Ministry for Primary Industries
Manatū Ahu Matua

Risk Management Proposal

Duck Meat and Duck Meat Products

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Growing and Protecting New Zealand

Disclaimer

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1 Purpose

(1) The purpose of this document is to:

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

2 Background

(1) Poultry meat and meat products are considered a risk commodity, with the potential to harbour exotic viruses and bacteria. In October 2012, the Ministry for Primary Industries (MPI) completed a draft import risk analysis (IRA) for duck and chicken meat. In October 2012, work commenced on developing a generic import health standard (IHS) for duck meat and meat products based on that analysis. Although chicken meat was also included in the risk analysis the scope of the IHS is limited to duck meat and duck meat products. A separate IHS for chicken meat will be developed.

(2) The IHS requirements manage the biosecurity risk of importing duck meat and duck meat products from any country with an appropriate poultry export system. The generic IHS serves as the basis for country to country (bilateral) negotiations of country specific veterinary certificates. A guidance document will be issued by MPI and this will provide commodity specific guidance information including samples of country specific bilaterally-agreed veterinary certification for trade in duck meat and duck meat products.

(3) MPI will negotiate country specific veterinary certificates with the exporting country's Competent Authority once MPI is satisfied with the exporting country's export systems. The assessments will be based on the World Organisation for Animal Health (OIE) Terrestrial Animal Health Code (the *Code*) section 3, Quality of Veterinary Services. MPI will consider the verifiable health status of the exporting country, the national systems, legislation and import requirements in the exporting country for regulatory oversight of the poultry industry, and the capabilities and preferences of the exporting country's Competent Authority.

3 Objective

(1) The objective is to effectively manage biosecurity risks associated with the import of duck meat and duck meat products, consistent with New Zealand's domestic legislation and international obligations.

4 Options assessment

(1) 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.

(2) For a detailed analysis of potential hazards and their risks please refer to the supporting documents, *Import Risk Analysis: Chicken and Duck Meat for Human Consumption (October 2012) (the risk analysis)* which contains the relevant risk assessment and an analysis of management options for each risk organism.

(3) Of the potential hazards, the risk analysis concluded that risk management measures were justified for the following risk organisms in imported duck meat:

a) Newcastle disease virus
b) Highly pathogenic avian influenza virus
c) Duck hepatitis virus
d) Derzsy's disease virus (Muscovy ducks and their hybrids only)
e) *Salmonella arizonae*

(4) In addition to the above hazards, risk management measures were justified for the following risk organisms in imported entire duck carcasses:

a) Avian paramyxovirus-2
b) Duck virus enteritis virus

(5) This document will discuss the options and recommendations for risk management measures for duck meat. For a discussion of organisms where no risk management measures are recommended, see the risk analysis.

5 General requirements for all importations of poultry meat

(1) The commodity considered in the import risk analysis for chicken and duck meat was defined as chilled or frozen meat[1] and meat products[2] derived from chickens (*Gallus gallus*) or 4 types of duck

a) Domestic duck (*Anas platyrhynchos domestica*)
b) Pekin duck (*Anas peking*)
c) Muscovy duck (*Cairina moschata*)
d) Muscovy duck hybrid (known as mulard or moulard)

(2) The meat must be derived from birds slaughtered an abattoir approved by the Competent Authority for export of the product to New Zealand, and have passed ante- and post-mortem meat inspection.[3] The abattoir and processing plant must operate Good Manufacturing Practice (GMP) and a Hazard Analysis and Critical Control Point (HACCAP) programme to the satisfaction of the Competent Authority.

(3) The commodities covered in the risk analysis included:

a) Whole chicken or duck carcasses that have been subject to routine evisceration procedures. These may be uncooked, unskinned, and may include the head and feet.
b) Bone-in chicken or duck meat and meat products such as wings or leg.
c) Boneless chicken or duck meat and meat products such as breasts, boned-out thigh.
d) Reconstituted[4] chicken or duck meat or meat products comprised of meat and skin.

(4) All duck meat and duck meat products must be derived from an MPI approved production system as described in Schedule 2 of the IHS.

(5) The IHS provides measures that the duck meat or duck meat products must meet prior import. Commodities derived from duck meat or duck meat products, such as value added products, or composite products (where the duck meat or duck meat products are only a component of the product) will also be eligible for import so long as all the ingredients in the product meet the requirements of their respective IHSs.

6 Considerations for specific requirements for identified risk organisms

Specific requirements for identified risk organisms are located in Part 2 of the IHS

(1) It should be noted that for each risk organism, risk management requirements are specified in Part 2 of the IHS using the general form:

Either:

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

1 Skeletal muscle with naturally included or inherent tissue or bone. This definition excludes animal by-products, offal, and giblets.

2 Products prepared from or with meat that has undergone treatment such that the cut surface shows that the product no longer has the characteristics of fresh meat (e.g. cooked or cured).

3 The ante-mortem and post-mortem inspection, slaughter and processing plant, and labelling and packaging requirements are specified in the IHS.

4 Reconstituted meat is a liquefied meat product used as a meat supplement in foods such as chicken nuggets and food for domestic animals. For the purposes of this risk analysis reconstituted meat products are comprised only of chicken or duck meat and skin.

(2) Each option is considered to effectively manage the risk, and will be included in the IHS for duck meat and duck meat products.

(3) Where specific Articles of the *Code* have been referred to in the risk analysis the IHS may not state these, as Article numbers may change with each *Code* review. The *Code* is legally incorporated by reference in the IHS.

(4) Compartment freedom requirements will be specific to a particular organism and production and processing system. Compartments will only be approved after MPI assessment of submissions according to Schedule 2 and Schedule 3 of the IHS.

(5) Specific details of surveillance systems required to establish compartment, zone or flock freedom shall be submitted as part of the production system outline and biosecurity plan, and must be endorsed by the Competent Authority of the exporting country, and subsequently assessed for approval by MPI.

(6) MPI approved surveillance requirements will be based on the *Code* Chapter for animal health surveillance. Specific details of surveillance systems required to establish country or zone freedom will be approved during bilateral negotiations with potential trading partners.

(7) Where there are requirements for flock freedom, the IHS requires that the flock is kept in accordance with the *Code* Chapter for biosecurity procedures in poultry.

(8) MPI approved diagnostic tests must be either described in the OIE *Manual* or approved after consultation with MPI Investigation and Diagnostic Centre (IDC) laboratory experts. Tests must be considered by IDC as valid for diagnostic purposes in ducks and must be appropriate for surveillance for the identified risk organism. MPI approved diagnostic tests will be listed in the MPI document, Approved Diagnostic Tests, Vaccines, Treatments and Post-Arrival Testing Laboratories Testing for Animal Import Health Standards (MPI-STD-TVTL).

(9) The recommended options for the IHS specify which vaccines, if any, can be used to vaccinate the source flock. In some instances there is allowance for an MPI approved vaccine to be used. For a vaccine to be approved by MPI, the Competent Authority of the exporting country should submit details of the vaccination protocol, including vaccine type, discussion of potential risks with the vaccine and how they can be managed (for example reversion to virulence), and surveillance details, including how vaccinated animals will be distinguished from infected animals. If satisfied with the information received MPI will list the approved vaccines in MPI-STD-TVTL.

(10) The IHS 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, the number of birds in the flock used for this calculation is 500 or more.

6.1 Food Act 1981 and Animal Products Act 1999

(11) The IHS, issued under the Act 1993, only contains requirements to be met for effective management of risks associated with importing goods that pose a biosecurity threat to New Zealand, however it does contain a section referring importers to check requirements under other legislation, particularly the Food Act 1981 and Animal Products Act 1999 are met .

7 Recommendations for identified risk organisms

7.1 Newcastle disease virus (NDV)

Options presented in the *risk analysis*

(1) Option 1:

a) Imported duck meat could be derived from birds kept in a country, zone or compartment free from NDV since they were hatched or for at least the past 21 days. Freedom could be based on surveillance in accordance with Articles 10.9.22 to 10.9.26 of the *Code*.
b) Vaccination in flocks could be permitted using an inactivated APMV-1 vaccine or a live lentogenic virus strain which is shown to have an ICPI < 0.7.

(2) 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.

(3) Option 3:

Imported duck meat could be cooked as specified in Article 10.9.21 of the *Code*.

7.1.1 DISCUSSION

Options 1 and 3 offer effective risk management for this disease organism. Option 2 is not included in order to align with the OIE *Code*. The current *Code* conditions will be adopted. Article 10.9.21 of the *Code* describes the following cooking conditions for poultry meat that will achieve a 7-log reduction in ND:

Table 1. Temperature/time requirements to inactivate NDV in poultry meat

Core temperature (°C).	Time
65.0	39.8 seconds
70.0	3.6 seconds
74.0	0.5 seconds
80.0	0.03 seconds

The Intracerebral Pathogenicity Index (ICPI) test is relatively insensitive when applied to viruses with low pathogenicity and, as an alternative, F0 cleavage site sequencing can be used for differentiating strains. However, although the demonstration of the presence of virus with multiple basic amino acids at the F0 cleavage site confirms the presence of virulent or potentially virulent virus, failure to demonstrate multiple basic amino acids at the F0 cleavage site using molecular techniques does not confirm the absence of virulent virus.

As all strains of APVM-1 recovered in New Zealand have an ICPI<0.7 the ICPI of the master seed virus strains used to develop the vaccine should have an ICPI that does not exceed 0.4. This is discussed in the OIE Manual of Diagnostic Tests and Vaccines for Terrestrial Animals (the *Manual*) as follows:

> *The OIE Biological Standards Commission similarly recommended in 2000 that in principle vaccines should have an ICPI <0.7. However, in order to account for interassay and interlaboratory variability a safety margin should be allowed so that vaccine master seed virus strains should not have an ICPI exceeding 0.4.*

7.1.2 RECOMMENDATION

(1) The product for export must be cooked in accordance with the *Code* recommendations for inactivation of NDV in meat; or

(2) The product for export must be derived from flocks:

a) Kept in a country, zone or compartment free from Newcastle disease (ND) since hatching or for the 21 days before export, with current *Code* surveillance requirements being met to claim freedom.
b) With a vaccination status of not vaccinated for ND; or vaccinated using an inactivated vaccine for ND; or vaccinated with a live lentogenic vaccine strain where the master seed virus has been demonstrated to have an ICPI not exceeding 0.4.

7.2 Avian paramyxovirus-2 (APMV-2)

Options presented in the *risk analysis*

(1) Option 1:

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

(2) Option 2:

Imported duck carcasses could be derived from birds kept in a country, zone or compartment free from APMV-2 since they were hatched or for at least the past 21 days.

(3) Option 3:

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

(4) Option 4:

Imported duck carcasses could be cooked as specified in Article 10.9.21 of the *Code* (see table 1 above).

7.2.1 DISCUSSION

There are no recommendations for APMV-2 in the *Code.* MPI considers the proposed risk management options 1, 2, 3 or 4 for this disease to be appropriate to effectively manage the risk.

Risk management option 1 allows duck products free of respiratory tissue or intestine with no additional risk mitigation measures. Because of extensive nature of the respiratory system of the duck, with abdominal air sacs and pneumatic bones, it is difficult to certify any bone-in cuts are free of respiratory tissue. This clause has been written so that it excludes cuts of duck that are likely to have adherent viscera remnants that may remain after routine evisceration. This includes bone-in breast that may have adherent lung tissue on the inside of the ribs and vertebrae, or leg quarters with attached back bone that may have attached kidney tissue. It is assumed that there is a negligible likelihood of susceptible species being exposed to air sac remnants associated with pneumatised bones in other bone-in cuts, such as legs, wings or thighs, prior to cooking.

Specific details of surveillance systems required to establish country, zone, compartment or flock freedom shall be submitted during bilateral negotiations, as part of the production system outline and biosecurity plan (when required), and must be endorsed by the Competent Authority of the exporting country. MPI assessment will be based on systems' alignment with the *Code* Chapter for animal health surveillance.

Cooking requirements for duck carcasses are reflective of the *Code* recommendations for NDV. The risk analysis states these cooking time and temperature parameters could be accepted as an option to mitigate the risk of APMV-2 in poultry carcasses.

7.2.2 RECOMMENDATION

(1) The product for export must not include entire carcasses or cuts of duck that may contain remnants of adherent viscera, such as bone-in breast and leg quarter or thighs with back bone; or

(2) If the product for export includes entire carcasses or cuts of duck meat that may contain remnants of adherent viscera one of the following requirements apply;

a) The product must be derived from flocks kept in a country, zone or compartment free from APMV-2 since hatching or for the 21 days before export where surveillance demonstrates the absence of disease or infection; or
b) The product must be derived from flocks demonstrated to be free of APMV-2 by testing at least 60 birds at slaughter with a test for APMV-2 listed MPI-STD-TVTL; or
c) The product for export must be cooked in accordance with the *Code* recommendations for inactivation of NDV in meat.

7.3 Highly pathogenic avian influenza (HPAI) virus

Options presented in the *risk analysis*

(1) Option 1:

Imported duck meat could be derived from birds kept in a country, zone or compartment free from HPAI since they were hatched or for at least the past 21 days. Freedom could be based on surveillance in accordance with Articles 10.4.27 to 10.4.33 of the *Code*.

(2) Option 2:

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

(3) Option 3:

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

Table 2. Temperature/time requirements to inactivate AI virus in poultry meat

Temperature (°C).	Time (seconds)
60.0	507
65.0	42
70.0	3.5
73.9	0.51

7.3.1 DISCUSSION

Options 1 and 3 offer effective risk management for this disease organism. Option 2 will not be included, in order to align with the *Code*. The current *Code* cooking options are the same as those listed in the IHS for turkey meat and meat products. The current *Code* conditions will be adopted. Article 10.4.26 of the *Code* describes the cooking conditions for poultry meat that will achieve inactivation of the AI virus in meat. The *Code* requires that fresh meat is derived from a flock kept in a country, zone or compartment free from HPAI and that the poultry was slaughtered in a country, zone or compartment free from HPAI and had passed ante- and post-mortem and have been found free of any signs suggestive of avian influenza.

7.3.2 RECOMMENDATION

(1) The product for export must be derived from flocks kept in a country, zone or compartment free from HPAI since hatching or for at least 21 days before export, with current *Code* surveillance requirements being met to claim freedom; or

(2) The product for export must be cooked in accordance with the *Code* recommendations for inactivation of avian influenza viruses in meat.

7.4 Duck hepatitis virus (DHV)

Options presented in the *risk analysis*

(1) Option 1:

Imported duck meat, duck meat products and whole duck carcasses could be cooked to a core temperature of at least 62°C for no less than 30 minutes.

(2) Option 2:

Duck meat, duck meat products and whole duck carcasses could be imported from establishments and/or hatcheries where DHV has not been recognised.

(3) Option 3:

Competent Authorities of importing countries should require the presentation of an international veterinary certificate attesting that duck meat, duck meat products and whole duck carcasses for import have been derived from birds that:

a) Showed no clinical sign of DVH on the day of slaughter;
b) Come from establishments which are recognised as being free from DVH;
c) Have not been vaccinated against DVH; or
d) Were vaccinated against DVH (the nature of the vaccine used and the date of vaccination should also be stated in the certificate).

7.4.1 DISCUSSION

The options presented in the risk analysis are adapted from the *Code* measures for trade in live birds. Option 2 is essentially the same as option (3)b so will be considered only once. The disease is rapidly spreading and fatal in young ducklings, however morbidity and mortality is variable and decreases with age. Recognition of establishment freedom would require the Competent Authority of the exporting country to certify there have been no known cases in the establishment, as well as the standard requirements of the establishment meeting the *Code* requirements for biosecurity in poultry production.

An option not discussed in the IRA is recognition of country freedom. This is not an option presented in the *Code* for live birds, but is an acceptable option for countries, such as Australia, that could be accepted as free of DVH.

Whilst only live attenuated vaccines are discussed in the OIE *Manual*, the option for vaccination is included if a suitable vaccine does become available. Any vaccines used would first need to be approved by MPI.

As discussed in section 6(9) of this risk management proposal, for a vaccine to be approved by MPI, the Competent Authority of the exporting country should submit details of the vaccination protocol, including vaccine type, discussion of potential risks with the vaccine and how they can be managed (for example reversion to virulence), and surveillance details, including how vaccinated animals will be distinguished from infected animals. If satisfied with the information received MPI will list the approved vaccines in MPI-STD-TVTL. Currently it is unlikely a live attenuated vaccine would meet MPI criteria as the risk analysis discusses that reversion to virulence has been demonstrated with attenuated live virus passages in ducklings.

During assessment of the production system, if vaccination is used either in ducklings or the parent flock to provide maternal immunity to ducklings, the Competent Authority will need to demonstrate how they can certify that duck virus hepatitis has not been recognised. In this circumstance clinical surveillance alone may not be sufficient to detect infection and the Competent Authority will need to explain the surveillance measures undertaken to support the claim that duck virus hepatitis has not been recognised.

It is also noted that the virus is very resilient. During the production system outline approval process, particular attention should be paid to the precautions used during processing, storage and transport to prevent contact of the commodity with risk organisms.

7.4.2 RECOMMENDATION

(1) The product for export must be derived from flocks kept since hatching in a country recognised by the Competent Authority as free from duck virus hepatitis; or

(2) The product for export must be derived from flocks:

a) Kept since hatching in an establishment managed in accordance with the *Code* Chapter for biosecurity procedures in poultry where duck virus hepatitis has not been recognised.
b) That showed no clinical signs of duck viral hepatitis on the day of slaughter.
c) That have a vaccination status of either not vaccinated for DVH, or vaccinated with a vaccine for DVH listed in MPI-STD-TVTL; or

(3) The product for export must be cooked to a core temperature of at least 62°C for no less than 30 minutes.

7.5 Duck virus enteritis (DVE)

Options presented in the *risk analysis:*

Duck virus enteritis (DVE) is assessed not to be a risk in duck meat and duck meat products. One or a combination of the following options could be considered in order to effectively manage the risk in whole duck carcasses.

(1) Option 1:

Duck enteritis virus is inactivated after heating at 56°C for 10 minutes, therefore cooking may be appropriate to manage the risk of introducing the virus in the commodity. Imported whole duck carcasses could be cooked in accordance with the conditions required to manage the risk associated with NDV.

(2) Option 2:

Whole duck carcasses could be imported from establishments where DVE has not been recognised. However it is not easy to certify individual birds or populations to be free from DVE (Burgess et al 1979).

(3) Option 3:

a) Previous editions of the OIE *Code* contained recommendations for sanitary measures against DVE for the importation of live ducks. The following measures have been adapted from these earlier OIE *Code* recommendations and could be applied to the importation of whole duck carcasses:
b) Competent Authorities of importing countries should require the presentation of an international veterinary certificate attesting that the birds:

i) Showed no clinical sign of DVE on the day of (slaughter);
ii) Come from establishments which are regularly inspected by the Competent Authority;
iii) Come from establishments which are recognised as being free from DVE;
iv) Have not been vaccinated against DVE; or
v) Were vaccinated against DVE (the nature of the vaccine used and the date of vaccination should also be stated in the certificate).

(4) It should be noted that uncertainty exists over the potential for attenuated live DVE vaccine to undergo reversion to virulence. Vaccinated birds may therefore be a source of DVE infection.

7.5.1 DISCUSSION

The options presented in the risk analysis are adapted from previous editions of the *Code* Chapter's measures for trade in live birds. Option 2 will not be included as a standalone measure as establishment freedom is covered in option (3)b)iii) with additional requirements for ensuring freedom.

Recognition of establishment freedom would require the Competent Authority of the exporting country to certify there have been no known cases in the establishment, as well as the standard requirements of the establishment meeting the *Code* requirements for biosecurity in poultry production. The requirement for regular inspection of the premise has not been included, however it is expected the Competent Authority will ensure appropriate measures have been taken to identify any case that may occur on that establishment, such as investigating any disease outbreaks and inspecting flock records. The option to allow vaccination is included but the vaccine must first be approved by MPI.

The risk management options include allowing duck meat or duck meat products (but not carcasses) with no additional risk mitigation measures. The risk analysis states virus may be isolated from the liver, spleen or kidneys. It is therefore proposed to word the clause to exclude cuts of duck that are likely to have adherent viscera remnants after routine evisceration. This includes bone-in breast that may have adherent lung tissue on the inside of the ribs and vertebrae, or leg quarters with attached back bone that may have attached kidney tissue.

An option not discussed in the risk analysis is recognition of country freedom. This is not an option presented in the *Code* for live birds, but is an acceptable option for countries that could be accepted as free of DVE.

7.5.2 RECOMMENDATION

(1) The product for export must not include entire carcasses or cuts of duck that may contain remnants of adherent viscera, such as bone-in breast and leg quarter or thighs with back bone; or

(2) If the product for export includes entire carcasses or cuts of duck that may contain remnants of adherent viscera one of the following requirements apply:

a) The product for export must be derived from flocks kept since hatching in a country recognised by the competent Authority as free from DVE; or

b) The product for export must be derived from flocks:

i) Kept since hatching in an establishment managed in accordance with the *Code* Chapter for biosecurity procedures in poultry where DVE has not been recognised.

ii) That showed no clinical signs of DVE on the day of slaughter.

iii) That have a vaccination status of either not vaccinated for DVE, or vaccinated with a vaccine for DVE listed in MPI-STD-TVTL; or

c) The product for export must be cooked in accordance with the *Code* recommendations for inactivation of NDV in meat.

7.6 Derzsy's disease virus

Options presented in the *risk analysis:*

(1) Other than geese, only Muscovy ducks and their hybrids are susceptible to infection with waterfowl parvoviruses which cause Derzsy's disease. No measures are required for ducks other than Muscovy ducks or their hybrids. One or a combination of the following options could be considered in order to effectively manage the risk:

(2) Option 1:

Muscovy duck meat, duck meat products and whole duck carcasses could be imported from establishments where Derzsy's disease has not been recognised.

(3) Option 2:

a) Muscovy duck meat, duck meat products and whole duck carcasses could be imported according to the following recommendations:
b) Competent Authorities of importing countries should require the presentation of an international veterinary certificate attesting that the birds:

   i) Showed no clinical sign of Derzsy's disease on the day of slaughter;
   ii) Come from establishments which are recognised as being free from Derzsy's disease;
   iii) Have not been vaccinated against Derzsy's disease; or
   iv) Were vaccinated against Derzsy's disease with an inactivated vaccine (the nature of the vaccine used and the date of vaccination should also be stated in the certificate).

7.6.1 DISCUSSION

The options presented in the risk analysis are for Muscovy ducks and their hybrids only. Because Derzsy's disease is highly virulent and contagious, infected flocks are very likely to show evidence of disease.

An option not discussed in the risk analysis but should be considered is recognition of country freedom. This would be an acceptable option for countries that could be recognised as free of Derzsy's disease.

7.6.2 RECOMMENDATION

(1) The product for export must not contain duck meat derived from Muscovy ducks (*Cairina moschata*) or their hybrids (known as mulard or moulard ducks); or

(2) If the product for export is derived from Muscovy ducks or their hybrids:

   a) The product for export must be derived from flocks kept since hatching in a country recognised by the Competent Authority as free from Derzsy's disease; or
   b) The product for export must be derived from flocks:
      i) Kept since hatching in an establishment managed in accordance with the *Code* Chapter for biosecurity procedures in poultry where Derzsy's disease has not been recognised.
      ii) That showed no clinical signs of Derzsy's disease on the day of slaughter.
      iii) That have a vaccination status of either not vaccinated for Derzsy's disease, or vaccinated with a vaccine for Derzsy's disease listed in MPI-STD-TVTL.

7.7 *Salmonellae arizonae*

Options presented in the *risk analysis*

(1) Option 1:

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

(2) Option 2:

Imported duck 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 Chapter 6.5 of the *Code.*

(3) Option 3:

Imported chicken or duck meat could be cooked as currently required by MPI's import health standards for turkey meat as listed below:

Table 3. Temperature/time requirements to achieve log 7 reduction in Salmonella in turkey meat with 12% fat

Temperature (°C)	Time (seconds)
60	2030
62	1073
65	370
70	41
72	19
74	9
76	4
79	1

7.7.1 DISCUSSION

The options presented in the risk analysis are for *Salmonella arizonae* only. *S. arizonae* is not an OIE listed disease; however the IRA concluded risk management measures were justified.

The specific flock testing option (option 2) is aligned with the *Code* requirements. This testing option meets the *Code's* recommendations regarding poultry for the production of meat, Chapter 6.5, which is stated as follows:

Poultry for the production of meat

a. Flocks should be sampled at least once.

b. When sampling occurs on farms and when there is a long period (two weeks or more) between thinning and final depopulation, further testing should be considered.

c. When sampling occurs on farms, flocks should be sampled as late as possible before the first birds are transported to the slaughterhouse. In order to allow for the implementation of control measures during processing, this should be done at a time that ensures the results are available before slaughter.

Whether sampling occurs on the farm which is more appropriate for consequent control measures or at the processing plant, there should be an integrated system in place which allows for investigation of the source of positive flocks.

7.7.2 RECOMMENDATION

(1) The product for export must be derived from flocks kept in a country, zone or compartment free from *Salmonella arizonae* as demonstrated by surveillance, conducted in accordance with the *Code* Chapter for prevention, detection and control of *Salmonella* in poultry; or

(2) The product for export must be derived from breeding flocks, hatcheries, and rearing farms free from *S. arizonae*, as demonstrated by surveillance conducted in accordance with the *Code* Chapter for prevention, detection and control of *Salmonella* in poultry; or

(3) The product for export must be derived from a flock that has been demonstrated to be free from *S. arizonae* by testing at least 60 birds at slaughter with a test for *S. arizonae* listed in MPI-STD-TVTL; or

(4) The product for export must be cooked and have reached a core temperature for one of the time/temperature parameters specified in table 3.