

# Risk Management Proposal: Turkey Meat and Meat Products

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## Purpose

The purpose of this document is to:

- Show how options for the management of risk organisms have been assessed; and
- Provide recommendations for import requirements.

## Background

Turkey meat and turkey meat products are considered a risk commodity, with the potential to harbour exotic viral and bacterial diseases that may negatively impact on New Zealand avian species. The standard for Turkey Meat and Meat Products must effectively manage these risks. In May 2010, MAF completed an import risk analysis for turkey meat. In June 2010 work began on the new generic import health standard for Turkey Meat and Meat Products based on this import risk analysis.

In accordance with new MAF processes, the standard will contain generic import requirements. These requirements are the rules to manage the biosecurity risk of importing turkey meat and meat products from any approved country. The generic standard will serve as the basis for country to country (bilateral) negotiations. A guidance document will be issued by MAF and this document will provide commodity specific guidance information including the bilaterally-agreed format for zoosanitary certification for trade in turkey meat and meat products.

MAF and the Veterinary Authority of the exporting country will negotiate the content of the zoosanitary certificate to determine how the level of risk management, as specified by this standard, will be achieved. Negotiations will take into account the verifiable health status of the exporting country, the national systems, legislation and standards in the exporting country for regulatory oversight of the turkey industry, and the capabilities and preferences of the exporting country's Veterinary Authority.

## Objective

The objective is to effectively manage biosecurity risks posed by the import of turkey meat and meat products. This is consistent with New Zealand's domestic legislation and international obligations.

## Options assessment

The biosecurity risks associated with the importation of chilled or frozen meat and meat products derived from turkeys (*Meleagris gallopavo gallopavo*) have been examined in the document *Import Risk Analysis: Turkey Meat*. From an initial list of 111 organisms/groups of organisms potentially associated with turkeys, a preliminary hazard list identified 40 organisms/groups of organisms that required further consideration. Of these 40 preliminary hazards, 15 were considered to be potential hazards in whole turkey carcasses and 7 of these were considered to be potential hazards in those imports limited to meat. The greater number of potential hazards associated with entire turkey carcasses reflect potential inefficiencies associated with evisceration and lung removal machinery used during commercial automated processing of turkeys.

Of the potential hazards, the *Import Risk Analysis: Turkey Meat* concluded that risk management measures were justified for the following hazards in imported turkey meat:

- Newcastle disease virus
- Highly pathogenic notifiable avian influenza
- *Salmonella arizonae*

In addition to the above hazards, risk management measures were justified for the following hazards in imported entire turkey carcasses:

- Avian paramyxovirus-2 and -3
- Turkey coronavirus
- The aetiological agent of turkey viral hepatitis

Under Article 3.3 of the World Trade Organisation Agreement on the Application of Sanitary and Phytosanitary Measures (the SPS Agreement), risk management measures which provide a level of protection greater than provided by international standards may be imposed only when they can be scientifically justified on the basis of a risk assessment.

For a detailed analysis of potential hazards and their risks please refer to the supporting document *Import Risk Analysis: Turkey Meat*, which contains the relevant risk assessment and an analysis of management options for each risk organism: <http://www.biosecurity.govt.nz/regs/imports/ihs/risk>

MAF and the New Zealand Food Safety Authority (NZFSA) as one Ministry will cooperate during the negotiation and approval of country specific zoosanitary and regulatory requirements for imports of turkey meat and meat products.

The subsequent document will flow in the following order: First, the risk management options from the *Import Risk Analysis: Turkey Meat* are summarised; second, the considerations relevant to these options are discussed; and third, recommendation is made regarding which of these option(s) may be most appropriate for managing risk. Two sections in this document are presented in the above format: The first reflects Part B of the import health standard and covers general recommendations; and the second reflects Part C of the standard and covers specific risk organisms.

## General requirements for all importations of Turkey Meat and Meat Products

(These requirements are located in Part B of the import health standard)

### Considerations and import health standard recommended requirements

#### Scope and eligibility requirements

The *Import Risk Analysis: Turkey Meat* included meat, meat products and carcasses under the one term, turkey meat. For the purposes of this import health standard the commodity is classified as turkey meat and meat products. In the guidance document the definitions for both meat and meat products reflect that defined in other MAF import health standards. The scope of the commodity is included in the standard. Turkey meat and meat products must be one or more of the following:

- Whole turkey carcasses that have been subject to routine evisceration procedures (including head-and-feet-on carcasses);
- Bone-in turkey meat and meat products;
- Boneless turkey meat and meat products;
- Reconstituted turkey meat and meat products.

Turkey meat and meat products imported into New Zealand must be:

- Derived from any member of the domesticated avian sub-species *Meleagris gallopavo gallopavo*; and
- Derived from birds slaughtered at or after 8 weeks of age; and
- Derived from birds slaughtered in processing plants which operate effective Good Management Practice (GMP) and Hazard Analysis Critical Control Point (HACCP) programmes.

A lower age limit of 8 weeks for birds slaughtered for export has been specified in the standard. Although the *Import Risk Analysis: Turkey Meat* did not specify an age range in the commodity definition, it was assumed that birds would be at least eight weeks old at slaughter (see Chapter 14 of the IRA). There is no risk management justification for an upper age limit for birds slaughtered for export.

#### Approval of export systems

A draft import health standard for turkey meat preparations was released for public consultation in March 2010; as a result of stakeholder feedback on that standard the following requirements are included in the standard for turkey meat and meat products:

- All turkey meat and meat products must be derived from a production system that is approved by MAF.
- Production system approval requires a production system outline to be submitted to MAF. This must meet the requirements as detailed in Part E, Appendix 1 and be endorsed by the exporting country's Veterinary Authority. In the case of a specific disease free compartment, a biosecurity plan must be submitted and must meet the requirements according to Part E, Appendix 2.

- MAF approval of the production system outline (and biosecurity plan) is required prior to an importer/exporter submitting an application for a permit to import for a consignment. MAF reserves the right to audit facilities from countries approved to export product to New Zealand either during the approval process or anytime thereafter.

For exporting countries that MAF does not have existing arrangements with, MAF may choose to undertake in-country assessments of production systems prior to approval. The in-country assessment will assist in determining if the exporting country has animal and/or public health controls which provide the assurances the standard requires for import of product to New Zealand.

#### **Processing requirement**

Turkey meat and meat products are to be derived from birds which have passed ante-mortem and post-mortem inspection procedures completed by the Veterinary Authority of the exporting country, deemed by MAF as equivalent to those set out in the OIE Terrestrial Animal Health Code (subsequently referred to as "OIE Code") Chapter 6.2 (Control of biological hazards of animal health and public health importance through ante- and post-mortem meat inspection).

#### **Packaging and storage**

Cross contamination risks are addressed in this section, specific detail on the management of cross contamination will be provided to MAF in the production system outline. The requirements for the production system outline are detailed in Appendix 1 of the standard.

#### **Retorted product**

Retorting is a recognised method of ensuring that imported product is free from all risk organisms and is provided as an option for importers of turkey meat and meat products. The standard: Importing Specified Foods for Human Consumption Containing Animal Products is the specific standard for retorted product and a link to this standard will be included in the import health standard for turkey meat and meat products.

## Considerations for specific requirements for identified risk organisms

(Specific requirements for identified risk organisms are located in Part C of the import health standard)

It should be noted that for each risk organism, specific risk management requirements are specified in Part C of the standard using the general form:

- Country, zone or compartment freedom; OR
- Specified measures to verify premises and/or flock freedom; OR
- Specified thermal treatment(s).

All three options are recommended as effectively managing risk, and will be included in the standard for turkey meat and meat products.

The requirements set out in the standard reflect the requirements summarised in the *Import Risk Analysis: Turkey Meat*. Where specific Articles of the OIE Code have been referred to in the *Import Risk Analysis: Turkey Meat* the standard may not state these, as Article numbers may change with each OIE Code review. The guidance document will tabulate the specific OIE Code and the World Organisation for Animal Health Manual of Diagnostic Tests and Vaccines for Terrestrial Animals (Terrestrial Manual) Article numbers when required.

The Veterinary Authority will need to certify that the birds have been slaughtered in accordance with the OIE Code, in an abattoir approved for export of turkey meat and meat products to New Zealand. Birds must be certified as having passed ante-mortem and post-mortem inspection. These two declarations will be stated in Part B (General Requirements) of the standard, and shall be included in the zoosanitary certification. These statements are reflective of the OIE Code Articles for both Newcastle Disease (ND) and Highly Pathogenic Notifiable Avian Influenza (HPNAI), pertaining to fresh meat of poultry.

OIE prescribed diagnostic tests recommended for identified hazards can be found in the OIE Code online. Specific details of surveillance systems required to establish country or zone freedom will be evaluated during bilateral negotiations with potential trading partners.

Compartment freedom requirements will be specific to a particular organism and production and processing system. Compartments will only be approved after MAF assessment of submissions according to Appendix 1 and Appendix 2 of the standard.

MAF approved diagnostic tests will only be approved after consultation with MAF Investigation and Diagnostic Centre (IDC) laboratory experts. Tests must be considered by IDC as valid for diagnostic purposes in turkeys and must be appropriate for surveillance for the identified risk organism. Diagnostic tests to be used will be defined in the production system outline, submitted to MAF for approval prior to issuing a permit to import. MAF approved diagnostic tests can be found in the guidance document.

The standard makes reference to 60 birds as the minimum sample size for establishing flock freedom from disease at slaughter. This sample size is based on 'the random statistical sample required to give a probability of 95% to detect one positive sample given that infection is present in the population at a level of 5% or greater'<sup>1</sup>, the number of birds in the flock used for this calculation is 500 or more. MAF recommend allowing for some flexibility to the timing of slaughter tests and 7 days has been included in the standard, to enable practical obstacles to testing to be managed by the exporter.

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<sup>1</sup> OIE Code Article 6.4.9

# 1. Newcastle disease virus

## Options presented in the *Import Risk Analysis: Turkey Meat*

### Option 1

Imported turkey meat could be derived from birds kept in a country, zone or compartment free from Newcastle disease virus (NDV) since they were hatched or for at least the 21 days before export. Freedom could be based on surveillance in accordance with Articles 10.13.22 to 10.13.26 of the OIE Code.

Vaccination in flocks could be permitted using an inactivated APMV-1 vaccine or a live lentogenic virus strain which is shown to have an intracerebral pathogenicity index (ICPI) < 0.7.

### Option 2

Meat derived from flocks where virus isolation or a validated molecular test has demonstrated freedom from NDV at slaughter could be considered eligible for import.

### Option 3

Turkey meat to be imported could be cooked at 80°C for 5 minutes or 70°C for 30 minutes.

### Option 4

Turkey meat to be imported could be cooked at 80°C for 203 seconds or 70°C for 574 seconds.

## Options assessment and considerations

MAF considers the proposed risk management options 1, 3 and 4 for this disease to be appropriate to effectively manage the risk.

In order to remain aligned with the requirements for poultry meat in the OIE Code, the option to demonstrate flock freedom by testing at slaughter has not been included in the IHS.

Cooking requirements for turkey meat and meat products are reflective of the current OIE standard for NDV. The *Import Risk Analysis: Turkey Meat* states these cooking time and temperature parameters could be accepted as an option to mitigate the risk of NDV in turkey meat and meat products. Option 4 will be adopted in the standard for turkey meat and meat products, as a thermal treatment for the product, to manage NDV risk.

The ICPI test is relatively insensitive when applied to viruses with low pathogenicity and the test has associated welfare issues. MAF supports the use of cleavage site sequences for differentiating strains. Cleavage site sequences have been used to identify New Zealand strains of APMV-1. New Zealand strains have all been shown to have no phenylalanine at residue 117 and less than 3 basic amino acids between residues 113 and 116 i.e. do not fall within the OIE definition of NDV. Flock vaccination requirements in the standard will refer to cleavage site sequences to determine isolate pathogenicity and stakeholder feedback confirms this as the preferred method.

## Requirements recommended for the import health standard

1. The product for export is derived from flocks with a vaccination status of:
  - Not vaccinated for ND;or
  - Vaccinated for ND using an inactivated vaccine;or
  - Vaccinated with a live lentogenic vaccine strain where sequence analysis of the F0 gene has demonstrated no more than two basic amino acids between residues 113 and 116 and no phenylalanine at residue 117;

AND EITHER

2. The product for export is derived from birds kept in a country/zone/compartiment free from ND virus since hatching or for the 21 days before export, with current OIE Code surveillance requirements being met to claim freedom;

OR

3. The product for export has been cooked and reached a core temperature of one of the following:
  - (i) 65°C for 840 seconds; or
  - (ii) 70°C for 574 seconds; or
  - (iii) 74°C for 280 seconds; or
  - (iv) 80°C for 203 seconds.

## 2. Highly pathogenic notifiable avian influenza virus

### Options presented in the *Import Risk Analysis: Turkey Meat*

#### Option 1

Imported turkey meat could be derived from birds kept in a country, zone or compartment free from highly pathogenic notifiable avian influenza (HPNAI) since they were hatched or for at least the 21 days before export. Freedom could be based on surveillance in accordance with Articles 10.4.28 to 10.4.34 of the OIE Code.

#### Option 2

Meat derived from flocks where virus isolation has demonstrated freedom from H5 and H7 avian influenza viruses at slaughter could be considered eligible for import.

#### Option 3

Imported turkey meat could be cooked in accordance with Article 10.4.26 of the OIE Code.

### Options assessment and considerations

MAF considers the proposed risk management options 1 and 3 for this disease to be appropriate to effectively manage the risk. Cooking requirements for the turkey meat are reflective of the current standards in the OIE Code. These cooking options mitigate risk and will be adopted in the standard.

In order to remain aligned with the requirements for poultry meat in the OIE Code, the option to demonstrate flock freedom by testing at slaughter has not been included in the IHS.

### Requirements recommended for the import health standard

EITHER

1. The product for export is derived from birds kept in a country/zone/compartment free from HPNAI since hatching or for the 21 days before export, with current OIE Code surveillance requirements being met to claim freedom;

OR

2. The product for export has been cooked and reached a core temperature of one of the following:
  - (i) 60°C for 507 seconds; or
  - (ii) 65°C for 42 seconds; or
  - (iii) 70°C for 3.5 seconds; or
  - (iv) 73.9°C for 0.51 seconds.

### 3. *Salmonella arizonae*

#### Options presented in the *Import Risk Analysis: Turkey Meat*

##### Option 1

Imported turkey meat could be derived from birds in a country, zone, or compartment free from *S. arizonae*.

##### Option 2

Imported turkey meat could be derived from breeding flocks, hatcheries, and rearing farms that have been shown to be free from *S. arizonae* in accordance with the guidelines in Chapters 6.4 and 6.5 of the Code.

##### Option 3

Imported turkey meat could be cooked to reach a core temperature of 79°C.

#### Options assessment and considerations

MAF considers the proposed risk management options 1, 2, and 3 for this disease to be appropriate to effectively manage the risk.

The scientific justification for measures for *S. arizonae*, not notifiable to the OIE, is provided in the body of the *Import Risk Analysis: Turkey Meat*.

MAF approved surveillance requirements will be based on the OIE Code Chapter 1.4. Specific details of surveillance systems required to establish country or zone freedom will be approved during bilateral negotiations with potential trading partners.

For *S. arizonae*, OIE Code Chapter 6.4: hygiene and disease security procedures in poultry breeding flocks and hatcheries and Chapter 6.5: prevention, detection and control of *Salmonella* in poultry provide the recommendations which will meet MAF requirements for breeding flock, hatchery and rearing farm freedom from *S. arizonae*. Specific details of surveillance systems required to establish compartment or breeding flocks/hatcheries/rearing farms freedom shall be submitted as part of the production system outline +/- biosecurity plan, and must be endorsed by the Veterinary Authority of the exporting country, and subsequently assessed for approval by MAF.

For exported product produced in systems that may not be aligned with OIE Code requirements, a specific flock testing option aligned with sampling requirements for other risk organisms is included.

The requirement to cook to a core temperature of 79°C was based on the publication of Schnepf and Barbeau (1989)<sup>2</sup>. This study demonstrated that cooking contaminated chickens (using a conventional oven or convection microwave oven) to a core temperature of 79°C was sufficient to eliminate *Salmonella* whereas viable organisms were recovered when the core temperature was reduced to 77°C.

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<sup>2</sup> **Schnepf M and Barbeau (1989)** Survival of *Salmonella Typhimurium* in roasting chickens cooked in a microwave, convection microwave and a conventional electric oven. *Journal of Food Safety* 9, 245-252.

The USDA FSIS standard is based on the findings of Juneja et al (2001)<sup>3</sup> who estimated (based on extrapolation from studies performed over a temperature range of 58°C to 65°C) that exposure of turkey meat to 74°C for around 9 seconds would be required to ensure a 7 log reduction in *Salmonella*. MAF has reviewed the findings of Juneja et al (2001) and agrees that the non-linear survival curves generated by their modelling (which form the basis of the USDA FSIS standard) are appropriate to specify the time/temperature requirements to manage the risk of *Salmonella arizonae* in turkey meat. Based on these results, the following conditions (which will achieve a 7 Log reduction in *Salmonella* in turkey meat with 12% fat) will be included in the IHS:

- (i) 60°C for 2030 seconds; or
- (ii) 62°C for 1073 seconds; or
- (iii) 65°C for 370 seconds; or
- (iv) 70°C for 41 seconds; or
- (v) 72°C for 19 seconds; or
- (vi) 74°C for 9 seconds; or
- (vii) 76°C for 4 seconds; or
- (viii) 79°C for 1 second.

### Requirements recommended for the import health standard

EITHER

1. The product for export is derived from turkeys in a country/zone/compartiment free from *S. arizonae* as demonstrated by surveillance, conducted in accordance with Chapter 6.4 and 6.5 of the OIE Code, and approved by MAF;

OR

2. The product for export is derived from turkey breeding flocks, hatcheries, and rearing farms free from *S. arizonae*, as demonstrated by surveillance, conducted in accordance with Chapter 6.4 and 6.5 of the OIE Code;

OR

3. The turkey meat is derived from flocks demonstrated to be free of *S. arizonae* by testing at least 60 birds within the 7 day period before slaughter with either:

- (i) *Salmonella* culture on samples of pooled faeces or intestinal content; or
- (ii) A MAF approved diagnostic test;

OR

4. The product for export has been cooked and reached a core temperature of one of the following:

- (i) 60°C for 2030 seconds; or
- (ii) 62°C for 1073 seconds; or
- (iii) 65°C for 370 seconds; or
- (iv) 70°C for 41 seconds; or
- (v) 72°C for 19 seconds; or
- (vi) 74°C for 9 seconds; or
- (vii) 76°C for 4 seconds; or
- (viii) 79°C for 1 second.

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<sup>3</sup> Juneja VK, Eblen BS and Marks HM (2001) Modeling non-linear survival curves to calculate thermal inactivation of *Salmonella* in poultry of different fat levels. *International Journal of Food Microbiology* 70, 37-51.

## 4. Avian paramyxovirus-2 (APMV-2) and APMV-3

### Options presented in the *Import Risk Analysis: Turkey Meat*

#### Option 1

Turkey meat products that do not contain remnants of intestinal or respiratory tissue could be considered eligible for importation.

#### Option 2

Imported turkey carcasses could be derived from birds kept in a country, zone or compartment free from avian paramyxovirus - 2 (APMV-2) and avian paramyxovirus - 3 (APMV-3) since they were hatched or for at least the 21 days before export.

#### Option 3

Carcasses derived from flocks where virus isolation has demonstrated freedom from APMV-2 and APMV-3 at slaughter could be considered eligible for import.

#### Option 4

Imported turkey carcasses could be cooked to a core temperature of 80°C for 5 minutes or 70°C for 30 minutes.

#### Option 5

Imported turkey carcasses could be cooked to a core temperature of 80°C for 203 seconds or 70°C for 574 seconds.

### Options assessment and considerations

MAF considers the proposed risk management options 1, 2, 3 and 4/5 for this disease to be appropriate to effectively manage the risk.

The scientific justification for measures for APMV-2 and APMV-3, not notifiable to the OIE, is provided in the body of the *Import Risk Analysis: Turkey Meat*.

In turkeys, the anterior thoracic air sac and the paired posterior thoracic and thoraco-cervical air sacs are combined as an aggregate sac which communicates with the anteroventral portion of the lung. A large ventral diverticulum from the aggregate sac pneumatizes the sternum through several foramina on its dorsal surface and a diverticulum from the dorsal surface of the aggregate sac communicates with the spine from the second cervical vertebra to the fourth coccygeal vertebra, with numerous pneumatic foramina in each thoracic and coccygeal vertebra. A dorsal extension of the aggregate sac also pneumatizes the humerus. The pelvic bones are also pneumatized from the greater abdominal air sacs (Cover 1953)<sup>4</sup>.

Of all the hazards identified in the IRA, freedom from respiratory tissue was presented as a risk management option component only for APMV-2 and APMV-3. The exposure assessment (Section 6.2.2) stated “*Any respiratory or intestinal tissue remnants in imported turkey carcasses would be unlikely to be removed prior to cooking although, in the absence of any data to support this, it is assumed that some of this may be discarded as raw tissue prior to cooking and therefore accessible to backyard poultry*”. MAF recognises that some air sac tissue may remain in carcasses after routine evisceration, hence the requirement that entire turkey carcasses be from flocks free from APMV-2 and APMV-3 or be heat treated. However, it is reasonable

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<sup>4</sup> **Cover MS** (1953) Gross and microscopic anatomy of the respiratory system of the turkey III. The air sacs. *American Journal of Veterinary Research* 14, 239-245.

to assume that there is a negligible likelihood that susceptible species will be exposed to air sac remnants associated with pneumatised bones in bone-in turkey products prior to cooking.

MAF approved surveillance requirements will be based on the OIE Code Chapter 1.4. Specific details of surveillance systems required to establish country or zone freedom will be approved during bilateral negotiations with potential trading partners.

Specific details of surveillance systems required to establish compartment or flock freedom shall be submitted as part of the production system outline +/- biosecurity plan, and must be endorsed by the Veterinary Authority of the exporting country, and subsequently assessed for approval by MAF.

Cooking requirements for turkey carcasses are reflective of the current OIE standard for NDV. The *Import Risk Analysis: Turkey Meat* states these cooking time and temperature parameters could be accepted as an option to mitigate the risk of APMV-2 and APMV-3 in turkey carcasses. Option 5 will be adopted in the standard for turkey meat and meat products, as a thermal treatment for the product, to manage APMV-1 and APMV-3 risk.

## **Requirements recommended for the import health standard**

EITHER

1. The product for export does not include entire turkey carcasses;

OR

2. The product for export includes entire turkey carcasses and one of the following three requirements apply:

- The turkey carcasses are derived from birds kept in a country/zone/compartment free from APMV-2 and APMV-3 since hatching or for the 21 days before export in accordance with the surveillance requirements approved by MAF;

or

- The turkey carcasses are derived from flocks demonstrated to be free of APMV-2 and APMV-3 by testing at least 60 birds within the 7 day period before slaughter with either:
  - (i) Virus isolation on samples of pooled faeces or intestinal content; or
  - (ii) A MAF approved diagnostic test;

or

- The turkey carcasses have been cooked and reached a core temperature of one of the following:
  - (i) 65°C for 840 seconds; or
  - (ii) 70°C for 574 seconds; or
  - (iii) 74°C for 280 seconds; or
  - (iv) 80°C for 203 seconds.

## 5. Turkey coronavirus (TCV)

### Options presented in the *Import Risk Analysis: Turkey Meat*

#### Option 1

Turkey meat products that do not contain remnants of the bursa of Fabricius could be considered eligible for import.

#### Option 2

Turkey meat could be imported from countries where TCV has not been recognised.

#### Option 3

Turkey meat could be imported from a flock where testing of pooled faeces or intestinal content by RT-PCR has demonstrated no infection with TCV on the day of slaughter.

#### Option 4

Turkey meat to be imported could be cooked in accordance with the conditions required to manage the risk associated with NDV (see Section 5.3.1 of the *Import Risk Analysis: Turkey Meat*).

### Options assessment and considerations

MAF considers the proposed risk management options 1, 2, 3 and 4 for this disease to be appropriate to effectively manage the risk.

The scientific justification for measures for TCV not notifiable to the OIE is provided in the body of the *Import Risk Analysis: Turkey Meat*.

MAF expectation from option 2 is that no case of TCV has been known to occur in that country. The import health standard recommended wording reflects this expectation.

Cooking requirements for turkey meat are reflective of the current OIE standard for NDV. The *Import Risk Analysis: Turkey Meat* states these cooking time and temperature parameters could be accepted as an option to mitigate the risk of TCV in turkey meat and meat products. Option 4 will be adopted in the standard for turkey meat and meat products, as a thermal treatment for the product, to manage TCV risk.

### Requirements recommended for the import health standard

EITHER

1. The product for export does not include entire turkey carcasses and is free from bursal tissue;

OR

2. The product for export includes entire turkey carcasses and one of the following three requirements apply:

- The turkey carcasses are derived from birds in a country/zone/compartiment where no known case of TCV has been recorded;

or

- The turkey carcasses are derived from flocks demonstrated to be free of TCV by testing at least 60 birds within the 7 day period before slaughter with either:

- (i) RT-PCR on samples of pooled faeces or intestinal content; or
- (ii) A MAF approved diagnostic test;

or

- The turkey carcasses have been cooked and reached a core temperature of one of the following:
  - (i) 65°C for 840 seconds; or
  - (ii) 70°C for 574 seconds; or
  - (iii) 74°C for 280 seconds; or
  - (iv) 80°C for 203 seconds.

## 6. Turkey viral hepatitis (TVH)

### Options presented in the *Import Risk Analysis: Turkey Meat*

#### Option 1

Turkey meat products that do not contain remnants of liver, pancreas, and intestinal tract could be considered eligible for import.

#### Option 2

Imported turkey carcasses could be required to originate from flocks with no history of unusually high liver condemnations at slaughter.

### Options assessment and considerations

MAF considers the proposed risk management options 1 and 2 for this disease to be appropriate to effectively manage the risk.

The scientific justification for measures for TVH, not notifiable to the OIE, is provided in the body of the *Import Risk Analysis: Turkey Meat*.

Since TVH is a subclinical disease and there is no serological procedure available for diagnosis, liver condemnation rates are used to determine flock freedom from TVH. In TVH affected flocks, liver condemnation at slaughter varies between 30-90% (McFerran JB (1993)<sup>5</sup>). Monthly liver condemnation data from turkeys in Canada (see: [http://www.agr.ca/poultry-volaille/condmn\\_eng.htm](http://www.agr.ca/poultry-volaille/condmn_eng.htm)) from January 1999 to October 2010 shows the mean number of condemnations per 10,000 birds at slaughter can be expected to be around 8.1, with a standard deviation of approximately 3.54. It is therefore recommended that a requirement of liver condemnation rates of <2% be inserted in the IHS.

### Requirements recommended for the import health standard

EITHER

1. The product for export does not include entire turkey carcasses, and is free from liver, pancreatic and intestinal tissue;

OR

2. The product for export includes entire turkey carcasses which were derived from birds slaughtered in a Veterinary Authority approved abattoir with documented evidence that demonstrates liver condemnation rates less than 2%.

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<sup>5</sup> **McFerran JB** (1993) Turkey viral hepatitis. In: McFerran J B, McNulty M S (eds) *Virus Infections of Birds*. Pp 515-7. Elsevier, Amsterdam.