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

8-06
13 December 2006

INITIAL / DRAFT ASSESSMENT REPORT

APPLICATION A587

MAXIMUM RESIDUE LIMITS – OXYTETRACYCLINE (ANTIBIOTIC)

DEADLINE FOR PUBLIC SUBMISSIONS: **6pm (Canberra time) 7 February 2007**
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 A587 seeks to amend the Maximum Residue Limit (MRL) for oxytetracycline in honey 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 to reflect the confirmation of the temporary oxytetracycline MRL for honey resulting in a permanent MRL of identical magnitude in alignment with the APVMA MRL Standard.

Oxytetracycline is an antibiotic. It is registered for use in the treatment and control of European Foulbrood disease in European honey bee hives.

FSANZ's role in the regulation of agricultural and veterinary chemicals is to protect public health and safety by ensuring that any potential residues in food are within appropriate safety limits. The dietary exposure assessment indicates that in relation to the current health reference standard, setting the MRL as proposed does not present any public health and safety concerns.

The *Agreement between the Government of Australia and the Government of New Zealand concerning a Joint Food Standards System* (the Treaty), excludes 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.

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

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 make a Final Assessment.

Purpose

The purpose of this Application is to update the Code with the current MRL for oxytetracycline in honey to reflect the registration status of this antibiotic in Australia. This will permit the sale of honey from treated hives with residues up to the MRL and protect public health and safety by minimising residues in foods consistent with the effective control of European Foulbrood disease.

Preferred Approach

FSANZ recommends accepting Application A587 and the proposed draft variation 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 variation 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.

- The dietary exposure assessment indicates that setting the MRL as proposed does not present any public health and safety concerns.

- The proposed variation will benefit stakeholders by maintaining public health and safety while permitting the legal sale of honey with residues up to the MRL from hives treated with oxytetracycline to control European Foulbrood disease 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 oxytetracycline in honey bee hives and established a MRL for honey 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 oxytetracycline, and has established an acceptable daily intake (ADI).

- Oxytetracycline is not considered to present a significant risk in the development of antimicrobial resistance in the treatment of infections in humans.

- FSANZ has undertaken a preliminary regulation impact assessment process and concluded that the proposed draft variation is necessary, cost-effective and will benefit producers and consumers.

- The proposed draft variation would remove a discrepancy between agricultural and food legislation and provide certainty and consistency for producers of domestic and export honey and food products containing honey, 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 A587 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 change to the MRL;
- any further public health and safety considerations associated with the proposed MRL;
- 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 variation 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

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

Submissions need to be received by FSANZ by 6pm (Canberra time) 7 February 2007.

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.

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.

INTRODUCTION

This Application was received from the APVMA on 2 August 2006 seeking a variation to Standard 1.4.2 – Maximum Residue Limits of the Code. The proposed variation to the Standard would align the oxytetracycline MRL for honey in the Code with the MRL in the APVMA MRL Standard.

FSANZ's role in the regulation of agricultural and veterinary chemicals 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, APVMA and FSANZ conduct dietary exposure assessments in accordance with internationally accepted practices and procedures.

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.

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.

1. Background

1.1 Current Standard

The APVMA has approved the use of oxytetracycline for the treatment and control of European Foulbrood disease in honey bee hives, confirmed the temporary oxytetracycline MRL in honey and amended the APVMA MRL Standard accordingly. Consequently there is a discrepancy between the 0.3 mg/kg oxytetracycline MRL for honey in the APVMA MRL Standard and the T0.3 mg/kg MRL in Standard 1.4.2 of the Code. A 'T' in front of a MRL indicates that the MRL is temporary, a TMRL.

Currently there are oxytetracycline MRLs in Standard 1.4.2 of the Code for kidney of cattle, goats, pigs and sheep; liver of cattle, goats, pigs and sheep; meat (mammalian); milks; poultry, edible offal of; and poultry meat and TMRLs for honey and salmonids.

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 the 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.

Currently, there are four registered products containing oxytetracycline approved for use in honey bee hives to treat and control European Foulbrood disease. A MRL was not established at the time of registration as residues in honey were not expected to result from the use pattern. In 1998 and 1999 the National Residue Survey (NRS) testing program detected oxytetracycline residues ranging between 0.05 to 1.08 mg/kg in honey. The APVMA established a TMRL of T0.3 mg/kg for oxytetracycline in honey for the registered use pattern. In the 2001 – 2002 survey, the oxytetracycline residues NRS detected in honey complied with the TMRL. Following establishment of the TMRL, the honey bee industry was required to conduct further trials to generate data to establish a permanent MRL for oxytetracycline in honey. APVMA has assessed residues data from these trials and established a MRL of 0.3 mg/kg for oxytetracycline in honey.

1.3 Maximum Residue Limit Applications

After registering agricultural or veterinary chemical products, based on scientific evaluations, APVMA makes applications to FSANZ to adopt MRLs in Standard 1.4.2 of the Code. FSANZ reviews information provided by APVMA and validates whether 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 proposed oxytetracycline MRL for honey outlined in this Application.

A report on oxytetracycline is available on request from the relevant Project Coordinator at FSANZ on +61 2 6271 2222.

1.4 Proposed Variation to Standard 1.4.2 - Maximum Residue Limits

The amendment under consideration in Application A587 is updating the Code with the current MRL for oxytetracycline in honey. Accepting the proposed variation would mean changing the existing permission from a TMRL of T0.3 mg/kg to a MRL of 0.3 mg/kg. The requested MRL and dietary exposure estimate are outlined in the table below.

A guide to the table with notes on terms used and a list of acronyms appearing in MRL Application reports are provided in Attachment 2.

Requested MRL			**Dietary Exposure Estimate**
Oxytetracycline Oxytetracycline belongs to the tetracycline class of antibiotics. This class has human analogues. In Australia oxytetracycline is only used in animals. It is used in the treatment and control of European Foulbrood disease (*Melissococcus pluton*) in European honey bee hives. Tetracyclines effect antimicrobial activity by binding to the 30S ribosomal subunit of susceptible organisms. This interferes with the binding of aminoacyl tRNA to the messenger RNA/ribosome complex, which interferes with bacterial protein synthesis in growing or multiplying organisms.			NEDI = 4% of ADI The presence of oxytetracycline was investigated in the 20th ATDS. A range of foods were tested. Oxytetracycline was not detected in any foods.
Honey	Omit	T0.3	
	Substitute	0.3	

In considering 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 Acute Dietary Exposure

Neither OCS nor the Joint Food and Agriculture Organization / World Health Organization Expert Committee on Food Additives (JECFA) have established an acute reference dose (ARfD) for oxytetracycline, therefore no estimate of the national acute dietary exposure (National Estimated Short Term Intake or NESTI) has been conducted. These terms are explained in the risk assessment section of this report and in Attachment 2.

1.6 Antimicrobial Resistance

Oxytetracycline belongs to the tetracycline group of antibiotics, other antibiotics in this group such as demeclocycline, doxycycline, minocycline and tetracycline are used in human therapeutics and are classed as antibiotics of low importance.

The National Health and Medical Research Council established the Expert Advisory Group on Antimicrobial Resistance (EAGAR) to provide advice to government and regulatory agencies on antimicrobial resistance and measures to reduce the risks of antimicrobial resistance. EAGAR's interest in the development of antimicrobial resistance focuses on antimicrobials of high and medium importance in the treatment of human infections.

As part of its Application to vary the oxytetracycline MRL for honey in the Code, APVMA provided information on the use of oxytetracycline in honey bee hives to EAGAR. As oxytetracycline is categorised as an antimicrobial of low importance in treatment of human infections and is only used in animals in Australia, EAGAR considers its endorsement of the recommended MRL is not required.

1.7 Oxytetracycline Allergenicity

APVMA assesses the potential allergenicity of antibiotics in food commodities. Evidence for residues of antibiotics in foods causing allergic reactions is sparse. There is some evidence of rare occurrences of allergic reactions to β-lactam antibiotics. Oxytetracycline belongs to the tetracycline group of antibiotics and not to the β-lactam group. Allergic reactions to the residues of oxytetracycline in honey are not expected to occur.

FSANZ requests data on the occurrence of allergic reactions to residues of oxytetracycline in foods.

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), excludes 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, 2006* 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.

3. Objectives

In assessing this Application FSANZ aims to ensure that the proposed MRL does not present a risk to public health and safety and that the sale of legally treated food is permitted. APVMA has already established a MRL under its legislation, and now seeks to have the amendment 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:

- 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 variation to Standard 1.4.2 is 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 a 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 OCS or the Joint Food and Agriculture Organization / World Health Organization Meeting on Pesticide Residues (JMPR) or JECFA (in the case of antibiotics) have 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 National Nutrition Survey (NNS). The Australian Bureau of Statistics with the then Australian Government Department of Health and Aged Care undertook the latest 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 19th and 20th 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 a 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 latest 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 agriculture 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 a 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 or JECFA, 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 commodity. These data enable APVMA to determine what the likely residues of a chemical will be on a treated food commodity. 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 a 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 oxytetracycline in honey bee hives and established a MRL for honey of 0.3 mg/kg.

OCS has undertaken an appropriate toxicological assessment of the chemical products and has established an ADI of 0.03 mg/kg bw/day for oxytetracycline. The Australian ADI was adopted from the figure established by JECFA. As neither OCS nor JECFA have established an ARfD for oxytetracycline, a NESTI has not been calculated.

FSANZ has reviewed the dietary exposure assessment submitted by APVMA as part of its Application and concluded that the residues associated with the proposed MRL do not present any public health and safety concerns. This was determined by comparing estimates of dietary exposure to oxytetracycline (calculated using food consumption data and MRLs for all foods for which its use is permitted during production), with the ADI. The NEDI for oxytetracycline is 4% of the ADI. The additional safety factors inherent in calculation of the ADI mean that there is negligible risk to public health and safety when estimated exposures are below this reference health standard. The presence of oxytetracycline in foods was investigated in a range of foods in the 20th ATDS. Oxytetracycline was not detected in any of the foods tested.

The NEDI calculation is a conservative overestimate of dietary exposure to potential residues in food. In reality, only a portion of specific commodities for which use of oxytetracycline is permitted is treated with it during production, for example, European Foulbrood disease is not known to occur in Western Australia and this is not taken into account in calculating the NEDI. Also, most treated commodities contain residues well below the MRL before they appear on the market; and residues are usually reduced during storage, washing, preparation, commercial processing and cooking. It is also unlikely that every food for which a MRL is proposed or permitted will have been treated with the same pesticide during production and eaten over the lifetime of consumers.

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.

RISK MANAGEMENT

7. Options

7.1 Option 1 – no change to the existing oxytetracycline TMRL for honey in the Code

Under this option, the *status quo* would be maintained and there would be no change to the existing oxytetracycline TMRL of T0.3 mg/kg in honey in the Code.

7.2 Option 2 – vary the Code in Schedule 1 of Standard 1.4.2 - Maximum Residue Limits to reflect the confirmation of the existing oxytetracycline TMRL for honey as proposed

Under this option, the proposed oxytetracycline MRL of 0.3 mg/kg in honey would be approved for inclusion in the Code, it would replace the existing TMRL of the same magnitude.

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.

Information from public submissions is needed to make a final assessment of the proposed change.

8.1 Affected Parties

The parties affected by proposed MRL amendment include:

- domestic and international consumers;
- producers of domestic and export honey and food products containing honey;
- importers of honey and food products containing honey; 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 the existing oxytetracycline TMRL for honey in the Code

8.2.1.1 Benefits

- for consumers there are unlikely to be any discernable benefits;
- 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;
- for producers of domestic and export honey a discrepancy between agricultural and food legislation such as the temporary status of the current oxytetracycline MRL may create uncertainty, inefficiency and confusion. Such a discrepancy may give rise to the concern that legal use of chemical products may result in the production of honey that may not be legally sold under food legislation. Primary producers do not produce food or use antibiotics to comply with MRLs. They use antibiotics to treat and control disease 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;
- for importers, adopting this option would not result in any discernable costs; and

- for Australian Government, State and Territory agencies, adopting this option would allow a discrepancy between agricultural and food legislation thereby creating uncertainty, inefficiency and confusion in the enforcement of regulations.

8.2.2 Option 2 – vary the Code in Schedule 1 of Standard 1.4.2 - Maximum Residue Limits to reflect the confirmation of the existing oxytetracycline TMRL for honey as proposed

8.2.2.1 Benefits

- maintaining consumer confidence in the food supply in relation to residues of agricultural and veterinary chemicals in foods;

- consistency between agricultural and food legislation potentially minimises compliance costs for producers of domestic and export honey and food products containing honey;

- honey or food products containing honey with residues consistent with the confirmed MRL could be legally imported, removing the discrepancy between agricultural and food legislation would promote certainty; and

- for Australian Government, State and Territory agencies, removing the discrepancy between agricultural and food legislation would create certainty and allow efficient enforcement of regulations.

8.2.2.2 Costs

- for consumers there are no discernable costs;

- for producers of domestic and export honey and food products containing honey, 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 A587, there are no options other than a variation to Standard 1.4.2.

FSANZ preferred approach is to adopt option 2 – to vary the Code in Schedule 1 of Standard 1.4.2 – Maximum Residue Limits to reflect the confirmation of the existing oxytetracycline TMRL for honey as proposed for the following reasons:

- There are no public health and safety concerns associated with the proposed MRL amendment (this benefit also applies to option 1).

- The change would minimise potential costs to honey producers and rural and regional communities in terms of confidence in legally being able to sell honey and food products containing honey from legally treated hives.

- The change would minimise residues consistent with the effective use of agricultural and veterinary chemicals to control pests and diseases.

- The change would remove a discrepancy between agricultural and food legislation and assist enforcement.

Option 1 is an undesirable option.

- Potential costs to honey 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 the commodity.

- Consequent discrepancies between agricultural and food legislation could have negative impacts on compliance costs for honey producers, perception problems in export markets and undermine the efficient enforcement of standards for chemical residues.

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 A587 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 ApplicationA587 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 change to the oxytetracycline MRL for honey;

- any further public health and safety considerations with the proposed MRL;

- likely costs and benefits in relation to the importation of food if the proposed MRL is advanced; and

- any other affected parties to this Application.

10.1 World Trade Organization

As a member of the 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.

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.

Application A587 requests a variation to the oxytetracycline MRL for honey in the Code. Codex Alimentarius Commission (Codex) standards are used as the relevant international standard or basis as to whether a new or changed standard requires a WTO notification. There are no oxytetracycline MRLs in the international Codex standard. Oxytetracycline residues in honey may have an effect on trade of honey and derivative food products between WTO members.

New Zealand has established MRLs for oxytetracycline residues in meats, liver, kidney, milk and eggs of several species, but not in honey. European Foulbrood disease is not present in New Zealand. The European Agency for the Evaluation of Medicinal Products currently permits oxytetracycline residues in all food producing species, in tissues milks and eggs in the European Union and has recommended a MRL of 0.025 for honey. Oxytetracycline is registered for use in the treatment and control of European and American Foulbrood diseases in the United States. The United States Environmental Protection Agency has not established a tolerance for residues of oxytetracycline in honey.

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.

FSANZ requests comment on any possible ramifications of the proposed MRL differing from the Codex standard.

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 variation to Standard 1.4.2. – Maximum Residue Limits.

The preferred approach is to adopt option 2 to vary the oxytetracycline MRL in Schedule 1 of Standard 1.4.2 – Maximum Residue Limits as proposed.

Preferred Approach

FSANZ recommends accepting Application A587 and the proposed draft variation to Standard 1.4.2 – Maximum Residue Limits.

11.1 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 variation 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.

- The dietary exposure assessment indicates that setting the MRL as proposed does not present any public health and safety concerns.

- The proposed variation will benefit stakeholders by maintaining public health and safety while permitting the legal sale of honey with residues up to the MRL from hives treated with oxytetracycline to control European Foulbrood disease 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 oxytetracycline in honey bee hives and established a MRL for honey as outlined in this Application.

- OCS has undertaken an appropriate toxicological assessment of oxytetracycline, and has established an ADI.

- Oxytetracycline is not considered to present a significant risk in the development of antimicrobial resistance in the treatment of infections in humans.

- FSANZ has undertaken a preliminary regulation impact assessment process and concluded that the proposed draft variation is necessary, cost-effective and will benefit producers and consumers.

- The proposed draft variation would remove a discrepancy between agricultural and food legislation and provide certainty and consistency for producers of domestic and export honey and food products containing honey, importers and Australian, State and Territory enforcement agencies.

- The proposed changes are consistent with the FSANZ Act section 10 objectives.

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 there is considerable scope to review MRLs.

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

ATTACHMENTS

1. Draft Variation to the *Australia New Zealand Food Standards Code*
2. A Guide to the Table Outlining the Requested Variation to Standard 1.4.2 – Maximum Residue Limits of the *Australia New Zealand Food Standards Code* and Estimated Dietary Exposure to the Relevant Chemical

Attachment 1

Draft Variation to the *Australia New Zealand Food Standards Code*

To commence: on gazettal

[1] ***Standard 1.4.2*** *of the Australia New Zealand Food Standards Code is varied by omitting from* Schedule 1*, under the entry for the following chemical, the maximum residue limit for the food, substituting –*

OXYTETRACYCLINE INHIBITORY SUBSTANCE, IDENTIFIED AS OXYTETRACYCLINE	
HONEY	0.3

Attachment 2

A Guide to the Table Outlining the Requested Variation to Standard 1.4.2 – Maximum Residue Limits of the *Australia New Zealand Food Standards Code* and Estimated Dietary Exposure to the Relevant Chemical

NOTES ON TERMS USED IN THE TABLE AND RISK ASSESSMENT

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.

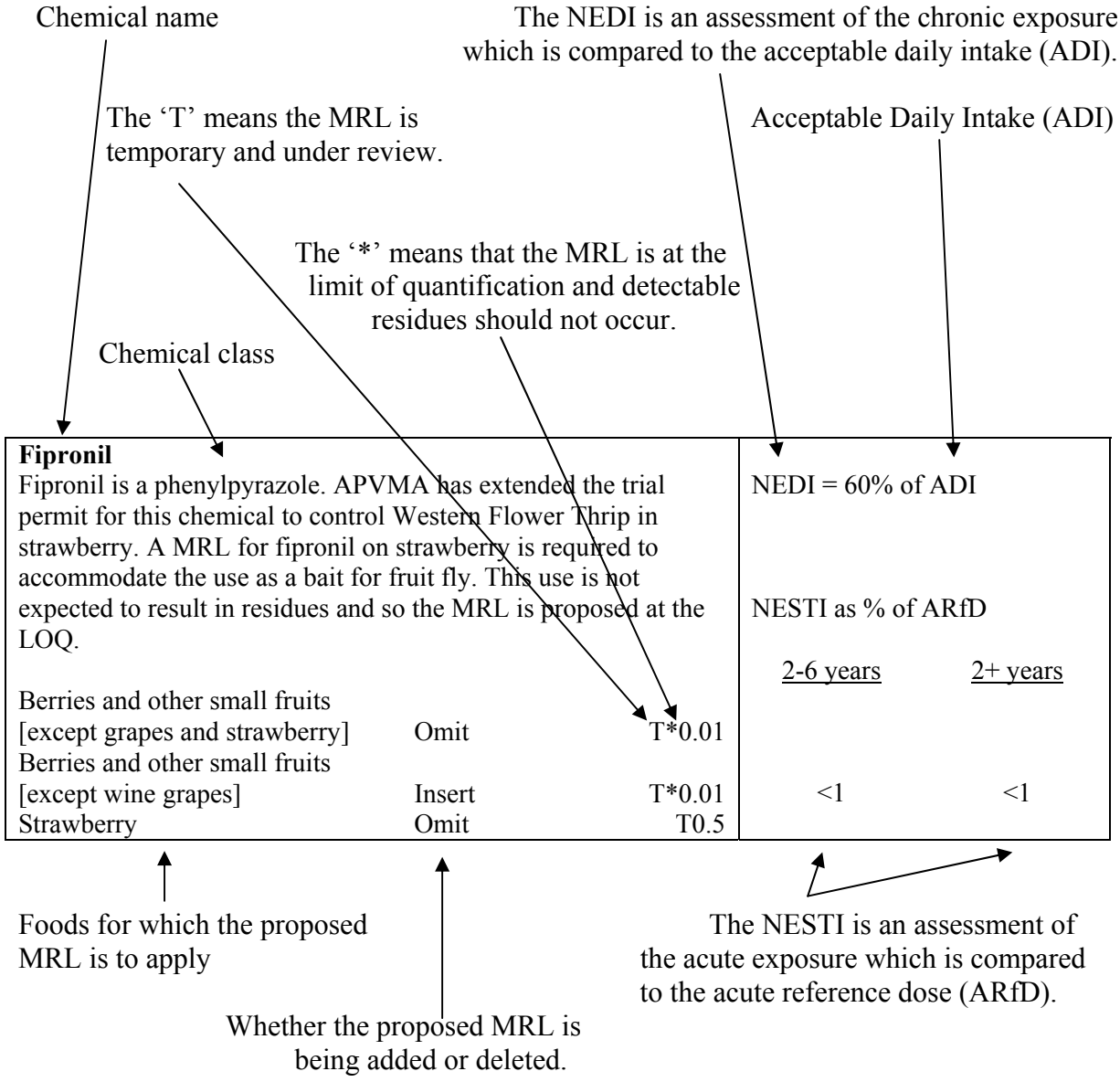
LOQ - Limit of Quantification - The LOQ is the lowest concentration of a pesticide residue that can be identified and quantitatively measured in a specified food, agricultural commodity or animal feed with an acceptable degree of certainty by a regulatory method of analysis.

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 19th and 20th 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.

Chlorpyrifos Chlorpyrifos is an acaricide, nematicide and insecticide APVMA has approved an extension of use for the control of pests in coffee crops.			NEDI = 83% of ADI 20th ATDS = <1% of ADI for all population groups assessed 19th ATDS = 3% of ADI for toddlers 2 years, 1% of ADI for boys 12 years and <1% of ADI for other population groups assessed NESTI as % of ARfD 2-6 years 2+ years
Coffee beans	Insert	T0.5	8 <1

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.	**ADI**	Acceptable Daily Intake
2.	**APVMA**	Australian Pesticides and Veterinary Medicines Authority
3.	**ARfD**	Acute Reference Dose
4.	**ATDS**	Australian Total Diet Survey
5.	**the Code**	*Australia New Zealand Food Standards Code*
6.	**FSANZ**	Food Standards Australia New Zealand
7.	**JECFA**	Joint FAO/WHO Expert Committee on Food Additives
8.	**JMPR**	Joint FAO/WHO Meeting on Pesticide Residues
9.	**LOQ**	Limit of Analytical Quantification
10.	**MRL**	Maximum Residue Limit
11.	**NEDI**	National Estimated Daily Intake
12.	**NESTI**	National Estimated Short Term Intake
13.	**NNS**	National Nutrition Survey of Australia 1995
14.	**OCS**	Office of Chemical Safety
15.	**TMRL**	Temporary MRL
16.	**TGA**	Therapeutic Goods Administration