



**FOOD STANDARDS**  
Australia New Zealand  
Te Mana Kounga Kai - Ahitereiria me Aotearoa

**5-06**

**9 August 2006**

## **INITIAL / DRAFT ASSESSMENT REPORT**

### **APPLICATION A574**

### **MAXIMUM RESIDUE LIMITS (JANUARY, FEBRUARY, MARCH 2006)**

**DEADLINE FOR PUBLIC SUBMISSIONS: 6pm (Canberra time) 20 September 2006**  
**SUBMISSIONS RECEIVED AFTER THIS DEADLINE**  
**WILL NOT BE CONSIDERED**

*(See 'Invitation for Public Submissions' for details)*

For information on matters relating to this Assessment Report or the assessment process generally, please refer to <http://www.foodstandards.gov.au/standardsdevelopment/>

## **Executive Summary**

Application A574 seeks to amend Maximum Residue Limits (MRLs) for agricultural and veterinary chemicals in Standard 1.4.2 – Maximum Residue Limits of the *Australia New Zealand Food Standards Code* (the Code). It is a routine Application from the Australian Pesticides and Veterinary Medicines Authority (APVMA), to update the Code in order to reflect the current registration status of agricultural and veterinary chemicals in use in Australia.

The *Agreement between the Government of Australia and the Government of New Zealand concerning a Joint Food Standards System* (the Treaty), excluded MRLs for agricultural and veterinary chemicals in food from the system setting joint food standards. Australia and New Zealand independently and separately develop MRLs for agricultural and veterinary chemicals in food.

Dietary exposure assessments indicate that setting the maximum residue limits as proposed does not present any public health and safety concerns.

There are no MRLs for antibiotic residues in this Application.

Food Standards Australia New Zealand (FSANZ) will make a Sanitary and Phytosanitary notification to the World Trade Organization.

FSANZ decided, pursuant to section 36 of the *Food Standards Australia New Zealand Act 1991* (FSANZ Act), to omit to invite public submissions in relation to the Application prior to making a Draft Assessment. In making this decision, FSANZ was satisfied that the Application raised issues of minor significance or complexity only. Submissions are now invited on this Report to assist FSANZ to make a Final Assessment.

### **Purpose**

The purpose of this Application is to update the Code with current MRLs for agricultural and veterinary chemicals in use in Australia. This will permit the sale of treated foods and protect public health and safety by minimising residues in foods consistent with the effective control of pests and diseases.

### **Preferred Approach**

**FSANZ recommends accepting Application A574 and the proposed draft variations to Standard 1.4.2 – Maximum Residue Limits.**

### **Reasons for Preferred Approach**

This Application has been assessed against the requirements for Initial and Draft Assessments in sections 13 and 15 respectively, of the FSANZ Act. FSANZ recommends accepting this Application and the proposed draft variations to Standard 1.4.2 for the following reasons:

- MRLs serve to protect public health and safety by minimising residues in food consistent with the effective control of pests and diseases.

- Dietary exposure assessments indicate that setting the maximum residue limits as proposed does not present any public health and safety concerns.
- The proposed variations will benefit stakeholders by maintaining public health and safety while permitting the legal sale of food treated with agricultural and veterinary chemicals to control pests and diseases and improve agricultural productivity.
- APVMA has assessed appropriate residue, animal transfer, processing and metabolism studies, in accordance with the *Guidelines for Registering Agricultural and Veterinary Chemicals, the Ag and Vet Requirements Series, 1997*, to support the use of chemicals on commodities as outlined in this Application.
- The Office of Chemical Safety (OCS), part of the Therapeutic Goods Administration (TGA), has undertaken an appropriate toxicological assessment of the chemicals, and where applicable has established acceptable daily intakes (ADIs) and acute reference doses (ARfDs).
- FSANZ has undertaken a preliminary regulation impact assessment process and concluded that the proposed draft variations are necessary, cost-effective and will benefit producers and consumers.
- The proposed draft variations would remove any discrepancies between agricultural and food legislation and provide certainty and consistency for growers and producers of domestic and export food commodities, importers and Australian, State and Territory enforcement agencies.
- The proposed changes are consistent with the FSANZ Act section 10 objectives.

## **Consultation**

FSANZ decided, pursuant to section 36 of the FSANZ Act, not to invite public submissions in relation to Application A574 prior to making an Initial / Draft Assessment. In making this decision, FSANZ was satisfied that the Application raised issues of minor significance or complexity only.

Section 63 of the FSANZ Act provides that, subject to the *Administrative Appeals Act 1975*, application may be made to the Administrative Appeals Tribunal for review of a decision made by FSANZ under section 36 of the FSANZ Act.

FSANZ is seeking public comment on this Initial / Draft Assessment Report to assist in assessing the Application. Comments on, but not limited to, the following would be useful:

- any impacts (costs/benefits) of the proposed increases, deletions and changes to specific MRLs;
- any further public health and safety considerations with the proposed MRLs;

- likely costs and benefits impacting the importation of food if the proposed deletions to specific MRLs are advanced; and
- any other affected parties to this Application.

Further details on making submissions are provided in the Invitation for Public Submissions section of this report.

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## **INVITATION FOR PUBLIC SUBMISSIONS**

Food Standards Australia New Zealand (FSANZ) invites public comment on this Initial / Draft Assessment Report based on regulation impact principles and the draft variations to the *Australia New Zealand Food Standards Code* (the Code) for the purpose of preparing an amendment to the Code for approval by the FSANZ Board.

Written submissions are invited from interested individuals and organisations to assist FSANZ in preparing the Final Assessment of this Application. Submissions should, where possible, address the objectives of FSANZ as set out in section 10 of the *Food Standards Australia New Zealand Act 1991* (FSANZ Act). Information providing details of potential costs and benefits of the proposed change to the Code from stakeholders is highly desirable. Claims made in submissions should be supported wherever possible by referencing or including relevant studies, research findings, trials, surveys etc. Technical information should be in sufficient detail to allow independent scientific assessment.

The processes of FSANZ are open to public scrutiny, and any submissions received will ordinarily be placed on the public register of FSANZ and made available for inspection. If you wish any information contained in a submission to remain confidential to FSANZ, you should clearly identify the sensitive information and provide justification for treating it as commercial-in-confidence. Section 39 of the FSANZ Act requires FSANZ to treat in-confidence, trade secrets relating to food and any other information relating to food, the commercial value of which would be, or could reasonably be expected to be, destroyed or diminished by disclosure.

Submissions must be made in writing and should clearly be marked with the word 'Submission' and quote the correct project number and name. Submissions may be sent to one of the following addresses:

**Food Standards Australia New Zealand**  
**PO Box 7186**  
**Canberra BC ACT 2610**  
**AUSTRALIA**  
**Tel (02) 6271 2222**  
**[www.foodstandards.gov.au](http://www.foodstandards.gov.au)**

**Food Standards Australia New Zealand**  
**PO Box 10559**  
**The Terrace WELLINGTON 6036**  
**NEW ZEALAND**  
**Tel (04) 473 9942**  
**[www.foodstandards.govt.nz](http://www.foodstandards.govt.nz)**

**Submissions need to be received by FSANZ by 6pm (Canberra time) 20 September 2006.**

Submissions received after this date will not be considered, unless agreement for an extension has been given prior to this closing date. Agreement to an extension of time will only be given if extraordinary circumstances warrant an extension to the submission period. Any agreed extension will be notified on the FSANZ website and will apply to all submitters.

While FSANZ accepts submissions in hard copy to our offices, it is more convenient and quicker to receive submissions electronically through the FSANZ website using the Standards Development tab and then through Documents for Public Comment. Questions relating to making submissions or the application process can be directed to the Standards Management Officer at the above address or by emailing [slo@foodstandards.gov.au](mailto:slo@foodstandards.gov.au).

Assessment reports are available for viewing and downloading from the FSANZ website. Alternatively, requests for paper copies of reports or other general inquiries can be directed to FSANZ's Information Officer at either of the above addresses or by emailing [info@foodstandards.gov.au](mailto:info@foodstandards.gov.au).

## **INTRODUCTION**

Applications were received from the Australian Pesticides and Veterinary Medicines Authority (APVMA) on 13 January, 14 February and 10 March 2006 seeking variations to Standard 1.4.2 – Maximum Residue Limits of the Code. The proposed variations to the Standard would align Maximum Residue Limits (MRLs) in the Code for non-antibiotic agricultural and veterinary chemicals with the MRLs in the APVMA MRL Standard.

The MRL is the highest concentration of a chemical residue that is legally permitted or accepted in a food. The MRL does not indicate the amount of chemical that is always present in a treated food but it does indicate the highest residue that could possibly result from the registered conditions of use. The concentration is expressed in milligrams of the chemical per kilogram (mg/kg) of the food.

MRLs assist in indicating whether an agricultural or veterinary chemical product has been used according to its registered use and if the MRL is exceeded then this indicates a likely misuse of the chemical product.

MRLs are also used as standards for international trade in food. In addition, MRLs, while not direct public health limits, act to protect public health and safety by minimising residues in food consistent with the effective control of pests and diseases. In relation to MRLs, FSANZ's role is to protect public health and safety by ensuring that any potential residues in food are within appropriate safety limits.

FSANZ will not agree to adopt MRLs into the Code where dietary exposure to residues of a chemical presents a risk to public health and safety. In assessing this risk, FSANZ conducts dietary exposure assessments in accordance with internationally accepted practices and procedures.

In summary, MRLs in the Code apply in relation to the sale of food under State and Territory food legislation and the inspection of imported foods by the Australian Quarantine and Inspection Service.

Some of the proposed MRLs in this Application are at the limit of quantification (LOQ) and are indicated by an \* in front of the MRL. The LOQ is the lowest concentration of an agricultural or veterinary chemical residue that can be identified and quantitatively measured in a specified food, agricultural commodity or animal feed with an acceptable degree of certainty by a regulatory method of analysis. MRLs at the LOQ mean that no detectable residues of the relevant chemical should occur. FSANZ incorporates MRLs at the LOQ in the Code to assist in identifying a practical benchmark for enforcement and to allow for future developments in methods of detection that could lead to a lowering of this limit.

Some of the proposed MRLs in this Application are temporary and are indicated by a 'T' in front of the MRL. These MRLs may include uses associated with:

- the APVMA minor use program;
- off-label permits for minor and emergency uses; or
- trial permits for research.

FSANZ does not issue permits or grant permission for the temporary use of agricultural and veterinary chemicals. Further information on permits for the use of agricultural and veterinary chemicals can be found on the APVMA website at [www.apvma.gov.au](http://www.apvma.gov.au) or by contacting APVMA on +61 2 6272 5158.

## **1. Background**

### **1.1 Current Standard**

APVMA has approved the use of the agricultural and veterinary chemical products associated with the MRLs in this Application, and made amendments to its MRL Standard accordingly. Consequently there are discrepancies between the potential residues associated with the use of the relevant agricultural and/or veterinary chemicals and the MRLs in Standard 1.4.2 of the Code.

### **1.2 Use of Agricultural and Veterinary Chemicals**

In Australia, APVMA is responsible for assessing and registering agricultural and veterinary chemical products, and regulating them up to the point of sale. Following the sale of such products, the use of the chemicals is regulated by State and Territory ‘control of use’ legislation.

Before registering a product, APVMA independently evaluates its safety and performance, making sure that the health and safety of people, animals and the environment are protected.

When a chemical product is registered for use or a permit for use granted, APVMA includes MRLs in its APVMA MRL Standard. These MRLs are then adopted into control of use legislation in some jurisdictions and assist States and Territories in regulating the use of agricultural and veterinary chemicals.

### **1.3 Maximum Residue Limit Applications**

After registering agricultural or veterinary chemical products, based on scientific evaluations, APVMA makes applications to FSANZ to adopt the MRLs in Standard 1.4.2 of the Code. FSANZ reviews information provided by APVMA and validates whether the dietary exposure is within appropriate safety limits. If satisfied that the residues are within safety limits and subject to adequate resolution of any issues raised during public consultation, FSANZ will agree to incorporate the proposed MRLs into Standard 1.4.2.

FSANZ notifies the Australia and New Zealand Food Regulation Ministerial Council (Ministerial Council) when variations to the Code are approved. If the Ministerial Council does not request a review of the draft variations to Standard 1.4.2, the MRLs are automatically adopted by reference into the food laws of the Australian States and Territories.

Appropriate toxicology, residue, animal transfer, processing and metabolism studies were provided to APVMA in accordance with the *Guidelines for Registering Agricultural and Veterinary Chemicals, the Ag and Vet Requirements Series, 1997* to support the MRLs in the commodities as outlined in this Application.



Full evaluation reports for individual chemicals are available upon request from the relevant Project Coordinator at FSANZ on +61 2 6271 2222.

#### **1.4 Summary of Proposed Variations to Standard 1.4.2 - Maximum Residue Limits**

Amendments under consideration in Application A574:

- updating the residue definitions for Bifenazate and Pirimicarb;
- deleting MRLs for certain foods for Pirimicarb and Pyrazophos;
- adding MRLs for certain foods for Buprofezin, Cyhalothrin and Cypermethrin;
- adding temporary MRLs for certain foods for Bifenazate, Bifenthrin, Cymiazole, Forchlorfenuron, Imazamox, Indoxacarb, Ioxynil, Pendimethalin and Phosphine;
- removing the temporary status of existing MRLs for certain foods for Buprofezin, Flumiclorac pentyl and Permethrin;
- increasing MRLs for certain foods for Buprofezin, Pymetrozine, Sethoxydim and Uniconazole-p;
- decreasing MRLs for certain foods for Fluquinconazole; and
- amending anomalies among commodity names for ‘Sunflower seed’ and ‘Onion, bulb’.

Requested MRLs, dietary exposure estimates and other proposed variations are outlined in Attachment 2.

In considering the issues associated with MRLs it should be noted that MRLs and variations to MRLs in the Code do not permit or prohibit the use of agricultural and veterinary chemicals. Other Australian Government, State and Territory legislation regulates use and control of agricultural and veterinary chemicals.

#### **1.5 Temporary MRLs Requested for Phosphine**

Temporary MRLs have been requested at the LOQ for Phosphine. OCS has not established an ADI or set an ARfD for this chemical, therefore no estimates of the national daily or acute dietary exposure (NEDI and NESTI) have been conducted. These terms are explained in the Risk Assessment section of this report. Phosphine is a rodenticide. APVMA has issued a permit for its use as a mouse and rat poison. Australian and international data for a range of crops were evaluated. Detectable residues in food commodities are not expected following product use under the permit conditions. The TGA supported registration of zinc phosphide on the basis that MRLs would be established at or about the LOQ. Residues of Phosphine are not anticipated in treated produce. Use of zinc phosphide under the permit is not expected to increase dietary exposure to Phosphine. FSANZ considers that there are no health and safety concerns with the proposed MRLs.

## **1.6 Antibiotic MRLs**

There are no MRLs for antibiotic<sup>1</sup> residues in this Application.

## **1.7 Minor Technical Amendments**

The commodity name for onions is ‘Onion, bulb’. The entry under Chlorpropham in Schedule 1 of Standard 1.4.2 is to be changed from ‘Onions, bulb’ to ‘Onion, bulb’ to make it consistent with other entries. Similarly, the commodity name for sunflower seeds is ‘Sunflower seed’. The entries under Chlorothalonil, Fipronil and Iprodione are to be changed from ‘Sunflower seeds’ to ‘Sunflower seed’ consistent with other entries. These are minor technical amendments to ensure consistency of use of commodity names.

## **1.8 Australia and New Zealand Joint Food Standards**

The *Agreement between the Government of Australia and the Government of New Zealand concerning a Joint Food Standards System* (the Treaty), excluded MRLs for agricultural and veterinary chemicals in food from the system setting joint food standards. Australia and New Zealand independently and separately develop MRLs for agricultural and veterinary chemicals in food.

The Trans Tasman Mutual Recognition Arrangement (TTMRA) between Australia and New Zealand commenced on 1 May 1998. The following provisions apply under the TTMRA.

- Food produced or imported into Australia that complies with Standard 1.4.2 of the Code can be legally sold in New Zealand.
- Food produced or imported into New Zealand that complies with the *New Zealand (Maximum Residue Limits of Agricultural Compounds) Food Standards, 2005 (No. 2)* can be legally sold in Australia.

## **2. The Issue / Problem**

Including MRLs in the Code has the effect of allowing legally treated produce to be sold legally, provided that any residues in treated produce do not exceed MRLs. Changes to Australian MRLs reflect the changing patterns of agricultural and veterinary chemicals available to farmers. These changes include both the development of new products and crop uses, and the withdrawal of older products following review.

## **3. Objectives**

In assessing this Application FSANZ aims to ensure that the proposed MRLs do not present a risk to public health and safety and that the sale of legally treated food is permitted. APVMA has already established MRLs under its legislation, and now seeks to have the amendments included in the Code through this Application to vary Standard 1.4.2.

In developing or varying a food standard, FSANZ is required by its legislation to meet three primary objectives set out in section 10 of the FSANZ Act:

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<sup>1</sup> An antibiotic is a chemical inhibitor of the growth of organisms produced by a micro-organism.

- the protection of public health and safety;
- the provision of adequate information relating to food to enable consumers to make informed choices; and
- the prevention of misleading or deceptive conduct.

In developing and varying standards, FSANZ must also have regard to:

- the need for standards to be based on risk analysis using the best available scientific evidence;
- the promotion of consistency between domestic and international food standards;
- the desirability of an efficient and internationally competitive food industry;
- the promotion of fair trading in food; and
- any written policy guidelines formulated by the Ministerial Council.

The proposed draft variations to Standard 1.4.2 are consistent with the FSANZ Act section 10 objectives of food regulatory measures.

#### **4. Key Assessment Questions**

The primary role of FSANZ in developing food regulatory measures for agricultural and veterinary chemicals is to ensure that the potential residues in treated food do not present public health and safety concerns.

Before an agricultural or veterinary chemical is registered, the *Agricultural and Veterinary Chemicals Code Act 1994 (Ag Vet Code Act)* requires APVMA to be satisfied that there will not be any appreciable risk to the consumer, to the person handling, applying or administering the chemical, to the environment, to the target crop or animal or to trade in an agricultural commodity.

In assessing the public health and safety implications of chemical residues, FSANZ considers the dietary exposure to chemical residues from potentially treated foods in the diet by comparing the dietary exposure with the relevant health standard. FSANZ will not approve MRLs for inclusion in the Code where the dietary exposure to the residues of a chemical could represent a risk to public health and safety. In assessing this risk, FSANZ conducts dietary exposure assessments in accordance with internationally accepted practices and procedures.

The three steps undertaken in conducting a dietary exposure assessment are:

- determination of the residues of a chemical in a treated food;
- determination of the acceptable reference health standard/s for a chemical in food (i.e. the ADI and/or the ARfD); and

- calculating the dietary exposure to a chemical from relevant foods, using food consumption data from national nutrition surveys and comparing this to the acceptable reference health standard.

## **RISK ASSESSMENT**

### **5. Safety Assessment**

#### **5.1 Determination of the Residues of a Chemical in a Treated Food**

APVMA assesses a range of data when considering the proposed use of a chemical product on a food. These data enable APVMA to determine what the likely residues of a chemical will be on a treated food. These data also enable APVMA to determine what the maximum residues will be on a treated food if the chemical product is used as proposed and from this, APVMA determines an MRL.

The MRL is the maximum level of a chemical that may be in a food and it is not the level that is usually present in a treated food. However, incorporating the MRL into food legislation means that the residues of a chemical are minimised (i.e. must not exceed the MRL), irrespective of whether the dietary exposure assessment indicates that higher residues would not represent a risk to public health and safety.

#### **5.2 Determining the Acceptable Reference Health Standard for a Chemical in Food**

OCS assesses the toxicology of agricultural and veterinary chemicals and establishes the ADI and where applicable, the ARfD for a chemical.

Both APVMA and FSANZ use these reference health standards in dietary exposure assessments.

The ADI is the daily intake of an agricultural or veterinary chemical, which, during the consumer's entire lifetime, appears to be without appreciable risk to the health of the consumer. This is on the basis of all the known facts at the time of the evaluation of the chemical. It is expressed in milligrams of the chemical per kilogram of body weight.

The ARfD of a chemical is the estimate of the amount of a substance in food, expressed on a body weight basis that can be ingested over a short period of time, usually during one meal or one day, without appreciable health risk to the consumer, on the basis of all the known facts at the time of evaluation.

#### **5.3 Calculating Dietary Exposure**

APVMA and FSANZ undertake chronic dietary exposure assessments for all agricultural and veterinary chemicals and undertake acute dietary exposure assessments where either OCS or Joint Food and Agriculture Organization / World Health Organization Meeting on Pesticide Residues (JMPR) has established an ARfD.

APVMA and FSANZ have agreed that all dietary exposure assessments for agricultural and veterinary chemicals undertaken by APVMA will be based on food consumption data for raw commodities, derived from individual dietary records from the latest 1995 National Nutrition Survey (NNS).

The Australian Bureau of Statistics with the then Australian Government Department of Health and Aged Care undertook the NNS over a 13-month period (1995 to early 1996). The sample of 13,858 respondents aged 2 years and older was a representative sample of the Australian population and, as such, a diversity of food consumption patterns was reported.

### 5.3.1 *Chronic Dietary Exposure Assessment*

The National Estimated Daily Intake (NEDI) represents an estimate of chronic dietary exposure. Chemical residue data, as opposed to the MRL, are the preferred concentration data to use if they are available, as they provide a more realistic estimate of dietary exposure. The NEDI calculation may incorporate more specific data including food consumption data for particular sub-groups of the population. The NEDI calculation may take into account such factors as the proportion of the crop or commodity treated; residues in edible portions and the effects of processing and cooking on residue levels; and may use median residue levels from supervised trials rather than the MRL to represent pesticide residue levels. Monitoring and surveillance data or data from total diet studies may also be used, such as the 19<sup>th</sup> and 20<sup>th</sup> Australian Total Diet Surveys (ATDS).

In conducting chronic dietary exposure assessments, APVMA and FSANZ consider the residues that could result from the permitted uses of a chemical product on foods. Where data are not available on the specific residues in a treated food then a cautious approach is taken and the MRL is used. The use of the MRL in dietary exposure estimates may result in considerable overestimates of exposure because it assumes that the entire national crop is treated with a pesticide and that the entire national crop contains residues equivalent to the MRL. In reality, only a portion of a specific crop is treated with a pesticide; most treated crops contain residues well below the MRL at harvest; and residues are usually reduced during storage, preparation, commercial processing and cooking. It is also unlikely that every food for which an MRL is proposed will have been treated with the same pesticide over the lifetime of consumers.

The residues that are likely to occur in all foods are multiplied by the mean daily consumption of these foods derived from individual dietary records from the NNS. These calculations provide information on the level of a chemical that is consumed for each food and take into account the consumption of processed foods e.g. apple pie and bread. The estimated exposure for each food is added together to provide the total dietary exposure to a chemical from all foods with MRLs.

The estimated dietary exposure is then divided by the average Australian's bodyweight to provide the amount of chemical consumed per day per kg of human bodyweight. This is compared to the ADI. It is therefore the overall dietary exposure to a chemical that is compared to the ADI - not the MRL. FSANZ considers that the chronic dietary exposure to the residues of a chemical is acceptable where the best estimate of exposure does not exceed the ADI.

Further, where these calculations use the MRL they are considered to be overestimates of dietary exposure because they assume that:

- the chemical will be used on all crops for which there is a registered use;
- treatment occurs at the maximum application rate;

- the maximum number of permitted treatments have been applied;
- the minimum withholding period has been applied; and
- this will result in residues at the maximum residue limit.

In agricultural and animal husbandry this is not the case, but for the purposes of undertaking a risk assessment, it is important to be conservative in the absence of reliable data to refine the dietary exposure estimates further.

### 5.3.2 Acute Dietary Exposure Assessment

The National Estimated Short Term Intake (NESTI) is used to estimate acute dietary exposure. Acute (short term) dietary exposure assessments are undertaken when an ARfD has been determined for a chemical. Acute dietary exposures are normally only estimated for raw unprocessed commodities (fruit and vegetables) but may include consideration of meat, offal, cereal, milk or dairy product consumption on a case-by-case basis.

The NESTI is calculated in a similar way to the chronic dietary exposure. The residues of a chemical in a specific food are multiplied by the 97.5 percentile food consumption of that food, a variability factor is applied, the exposure divided by the mean body weight for the population group being assessed and this result is compared to the ARfD. NESTIs are calculated from ARfDs set by OCS and JMPR, the consumption data from the 1995 NNS and the MRL when the data on the actual residues in foods are not available. FSANZ considers that the acute dietary exposure to the residues of a chemical is acceptable where the best estimate of acute dietary exposure does not exceed the ARfD.

## 6. Risk Assessment Summary

APVMA assesses a range of data when considering the proposed use of a chemical product on a food. These data enable APVMA to determine what the likely residues of a chemical will be on a treated food. These data also enable APVMA to determine what the maximum residues will be on a treated food if the chemical product is used as proposed and from this, APVMA determines an MRL.

For this Application, APVMA has assessed appropriate toxicology, residue, animal transfer, processing and metabolism studies, in accordance with the *Guidelines for Registering Agricultural and Veterinary Chemicals, the Ag and Vet Requirements Series, 1997*, to support the use of chemicals on commodities as outlined in this Application.

OCS has undertaken an appropriate toxicological assessment of the chemical products and has established relevant ADIs and where applicable, an ARfD. In the case that an Australian ADI or ARfD has not been established, a JMPR ADI or ARfD may be used for risk assessment purposes if appropriate.

FSANZ has reviewed the dietary exposure assessments submitted by APVMA as part of its Application and concluded that the residues associated with the MRLs do not present any public health and safety concerns. This is determined by comparing estimates of dietary exposure to the chemical (calculated using food consumption data and MRLs or residue data), with the ADI and in some cases with the ARfD.

In addition, the MRL is the maximum level of a chemical that may be in a food and it is not the level that is usually present in a treated food. However, incorporating the MRL into food legislation means that the residues of a chemical are minimised (i.e. must not exceed the MRL), irrespective of whether the dietary exposure assessment indicates that higher residues would not represent an unacceptable risk to public health and safety.

In reality, only a portion of a specific crop is treated with a pesticide; most treated crops contain residues well below the MRL at harvest; and residues are usually reduced during storage, preparation, commercial processing and cooking. It is also unlikely that every food for which an MRL is proposed will have been treated with the same pesticide and eaten over the lifetime of consumers.

The additional safety factors inherent in calculation of the ADI and ARfD mean that there is no risk to public health and safety when estimated exposures are below these reference health standards.

## **RISK MANAGEMENT**

### **7. Options**

#### **7.1 Option 1 – no change to existing MRLs in the Code**

Under this option, the *status quo* would be maintained and there would be no changes to existing MRLs in the Code.

#### **7.2 Option 2(a) – vary the Code in Schedule 1 of Standard 1.4.2 - Maximum Residue Limits to omit, decrease or change from permanent to temporary existing MRLs as proposed**

Under this option, only those variations that were omissions, reductions, or changes from permanent to temporary MRLs would be approved. The proposed increases, inclusions of new MRLs and changes from temporary to permanent MRLs would not be approved.

#### **7.3 Option 2(b) – vary the Code in Schedule 1 of Standard 1.4.2 - Maximum Residue Limits to insert new, increase or change from temporary to permanent existing MRLs as proposed**

Under this option, only those variations that were insertions, increases and changes from temporary to permanent MRLs would be approved for inclusion in the Code. The proposed omissions, reductions and changes from permanent to temporary MRLs would not be approved.

**Option 2 has been arranged into two sub-options because the impacts of each sub-option are different. Splitting the option into two sub-options also allows for a more detailed impact analysis. However, FSANZ cannot legally separate these two sub-options and may only approve or reject the draft variations to Standard 1.4.2 - Maximum Residue Limits.**

## 8. Impact Analysis

The impact analysis represents likely impacts based on available information. The impact analysis is designed to assist in the process of identifying the affected parties, any alternative options consistent with the objective of the proposed changes, and the potential impacts of any regulatory or non-regulatory provisions. The information needed to make a final assessment of proposed changes includes information from public submissions.

### 8.1 Affected Parties

The parties affected by proposed MRL amendments include:

- domestic and international consumers;
- growers and producers of domestic and export food commodities;
- importers of agricultural produce and foods; and
- Australian Government, State and Territory agencies involved in monitoring and regulating the use of agricultural and veterinary chemicals in food and the potential resulting residues.

### 8.2 Benefit Cost Analysis

#### 8.2.1 *Option 1 – no change to existing MRLs in the Code*

##### 8.2.1.1 Benefits

- for consumers the major benefit would be maintaining existing confidence in the food supply in relation to residues of agricultural and veterinary chemicals;
- for growers and producers of domestic and export food commodities, adopting this option would not result in any discernable benefits;
- for importers, adopting this option would not result in any discernable benefits; and
- for Australian Government, State and Territory agencies, adopting this option would not result in any discernable benefits.

##### 8.2.1.2 Costs

- for consumers there are unlikely to be any discernable costs as unavailability of some foods from certain growers is likely to be seen as typical seasonal fluctuation in the food supply;

**FSANZ invites comment on whether these costs are likely to be discernable by consumers.**



- for growers and producers of domestic and export food commodities, adopting this option would result in costs from not being able to legally sell food containing residues consistent with increased MRLs or MRL additions. Primary producers do not produce food or use chemical products to comply with MRLs. They use chemical products to control pests and diseases in accordance with the prescribed label conditions, and expect that the resulting residues will be acceptable and that legally treated food can be legally sold. If legal use of chemical products results in the production of food that cannot be legally sold under food legislation then primary producers will incur substantial losses. Major losses for primary producers would in turn impact negatively upon rural and regional communities;
- for importers, adopting this option would not result in any discernable costs; and
- for Australian Government, State and Territory agencies, adopting this option would create discrepancies between agricultural and food legislation thereby creating uncertainty, inefficiency and confusion in the enforcement of regulations.

*8.2.2 Option 2(a) – vary the Code in Schedule 1 of Standard 1.4.2 to omit, decrease or change from permanent to temporary existing MRLs as proposed*

8.2.2.1 Benefits

- for consumers the major benefit would be maintaining existing confidence in the food supply in relation to residues of agricultural and veterinary chemicals;
- for growers and producers of domestic and export food commodities, adopting this option would not result in any discernable benefits;
- for importers, adopting this option would not result in any discernable benefits; and
- for Australian Government, State and Territory agencies, adopting this option would foster community confidence that regulatory authorities are maintaining standards to minimise residues in the food supply.

8.2.2.2 Costs

- for consumers there are unlikely to be any discernable costs as the unavailability of some foods from certain importers is likely to be seen as typical seasonal fluctuation in the food supply;

**FSANZ invites comment on whether these costs are likely to be discernable by consumers.**

- for growers and producers of domestic and export food commodities, adopting this option is unlikely to result in any costs, as reductions in MRLs are adopted where this is practically achievable, with little or no impact on production costs;

- for importers, adopting this option may result in costs, as foods may not be permitted to be imported if these foods contain residues consistent with MRLs proposed for deletion or reduction. Any MRL deletions or reductions have the potential to restrict importation of foods and could potentially result in higher food costs and a reduced product range available to consumers, as foods that exceed the new, lower MRLs could not be legally imported or sold to consumers. To assist in identifying any restrictions and possible trade impacts, Codex MRLs and data on imported foods are addressed in the World Trade Organization section of this report; and

**FSANZ invites comment on whether these costs are likely to be discernable by importers of food commodities.**

- for Australian Government, State and Territory agencies, adopting this option would not result in any discernable costs, although there would need to be an awareness of changes in the standards for residues in food.

8.2.3 *Option 2(b) – vary the Code in Schedule 1 of Standard 1.4.2 to insert new, increase or change from temporary to permanent existing MRLs as proposed*

#### 8.2.3.1 Benefits

- for consumers the major benefit would be potential flow on benefits resulting from the price and availability of food if growers can legally sell food containing residues consistent with increased MRLs or MRL additions;

**FSANZ invites comment on whether these benefits are likely to be discernable by consumers.**

- for growers and producers of domestic and export food commodities, the benefits of this option would result from being able to legally sell food containing residues consistent with increased MRLs or MRL additions. Other benefits include the consistency between agricultural and food legislation thereby minimising compliance costs to primary producers;
- adopting this option would benefit importers in that food containing residues consistent with increased or new MRLs could be legally imported; and
- for Australian Government, State and Territory agencies, the benefits of this option would include the removal of discrepancies between agricultural and food legislation thereby creating certainty and allowing efficient enforcement of regulations.

#### 8.2.3.2 Costs

- for consumers there are no discernable costs;
- for growers and producers of domestic and export food commodities, adopting this option would not result in any discernable costs;
- for importers, adopting this option would not result in any discernable costs; and

- for Australian Government, State and Territory agencies, adopting this option would not result in any discernable costs, although there may be minimal impacts associated with slight changes to residue monitoring programs.

### **8.3 Comparison of Options**

In assessing applications, FSANZ considers the impact of various regulatory (and non-regulatory) options on all sectors of the community, including consumers, food industries and governments in Australia.

For Application A574, there are no options other than a variation to Standard 1.4.2.

Option 1 is an undesirable option.

- Potential substantial costs to primary producers may result. Additional costs may impact negatively on their viability and in turn the viability of the rural and regional communities that depend upon the sale of agricultural produce.
- Consequent discrepancies between agricultural and food legislation could have negative impacts on compliance costs for primary producers, perception problems in export markets and undermine the efficient enforcement of standards for chemical residues.

FSANZ recommends adopting options 2(a) and 2(b) – to vary the Code in Schedule 1 of Standard 1.4.2 to include new MRLs, increase, delete, decrease or change the temporary or permanent status of some existing MRLs.

- There are no public health and safety concerns associated with the proposed MRL amendments (this benefit also applies to option 1).
- The changes would minimise potential costs to primary producers and rural and regional communities in terms of legally being able to sell legally treated food.
- The changes would minimise residues consistent with the effective use of agricultural and veterinary chemicals to control pests and diseases.
- The changes would remove discrepancies between agricultural and food legislation and assist enforcement.

Adopting option 2(a) may result in compliance costs for importers and industry where there are decreases or deletions of MRLs.

## **COMMUNICATION**

### **9. Communication and Consultation Strategy**

FSANZ decided, pursuant to section 36 of the FSANZ Act to omit to invite public submissions in relation to Application A574 prior to making a Draft Assessment. However, FSANZ now invites written submissions for the purpose of the Final Assessment under s.17(3)(c) of the FSANZ Act and will have regard to any submissions received.

FSANZ made its decision under section 36 because it was satisfied that Application A574 raised issues of minor significance or complexity only.

Section 63 of the FSANZ Act provides that, subject to the *Administrative Appeals Tribunal Act 1975*, an application for review of the decision to omit to invite public submissions prior to making a Draft Assessment, may be made to the Administrative Appeals Tribunal.

## **10. Consultation**

FSANZ is seeking public comment on this Initial / Draft Assessment Report to assist in assessing the Application. Comments on, but not limited to, the following would be useful:

- any impacts (costs/benefits) of the proposed increases, deletions and changes to specific MRLs;
- any further public health and safety considerations with the proposed MRLs;
- likely costs and benefits on the importation of food if the proposed deletions to specific MRLs are advanced; and
- any other affected parties to this Application.

### **10.1 World Trade Organization**

As a member of the World Trade Organization (WTO) Australia is obligated to notify WTO member nations where proposed mandatory regulatory measures are inconsistent with any existing or imminent international standards and the proposed measure may have a significant effect on trade.

MRLs prescribed in the Code constitute a mandatory requirement applying to all food products of a particular class whether produced domestically or imported. Food products exceeding the relevant MRL set out in the Code cannot legally be supplied in Australia.

Application A574 includes requests to vary MRLs in the Code that are addressed in the international Codex standard. MRLs in the Application also relate to chemicals used in the production of heavily traded agricultural commodities that may indirectly have a significant effect on trade of derivative food products between WTO members.

This Application will be notified as a Sanitary and Phytosanitary (SPS) measure in accordance with the WTO Agreement on the Application of SPS Measures as the primary objective of the measure is to support the regulation of the use of agricultural and veterinary chemical products to protect human, animal and plant health and the environment.

### **10.2 Codex Alimentarius Commission MRLs**

Codex standards are used as the relevant international standard or basis as to whether a new or changed standard requires a WTO notification. The following table lists the proposed variations to MRLs in Application A574 that are addressed in the international Codex standard.

<b>Chemical</b> Food	<b>Proposed MRL</b> mg/kg	<b>Codex MRL</b> mg/kg
<b>Bifenazate</b> Strawberry	T2	Interim 2
<b>Cypermethrin</b> Onion, bulb	*0.01	0.1
<b>Permethrin</b> Fruiting vegetables, cucurbits Cucumber Gherkin Melons [except watermelon] Squash, summer Winter squash	0.2	0.5 0.5 0.1 0.5 0.5
<b>Pirimicarb</b> Herbs Parsley Watercress	Omit T3	1 1

**FSANZ requests comment on any possible ramifications of the proposed MRLs differing from Codex Alimentarius Commission MRLs.**

### 10.3 Imported Foods

Agricultural and veterinary chemicals are used differently in different countries around the world as pests, diseases and environmental factors differ and because permissions for products differ. This means that residues in imported foods may be different from those in domestically produced foods.

Deletions or reductions of MRLs may affect imported foods that may comply with existing MRLs even though these existing MRLs are no longer required for domestically produced food. This is because imported foods may contain residues consistent with the MRLs proposed for deletion or reduction.

To assist in identifying possible impacts where imported foods may be affected, FSANZ has compiled the following table of foods that have MRLs proposed for deletion and/or reduction.

<b>Chemical</b> Food
<b>Fluquinconazole</b> Milks
<b>Pirimicarb</b> Bergamot Burnet, Salad Coriander (leaves, stem, roots) Coriander, seed Dill, seed Fennel, seed Galangal, Greater Herbs Kaffir lime leaves Lemon grass

<b>Chemical</b>
Food
Lemon verbena (fresh weight)
Mizuna
Rose and dianthus (edible flowers)
Turmeric, root (fresh)
<b>Pyrazophos</b>
Fruiting vegetables, cucurbits [except cucumber]

**FSANZ requests comment on any possible ramifications of the deletion or reduction of MRLs in this Application for imports.**

## **CONCLUSION**

### **11. Conclusion and Preferred Option**

This Application has been assessed against the requirements for Initial and Draft Assessments in sections 13 and 15 respectively, of the FSANZ Act. FSANZ recommends accepting this Application and the proposed draft variations to Standard 1.4.2. – Maximum Residue Limits.

The preferred approach is to adopt options 2(a) and 2(b) to include new MRLs, increase, delete, decrease or change the temporary or permanent status of some existing MRLs in Schedule 1 of Standard 1.4.2 – Maximum Residue Limits.

### **12. Implementation and Review**

The use of chemical products and MRLs are under constant review as part of the APVMA Existing Chemical Review Program. In addition, regulatory agencies continue to monitor health, agricultural and environmental issues associated with chemical product use. Residues in food are also monitored through:

- State and Territory residue monitoring programs;
- Australian Government programs such as the National Residue Survey; and
- dietary exposure studies such as the Australian Total Diet Study.

These monitoring programs and the continual review of the use of agricultural and veterinary chemicals mean that considerable scope exists to review MRLs on a continual basis.

It is proposed that the MRL amendments in this Application should take effect on gazettal and that the MRLs be subject to existing monitoring arrangements.

## **ATTACHMENTS**

1. Draft Variations to the *Australia New Zealand Food Standards Code*
2. A Summary of Requested MRLs for each Chemical and an Outline of Information Supporting the Requested Variations to the *Australia New Zealand Food Standards Code*

**Draft Variations to the *Australia New Zealand Food Standards Code*****To commence: on gazettal**

[1.1] *omitting from Schedule 1, wherever occurring, the commodity name in Column 1 of the table to this sub- item, substituting the commodity name in Column 2 –*

<b>COLUMN 1</b>	<b>COLUMN 2</b>
ONIONS, BULB	ONION, BULB
SUNFLOWER SEEDS	SUNFLOWER SEED

[1.2] *inserting in Schedule 1 –*

<b>CYMAZOLE</b> CYMAZOLE	
CATTLE, KIDNEY	T*0.04
CATTLE, LIVER	T*0.04
CATTLE FAT	T*0.04
CATTLE MEAT	T*0.04

[1.3] *omitting from Schedule 1 the chemical residue definitions for the chemicals appearing in Column 1 of the Table to this sub-item, substituting the chemical residue definitions appearing in Column 2 –*

<b>COLUMN 1</b>	<b>COLUMN 2</b>
<b>BIFENAZATE</b>	SUM OF BIFENAZATE AND BIFENAZATE DIAZENE (DIAZENECARBOXYLIC ACID, 2-(4-METHOXY-[1,1'-BIPHENYL-3-YL] 1-METHYLETHYL ESTER), EXPRESSED AS BIFENAZATE
<b>PIRIMICARB</b>	SUM OF PIRIMICARB, DEMETHYL-PIRIMICARB AND THE <i>N</i> -FORMYL-(METHYLAMINO) ANALOGUE (DEMETHYLFORMAMIDO-PIRIMICARB), EXPRESSED AS PIRIMICARB

[1.4] *omitting from Schedule 1 the foods and associated MRLs for each of the following chemicals –*

<b>PHOSPHINE</b> ALL PHOSPHIDES, EXPRESSED AS HYDROGEN PHOSPHIDE (PHOSPHINE)	
CACAO BEANS	*0.01

<b>PIRIMICARB</b> SUM OF PIRIMICARB, DEMETHYL-PIRIMICARB AND THE N-FORMYL-(METHYLAMINO) ANALOGUE (DEMETHYLFORMAMIDO-PIRIMICARB), EXPRESSED AS PIRIMICARB	
BERGAMOT	T3
BURNET, SALAD	T3
CORIANDER (LEAVES, STEM, ROOTS)	T3
CORIANDER, SEED	T3
DILL, SEED	T3
FENNEL, SEED	T3
GALANGAL, GREATER	T1
HERBS	T3
KAFFIR LIME LEAVES	T3
LEMON GRASS	T3
LEMON VERBENA (FRESH WEIGHT)	T3
MIZUNA	T3
ROSE AND DIANTHUS (EDIBLE FLOWERS)	T3
TURMERIC, ROOT (FRESH)	T1
<b>PYRAZOPHOS</b> PYRAZOPHOS	
FRUITING VEGETABLES, CUCURBITS [EXCEPT CUCUMBER]	0.2
<b>SETHOXYDIM</b> SUM OF SETHOXYDIM AND METABOLITES CONTAINING THE 5-(2- ETHYLTHIOPROPYL)CYCLOHEXENE-3-ONE AND 5- (2-ETHYLTHIOPROPYL)- 5-HYDROXYCYCLOHEXENE-3-ONE MOIETIES AND THEIR SULFOXIDES AND SULFONES, EXPRESSED AS SETHOXYDIM	
PEAS	*0.1

[1.5] inserting in alphabetical order in Schedule 1, the foods and associated MRLs for each of the following chemicals –

<b>BIFENAZATE</b> SUM OF BIFENAZATE AND BIFENAZATE DIAZENE (DIAZENECARBOXYLIC ACID, 2-(4-METHOXY-[1,1'- BIPHENYL-3-YL] 1-METHYLETHYL ESTER), EXPRESSED AS BIFENAZATE	
STRAWBERRY	T2
<b>BIFENTHRIN</b> BIFENTHRIN	
CHERRIES	T1
<b>BUPROFEZIN</b> BUPROFEZIN	
CUSTARD APPLE	0.1



<b>CYHALOTHRIN</b> CYHALOTHRIN, SUM OF ISOMERS	
ONION, BULB	*0.05
<b>CYPERMETHRIN</b> CYPERMETHRIN, SUM OF ISOMERS	
ONION, BULB	*0.01
<b>FORCHLORFENURON</b> FORCHLORFENURON	
KIWIFRUIT	T*0.01
<b>IMAZAMOX</b> IMAZAMOX	
ADZUKI BEAN (DRY)	T*0.05
<b>INDOXACARB</b> INDOXACARB	
SUNFLOWER SEED	T1
<b>IOXYNIL</b> IOXYNIL	
SHALLOT	T*0.02
SPRING ONION	T3
<b>PENDIMETHALIN</b> PENDIMETHALIN	
COFFEE BEANS	T*0.01
<b>PHOSPHINE</b> ALL PHOSPHIDES, EXPRESSED AS HYDROGEN PHOSPHIDE (PHOSPHINE)	
ASSORTED TROPICAL AND SUB- TROPICAL FRUITS – EDIBLE PEEL	T*0.01
POME FRUITS	T*0.01
SEED FOR BEVERAGES	T*0.01
STONE FRUITS	T*0.01
<b>SETHOXYDIM</b> SUM OF SETHOXYDIM AND METABOLITES CONTAINING THE 5-(2- ETHYLTHIOPROPYL)CYCLOHEXENE-3-ONE AND 5- (2-ETHYLTHIOPROPYL)- 5-HYDROXYCYCLOHEXENE-3-ONE MOIETIES AND THEIR SULFOXIDES AND SULFONES, EXPRESSED AS SETHOXYDIM	
PEAS (PODS AND SUCCULENT, IMMATURE SEEDS)	T0.5

[1.6] omitting from Schedule 1, under the entries for the following chemicals, the maximum residue limit for the food, substituting –

<b>BUPROFEZIN</b> BUPROFEZIN	
PASSIONFRUIT	2
PEAR	0.2
PERSIMMON, JAPANESE	1
<b>FLUMICLORAC PENTYL</b> FLUMICLORAC PENTYL	
COTTON SEED	0.1
EDIBLE OFFAL (MAMMALIAN)	*0.01
EGGS	*0.01
MEAT (MAMMALIAN)	*0.01
MILKS	*0.01
POULTRY, EDIBLE OFFAL OF	*0.01
POULTRY MEAT	*0.01
<b>FLUQUINCONAZOLE</b> FLUQUINCONAZOLE	
MILKS	*0.02
<b>PERMETHRIN</b> PERMETHRIN, SUM OF ISOMERS	
FRUITING VEGETABLES, CUCURBITS	0.2
<b>PYMETROZINE</b> PYMETROZINE	
LEAFY VEGETABLES	T5
<b>SETHOXYDIM</b> SUM OF SETHOXYDIM AND METABOLITES CONTAINING THE 5-(2-ETHYLTHIOPROPYL)CYCLOHEXENE-3-ONE AND 5-(2-ETHYLTHIOPROPYL)-5-HYDROXYCYCLOHEXENE-3-ONE MOIETIES AND THEIR SULFOXIDES AND SULFONES, EXPRESSED AS SETHOXYDIM	
FENNEL, BULB	0.2
<b>UNICONAZOLE-P</b> SUM OF UNICONAZOLE-P AND ITS Z-ISOMER EXPRESSED AS UNICONAZOLE-P	
AVOCADO	T0.5

### **A Summary of Requested MRLs for Each Chemical and an Outline of Information Supporting the Requested Variations to the *Australia New Zealand Food Standards Code***

The Full Evaluation Reports for individual chemicals are available upon request from the relevant Project Coordinator at FSANZ.

#### **NOTES ON TERMS USED IN THE TABLE**

ADI – Acceptable Daily Intake - The ADI is the daily intake of an agricultural or veterinary chemical, which, during the consumer's entire lifetime, appears to be without appreciable risk to the health of the consumer. This is based on all the known facts at the time of the evaluation of the chemical. The ADI is expressed in milligrams of the chemical per kilogram of body weight.

ARfD – Acute Reference Dose - The ARfD is the estimate of the amount of a substance in food, expressed on a body weight basis, that can be ingested over a short period of time, usually during one meal or one day, without appreciable health risk to the consumer, on the basis of all the known facts at the time of evaluation.

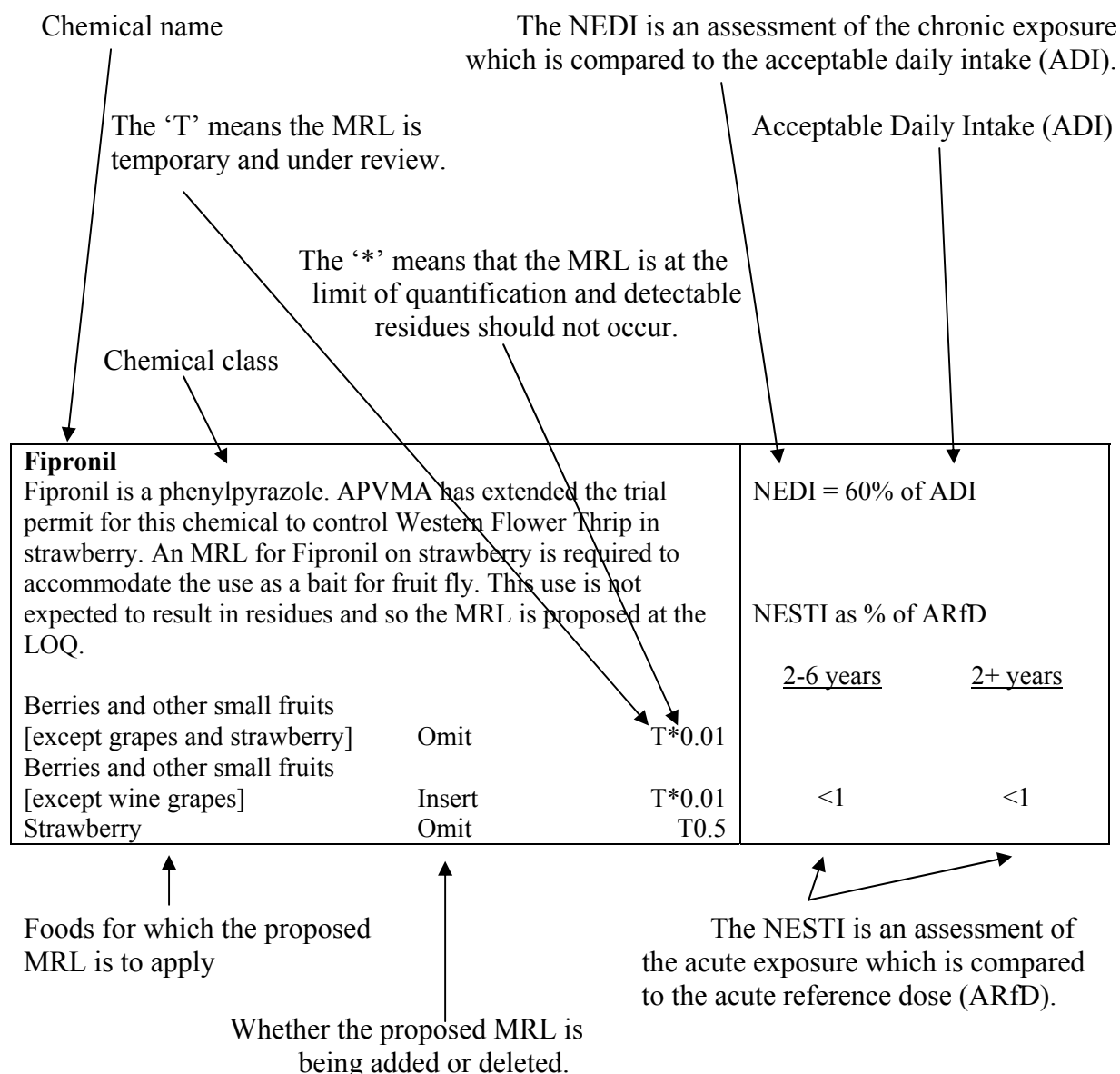
LOQ - Limit of Quantification - The LOQ is the lowest concentration of a pesticide residue that can be identified and quantitatively measured in a specified food, agricultural commodity or animal feed with an acceptable degree of certainty by a regulatory method of analysis.

NEDI - National Estimated Dietary Intake - The NEDI represents a realistic estimate of chronic dietary exposure and is the preferred calculation. It may incorporate more specific food consumption data including that for particular sub-groups of the population. The NEDI calculation may take into account such factors as the proportion of the crop or commodity treated; residues in edible portions; the effects of processing and cooking on residue levels; and may use median residue levels from supervised trials other than the MRL to represent pesticide residue levels. In most cases the NEDI is still an overestimation because more specific residue data are often not available and in these cases the MRL is used.

NESTI - National Estimated Short Term Intake - The NESTI is used to estimate acute dietary exposure. Acute (short term) dietary exposure assessments are undertaken when an ARfD has been determined for a chemical. Acute dietary exposures are normally only estimated based on consumption of raw unprocessed commodities (fruit and vegetables) but may include consideration of meat, offal, cereal, milk or dairy product consumption on a case-by-case basis. FSANZ has used ARfDs set by the TGA and Joint FAO/WHO Meeting on Pesticide Residues, the consumption data from the 1995 NNS and the MRL when the supervised trials median residue (STMR) is not available to calculate the NESTIs.

The NESTI calculation incorporates the large portion (97.5 percentile) food consumption data and can take into account such factors as the highest residue on a composite sample of an edible portion; the STMR, representing typical residue in an edible portion resulting from the maximum permitted pesticide use pattern; processing factors which affect changes from the raw commodity to the consumed food and the variability factor.

The following are examples of entries and the proposed MRLs listed are not part of this Application.



There is more information on the NEDI, NESTI ADI and ARfD above and in the Risk Assessment section of this report. FSANZ considers that the chronic dietary exposure to the residues of a chemical is acceptable where the best estimate of this exposure does not exceed the ADI. And that the acute dietary exposure to the residues of a chemical is acceptable where the best estimate of acute dietary exposure does not exceed the ARfD.

Information about the use of the chemical is provided so consumers can see the reason why the residues may occur in food.

Data from the 19<sup>th</sup> and 20<sup>th</sup> Australian Total Diet Surveys (ATDS) are provided when available because they provide an indication of the typical exposure to chemicals in table ready foods. The ATDS results are more realistic because analysed concentrations of the chemical in foods are used; the NEDI and NESTI calculations are theoretical calculations that conservatively overestimate exposure.

<p><b>Chlorpyrifos</b> Chlorpyrifos is an acaricide, nematicide and insecticide APVMA has approved an extension of use for the control of pests in coffee crops.</p>		<p>NEDI = 83% of ADI</p> <p>20<sup>th</sup> ATDS = &lt;1% of ADI for all population groups assessed</p> <p>19<sup>th</sup> ATDS = 3% of ADI for toddlers 2 years, 1% of ADI for boys 12 years and &lt;1% of ADI for other population groups assessed</p> <p>NESTI as % of ARfD</p> <table border="0"> <tr> <td><u>2-6 years</u></td> <td><u>2+ years</u></td> </tr> <tr> <td>8</td> <td>&lt;1</td> </tr> </table>	<u>2-6 years</u>	<u>2+ years</u>	8	<1
<u>2-6 years</u>	<u>2+ years</u>					
8	<1					
Coffee beans	Insert	T0.5				

Small variations may be noted in the exposure assessment between different ATDSs. These variations are minor and typically result because of the different range of foods in the individual studies.

**Acronyms:**

- |     |                 |  |
|-----|-----------------|--|
| 1.  | <b>ADI</b>      | Acceptable Daily Intake                                  |
| 2.  | <b>APVMA</b>    | Australian Pesticides and Veterinary Medicines Authority |
| 3.  | <b>ARfD</b>     | Acute Reference Dose                                     |
| 4.  | <b>ATDS</b>     | Australian Total Diet Survey                             |
| 5.  | <b>the Code</b> | <i>Australia New Zealand Food Standards Code</i>         |
| 6.  | <b>JMPR</b>     | Joint FAO/WHO Meeting on Pesticide Residues              |
| 7.  | <b>LOQ</b>      | Limit of Analytical Quantification                       |
| 8.  | <b>NEDI</b>     | National Estimated Daily Intake                          |
| 9.  | <b>NESTI</b>    | National Estimated Short Term Intake                     |
| 10. | <b>NNS</b>      | National Nutrition Survey of Australia 1995              |
| 11. | <b>T</b>        | Temporary MRL  |
| 12. | <b>TGA</b>      | Therapeutic Goods Administration                         |
| 13. | <b>WHP</b>      | Withholding Period                                       |

**SUMMARY OF REQUESTED MRLS FOR APPLICATION A574  
 MAXIMUM RESIDUE LIMITS – JANUARY FEBRUARY MARCH 2006**

Requested MRLs	Dietary Exposure Estimates																		
<p><b>Bifenazate</b>                      Bifenazate is a selective miticide registered to control phytophagous mites in pome and stone fruits. It has little impact on bees or other beneficial insects. APVMA has issued a permit for its use to control mites in strawberry crops.</p> <p>Minor technical amendment to residue definition:</p> <p>Omit: Sum of Bifenazate and Bifenazate diazene (Diazencarboxylic acid, 2-(4-methoxy-[1,1'-biphenyl-3-yl] 1-methylethyl ester), expressed as Bifenazate</p> <p>Substitute: Sum of Bifenazate and Bifenazate diazene (Diazencarboxylic acid, 2-(4-methoxy-[1,1'-biphenyl-3-yl] 1-methylethyl ester), expressed as Bifenazate</p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 30%;">Strawberry</td> <td style="width: 40%; text-align: center;">Insert</td> <td style="width: 30%; text-align: center;">T2</td> </tr> </table>	Strawberry	Insert	T2	<p>NEDI = 5% of ADI</p>      <p>NESTI as % of ARfD</p> <table style="width: 100%; text-align: center; border-collapse: collapse;"> <tr> <td style="border-bottom: 1px solid black;"><u>2-6 years</u></td> <td style="border-bottom: 1px solid black;"><u>2+ years</u></td> </tr> <tr> <td>3</td> <td>&lt;1</td> </tr> </table>	<u>2-6 years</u>	<u>2+ years</u>	3	<1											
Strawberry	Insert	T2																	
<u>2-6 years</u>	<u>2+ years</u>																		
3	<1																		
<p><b>Bifenthrin</b>                      Bifenthrin is an insecticide. It has contact and stomach action. APVMA has issued a permit for its use to control Carpophilus beetle infestation in cherries.</p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 30%;">Cherries</td> <td style="width: 40%; text-align: center;">Insert</td> <td style="width: 30%; text-align: center;">T1</td> </tr> </table>	Cherries	Insert	T1	<p>NEDI = 72% of ADI</p> <p>20<sup>th</sup> ATDS = &lt;1% of ADI for all population groups assessed</p>															
Cherries	Insert	T1																	
<p><b>Buprofezin</b>                      Buprofezin is an insecticide. It inhibits moulting of nymphs and larvae. It is used on custard apples, pears, persimmons, and passionfruit to control mealy bug and scale.</p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 30%;">Custard apple</td> <td style="width: 40%; text-align: center;">Insert</td> <td style="width: 30%; text-align: center;">0.1</td> </tr> <tr> <td rowspan="2">Passionfruit</td> <td style="text-align: center;">Omit</td> <td style="text-align: center;">T2</td> </tr> <tr> <td style="text-align: center;">Substitute</td> <td style="text-align: center;">2</td> </tr> <tr> <td rowspan="2">Pear</td> <td style="text-align: center;">Omit</td> <td style="text-align: center;">T*0.01</td> </tr> <tr> <td style="text-align: center;">Substitute</td> <td style="text-align: center;">0.2</td> </tr> <tr> <td rowspan="2">Persimmon, Japanese</td> <td style="text-align: center;">Omit</td> <td style="text-align: center;">T1</td> </tr> <tr> <td style="text-align: center;">Substitute</td> <td style="text-align: center;">1</td> </tr> </table>	Custard apple	Insert	0.1	Passionfruit	Omit	T2	Substitute	2	Pear	Omit	T*0.01	Substitute	0.2	Persimmon, Japanese	Omit	T1	Substitute	1	<p>NEDI = 22% of ADI</p>
Custard apple	Insert	0.1																	
Passionfruit	Omit	T2																	
	Substitute	2																	
Pear	Omit	T*0.01																	
	Substitute	0.2																	
Persimmon, Japanese	Omit	T1																	
	Substitute	1																	

Requested MRLs	Dietary Exposure Estimates
<p><b>Chlorothalonil</b> This is a minor technical amendment to ensure consistency of use of the commodity name for sunflower seed.</p> <p>Commodity name:</p> <p>Omit Sunflower seeds Substitute Sunflower seed</p>	<p>Dietary exposure assessment not required.</p>
<p><b>Chlorpropham</b> This is a minor technical amendment to ensure consistency of use of the commodity name for onions.</p> <p>Commodity name:</p> <p>Omit Onions, bulb Substitute Onion, bulb</p>	<p>Dietary exposure assessment not required.</p>
<p><b>Cyhalothrin</b> Cyhalothrin is a pyrethroid rapid knockdown insecticide with contact and stomach action and repellent properties. APVMA has issued a permit for its use to control onion thrips on bulb onions. The recommended MRL is at the LOQ.</p> <p>Onion, bulb                                      Insert                                      *0.05</p>	<p>NEDI = 3% of ADI</p> <p>19<sup>th</sup> ATDS = &lt;1% of ADI for all population groups assessed</p>
<p><b>Cymiazole</b> Cymiazole is a contact acaricide and detachant. APVMA has issued a research permit for its use to control cattle tick (<i>Boophilus microplus</i>). The recommended temporary MRLs are at the LOQ.</p> <p>Residue definition:</p> <p>Insert: Cymiazole</p> <p>Cattle fat                                      Insert                                      T*0.04 Cattle meat                                      Insert                                      T*0.04 Cattle, kidney                                      Insert                                      T*0.04 Cattle, liver                                      Insert                                      T*0.04</p>	<p>NEDI = 1% of ADI</p>
<p><b>Cypermethrin</b> Cypermethrin is a non systemic pyrethroid insecticide with contact and stomach action. It acts on the central and peripheral nervous system in very low doses. APVMA has issued a permit for its use on onions. Residue trials data indicate that the use pattern would result in residues below the LOQ within 7 days. A WHP of 14 days is required under the permit. The recommended MRL is at the LOQ.</p> <p>Onion, bulb                                      Insert                                      *0.01</p>	<p>NEDI = 9% of ADI</p> <p>19<sup>th</sup> ATDS = &lt;1% of ADI for all population groups assessed</p>

Requested MRLs	Dietary Exposure Estimates																																										
<p><b>Fipronil</b> This is a minor technical amendment to ensure consistency of use of the commodity name for sunflower seeds.</p> <p>Commodity name:</p> <p>Omit Sunflower seeds Substitute Sunflower seed</p>	<p>Dietary exposure assessment not required.</p>																																										
<p><b>Flumiclorac pentyl</b> Flumiclorac pentyl is a herbicide. It inhibits porphyrin biosynthesis. It promotes defoliation and boll opening of cotton. It is considered unlikely that detectable residues will be present in mammalian or poultry food products following feeding cottonseed. The recommended MRLs for such food products are at the LOQ.</p> <table border="0" data-bbox="177 786 986 1256"> <tr> <td>Cotton seed</td> <td>Omit</td> <td>T0.1</td> </tr> <tr> <td></td> <td>Substitute</td> <td>0.1</td> </tr> <tr> <td>Edible offal (mammalian)</td> <td>Omit</td> <td>T*0.01</td> </tr> <tr> <td></td> <td>Substitute</td> <td>*0.01</td> </tr> <tr> <td>Eggs</td> <td>Omit</td> <td>T*0.01</td> </tr> <tr> <td></td> <td>Substitute</td> <td>*0.01</td> </tr> <tr> <td>Meat (mammalian)</td> <td>Omit</td> <td>T*0.01</td> </tr> <tr> <td></td> <td>Substitute</td> <td>*0.01</td> </tr> <tr> <td>Milks</td> <td>Omit</td> <td>T*0.01</td> </tr> <tr> <td></td> <td>Substitute</td> <td>*0.01</td> </tr> <tr> <td>Poultry, edible offal of</td> <td>Omit</td> <td>T*0.01</td> </tr> <tr> <td></td> <td>Substitute</td> <td>*0.01</td> </tr> <tr> <td>Poultry meat</td> <td>Omit</td> <td>T*0.01</td> </tr> <tr> <td></td> <td>Substitute</td> <td>*0.01</td> </tr> </table>	Cotton seed	Omit	T0.1		Substitute	0.1	Edible offal (mammalian)	Omit	T*0.01		Substitute	*0.01	Eggs	Omit	T*0.01		Substitute	*0.01	Meat (mammalian)	Omit	T*0.01		Substitute	*0.01	Milks	Omit	T*0.01		Substitute	*0.01	Poultry, edible offal of	Omit	T*0.01		Substitute	*0.01	Poultry meat	Omit	T*0.01		Substitute	*0.01	<p>NEDI = &lt;1% of ADI</p>
Cotton seed	Omit	T0.1																																									
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Poultry meat	Omit	T*0.01																																									
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<p><b>Fluquinconazole</b> Fluquinconazole is a fungicide. It inhibits ergosterol biosynthesis. Residues data support reducing the MRL for milks. Residues in milks as a result of feeding on treated forage would be less than the LOQ following a 12 week grazing WHP. The recommended MRL is at the LOQ.</p> <table border="0" data-bbox="177 1496 986 1563"> <tr> <td>Milks</td> <td>Omit</td> <td>0.1</td> </tr> <tr> <td></td> <td>Substitute</td> <td>*0.02</td> </tr> </table>	Milks	Omit	0.1		Substitute	*0.02	<p>NEDI = 13% of ADI</p>																																				
Milks	Omit	0.1																																									
	Substitute	*0.02																																									
<p><b>Forchlorfenuron</b> Forchlorfenuron is a cytokinin plant growth regulator. It stimulates cell division, leading to increased fruit size. APVMA has issued a permit for its use on kiwifruit to increase fruit size. Residues in mature fruit resulting from the use pattern under the permit are expected to be below the LOQ. The recommended temporary MRL is at the LOQ.</p> <table border="0" data-bbox="177 1832 986 1863"> <tr> <td>Kiwifruit</td> <td>Insert</td> <td>T*0.01</td> </tr> </table>	Kiwifruit	Insert	T*0.01	<p>NEDI = &lt;1% of ADI</p>																																							
Kiwifruit	Insert	T*0.01																																									





Requested MRLs	Dietary Exposure Estimates																																										
<p><b>Phosphine</b> Phosphine is a rodenticide. Zinc phosphide reacts with acidic digestive fluids liberating Phosphine gas which interferes with cell respiration. APVMA has issued a permit for its use as a mouse and rat poison. Australian and international data for a range of crops were evaluated. Under the conditions of the permit residues above the LOQ are not expected in food commodities. The TGA supported registration of zinc phosphide on the basis that MRLs would be established at or about the LOQ. The recommended temporary MRLs are at the LOQ.</p> <table border="0" data-bbox="177 622 983 824"> <tr> <td>Assorted tropical and sub-tropical fruits – edible peel</td> <td>Insert</td> <td>T*0.01</td> </tr> <tr> <td>Cacao beans</td> <td>Omit</td> <td>*0.01</td> </tr> <tr> <td>Pome fruits</td> <td>Insert</td> <td>T*0.01</td> </tr> <tr> <td>Seed for beverages</td> <td>Insert</td> <td>T*0.01</td> </tr> <tr> <td>Stone fruits</td> <td>Insert</td> <td>T*0.01</td> </tr> </table>	Assorted tropical and sub-tropical fruits – edible peel	Insert	T*0.01	Cacao beans	Omit	*0.01	Pome fruits	Insert	T*0.01	Seed for beverages	Insert	T*0.01	Stone fruits	Insert	T*0.01	<p>ADI not established ARfD not established</p> <p>Therefore no dietary exposure estimates have been calculated.</p> <p>Residues of Phosphine are not anticipated in treated produce. Use of zinc phosphide under the permit is not expected to increase dietary exposure to Phosphine.</p>																											
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Cacao beans	Omit	*0.01																																									
Pome fruits	Insert	T*0.01																																									
Seed for beverages	Insert	T*0.01																																									
Stone fruits	Insert	T*0.01																																									
<p><b>Pirimicarb</b> Pirimicarb is an anticholinesterase insecticide. It is used to control certain aphids on crops and pastures. The permit for its use on the herbs, spices and leafy crops listed below has expired.</p> <p>Minor technical amendment to residue definition:</p> <p>Omit: Sum of Pirimicarb, Dimethyl-pirimicarb and N-formyl-(methylamino) analogue (Dimethylformamidio-pirimicarb), expressed as Pirimicarb</p> <p>Substitute: Sum of Pirimicarb, Demethyl-pirimicarb and the N-formyl-(methylamino) analogue (Demethylformamido-pirimicarb), expressed as Pirimicarb</p> <table border="0" data-bbox="177 1330 983 1827"> <tr><td>Bergamot</td><td>Omit</td><td>T3</td></tr> <tr><td>Burnet, Salad</td><td>Omit</td><td>T3</td></tr> <tr><td>Coriander (leaves, stem, roots)</td><td>Omit</td><td>T3</td></tr> <tr><td>Coriander, seed</td><td>Omit</td><td>T3</td></tr> <tr><td>Dill, seed</td><td>Omit</td><td>T3</td></tr> <tr><td>Fennel, seed</td><td>Omit</td><td>T3</td></tr> <tr><td>Galangal, Greater</td><td>Omit</td><td>T1</td></tr> <tr><td>Herbs</td><td>Omit</td><td>T3</td></tr> <tr><td>Kaffir lime leaves</td><td>Omit</td><td>T3</td></tr> <tr><td>Lemon grass</td><td>Omit</td><td>T3</td></tr> <tr><td>Lemon verbena (fresh weight)</td><td>Omit</td><td>T3</td></tr> <tr><td>Mizuna</td><td>Omit</td><td>T3</td></tr> <tr><td>Rose and dianthus (edible flowers)</td><td>Omit</td><td>T3</td></tr> <tr><td>Turmeric, root (fresh)</td><td>Omit</td><td>T1</td></tr> </table>	Bergamot	Omit	T3	Burnet, Salad	Omit	T3	Coriander (leaves, stem, roots)	Omit	T3	Coriander, seed	Omit	T3	Dill, seed	Omit	T3	Fennel, seed	Omit	T3	Galangal, Greater	Omit	T1	Herbs	Omit	T3	Kaffir lime leaves	Omit	T3	Lemon grass	Omit	T3	Lemon verbena (fresh weight)	Omit	T3	Mizuna	Omit	T3	Rose and dianthus (edible flowers)	Omit	T3	Turmeric, root (fresh)	Omit	T1	<p>Dietary exposure assessment not required.</p>
Bergamot	Omit	T3																																									
Burnet, Salad	Omit	T3																																									
Coriander (leaves, stem, roots)	Omit	T3																																									
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