



Australian Government
**Australian Pesticides and
Veterinary Medicines Authority**



Trade Advice Notice

on tetraniliprole in the product Vayego 200 SC Insecticide for use on grapes,
maize and sweet corn

APVMA product number 86756

September 2022

© Australian Pesticides and Veterinary Medicines Authority 2022

ISSN 2200-3894 (electronic)

Ownership of intellectual property rights in this publication

Unless otherwise noted, copyright (and any other intellectual property rights, if any) in this publication is owned by the Australian Pesticides and Veterinary Medicines Authority (APVMA).

Creative Commons licence

With the exception of the Coat of Arms and other elements specifically identified, this publication is licensed under a Creative Commons Attribution 4.0 Licence. This is a standard form agreement that allows you to copy, distribute, transmit and adapt this publication provided that you attribute the work.



A [summary of the licence terms](#) and [full licence terms](#) are available from Creative Commons.

The APVMA's preference is that you attribute this publication (and any approved material sourced from it) using the following wording:

Source: Licensed from the Australian Pesticides and Veterinary Medicines Authority (APVMA) under a Creative Commons Attribution 4.0 Australia Licence.

In referencing this document the Australian Pesticides and Veterinary Medicines Authority should be cited as the author, publisher and copyright owner.

Cover image: iStockphoto (www.istockphoto.com)

iStockphoto images are not covered by this Creative Commons licence.

Use of the Coat of Arms

The terms under which the Coat of Arms can be used are set out on the [Department of the Prime Minister and Cabinet website](#).

Disclaimer

The material in or linking from this report may contain the views or recommendations of third parties. Third party material does not necessarily reflect the views of the APVMA, or indicate a commitment to a particular course of action. There may be links in this document that will transfer you to external websites. The APVMA does not have responsibility for these websites, nor does linking to or from this document constitute any form of endorsement. The APVMA is not responsible for any errors, omissions or matters of interpretation in any third-party information contained within this document.

Comments and enquiries regarding copyright:

Assistant Director, Communications
Australian Pesticides and Veterinary Medicines Authority
GPO Box 3262
Sydney NSW 2001 Australia

Telephone: +61 2 6770 2300

Email: communications@apvma.gov.au.

This publication is available from the [APVMA website](#).

Contents

Preface	1
About this document	1
Making a submission	1
Further information	2
Introduction	3
Trade considerations	4
Commodities exported	4
Destination and value of exports	4
Proposed Australian use pattern	5
Results from residues trials presented to the APVMA	8
Grapes	8
Maize and sweet corn	9
Animal commodities	11
Rotational crops	12
Overseas registration and approved label instructions	12
Codex Alimentarius Commission and overseas MRLs	13
Current and proposed Australian MRLs for tetraniliprole	15
Potential risk to trade	17
Grapes and dried grapes	17
Wine	17
Maize	17
Animal commodities	18
Conclusion	19

List of tables

Table 1: Proposed use pattern for grapes, maize and sweet corn being considered by the APVMA	5
Table 2: Required buffer zones for boom sprayers	7
Table 3: Required mammalian commodity MRLs – cattle	11
Table 4: International MRLs for tetraniliprole	14
Table 5: Current relevant MRLs for tetraniliprole in Table 1 of the MRL Standard	15
Table 6: Amendments to Table 1 of the MRL Standard for tetraniliprole	15
Table 7: Amendments to Table 4 of the MRL Standard for tetraniliprole	16

Preface

The Australian Pesticides and Veterinary Medicines Authority (APVMA) is an independent statutory authority with responsibility for assessing and approving agricultural and veterinary chemical products prior to their sale and use in Australia.

The APVMA has a policy of encouraging openness and transparency in its activities and of seeking stakeholder involvement in decision making. Part of that process is the publication of Trade Advice Notices for all proposed extensions of use for existing products where there may be trade implications.

The information and technical data required by the APVMA to assess the safety of new chemical products and the methods of assessment must be undertaken according to accepted scientific principles. Details are outlined in regulatory guidance published on the APVMA website.

About this document

This Trade Advice Notice indicates that the APVMA is considering an application to vary the use of an existing registered agricultural or veterinary chemical.

It provides a summary of the APVMA's residue and trade assessment.

Comment is sought from industry groups and stakeholders on the information contained within this document.

Making a submission

The APVMA invites any person to submit a relevant written submission as to whether the application to vary the registration of Vayego 200 SC Insecticide should be granted. Submissions should relate only to matters that the APVMA is required by legislation to take into account in deciding whether to grant the application. These grounds relate to the trade implications of the extended use of the product. Submissions should state the grounds on which they are based. Comments received outside these grounds cannot be considered by the APVMA.

Submissions must be received by the APVMA by close of business on 11 October 2022 and be directed to the contact listed below. All submissions to the APVMA will be acknowledged in writing via email or by post.

Relevant comments will be taken into account by the APVMA in deciding whether to grant the application and in determining appropriate conditions of registration and product labelling.

When making a submission please include:

- contact name
- company or organisation name (if relevant)
- email or postal address (if available)
- the date you made the submission.

Please note: submissions will be published on the APVMA's website, unless you have asked for the submission to remain confidential, or if the APVMA chooses at its discretion not to publish any submissions received (refer to the [public consultation coversheet](#)).

Please lodge your submission using the [public consultation coversheet](#), which provides options for how your submission will be published.

Note that all APVMA documents are subject to the access provisions of the Freedom of Information Act 1982 and may be required to be released under that Act should a request for access be made.

Unless you request for your submission to remain confidential, the APVMA may release your submission to the applicant for comment.

Written submissions should be addressed to:

Executive Director, Risk Assessment Capability
Australian Pesticides and Veterinary Medicines Authority
GPO Box 3262
Sydney NSW 2001

Phone: +61 2 6770 2300

Email: enquiries@apvma.gov.au.

Further information

Further information can be obtained via the contact details provided above.

Further information on Trade Advice Notices can be found on the [APVMA website](#).

Introduction

The APVMA has before it an application from Bayer CropScience Pty Ltd to vary the registration of Vayego 200 SC Insecticide, to add new uses on grapes, maize and sweet corn. The product contains 200 g/L tetraniliprole as its only active ingredient.

Trade considerations

Commodities exported

Grapes (including dried grapes) and wine, and cereal grains (including maize) are considered to be major export commodities¹, as are commodities of animal origin, such as meat, offal and dairy products, which may be derived from livestock fed feeds produced from treated grapes, maize and sweet corn. Residues in these commodities resulting from the use of Vayego 200 SC Insecticide may have the potential to unduly prejudice trade.

Registration of the use of Vayego 200 SC Insecticide on sweet corn has also been proposed. As sweet corn is not considered to be a major trade commodity and as quantifiable residues of tetraniliprole are not expected in sweet corn (corn-on-the-cob), the overall risk to trade in sweet corn associated with the proposed use is considered to be low. Tetraniliprole residues in sweet corn forage and fodder which are animal feeds will be considered here in the context of contributing to the livestock dietary burden.

Destination and value of exports

Australian exports of table and dried grapes totalled 120.7 kt (\$460.7 million) and 4.70 kt (value \$24.1 million) in 2020–21. The major markets for fresh table grapes in that period included China, Indonesia, Hong Kong, Japan and the Philippines.²

Australian exports of wine totalled 707 ML (\$2,619 million) in 2020–21. The major export markets for wine in the year ending June 2021 included China, United Kingdom, United States, Hong Kong, Canada, Singapore, New Zealand, Netherlands, Japan and Denmark.³

Australian exports of corn (maize) totalled 67.8 kt (\$30.7 million) in 2020–21³.

The significant export markets for Australian beef, sheep and pig meat and offal are listed in the APVMA Regulatory Guidelines – Data Guidelines: Agricultural – Overseas trade (Part 5B)1.

¹ Australian Pesticides and Veterinary Medicines Authority (APVMA), [Agricultural Data Guidelines - Pesticides: Overseas trade \(Part 5B\)](#), APVMA website, accessed 25 August 2022.

² Hort Innovation, [Australian Horticulture Statistics Handbook 2020–21 – Fruit](#), Hort Innovation website, accessed 25 August 2022.

³ Australian Bureau of Agricultural and Resource Economics and Sciences (ABARES), [Agricultural Commodity Statistics 2021](#), Department of Agriculture, Fisheries and Forestry website, accessed 25 August 2022.

Australian exports of dairy products totalled 966.4 kt (\$3,807 million) in 2021–22. Of this total, Australian exports of fresh milk totalled 411.6 kt (\$368.5 million) in 2021–22⁴. The major markets for Australian dairy products include China, Japan, Korea, Indonesia, Malaysia, Philippines, Vietnam, Thailand and Singapore⁵.

Proposed Australian use pattern

Table 1: Proposed use pattern for grapes, maize and sweet corn being considered by the APVMA

Crop	Pest	Rate	Critical comments
Grapes	Light brown apple moth (<i>Epiphyas postvittana</i> syn <i>Tortrix postvittana</i>)	7.5 mL/100 L (=1.5 g a.i./100L)	Monitor for light brown apple moth activity. Apply at 140-day degrees after biofix (first flight) to control the new generation. Do not apply more than 2 applications per season in each crop. Do not apply more than 300 mL of Vayego per hectare in a single application. Do not apply at greater than 3x concentration.
	Grapevine moth (<i>Phalaenoides glyciniae</i>)		Apply when local grapevine moth economic thresholds have been reached (1st or 2nd instar larvae). Do not apply more than 2 applications per season in each crop. Do not apply more than 300 mL of Vayego per hectare in a single application. Do not apply at greater than 3x concentration.
Grapes	Weevils e.g. apple weevil (<i>Otiorhynchus cribricollis</i>), Fuller's rose weevil (<i>Asynonychus cervinus</i>), garden weevil (<i>Phlyctinus callosus</i>)	10 mL/100 L (=2 g a.i./100 L)	Once weevil activity is observed in the canopy and local thresholds have been met, apply a single application ensuring thorough coverage. If weevil emergence extends over a significant timeframe, a second application may be required. Do not apply more than 2 applications per season in each crop. Do not apply more than 300 mL of Vayego per hectare in a single application. Do not apply at greater than 3x concentration.
	Mediterranean fruit fly (<i>Ceratitis capitata</i>)	12.5 mL/100 L (=2.5 g a.i./100 L)	Commence applications when monitoring indicates fruit fly activity and fruit are vulnerable to damage (e.g. fruit ripening) in the lead up to harvest. Apply a second application 7 to 10 days later. The addition of a non-ionic wetter at label rates may provide an increase in control. Do not apply more than 2 applications per season in each crop. Do not apply more than 300 mL of Vayego per hectare in a single application. Do not apply at greater than 3x concentration.
Maize, sweet corn	Fall armyworm (<i>Spodoptera frugiperda</i>)	200 mL/ha (=40 g a.i./ha)	Monitor crops from emergence. Commence applications when monitoring indicates the presence of fall armyworm eggs or larvae from 2 leaf stage onwards. Target sprays against eggs and newly

⁴ Dairy Australia, 2022. [Latest export statistics](#), Dairy Australia website, accessed 1 September 2022.

⁵ Dairy Australia, 2020. [International market briefs](#), Dairy Australia website, accessed 1 September 2022.

Crop	Pest	Rate	Critical comments
			<p>hatched larvae before they become established. Apply a maximum of 3 sprays with 5 to 7-day intervals between applications.</p> <p>Ensure thorough coverage of the target crop – refer 'Application' section in GENERAL INSTRUCTIONS. Only apply up to the V15 stage (when 15th leaf collar is visible), or after pollen shed (around 1 week after tassel is fully emerged).</p> <p>Note: This use is subject to a CropLife resistance management strategy. Refer to www.croplife.org.au for more information.</p>

Withholding periods

Harvest:

Grapes – DO NOT harvest for 7 days after application.

Maize – DO NOT harvest for 14 days after application.

Sweet corn – DO NOT harvest for 1 day after application

Grazing:

Sweet corn – DO NOT graze or cut for stock food for 1 day after application.

Maize – DO NOT graze or cut for stock food for 14 days after application.

Vineyard – DO NOT graze treated vineyard.

Export slaughter interval (ESI) – 7 days

Livestock that has been grazed on or fed treated crops should be placed on clean feed for 7 days prior to slaughter.

Restrictions

DO NOT apply by aircraft

DO NOT apply if heavy rains or storms are forecast within 3 days

DO NOT irrigate to the point of field runoff for at least 3 days after application

Spray drift restraints

Boom sprayers – DO NOT apply by a boom sprayer unless the following requirements are met:

- spray droplets not smaller than a coarse spray droplet size category
- minimum distances between the application site and downwind sensitive areas (see 'Mandatory buffer zones' section of the following table titled 'Buffer zones for boom sprayers') are observed.

Table 2: Required buffer zones for boom sprayers

Buffer zones for boom sprayers		
Application rate	Boom height above the target canopy	Livestock areas
Up to maximum label rate	0.5 m or lower	Not required
	1.0 m or lower	10 m

Trade advice

Export of treated produce – Growers should note that MRLs or import tolerances may not exist in all markets for edible produce treated with Vayego 200 SC Insecticide. If you are growing edible produce for export, please check with Bayer Crop Science for the latest information on MRLs and import tolerances before using Vayego 200 SC Insecticide.

Results from residues trials presented to the APVMA

Grapes

The proposed use pattern for tetraniliprole on grapes is for a maximum of 2 applications per season at a maximum concentration of 2.5 g a.i./ 100L. The proposed harvest withholding period (WHP) is “DO NOT harvest for 7 days after application” and the proposed grazing WHP is “DO NOT graze treated vineyard”. The proposed use pattern restricts the application rate per hectare for a single application to 300 mL product/ha (=60 g a.i./ha).

In 8 Australian residue trials conducted in 2018–20, the highest residues observed in wine grapes and table grapes at 6 to 7 days after last application (DALA), after 2 applications at 2.5 g a.i./100L (1× the maximum proposed application concentration) with a 7 to 8 days retreatment interval (RTI) were, in rank order: <0.01, 0.02, 0.03, 0.08, 0.09, 0.10, 0.21 and 0.25 mg/kg (STMR⁶=0.085 mg/kg, n=8).

The OECD MRL calculator estimates a Maximum Residue Limit (MRL) of 0.5 mg/kg.

A tetraniliprole MRL of 0.5 mg/kg for FB 0269 Grapes, is considered appropriate to cover residues in grapes arising from the proposed use in conjunction with the proposed 7 days harvest WHP.

Raisins

In 2 trials conducted in the USA the observed processing factors for raisins were 0.925 and 1.54x, indicating that tetraniliprole residues may concentrate into raisins.

The highest processing factor is 1.54x. Based on the highest residues (HR) in grapes in the Australian trials (0.25 mg/kg), the highest estimated residue value (HR-P) in raisins is 0.39 mg/kg. The proposed MRL for FB 0269 Grapes at 0.5 mg/kg will also cover residues of tetraniliprole in dried grapes. A separate MRL for DF 0269 Dried grapes (=currants, raisins and sultanas) is therefore not considered necessary. Based on the STMR in grapes (0.085 mg/kg), and a median processing factor of 1.23x, the STMR-P for raisins is 0.10 mg/kg.

Grape juice

The 2 processing trials conducted in the USA and 4 processing trials conducted in Europe indicated that tetraniliprole residues do not concentrate in juice (all processing factors <1), so it is not necessary to establish a separate MRL.

Wine

The 5 processing trials conducted in Europe (n=4) and Australia (n=1) found processing factors for wine (at bottling) to be 0.17, 0.41, 0.45, 0.50 and 0.57x. Given that tetraniliprole residues do not concentrate in wine (all processing factors <1), it is not necessary to establish a separate MRL.

⁶ STMR= supervised trial median residue

The highest processing factor is 0.57x. Based on the highest residues (HR) in wine grapes (0.25 mg/kg), the HR-P in wine is 0.14 mg/kg. Based on the STMR in wine grapes (0.095 mg/kg), and a median processing factor of 0.45x, the STMR-P for wine is 0.04 mg/kg.

Grape pomace

The highest dry grape pomace processing factor in the 4 trials conducted in Europe is 8x. Based on the HR in grapes (0.25 mg/kg), the highest estimated residue value (HR-P) in dried grape pomace is 2 mg/kg.

An MRL of 3 mg/kg is recommended for tetraniliprole in AB 0269 Grape pomace, dry.

Maize and sweet corn

The proposed use pattern for tetraniliprole on maize and sweet corn is for a maximum of 3 applications at 40 g a.i./ha. The proposed harvest and grazing WHPs for maize are “DO NOT harvest for 14 days after application” and “DO NOT graze or cut for stock food for 14 days after application”. The proposed harvest and grazing WHPs for sweet corn are “DO NOT harvest for 1 day after application” and “DO NOT graze or cut for stock food for 1 day after application”.

In support of the application, North American (USA and Canada) GLP residues trial data for maize (field corn) and sweet corn have been submitted.

Maize

In twenty-one trials conducted in 2015, residues of tetraniliprole observed in field corn (maize) grain at 14 DALA, after 4 applications of tetraniliprole at 48.0 to 67.3 g a.i./ha (1.2 to 1.7x the proposed application rate) with a 6 to 38 days RTI, after conversion to expected residues at the proposed application rate (40 g a.i./ha, based on the rate of the last application) were, in rank order: <0.01 (19), 0.008, 0.010 mg/kg (STMR=0.01 mg/kg, n=21).

The OECD calculator recommends an MRL of 0.015 mg/kg for maize grain with the proviso “High uncertainty of MRL estimate due to high level of censoring”. Noting the HR of 0.01 mg/kg and that all trials were conducted in the USA and Canada, a tetraniliprole MRL for GC 0645 Maize at 0.02 mg/kg, is recommended for the proposed use, in conjunction with the proposed 14 days harvest WHP.

Maize forage

Residues in field corn (maize) forage at a 14 days WHP after 4 applications of tetraniliprole at 48.6 to 54.9 g a.i./ha (1.2 to 1.4x the proposed application rate) with a 6 to 13 days RTI, and after conversion to expected dry weight residues at the proposed application rate (40 g a.i./ha) and using the OECD value for dry matter content of field corn forage (40%), were, in rank order: ND, 0.29, 0.41, 0.50, 0.59, 0.86, 0.88, 1.03, 1.04, 1.06, 1.14, 1.30, 1.58, 1.97, 2.02, 2.11, 2.70, 2.93, 4.15, 4.45 and 7.20 mg/kg (STMR=1.14 mg/kg, n=21).

The OECD calculator recommends an MRL of 9 mg/kg for maize forage. A tetraniliprole MRL for AF 0645 Maize forage at 10 mg/kg, is recommended for the proposed use, in conjunction with the proposed 14 days grazing WHP.

Maize fodder (stover)

Residues in field corn (maize) stover at a 14 days WHP after 4 applications of tetraniliprole at 48.0 to 67.3 g a.i./ha (1.2 to 1.7× the proposed application rate) with a 6 to 38 day RTI, and after conversion to expected dry weight residues at the proposed application rate (40 g a.i./ha) and using the OECD value for dry matter content of field corn stover (83%), were, in rank order: ND, 0.24, 0.33, 0.39, 0.90, 2.43, 2.47, 2.77, 2.90, 2.92, 2.94, 3.14, 3.27, 3.34, 3.37, 4.54, 4.73, 5.66, 8.17, 8.30 and 10.9 mg/kg (STMR=2.94 mg/kg, n=21).

The OECD calculator recommends an MRL of 15 mg/kg for field corn fodder. A tetraniliprole MRL for AS 0645 Maize fodder at 15 mg/kg, is recommended for the proposed use, in conjunction with the proposed 14 days grazing WHP.

Sweet corn cobs

In fifteen trials conducted in 2015, no quantifiable residues of tetraniliprole were observed in sweet corn K+CWHR (kernel and cobs with husks removed) at 1 DALA, after 4 applications of tetraniliprole at 47.7 to 53.5 g a.i./ha (1.19 to 1.34× the proposed application rate) with a 6 to 10 days RTI, *i.e.* residues were: <LOQ (15) [<0.01 (15)] mg/kg (STMR=0.01 mg/kg, n=15).

A tetraniliprole MRL for VO 0447 Sweet corn (corn-on-the-cob) at *0.01 mg/kg, is recommended for the proposed use, in conjunction with the proposed 1-day harvest WHP.

Sweet corn forage

Residues in sweet corn forage at a 1 day WHP after 4 applications of tetraniliprole at 47.7 to 53.5 g a.i./ha (1.19 to 1.34× the proposed application rate) with a 6 to 10 day RTI, after conversion to expected dry weight residues at the proposed application rate (40 g a.i./ha) and using the OECD value for dry matter content of sweet corn forage (48%), were, in rank order: 0.13, 1.30, 2.10, 2.35 (2), 2.69, 2.94, 2.98, 3.02, 3.92, 4.31, 4.38, 4.52, 5.60 and 6.40 mg/kg (STMR=2.98 mg/kg, n=15).

The OECD calculator recommends an MRL of 10 mg/kg for sweet corn forage. A tetraniliprole MRL for Sweet corn forage at 10 mg/kg, is recommended for the proposed use, in conjunction with the proposed 1-day grazing WHP.

Sweet corn fodder (stover)

Residues in sweet corn stover sampled approximately 1 month after grain harvest, after 4 applications of tetraniliprole at 47.7 to 53.5 g a.i./ha (1.19 to 1.34× the proposed application rate) with a 6 to 10 days RTI, after conversion to expected dry weight residues at the proposed application rate (40 g a.i./ha) and using the OECD value for dry matter content of sweet corn stover (83%), were, in rank order: <LOQ (or ND), 0.018, 0.17, 0.62, 0.80, 1.03, 1.20, 1.57, 1.59, 2.43, 2.65, 5.35, 9.05 and 16.1 mg/kg (STMR=1.385 mg/kg, n=14).

The OECD calculator recommends an MRL of 20 mg/kg for sweet corn fodder. A tetraniliprole MRL for Sweet corn fodder at 20 mg/kg, is recommended for the proposed use, in conjunction with the proposed 1-day grazing WHP.

Animal commodities

Based on the OECD feed calculator, the estimated maximum mammalian dietary burdens are 10.8 ppm for beef cattle (consumption of sweet corn stover and field corn forage/silage) and 9.7 ppm for dairy cattle (consumption of sweet and field corn stover and field corn forage/silage).

Based on consideration of a dairy cow feeding study, the estimated residues in tissues and milk from feeding at 10.8 ppm for beef cattle and 9.7 ppm for dairy cattle are calculated below, together with the recommended MRLs.

Table 3: Required mammalian commodity MRLs – cattle

Feeding level (ppm)	Milk	Muscle	Liver	Kidney	Fat
	Parent tetraniliprole residue (total residue for risk assessment) (mg/kg)				
9 – feeding study	0.0673 (0.137)	0.0234 (0.0434)	0.372 (0.414)	0.0674 (0.101)	0.0633 (0.265)
10.8 – beef, estimated burden	-	0.0281 (0.0521)	0.446 (0.497)	0.0809 (0.121)	0.0760 (0.318)
9.7 – dairy, estimated burden	0.0725 (0.148)	-	-	-	-
Established MRLs	*0.01 (milks)	*0.01 (meat)		0.02 (offal)	-
Recommended MRLs	0.1 (milks)	-		0.7 (offal)	0.1 (meat [in the fat])

The following MRLs are recommended:

MO 0105 Edible offal (Mammalian): 0.7 mg/kg (replacing the current MRL at 0.02 mg/kg)

MM 0095 Meat (mammalian) [in the fat] 0.1 mg/kg [replacing the current Meat (mammalian) MRL at *0.01 mg/kg]

ML 0106 Milks 0.1 mg/kg (replacing the current MRL at *0.01 mg/kg).

It is noted that the highest residues in day 25 cream after feeding at 90 ppm were 0.422 mg/kg (parent). The scaled parent residue after feeding at 9.7 ppm is therefore 0.045 mg/kg. As it is assumed that cream is 40% fat, there is calculated to be a parent tetraniliprole residue of 0.11 mg/kg in milk fats.

A FM 1083 Milk fats MRL is recommended at 0.2 mg/kg.

The Applicant has proposed the following export slaughter interval:

Export slaughter interval (ESI) – 7 days

Livestock that has been grazed on or fed treated crops should be placed on clean feed for 7 days prior to slaughter.

The dairy cow feeding study showed that after 7 days on clean feed, no detectable residues of parent tetraniliprole, which is the definition for enforcement for animal commodities in Australia and the definition in Japan and the USA, were observed in milk or tissues after feeding at the highest feeding level (90 ppm). The proposed 7 days ESI will therefore ensure that residues of parent tetraniliprole in tissues of livestock for export, which were previously fed on sweet corn or maize forage and/or fodder and by-products, will be below quantifiable levels and is considered to be appropriate for the proposed use pattern.

The estimated maximum dietary burdens are 0.003 ppm for poultry broilers and layers (consumption of field corn hominy meal) and 0.11 ppm for turkeys (consumption of grape pomace). Based on consideration of the previously submitted laying hen metabolism studies, it was concluded that no changes are required to the established poultry animal commodity MRLs for eggs, poultry offal and poultry meat at the LOQs of *0.01 mg/kg.

Rotational crops

The potential for tetraniliprole residues to occur in food and animal feeds produced by rotational crops has been considered as the current proposal use in maize and sweet corn represents the first use of tetraniliprole in crops which may be rotated.

In rotational crop studies, no quantifiable residues were observed in rotational crops for human consumption (barley, sorghum and wheat grain, canola and sunflower seed, snow peas and snap beans, lima beans and garden peas, dried peas, dried beans and soybeans, melons, summer squash and cucumbers, and bulb onions), sampled after a 22 to 31 days plant-back interval (PBI). An "All other foods" MRL is not required in Table 1 of the APVMA MRL Standard.

Based on the highest estimated scaled dry weight residues of 0.17 mg/kg in soybean forage at the latest PBI observed in the field rotational studies, a tetraniliprole MRL of 0.3 mg/kg is recommended for Primary feed commodities {except Maize fodder, Maize forage, Sweet corn fodder and Sweet corn forage}.

Overseas registration and approved label instructions

The Applicant indicated that Vayego 200 SC Insecticide is registered for use in Cambodia, Canada, China, Ecuador, Georgia, Guatemala, India, Indonesia, Japan, Korea, Malaysia, Mozambique, New Zealand, Peru, Philippines, United States of America, Vietnam, Zambia, Zimbabwe.

For sweet corn and maize, the foliar application use rate in the USA is 4x250 mL/ha. For grapes, the foliar application use rate in the USA is 4x225 mL/ha. The use rate in a calendar year is, however, capped at a maximum of 180 g a.i./ha (900 mL/ha) irrespective of the crop.

Codex Alimentarius Commission and overseas MRLs

The Codex Alimentarius Commission (Codex) is responsible for establishing Codex Maximum Residue Limits (CXLs) for pesticides and veterinary medicines. Codex CXLs are primarily intended to facilitate international trade and accommodate differences in Good Agricultural Practice (GAP) employed by various countries. Some countries may accept Codex CXLs when importing foods. Tetraniliprole has not been considered by Codex.

The following relevant overseas MRLs has been established for tetraniliprole (Table 2).

Table 4: International MRLs for tetraniliprole

Commodity	Tolerance for residues arising from the use of tetraniliprole (mg/kg)			
	Australia	Japan ⁷	USA ⁸	Korea ⁹
Residue definition	Tetraniliprole	Tetraniliprole	Tetraniliprole	
Plant commodities				
Grapes	0.5 (proposed)	2	1.5 Fruit, small vine climbing, except fuzzy kiwifruit, subgroup 13-07F	0.5
Maize	0.02 (proposed)	0.05 [Corn (maize, including pop corn and sweet corn)]	0.01 Corn, field, grain	
Animal commodities				
Edible offal	0.7 (proposed)		0.3 (cattle meat by-products)	
Meat (mammalian)			0.02	
Meat (mammalian) [in the fat]	0.1 (proposed)		0.04 (cattle fat)	
Milk fats	0.2 (proposed)			
Milks	0.1 (proposed)		0.05	

Tetraniliprole has not been considered by Codex.

No relevant tetraniliprole MRLs have been established by Taiwan¹⁰.

⁷ Japanese Food Chemistry Research Promotion Foundation (JFCRPF), 2022. [Table of MRLs for Agricultural Chemicals](#), JFCRPF website, accessed 1 June 2022.

⁸ Electronic Code of Federal Regulations (eCFR), 2022. [Tolerances and Exemptions for Pesticide Chemical Residues in Food](#), eCFR website, accessed 1 June 2022.

⁹ Ministry of Food and Drug Safety Korea (FSK), 2015. [Pesticide MRLs for agricultural commodities](#), FSK website, accessed 1 June 2022.

¹⁰ Food and Drug Administration Taiwan, 2022. [Food and Drug Administration Taiwan – Standards for Pesticide Residue Limits in Foods](#), accessed 1 June 2022.

Tetraniliprole MRLs have not been established by the European Union¹¹ or in China¹².

Current and proposed Australian MRLs for tetraniliprole

Table 5: Current relevant MRLs for tetraniliprole in Table 1 of the MRL Standard

Compound	Food	MRL (mg/kg)
Tetraniliprole		
MO 0105	Edible offal (mammalian)	0.02
PE 0112	Eggs	*0.01
MM 0095	Meat (mammalian)	*0.01
ML 0106	Milks	*0.01
PO 0111	Poultry, edible offal of	*0.01
PM 0110	Poultry meat	*0.01

Table 6: Amendments to Table 1 of the MRL Standard for tetraniliprole

Compound	Food	MRL (mg/kg)
Tetraniliprole		
Delete:		
MO 0105	Edible offal (mammalian)	0.02
MM 0095	Meat (mammalian)	*0.01
ML 0106	Milks	*0.01
Add:		
MO 0105	Edible offal (mammalian)	0.7
FB 0269	Grapes	0.5
GC 0645	Maize	0.02
MM 0095	Meat (mammalian) [in the fat]	0.1
FM 0183	Milk fats	0.2

¹¹ European Commission, 2015. [EU Pesticide residue\(s\) and maximum residues levels \(mg/kg\)](#), European Commission website, accessed 1 June 2022.

¹² United States Department of Agriculture Foreign Agricultural Service, 24 August 2021. [China: Maximum Residue Limits for Pesticides in Foods, Global Agricultural Information Network report](#), accessed 1 June 2022.

Compound	Food	MRL (mg/kg)
ML 0106	Milks	0.1
VO 0447	Sweet corn (corn-on-the-cob)	*0.01

Table 7: Amendments to Table 4 of the MRL Standard for tetraniliprole

Compound	Food	MRL (mg/kg)
Tetraniliprole		
Add:		
AB 0269	Grape pomace, dry	3
AS 0645	Maize fodder	15
AF 0645	Maize forage	10
	Primary feed commodities {except Maize fodder; Maize forage; Sweet corn fodder; Sweet corn forage}	0.3
	Sweet corn fodder	20
	Sweet corn forage	10

Potential risk to trade

Grapes and dried grapes

The proposed use of tetraniliprole on grapes requires the establishment of a finite MRL for tetraniliprole on grapes (at 0.5 mg/kg). Finite residues (HR=0.25 mg/kg, STMR=0.085 mg/kg) of tetraniliprole may be expected in exported grapes. There is a potential risk to trade as major overseas markets do not have established MRLs for tetraniliprole on grapes, except Korea at 0.5 mg/kg, the USA at 1.5 mg/kg and Japan at 2 mg/kg.

Residues in dried grapes will be covered by the proposed MRL for grapes. However, noting that residues may concentrate on processing to raisins (the processing factors were 0.93 and 1.54x), there will be a similar risk to trade in dried grapes, as finite residues of tetraniliprole may be expected in exported dried grapes (HR=0.39 mg/kg, STMR=0.10 mg/kg) and no export markets have established MRLs.

Wine

Residues in wine will be covered by the proposed MRL for grapes at 0.5 mg/kg. Given that finite residues were observed in grapes in all of the 6 Australian wine grape trials (0.02, 0.08, 0.09, 0.10, 0.21 and 0.25 mg/kg) and that processing factors ranged from 0.17 to 0.54x, processing into wine could lead to finite residues of tetraniliprole in wine (HR=0.14 mg/kg, STMR=0.04 mg/kg), leading to a potential risk to trade to markets which do not have appropriate MRL coverage (i.e. markets other than the USA, Japan and Korea).

Maize

The proposed use of tetraniliprole on maize requires the establishment of a finite MRL for tetraniliprole on maize (at 0.02 mg/kg). Major overseas markets do not have established MRLs tetraniliprole on maize, except the USA at 0.01 mg/kg and Japan at 0.05 mg/kg. Noting that 19 of 21 residues observations were non-quantifiable and that after conversion to expected residues at the proposed application rate (40 g a.i./ha, based on the rate of the last application) the highest residue was at the limit of quantitation, the risk to trade in maize grain is considered to be low.

The Applicant has proposed the following statement (which is on the registered label) to mitigate the risk to trade in treated maize and grapes, dried fruit or wine:

Trade advice information

Export of treated produce

Growers should note that MRLs or import tolerances may not exist in all markets for edible produce treated with Vayego 200 SC Insecticide. If you are growing edible produce for export, please check with Bayer Crop Science for the latest information on MRLs and import tolerances before using Vayego 200 SC Insecticide.

Animal commodities

Finite MRLs for animal commodities are proposed at 0.7 mg/kg for mammalian edible offal, 0.1 mg/kg for mammalian meat (in the fat), 0.1 mg/kg for milks and 0.2 mg/kg for milk fats, leading to a potential risk to trade in these commodities, as most export markets do not have established MRLs.

The proposed 7 days ESI will however ensure that residues of parent tetraniliprole in the tissues of livestock for export, which were previously fed on sweet corn or maize forage and/or fodder and by-products, will be below quantifiable levels. It is noted that while the ESI may help manage the risk to trade of meat and offal, it does not assist in the management of trade risk for milk products.

Conclusion

Bayer CropScience Pty Ltd has applied for registration of the use of tetraniliprole on grapes, maize and sweet corn.

Comment is sought on the potential for the proposed use to prejudice Australian trade of grapes, dried grapes, wine, maize grain and animal commodities and the ability of industry to manage any potential trade risk.