into that market.

Information about the NRS is located at: http://www.agriculture.gov.au/ag-farm-food/food/nrs."

While those Trading Standards are used generally for the purposes of trade, they are often applied at the receival of grain from growers or from other stakeholders operating at some point along the supply chain.

As stated previously, over 95% of grain traded within Australia is traded based on those Standards. These Standards apply at all stages of the supply chain, including:

- On receival of grain from farm to country storages.
- On receival of grain at domestic processors i.e., wheat flour mills, barley maltsters.
- On export of grain in containers or bulk vessels.

All GTA cereal grain Trading Standards include a nil tolerance for live Stored Grain Insects. To meet that requirement, some form of insect control is required such as a disinfestant where insects have been detected or a preventative treatment. For the latter, grain protectants such as fenitrothion may be used in storages where the preferred treatment of fumigation cannot occur, or where longer-term protection against insect attack is required.

In all cases, any chemical treatment applied must not only comply with any legislative requirements (i.e., label directions, MRL on outturn) but also comply with industry Trading Standards. In those Standards, in addition to a nil tolerance for live Stored Grain Insects, the following applies (wheat example provided):

"Chemicals not Approved for Wheat – nil tolerance

Refers to the following:

- *Chemicals used on the growing crop in the State or Territory where the wheat was grown in contravention of the label.*
- *Chemicals used on stored wheat in contravention of the label.*
- *Chemicals not registered for use on wheat.*
- *Wheat containing any artificial colouring, pickling compound or marker dye commonly used during crop spraying operations that has stained the wheat.*
- *Wheat treated with or contaminated by Carbaryl, Organochloride chemicals, or diatomaceous earth.*

- *Chemical residues in excess of Australian Commonwealth, State or Territory legal limits (see Maximum Residue Limit and National Residue Survey).*

For further information on this topic, refer to the document 'Australian Grains Industry Post Harvest Chemical Usage Recommendations and Outturn Tolerances 2024/25' - see GTA website http://www.graintrade.org.au/nwpgp."

While the majority of Industry trade on GTA Standards, industry may trade on the basis of specific individual stakeholder created grades to markets. These may be developed for a range of issues in a particular region and may be applied to cereal grain for human consumption, stockfeed or industrial uses. However, it is generally regarded that the above definitions and tolerances apply.

Equally, the above definitions and tolerances apply to all end-uses of cereal grains. For the majority of the cereal grain commodity traded, unless the market requires Pesticide Residue Free or some other form of restriction, fenitrothion is a permitted treatment on those commodities.

In Western Australia cereal standards are set by the Grain Industry Association of Western Australia (GIWA) (except wheat which follows GTA) and industry may use those standards as opposed to the GTA standards. The above statements on definitions and tolerances for chemical related issues in essence apply equally to GTA and GIWA standards for the purposes of this submission.

7.5 Commodity Vendor Declarations

Varying market requirements and the use pattern of various chemicals on cereal grains increasingly requires industry to implement some form of declaration prior to or upon delivery of loads to the domestic market or upon presentation to the Bulk Handling Company sector for storage and allocation to the export market. This also applies to grain as it moves through the supply chain. Industry has the ability to manage that process via a number of means, the main tool being a Commodity Vendor Declaration (CVD).

A CVD is a document that is used to advise the chemical residue status of grain, and other information related to the sale or movement of grain and grain related products. CVDs are generally used when grain is traded from one party to another party. However, they may be used at any stage of the supply chain for a wide range of purposes. It may also be used in some form to supply to the customer information on the quality and food safety status of the grain – in that case a modified form of a CVD may be used, such as independent certification supplied from an inspection company stating the exact residues of chemicals on that consignment based on laboratory analysis of a representative sample of that consignment.

In relation to chemicals, a CVD provides the industry with transparency on chemicals used and is therefore a risk management tool to assist to:

- Reduce the risk of contamination from consumption of that grain or products made from that grain.
- Increase industry understanding of potential chemicals on that grain.
- To assess the potential risks of chemical residues on grain including whether those residues are above a market MRL.

CVDs may be required in various forms by industry, depending on where they operate along the supply chain. While GTA provides generic CVDs for use, industry may develop their own. The common information required on all is that the supplier of the grain provides a list of chemicals used

either pre-harvest or post-harvest or a declaration attesting to use as per regulations such as label rates.

Where industry has a specific restriction on chemicals used, the industry may require a declaration to that effect for that chemical. The declaration may be for individual loads, for a contract or for an entire consignment.

CVDs therefore are one of the first information sources used by industry to assess the risk of residues being present on the commodity to be traded. For example:

- Where no treatment of grain or a structure with a chemical such as fenitrothion is declared, the risk of residues being present on grain is generally considered to be low.
- Conversely, where a significant number of loads into a storage have been declared as being treated with fenitrothion, the risk of residues being present may be significant. In this instance industry will conduct a risk assessment of the suitability of that grain to the market, and as required implement various other management strategies as outlined in this submission to meet market expectations.

7.6 Sampling on Receival and in Storage

Obtaining a representative sample of a load of grain tendered for delivery to a storage facility is the initial step required to assess the grain against any industry Standards. Without an accurate sampling process, the subsequent analysis of the sample and classification of a load cannot be done correctly.

The purpose of sampling is to obtain a sample that is representative of the entire load. The sample so drawn is then used for classification and payment of the load.

The most accurate way to assess a load is to analyse the entire load. However, as grain is a bulk product, it is impractical to assess all the grains in the entire load. Therefore, a sub-sample of the load is taken on the basis that the sample drawn is representative of the entire load.

There must be balance between theoretical sampling regimes for all grains and practical sampling. This “compromise” has been developed and agreed by industry and a Technical Guideline Document (TGD21) has been developed that outlines the procedure for collection of a representative sample in any situation at all stages along the supply chain. Industry has created these sampling methods in an attempt to standardise the process and ensure any subsequent analysis of grain is based on a sample representative of that parcel.

Coupled with collection of a CVD, industry samples grain on receival into a storage and if required:

- Will retain that sample for analysis of chemical residues for verification against the CVD.
- May compile a composite sample of a number of receival samples based on tonnage received. This sample will then represent grain of a particular grade received into a storage. This sample may then be analysed, or further composited to form a site composite or even port zone composite sample. Analysis for chemical residues will be done on any of those samples:
    - To verify the information on a CVD.
    - To fully determine the level of chemical residues on grain held in that storage.
    - For stock selection to a market where a restriction on that chemical may apply.

While the above process may apply at the initial delivery point of harvested grain into industry BHC storages, further sampling and testing may be required along the supply chain as the grain moves to the ultimate export point before export. For example:

- At the initial delivery site, the ultimate destination of the grain may not be known. Upon confirmation of the market, further analysis may be needed. The initial composite sample collected may be further analysed, or additional samples taken from grain held in storage, again, using TGD21 to obtain a representative sample.
- As the grain is outturned and moved ultimately to the point of export prior to loading, further sampling and testing may occur as needed.

Based on the above process, while there may be some variations, the quality and food safety status of the grain is known prior to loading. Hence, industry understands the level of fenitrothion on the grain prior to selecting that stock for allocation to a particular market.

7.7 Segregation of stock

Prior to receival of grain into storage, the storage operator designs and implements a process that ensures eventual sales contractual requirements can be managed. Grain storages are allocated to receive grain of a quality that meets the customer requirement for quality, quarantine and food safety issues.

During the receival process, once the grade is known, identity preservation and traceability of grain occurs to ensure the parcel of grain by storage is known. Relevant hygiene and other operational processes occur to minimise contamination and maintain the integrity of the grain.

The discharging of a load and the binning of the load are two very critical steps to ensure:

- The load is of the correct quality (no hidden defects or contaminants).
- The grain is segregated into the correct storage, thus preventing admixtures.

Documentation is supplied with that grain which is cross-referenced and verified by the operator before grain is discharged into the relevant storage.

During the storage period, identity preservation occurs to ensure the grain integrity is maintained and its location, for subsequent allocation to a market is known. Grain may be moved throughout a facility prior to outturn, but again, its quality and food safety status dictates where the grain is moved, and documentation is maintained to provide knowledge of its location.

As noted previously, grain quality is maintained and where required insect treatments occur as required. Documentation of those treatments occurs under the facilities pest management plan.

7.8 Stock selection and Blending

Scheduling of outturn and loading is a critical task for the storage operator and requires a formal planning process to ensure the outturn and loading operations do not negatively impact the integrated supply chain it operates in.

The operator will implement formal planning processes to manage, coordinate and schedule stock selection based on the requirements of the next customer in the supply chain. This may or may not include the ultimate domestic or export customer.

Once the stock selection process is known, a range of activities may occur to preserve the integrity of the grain, ensure the correct grain is selected and outturned, and customer requirements are met. These may include:

- All staff involved in the process are aware of their responsibilities and are appropriately trained.
- Grain may be outturned directly from a storage without any further change in quality or food safety status.
- Based on customer requirements, the operator may undertake a blending process whereby a number of parcels of grain may be blended to meet customer requirements. For example, where the customer has a lower MRL for fenitrothion than residues on the grain as determined following laboratory analysis, grain from different storages may be blended to achieve a residues level below the market requirement.

In all instances, any stock selection or commodity blending strategies must be professionally managed by the facility operator. This process is constantly reviewed and adjusted to ensure compliance.

7.9 Residue Testing on Outturn

The above processes are designed to be implemented to ensure that the food safety status (i.e., fenitrothion residue levels) are known on the grain prior to outturn to the domestic or export market.

For grain outturned to the domestic market or for export, industry participation in the National Residue Survey (NRS) is mandatory for all GTA Members (who trade over 95% of grain in Australia).

The NRS is an operational unit within the Australian Government Department of Agriculture, Fisheries and Forestry (DAFF). The NRS is an essential part of Australia's pesticide and veterinary medicine residue management framework providing verification of good agricultural practice in support of chemical control of-use legislation and guidelines.

NRS residue monitoring programs monitor the levels of, and associated risks from, pesticides and veterinary medicine residues in Australian food products. The program covers cereal grains, pulses, oilseeds and processed fractions for domestic and export outturns. Representative samples are collected at export outturn and domestic receival and analyses for those chemicals (see results of analyses below).

On average 6,000 samples are analysed each year for residues. Results of the NRS testing program, giving a comparison of the residues detected on the consignment versus those in Australia (and advice if levels are above the intended customer MRL) are provided to the establishment loading the consignment for export and the marketer of that grain. For domestic grain, results are provided to the receiver of that grain, generally a processor. A summary of results is also produced annually by commodity and publicly available on the NRS website.

The NRS is therefore a verification of industry management systems.

In addition to the NRS, as outlined above industry conducts residue testing for particular chemicals at various stages along the supply chain on an as needs basis. At loading for export, for most consignments, an independent certification of that grain is required, often involving obtaining a representative sample of the consignment (collected as per DAFF export regulations) and testing in a laboratory. The results of that testing are supplied to the buyer of the grain attesting to the residue status of the grain. This industry system is thus an added process to verify the residue status of the grain.

Where a residue violation of a market requirement is detected, GTA has produced a TGD 15 "Managing Chemical Residue Violations". While compliance with this TGD is not mandatory, it refers to industry best practice for managing chemical residue violations. The TGD complements the Code and the Australian Grains Industry Post Harvest Chemical Usage Recommendations and Outturn Tolerances.

As can be seen from the NRS data provided independently with this submission, industry performance in meeting market expectations for fenitrothion residues is very high, hence the need for and use of this TGD is thought to be sporadic.

8. NRS results and Government Monitoring

Results of the NRS program for cereal grains, oilseeds and pulses can be found at https://www.agriculture.gov.au/agriculture-land/farm-food-drought/food/nrs/plant-product-testing

NRS results for cereals grains for the last 10 years have been provided by the NRS directly to APVMA independently of this submission. The results of individual consignments have not been included directly with this submission due to the commercially sensitive nature of that data.

That data, along with the annually published summary data from the NRS indicate a high level of compliance with Australian MRLs on cereal grains for fenitrothion. For example, for wheat for the 2022/23 season, a total of 3,414 samples were analysed and no residues were detected that were above half the Australian MRL. A similar result occurred in 2021/22 from 2,882 samples tested. Those results show that industry compliance with the Australian Grains Industry Post Harvest Chemical Usage Recommendations and Outturn Tolerances, which requires industry to outturn grain at half the Australian MRL (Recommended Outturn Limit of 5mg/kg) remains strong.

As noted previously, the NRS monitors results of all shipments to export markets and some domestic market outturns for compliance with market requirements. Industry also conducts compliance testing at export and as required to the domestic market. On the basis of the NRS results and continued market access to those markets that have a lower MRL than Australia (and lower than the ROL), market access has continued.

9. General Industry Communication

This submission highlights the role that all industry sectors have in meeting market requirements. It was developed jointly by the various industry organisations as listed above on behalf of industry. In a similar manner, those and other industry organisations provide leadership and jointly discuss issues of relevance to the industry where market access may be impacted. A clear example is for an

insecticide such as fenitrothion where various industry supply chain sectors rely on that technology to meet industry standards, and to also meet market requirements where tighter restrictions that in Australia may apply.

Trade and Market Access is a core activity of various industry organisations, and many have referenced this as a policy in their Strategic Directions, Annual Reports etc. That highlights the importance of meeting market requirements, especially for the grain sector where over 70% of production is exported.

In general terms, those trade and market access strategies involve four pillars, being Policy, Advocacy, Support and Communication. Each industry organisation to some extent undertakes a number of activities to support the marketing both domestically and for export of Australian grain. These activities are targeted to not only provide tools to assist industry to trade grain but have a strong emphasis on advocacy for their members and industry in general. Various committees across industry meet on a regular basis to consider and review changing market requirements, including changes to chemical regulations domestically and internationally.

Those advocacy efforts support Federal and State Government legislation, including those of overseas markets. Given the regular communication among industry organisations and stakeholders, any impending and current changes to market MRLs are known and as required, industry proactively makes changes to processes etc where required to meet those new market requirements.

Some examples of industry advocacy that directly focusses on changing market MRLs for fenitrothion are outlined below. Variations exist on which industry organisation leads the process or is involved directly, as this varies based on the particular issue, noting the list is not exhaustive:

- Various industry websites highlighting the registration process of chemicals, the need for compliance with label directions. Includes links to various sources of information such as the APVMA, Australian MRL listing on ComLaw, FSANZ MRLs, APVMA changes to MRLs as outlined in the monthly Gazette, NRS.
- Listing of market MRLs and provision of advice on those MRLs to industry on an as needs basis. Includes various publications such as Fact Sheets, general market documentation on websites, various documents as listed in this submission.
- Technical information relating to good management practice and meeting market requirements, including:
    - Insect Resistance Management Strategy.
    - Chemical Usage and Outturn Tolerances for the applicable season.
    - GRDC Stored Grain Website listing a range of information of relevance to the application of grain protectants.
- Consultation with industry when impending MRL changes are notified, and development of an industry response based on the feedback.
- Discussion of the importance of meeting market needs and results of industry performance, at various meetings, seminars, conferences involving all sectors of the supply chain from chemical registrants, growers, re-sellers, grower advisors, storage agents, marketers, traders and processors. May involve a range of industry organisations or individual industry stakeholders.
- Liaison with relevant government departments on industry mechanisms to meet market requirements, impending changes to MRLs, representation at Australian and international forums dealing with chemicals and input into Australian strategies (such as the Codex Committee on Pesticide Residues).

Based on the above advocacy, the industry has extensive and appropriate mechanisms in place to not only understand current and impending MRLs for chemicals such as fenitrothion, but the ability to proactively and jointly on behalf of all industry sectors to develop and review mechanisms to assist compliance with market requirements.

10. Other Findings in the Notice

10.1 Field Crops

The Technical Report states an Assessment outcome of "Use of fenitrothion on cereals, pasture and forage crops to control Australian plague locust, spur-throated locust, migratory locust, small plague grasshopper and wingless grasshopper is not supported". Various reasons are provided, including "unacceptable risk to birds" i.e., safety (environment) concerns.

From a grower perspective, there is generally strong support for the use of fenitrothion as a locust and grasshopper control measure in many grain growing areas of the cropping zone. The support for this use arises for various reasons including but not limited to:

- This practice will help to improve the economic and agronomic position of growers.
- In some locations and under certain conditions, cereal crops have very few insecticide options to control those insect pests.
- Locusts and grasshoppers only appear in numbers requiring some form of control on an irregular basis. Fenitrothion is an option available for use as required.
- Continued registration of fenitrothion will help to maintain the sustainability of grain growing in various cropping regions by providing another tool in insect control.
- The removal of various products in the market has left most growers with no viable in crop option to control locusts and grasshoppers when they appear in large numbers. Large numbers of insects negatively impact on yield and potentially lead to downgrading of cereal grain quality, further reducing financial returns. Grain may be rejected at delivery and require a costly cleaning process.
- Harvest delays may also arise, increasing the risk of weather damage and again increasing the risk of quality downgrading due to the impacts of rain, wind etc. lowering financial returns.
- There are no viable non-chemical tools available to control locusts and grasshoppers in the field.

Given the relatively limited and infrequent use of fenitrothion for this purpose, if registration was to continue, industry could implement additional management systems to control and minimise the impacts of the use of fenitrothion on harvested cereal grains.

Industry therefore requests the APVMA continue discussions with relevant stakeholders to develop mechanisms to reduce risks from the use of fenitrothion as outlined in the Technical Report.

10.2 Storage structures

The Technical Report states an Assessment outcome of "Grain storage facilities, equipment and surface treatment of bulk stored cereal grain are not supported". Various reasons are provided including "safety (worker health and safety concerns)".

In a recent survey of growers in response to the Technical Report, growers indicated fenitrothion was a valuable tool for this purpose. While non-chemical means of safeguarding against insect attack in storage facilities and on equipment is preferred (i.e., hygiene, inert dusts), fenitrothion is used in those situations where these insect control measures are not adequate to meet market expectations.

As stated above, market compliance with MRLs for fenitrothion is high, therefore, it can be reasonably assumed use of fenitrothion in these situations does not cause a marketing risk that cannot be or is not currently managed.

Industry notes the Technical Report is based on the following default values for usage:

Backpack application (mixer, loader, applicator)	10 x 15 L refills = 150 L/day
Manually pressurized hand wand application	150 L/day
Mechanically pressurized handgun application	Structural components (e.g. walls, framing, voids, slabs, beams, lumber, etc.) = 4,000 L/day Poultry house (whole-house treatment of litter, walls, etc.) = 0.8 ha/day (2 acres)

Fenitrothion use as a structural treatment is significantly lower than that cited in the Technical Report, including work rates/volumes used per day. The stated 4,000L per day just for structural treatment is totally unrealistic given industry total use of fenitrothion. Also, it is worth noting that structural treatments are applied on an infrequent basis, generally 1-2 times a year.

We are led to believe that further information on the applicable treatments used by industry will be provided in other submissions. Industry requests that APVMA reconsider the above rates of usage based on realistic usage patterns by industry and reconsider the decision for structural treatments on that basis.

In addition, from a worker safety perspective, it is understood APVMA have altered label directions for other products to manage these risks. Industry would encourage the APVMA to work with the relevant industry stakeholders (such as the chemical registrant) to explore options to manage those risks prior to making any changes to its current registration.

11. Summary

Industry supports the adoption of new technology, processes etc. and use of chemicals such as fenitrothion where those technologies and chemicals are shown to be effective and are acceptable to the marketplace. The grain industry in general prides itself on ensuring all grain supplied to markets complies with regulatory limits for chemicals, specifically MRLs.

The continued access to use fenitrothion as a grain protectant on cereal grains will assist growers and the post farm-gate storage sector to control stored grain insects and meet industry and

regulatory controls for a nil tolerance for live stored grain insects. Fenitrothion is a key tool for ongoing sustainability of storage operations in regions of Australia where insect resistance is increasingly making grain storage difficult.

Based on advice from growers, and the industry sectors in general, the proposed changes to fenitrothion labels are widely supported. The continued access to fenitrothion under the proposed regulatory changes is also widely supported.

While the proposed use pattern will potentially create a risk of residues being present on cereal grains sold domestically or internationally, those changes are not significantly different to the risks that industry currently faces. Industry currently trades grain to a number of markets where the MRL is significantly lower than the Australian MRL, and that occurs through the implementation of a number of management systems as outlined in this submission.

Industry currently and will continue to manage the marketing risk where a nil or low level fenitrothion MRL applies through adoption of various systems and processes. These measures are routinely adopted throughout the grain industry supply chain. Additional communication will be required to ensure all are aware of their responsibilities in that regard given the impending and proposed changes as outlined in the Notice.

Further refinement and research into the many issues outlined in this submission will continue and are key to ensuring any future marketing changes to fenitrothion regulations on cereal grain sold domestically or internationally will be able to be managed.

As Chair of the NWPGP I trust that this submission will assist APVMA in its decision process on the proposed changes to fenitrothion.

Thank you for your consideration of this submission. Should you have any questions on this submission please do not hesitate to contact me.
Regards

Gerard McMullen

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To Australian Pesticide& Veterinary Medicines Authority

From Dan Sutton

Senior Agronomist

[redacted]

Re: Fenitrothion registration review

I have grave concerns that the withdrawal of pasture pests from Fenitrothion registration will cause undue hardship to beef and particularly dairy farmers in my, and related areas. On average 15,000 hectares are treated annually in Tasmania saving on average 4 t/ha of drymatter at $500/t. That is $30 million dollars a year. I am writing this submission as a love job, unfunded and under resourced because the course of chemical tools has been left to the priorities of chemical supply companies. As I see it, despite Federal funded Agvet chemical program, the Animal Research and Development Corparations RDC's (MLA and Dairy Australia) and federal and state departments of agriculture have allowed chemicals used in the production of fodder to be left undefended, neglected and at the whim of the largely multi national supply companies.

The main issues are Corbie Oncopera intricate and winter corbie Oncopera rufobrunnea. The only registered alternative is Chlorpyrifos. Chlorpyrifos gained corbie registration 20 years ago when Fenitothion was under review. In my area and I'd suggest in Tasmania, Chlorpyrifos has proved to only effective when covers are very low, we have had sufficient rain to generate corbie hatch, and they are that small you can't find them. The problem being corbies tend to stay in their burrows when frosty conditions prevail. Ie fine late autumn and winter conditions. Chlorpyryfos is not persistent enough to do the job. Fenitrothion continues to be the product of choice for corbie control despite being more than twice the price.

Fenitrothion 's alternative, Chlorpyrifos is arguably more toxic orally and by inhalation by current safety data sheets. NW Tasmania is the biggest fenitrothion use area in Tasmania. It has a very high contractor utilization. I am unaware of any medical episodes and an audit of the main two contractors found no reports from Fenitrothion exposure. Operators are trained in the use and provisioned with PPE for more toxic S7 Dangerous Poisons like Sprayseed, as opposed to fenitrothion's S6 Poison rating.

With no registered alternatives, the economic production losses on Tasmanian farmers will be felt worst by our owner operators, particularly heavily geared young starters. We have seen spikes in suicide and mental health issues in periods of economic hardships. Ie. GFC and price clawbacks. I would say the effects of having no

viable alternatives will have worst health effects than what the current modeling is predicting.

Current Scenario for severely affected pastures.

They are destocked as they no longer produce the volumes of feed. Lower stocking rates lead to dramatic increases in slug populations which will require high rates of slug control typically the most effective S5 metaldehyde-based pellets. The pasture will need to be resow in spring and typically S5 insecticide applied for cutworm at or prior to emergence. Then because of low stock pressure during establishment again with herbicides because of the lack of competition in late spring. This can cost $500/ha when getting little or no production.

So the net pesticide effect of no fenitrothion availability apart from economic losses, is increased pesticide use.

Environmental Effects

Tasmanian corbie Fenitrothion use is in winter. There is very little to no flowering in our pastures in winter for bees. Enquiries with local apiarists indicated no detected residues in bees, wax or product. I suggest the Tasmanian Bee industry has developed with Fenitrothion for 60 years.

The effects of wallaby numbers is negligible to nonexistent. Farmers, to maintain viability continue to shoot damaging populations or develop expensive game fences or run game poisoning programs.

Smaller Mammals don't tend to compete in high productivity intensive rotational grazing systems. Five hundred cows each weighing 600kgs grazing a 2-hectare field on a 12 hour break, every 25 – 50 days, is far far more destructive on small mammals than one application of fenitrothion on 10-15% of pasture per year.

Birds. The number of Tasmanian Forest Raven" Crows" in recently sprayed fields is still used by farmers as an indication of effective Corbie control. Their high numbers today is testament to Fenitrothion's lack of overall detrimental effect. Anecdotally Starlings and Plovers haven't diminished either. The quoted fenitrothion field study investigating bird mortality was done on Savannah and by own admission was a food issue. "Population reductions appeared to mainly reflect bird movement in response to a reduction in grasshopper prey".

Corbie control is typically required on 10-15% of the farm area, as these are the areas where surplus fodder was conserved. The extra cover and lower hoof pressure leading to higher survival rates resulting in economic corbie thresholds. Fields with high cover, exceeding 2700 kgs/drymatter /hectare, kgs/dm/ha are more prone to control failures as it isn't possible to get chemical deep enough into the swath. We typically target recently

grazed pasture. In doing so, applications on farms do so as a program, following the grazing rotation, ie over 40-50 days in winter.

1. On average only a small percentage of farms are sprayed
2. These areas are sprayed over a significant timeframe to suit grazing withholds and swath suitability.
3. Intensive high productivity grazing system inherently do not support high native bird and mammal populations. This issue is being addressed through environment and riparian protection zones.

I suggest that under our use patterns fenitrothion is an acceptable risk to birds and wild mammals in Tasmania.

Micro flora and fauna. The high production farms of NW Tasmania are typically highly biologically act with average Organic matter greater than 10%.

Risk to markets.

The way I read this is that fenitrothion is not a current problem, but "may" be an issue in the future. The main market threat is the EU. We export little beef and dairy products to EU. We have been using fenitrothion for a long time and with no market kickback. With average losses in Tasmania likely to average more than $30 million/yr and assuming the EU markets are paying a premium of 10%, we would have to lose $300m million in sales/yr to break even.

The current label is

Pasture and lucerne where stock have not been oversprayed:

DO NOT graze for 7 days after application or withhold stock from slaughter for 14 days after application, whichever is appropriate. DO NOT cut for stockfeed for 14 days after application.

Pasture (including lucerne) where stock have been oversprayed:

DO NOT slaughter for 14 days after application.

Residue and metabolite data has been flagged as an APVMA issue. Residues have not been an export issue. To add more safety, I suggest that the grazing and slaughter withholding periods be doubled until such time as data supports the shorter intervals.

Chemical tools on fodder.

As there is no government entity or dependant RDC who are effectively managing the availability of chemical tools for fodder, Australian animal industries are

1. Less productive.
2. Less profitable

3. Less resilient
4. More susceptible to pest and disease outbreaks accelerated by extremes of climate.
5. Have no succession plan for chemical tools
6. Subject to loss of chemical tools through review.

As I read this review, the residue data is an imperative. [redacted] I believe it could take Tasmanian agriculture 5 years to produce this data. [redacted]

Market size.

I am only looking at fenitrothion from a Tasmanian pasture view. Fenitrothion's availability is also at the whim of the supplying company, [redacted]. The reduction in other uses will decrease the financial viability for supplying companies to maintain supply to the market. [redacted] springs to mind.

I am sure Australian registered alternatives exist but require data collection and registration on fodder. Is Australia to leave our productivity, profitability, competitiveness, and resilience to the boards of chemical companies? I hope not.

There is a void in Australian agriculture. Since the withdrawal of Departments of Agriculture from chemical tools for fodder over the last forty years, the animal Research and Development corporations "RDC's" have resisted calls to financially support the defence of existing chemicals, or research, registration and development of novel chemical tools for fodder. This response is an unfunded, under resourced love job. Meanwhile the chemical companies have their own priorities broadly based on shareholder interests.

The Australian Government's Science and Research Priorities and National Primary Industries Research Development and Extension Framework should ensure R&D investment is strategic, collaborative and targeted to improve profitability, productivity, competitiveness and preparedness for future opportunities and challenges.

Clearly [redacted] by largely ignoring chemical tools for fodder are adversely affecting the profitability, productivity, competitiveness and sustainability of the Australian animal industries.

In conclusion

Tasmanian agriculture currently has no viable alternative to fenitrothion. The withdrawal will induce severe financial hardship on particularly Tasmanian pasture-based farmers. There is no imminent impact to Australian markets. Most of the current Fenitrothion usage is via trained registered contractors. There have not been any reported health issues to existing operators or the potentially exposed community.

The modelled fenitrothion effects are not translating into actuals in our environment.

Australian agriculture needs chemical tools to maintain productivity, profitability and sustainability.

Insects and diseases are the fastest to adapt to variations in climate. Our farmers need rapid access to reliable registered tools to avoid catastrophic losses.

The grazing and slaughter withholding periods could be doubled until such time as data supports the shorter intervals.

Chemical Review
APVMA
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11 March 2024

Fenitrothion – Summary of assessment outcomes in proposed regulatory decision

The Grains Research and Development Corporation (GRDC) appreciate the opportunity to provide this response to the APVMA's proposed regulatory decision for the insecticide fenitrothion.

GRDC leads investment in grains research, development and extension (RD&E) on behalf of 25 levy paying industries in Australia. From that perspective GRDC wishes to flag a particular concern over the assumptions apparently underpinning the worker safety risk assessment.

Worker safety - Cereals, pasture and forage crops

Regarding the statement by the APVMA under Groundboom application that "*It is considered reasonable that a single operator could treat up to 600 ha in one day, or greater than 1,000 ha/day in broadacre scenarios*"

The GRDC questions the basis for the APVMA default value used in the worker health and safety assessment and seeks clarification on how the figures of 600 and 1000 ha in a work day were estimated. Reference is made to 50 m boom width and application speeds of 20 kph, however, GRDC has not been able to identify a realistic application scenario where such an application could occur in a work day of 7 hours.

[redacted]

Firstly, for 600 ha to be treated in a work day, using a 50 m boom, involves spraying 6,000,000 m^2, which would involve 120 km travelled. This would require a speed of 17 kph in a 7 hour workday without considering mixing/loading, refilling, ferrying and turns in the sprayed field.

To spray 1000 ha involves spraying 10,000,000 m^2, which would involve the sprayer travelling 200 km in a work day; at the suggested 20 kph would involve spraying for 10 hours. For a 7 hour work day the speed would need to be at least 28.5 kph, again without considering mixing/loading, refilling, ferrying and turns in the sprayed field.

Secondly, the 600 and 1000 ha scenarios do not appear to consider application water volumes. If it is assumed that no refills occur and the standard spray tank capacity is in the order of 10,000 L, it appears the APVMA considers low volume or ultra-low volume spraying to be the norm when considering risk assessments in broadacre groundboom application, i.e., 10 or 17 L/ha at 1000 ha and 600 ha, respectively. If higher water volumes are used the APVMA scenarios become improbable.

GRDC therefore believes the current APVMA risk assumption, in relation to broadacre groundboom spraying, is based on extreme scenarios and need to be revised to reflect current practice for applications of herbicides, insecticides and fungicides. While acknowledging that for fenitrothion the APVMA indicated that worker safety risks could be mitigated via "*PPE requirements, engineering control requirements, daily work rate restrictions (ha/day) and/or re-entry period requirements"* GRDC still believes the APVMA should seek to refine the worker exposure risk assessment to reflect the more realistic work day scenarios.

Environment – Terrestrial vertebrates

No outcomes were identified as acceptable for birds

While acknowledging the toxicity of fenitrothion to birds and the potential risk to insectivorous birds following its use for locust and grasshopper control, GRDC has concerns over the reliance on the work of Mullié and Keith (1993[1]). In particular, the comparability of the environment in which the cited study occurred in relation to Australian broadacre farmed areas. The study area had a distinctive vegetation profile and was described as Mimosaceae thorn scrub and characterised by "*short trees, bushes and annual grasses*" suggestive of containing potential bird habitat, and grazed by "*large herds of cattle, goats and sheep*". Areas which bear little resemblance to fields planted to cereal crops. As a result GRDC suggests that risks to insectivorous birds could be significantly mitigated through the application and adherence to buffer zones in relation to areas of native or other vegetation, neighbouring fields planted to cereals, that could harbour birds.

Regards

Gordon Cumming
Manager Chemical Regulation

M: [redacted]
W: www.grdc.com.au
E: [redacted]

[1] W C Mullie and J O Keith. 1993. The Effects of Aerially Applied Fenitrothion and Chlorpyrifos on Birds in the Savannah of Northern Senegal. Journal of Applied Ecology, Vol. 30, No. 3, pp. 536-550