

Discussion Paper: Options to  
determine the current status of  
*Campylobacter* and *Salmonella* in  
turkey and duck carcasses at the  
end of primary processing

MPI Discussion Paper No: 2015/43

By The Animal Products Group  
For the NMD Notice Consultation

ISBN No: 978-1-77665-100-9 (online)

ISSN No: 2253-3907 (online)

November 2015

## Disclaimer

The information in this publication is for consultation only: it is not government policy. While every effort has been made to ensure the information in this publication is accurate, the Ministry for Primary Industries does not accept any responsibility or liability for error of fact, omission, interpretation or opinion that may be present, nor for the consequences of any decisions based on this information. Any view or opinion expressed does not necessarily represent the view of the Ministry for Primary Industries.

Requests for further copies should be directed to:

Publications Logistics Officer  
Ministry for Primary Industries  
PO Box 2526  
WELLINGTON 6140

Email: [animal.products@mpi.govt.nz](mailto:animal.products@mpi.govt.nz)

Telephone: 0800 00 83 33

Facsimile: 04-894 0300

This publication is also available on the Ministry for Primary Industries website at

<http://www.mpi.govt.nz/news-resources/publications.aspx>

© Crown Copyright - Ministry for Primary Industries

# Contents

Page

---

<b>1</b>	<b>Executive Summary</b>	<b>1</b>
<b>2</b>	<b>Introduction</b>	<b>3</b>
2.1	Background	3
2.2	National Microbiological Database Programme	3
2.3	Poultry Industry Request To Amend The SPS	3
<b>3</b>	<b>Data analysis</b>	<b>5</b>
3.1	RMP operators	5
3.2	Current data	5
<b>4</b>	<b>Options for risk management</b>	<b>7</b>
4.1	Option 1: No change – maintain the status quo	7
4.2	Option 2: Include the monitoring of <i>Salmonella</i> and <i>Campylobacter</i> in duck and turkey meat in the NMD	8
4.3	Option 3: Determine the current status of <i>Campylobacter</i> and <i>Salmonella</i> contamination on turkey and duck carcasses by conducting a microbiological survey at retail	9
4.4	MPI's preferred option	9
<b>5</b>	<b>Incorporation of ducks and turkeys into the NMD</b>	<b>10</b>
5.1	Amendment of the NMD specification	10
5.2	Date of commencement	10
5.3	Duration of interim sampling programme	10
5.4	Sampling programme	10
5.5	Sampling methods and procedures	10
5.6	Sampling frequency	11
5.7	Technological amendments	11
5.8	Costs	11
<b>6</b>	<b>References</b>	<b>13</b>
<b>7</b>	<b>Appendix: USDA FSIS Performance Standards for Salmonella and Campylobacter in Poultry</b>	<b>14</b>

## DISCUSSION PAPER: OPTIONS TO DETERMINE THE CURRENT STATUS OF CAMPYLOBACTER AND SALMONELLA IN TURKEY AND DUCK CARCASSES AT THE END OF PRIMARY PROCESSING

This discussion paper provides options to determine the current status of *Campylobacter* and *Salmonella* contamination in turkey and duck carcasses at the end of primary processing. Ministry for Primary Industries (MPI) emphasises that the views and recommendations outlined in the paper are preliminary and are provided as a basis for consultation with stakeholders.

MPI will analyse submissions and amend the National Microbiological Database specification given due consideration to feedback received. Once the amendment is finalised it will be issued by MPI and posted on the MPI website. Hard copies will be available on request.

### SUBMISSIONS

MPI welcomes written submissions on the proposals contained in this document. All submissions must be received by MPI no later than 4 December 2015

Written submissions should be sent directly to:

Chemical and Microbiological Assurance  
Ministry for Primary Industries  
Pastoral House  
25 The Terrace  
P O Box 2526  
Wellington 6140

or emailed to [nmd@mpi.govt.nz](mailto:nmd@mpi.govt.nz)

### RELEASE OF SUBMISSIONS

MPI expects to release all submissions. If you have specific reasons for wanting to have your submission or personal details withheld, please set out your reasons in the submission. All submissions are also subject to the Official Information Act 1982 and can be released (along with the personal details of the submitter) under the Act. MPI will consider those reasons when making any assessment under the Act.

# 1 Executive Summary

Regulatory monitoring requirements for the verification of *Salmonella* and *Campylobacter* controls on meat chickens (broilers) at the end of primary processing have been included in the Animal Products (National Microbiological Database Specifications) Notices since mid-2001, and 2008 respectively.

In May 2014, the Poultry Industry Association of New Zealand (PIANZ) requested that the *Salmonella* Performance Standard (SPS) within the National Microbiological Database (NMD) should be changed to apply to ducks, and in June, proposed a further extension for turkeys. PIANZ proposed that a *Salmonella* Performance Standard be based on those from the USDA FSIS where *Salmonella* may be detected in no more than 12 of 51 consecutive duck or turkey samples. The proposals also requested a future alignment of SPS for ducks and turkeys with a previously requested (April 2014) amendment for young chicken meat where *Salmonella* may be detected in no more than 5 of 51 consecutive samples that is currently under review by the Ministry for Primary Industries (MPI).

MPI has sought information and views from the poultry industry to inform the development of this paper which have helped with the development and assessment of options.

There is minimal contemporary New Zealand data available on the prevalence and concentration of *Salmonella* and *Campylobacter* (the main foodborne pathogens of concern) in ducks or turkeys to assist in setting a performance standard. After agreement from MPI's *Campylobacter* Risk Management Strategy Working Group and *Salmonella* Risk Management Strategy Working Group, MPI has prepared this paper to look at the feasibility of various options to determine the current status of *Salmonella* and *Campylobacter* in duck and turkey carcasses at the end of primary processing. Whilst there is little data on the occurrence of *Salmonella* and *Campylobacter* in ducks and turkeys, the information that is available indicates that *Campylobacter* is the main foodborne pathogen of concern and that any microbiological monitoring programme for these poultry should include this bacterium. Any results will inform whether there is a risk associated with these species of poultry and further whether additional risk management options are appropriate. These risk management options may include the verification of microbiological controls for duck and turkey meat in the NMD and the introduction of performance targets and standards.

MPI's preferred approach is to expand the scope of the microbiological monitoring component of NMD poultry programme to include ducks and turkeys without the application of the *Salmonella* Performance Standard or the *Campylobacter* Performance Target. It is proposed that ducks and turkeys are included in the NMD programme for an estimated period of between 12 and 24 months to determine the current status of *Salmonella* and *Campylobacter* in these species at the end of primary processing. The duck and turkey programme will be reviewed after 12 months and sampling will continue for *Salmonella* and *Campylobacter* until a sufficient number of samples have been gathered to help determine if a risk exists and any risk management options as appropriate. These risk management options may include the termination of the turkey and duck programme, or the continuation of the programme with or without the application of microbiological limits for *Salmonella* and *Campylobacter* at the end of primary processing.

This document is one of three documents that address proposals from MPI to amend the poultry NMD programme. The other two documents address a proposed amendment to the *Salmonella* Performance Standard for young chickens and the inclusion of all chickens. MPI will analyse all submissions received

in response to the proposed options, and if appropriate, will amend the National Microbiological Database Specification to include ducks and turkeys within its scope.

## 2 Introduction

### 2.1 BACKGROUND

The New Zealand poultry industry has been included in the NMD regulatory monitoring programme outlined in the Animal Products (National Microbiological Database Specifications) Notices since mid-2001 (MPI, 2015a). This initially included testing meat chickens (broilers) at the end of primary processing for *E. coli* and for *Salmonella* in accordance with the *Salmonella* Performance Target (SPS). The SPS was implemented where *Salmonella* may be detected in no more than 12 out of 51 consecutive poultry samples in any sample set collected. This was based on the requirements at the time, of the Food Safety and Inspection Service of the United States Department of Agriculture (USDA FSIS) which were updated in May 2015 (USDA FSIS, 2015).

In 2006, when attribution studies estimated that greater than 50% of human foodborne *Campylobacter* cases were attributed to the consumption of poultry meat, MPI (then the New Zealand Food Safety Authority (NZFSA)) implemented a risk management strategy for *Campylobacter* (NZFSA, 2008). This led to control measures being applied at production and processing including a *Campylobacter* Performance Target (CPT) in 2008 (MPI, 2015b). The poultry regulatory monitoring programme was reviewed in 2012, and amended in 2013 to include a Detection Limit as part of the CPT alongside the Enumeration Limit. The requirement for *E. coli* testing was removed.

Since the *Campylobacter* Risk Management Strategy has been implemented, greater than 50% reduction in notifications of human foodborne campylobacteriosis cases has been achieved.

### 2.2 NATIONAL MICROBIOLOGICAL DATABASE PROGRAMME

The legal requirements for microbiological sampling for poultry primary processing are in the Animal Products (National Microbiological Database Specifications) Notice 2015, Schedule 1 National Microbiological Database Programme (refer to: <http://www.foodsafety.govt.nz/elibrary/industry/animal-products-national-nmd/NMD-15-consequential-schedule-1.pdf>). The notice and schedule currently do not contain requirements for microbiological monitoring of duck and turkey carcasses.

### 2.3 POULTRY INDUSTRY REQUEST TO AMEND THE SPS

In May 2014, PIANZ requested an extension of the SPS to include duck meat at the end of primary processing. The request was to introduce an SPS in line with the current meat chicken requirements where *Salmonella* can be detected in no more than 12 of 51 consecutive duck meat samples at the end of primary processing.

In June 2014, an additional request from PIANZ was received to extend the SPS requirements to apply to turkey meat at the end of primary processing. PIANZ also requested that the performance standard be further reduced in the future, to align with a requested (April 2014) amendment to the meat chicken performance standard where *Salmonella* could not be detected in more than 5 out of 51 consecutive meat chicken samples. The reason stated was to align with the 2011 USDA FSIS SPS which was updated in 2015 (USDA FSIS, 2015). The current SPS is that *Salmonella* may be detected in no more than 4 turkey carcass samples in a moving window 56 samples. There is no requirement in the USA for duck carcasses to be monitored for the *Salmonella* and *Campylobacter*. The 2015 USDA FSIS *Salmonella* and *Campylobacter* Performance Standards are provided in the appendix to this document.

In May 2015, MPI wrote back to PIANZ informing them, that while considering an extension to the SPS to include duck and turkey meat, MPI would also consider the feasibility of introducing regulatory monitoring of *Campylobacter* to duck and turkey meat at the end of primary processing. The intent of this is to align regulatory monitoring and microbiological verification of the main poultry species currently sold and consumed in the regulated food market.



## 3 Data analysis

### 3.1 PRODUCTION VOLUMES

Duck and turkey meat represents a small proportion of all poultry meat consumed in New Zealand estimated to be around 5% (French and Molecular Epidemiology and Veterinary Public Health Group, 2009). There is a small export market for turkey and duck meat and their products. In the year to March 2011, New Zealand exported 8 tonnes of turkeys and turkey products, and 0.1 tonnes of ducks and duck products.

### 3.2 RMP OPERATORS

There are four registered risk management programmes (RMPs) for the primary processing of ducks and four registered RMPs for the primary processing of turkeys for human consumption. There is a total of 6 RMP operators as two of these operators process both turkeys and ducks. The scope of 5 RMPs covers the primary processing of ducks and/or turkeys and those of broiler chickens. However, only three of these operators are providing data to the NMD poultry programme for the processing of broiler chickens.

To help inform the review of the poultry NMD programme, MPI prepared a questionnaire to gather descriptive information about the poultry industry and in particular husbandry practices, the numbers and species of birds processed and any additional microbiological testing conducted. Ten primary processors responded to the questionnaire covering chickens, ducks, turkeys and other types of poultry. Of the operators that responded, two processed ducks, one processed turkeys and one processed both turkeys and ducks. Two of these operators were currently not providing data to the NMD poultry programme.

### 3.3 CURRENT DATA

There is little data available on the prevalence and/or incidence of *Salmonella* and *Campylobacter* in turkey or duck meat. The Risk Profile *Salmonella* in Poultry (King et al., 2011) and the Risk Profile *Campylobacter jejuni/coli* in Poultry (Lake and Cressey, 2013) summarise the available research and surveys undertaken in New Zealand.

A number of duck and turkey samples were collected at primary processing and tested for *Campylobacter* in 2009. Caecal samples from 10 turkeys from each cut were pooled into single samples. Of the turkey cuts tested, 39/40 were positive for *Campylobacter spp.* (19 *C. jejuni* only, 16 *C. jejuni* and *C. coli*, and 4 *C. coli* only). The ducks were sampled as pooled samples from the caeca of 5 birds from each cut. The prevalence of *Campylobacter* was 28/28 (100%), and only *C. jejuni* was detected.

Another study of poultry meat samples sourced from suppliers (in a ready for sale form) or from supermarkets in the Manawatu between December 2008 and May 2009 determined the prevalence of presumptive *Campylobacter spp.* in end of lay chickens, turkeys and ducks (French and Molecular Epidemiology and Veterinary Public Health Group, 2009). The method involved enrichment and the *Campylobacter* prevalence reported were:

- End of lay carcasses (48/48, 100%)
- Duck (73/75, 97%)
- Turkey (52/63, 83%)

The survey also determined the numbers of *Campylobacter* present on the carcasses at the end of primary processing using the carcass rinse method specified in the NMD programme. Thirty-four percent of the two hundred turkey rinsate samples contained  $< 2.48 \log_{10}$  CFU *Campylobacter* per carcass. This result, which is below the limit of detection of the method, would normally be reported as "Not Detected" under the NMD programme reporting, and so the putative prevalence was 66%. It should be noted that due to the larger carcass size, 600 ml rinsates were used for turkeys, compared to the usual 400 ml used to rinse broiler carcasses in the NMD programme. Fifty percent of counts were between 2.48–4.0  $\log_{10}$  CFU per carcass. *Campylobacter spp.* were enumerated at levels between 4.1–6.0  $\log_{10}$  CFU per carcass in 14.5% of rinsates. Only 1.5% or three of the samples were found to contain *Campylobacter spp.* at  $> 6.0 \log_{10}$  CFU per carcass.

Of the 135 duck samples twenty-seven (20%) of the samples had *Campylobacter spp.* counts of  $< 2.30 \log_{10}$  CFU per carcass, and so the putative prevalence of *Campylobacter* in ducks was 80%. Of the 16% of samples that had *Campylobacter spp.* counts exceeding 4.0  $\log_{10}$  CFU per carcass, only one duck rinsate exceeded 5.0  $\log_{10}$  CFU per carcass. The lower prevalence of *Campylobacter* species for turkey and duck carcasses in the other survey may be a reflection of the absence of a separate enrichment procedure to provide prevalence data.

The Risk Profile *Salmonella* in Poultry does not detail any equivalent studies of the incidence of *Salmonella* in ducks and turkeys in New Zealand. No *Salmonella* was detected in the turkey rinsate samples provided by an operator in response to the MPI questionnaire.

## 4 Options for risk management

There is limited current data on the status of *Salmonella* and *Campylobacter* on duck and turkey carcasses at the end of primary processing. As a consequence it is not reasonable or practical to establish either a *Salmonella* Performance Standard or a *Campylobacter* Performance Target for these poultry species as part of the NMD programme at this point in time. The options considered by MPI instead focus on how to determine the current status of *Salmonella* and *Campylobacter* in these species in order to be able to assess any associated risk and whether any risk management options should be considered in the future.

MPI has identified the following options:

- Option 1**        No change – maintain the status quo
- Option 2**        Include the monitoring of *Salmonella* and *Campylobacter* in duck and turkey meat in the NMD programme
- Option 3**        Determine the current status of *Campylobacter* and *Salmonella* contamination on turkey and duck carcasses by conducting a microbiological survey at retail

### 4.1 OPTION 1: NO CHANGE – MAINTAIN THE STATUS QUO

#### 4.1.1 Description

Currently, there is no regulatory requirement for microbiological monitoring of *Salmonella* and *Campylobacter* in ducks and turkeys.

Under this option, there would be no change to the National Microbiological Database Programme to include turkey and duck carcasses and there would be no research study funded by MPI.

#### 4.1.2 Pros

- There would be no additional costs incurred by the poultry industry to set up a NMD programme or any ongoing sampling and testing costs associated with a turkey and duck programme.
- There would be no additional resources needed by MPI, and no change to the NMD poultry system/schedule.

#### 4.1.3 Cons

- The current status of *Campylobacter* and *Salmonella* contamination in turkeys and ducks would not be known.
- Typing information on *Campylobacter* and *Salmonella* would not be available to assist with source attribution for these foodborne pathogens.
- There would continue to be an inconsistent approach within the NMD poultry programme for different species.
- The available data indicates that the *Campylobacter* prevalence and concentration is high in these products and it is not known whether this is indicative of normal industry results
- This will have no effect on current public health outcomes.

## 4.2 OPTION 2: INCLUDE THE MONITORING OF *SALMONELLA* AND *CAMPYLOBACTER* IN DUCK AND TURKEY MEAT IN THE NMD PROGRAMME

### 4.2.1 Description

Include the monitoring of *Salmonella* and *Campylobacter* in ducks and turkeys at the end of primary processing within the NMD programme to determine the current status. It is proposed that this is an interim measure for a maximum period of 24 months. The programme would be reviewed after 12 months and the sampling would continue until there were sufficient sample numbers.

This option will require an amendment to the Animal Products (National Microbiological Database Specifications) Notice 2015, Schedule 1 National Microbiological Database Programme, to incorporate duck and turkey species in the NMD, and will require a slightly altered method for sampling turkey to account for the difference in carcass size.

The data would inform the risk and future risk management options for microbiological monitoring, process performance and verification of duck and turkey meat at primary processing.

### 4.2.2 Pros

- This approach would enable the setting of realistic performance targets/standards for these species if data showed that it was necessary.
- This would ensure consistency with other poultry species in the NMD programme.
- The monitoring of turkeys is consistent with poultry monitoring from other overseas competent authorities.
- Will provide data that will inform whether there is risk associated with these poultry and if a longer term monitoring programme is a viable risk management option.
- It is consistent with current NZ government strategies for lowering foodborne illness. This would provide a complete dataset (to take into account seasonal fluctuations) of the microbiological contamination of turkey and duck carcasses.
- All *Salmonella* isolates detected in the NMD programme are required to be typed. The knowledge of the *Salmonella* serotype and *Campylobacter* species would be available to assist with source attribution for these foodborne pathogens or contribution that these products make to foodborne disease in New Zealand.
- Would provide a higher degree of confidence in suitability for human consumption (many duck products go straight to food service with no testing) of turkey and duck data.
- The inclusion of ducks and turkeys within the NMD programme may act as an incentive to improve the hygienic slaughter and dressing of these birds.

### 4.2.3 Cons

- There are only a small number of operators processing ducks and turkeys and these products have a small market share, around 5%.
- There would be increased costs for industry associated with NMD programme set-up, training and the ongoing sampling and testing.
- This approach would require additional MPI resources to implement the programme for turkey and duck carcasses including changes to the database and the training of any additional NMD Controllers, Certified Trainers and Approved Samplers.

### **4.3 OPTION 3: DETERMINE THE CURRENT STATUS OF *CAMPYLOBACTER* AND *SALMONELLA* CONTAMINATION ON TURKEY AND DUCK CARCASSES BY CONDUCTING A MICROBIOLOGICAL SURVEY AT RETAIL**

#### **4.3.1 Description**

This option is to determine the current status of Introduce a regulatory monitoring programme and performance criteria for *Salmonella* and *Campylobacter* in whole ducks and turkeys by conducting an MPI funded microbiological survey at retail.

#### **4.3.2 Pros**

- There would be no increased costs for the poultry industry.
- Have information on the prevalence of *Salmonella* and *Campylobacter* in ducks and turkeys.

#### **4.3.3 Cons**

- There is limited data available on the numbers of turkeys and ducks processed and the distribution chain, e.g. exported, retail or food service sales to be able to establish a sampling plan.
- It is unlikely this would have any positive effect on public health outcomes.
- There would continue to be an inconsistent approach in the NMD programme for the different species of poultry.
- It is unlikely that a microbiological survey would provide a complete dataset that takes into account seasonal fluctuations in *Campylobacter* and *Salmonella* in turkey and duck. There is a small fresh turkey meat market, limited to Christmas and mid-winter celebrations however the majority of turkeys are sold frozen at retail and processed at a few times during the year. The majority of ducks are sold via food service.
- Sampling ducks and turkeys at retail would not be comparable with the sampling conducted in the NMD programme which is conducted at the end of primary processing.

### **4.4 MPI'S PREFERRED OPTION**

MPI's preferred approach is option 2 to determine the current status of *Salmonella* and *Campylobacter* contamination on turkey and duck carcasses through by including these species in NMD programme.

## 5 Incorporation of ducks and turkeys into the NMD

### 5.1 AMENDMENT OF THE NMD SPECIFICATION

If MPI's preferred option (2) is the one that is ultimately selected after considering submissions, then the NMD, the Animal Products (National Microbiological Database Specifications) Notice 2015 would need to be amended to incorporate ducks and turkeys into it. This would create a more consistent approach to microbiological monitoring of domestic poultry processing for human consumption.

NB: As part of a larger review of the NMD Specification, MPI is also proposing to separate the current 'Schedule 1 National Microbiological Database Programme' into two sections - one for poultry and one for red meat. The new poultry part will include all the requirements for the monitoring of chicken, duck and turkey in the NMD programme.

### 5.2 DATE OF COMMENCEMENT

A number of the RMP operators whom process duck and turkey do not currently participate in the NMD poultry programme. Therefore it is proposed that there is a staggered commencement with a transition period for duck and turkey RMP primary processors following the gazettal of the Notice. The NMD programme for the monitoring of turkeys and ducks would commence on the first Monday in April 2016. This would enable RMP operators who are not currently participating in the NMD programme to register with the NMD Coordinator, gain access to the database, appoint an NMD controller, contract a laboratory and attend any MPI run training courses for NMD Controllers, and either a Certified Trainer or Approved Samplers. Operators may begin to undertake sampling and testing of ducks and turkeys and report the results to the NMD programme prior to the date of commencement.

### 5.3 DURATION OF INTERIM SAMPLING PROGRAMME

It is proposed that the monitoring of ducks and turkeys for *Salmonella* and *Campylobacter* should be included in the NMD programme for a period estimated to be between 12 and 24 months. The data collected will be reviewed after 12 months and sampling and if necessary, testing will continue until there is a sufficient number of samples submitted. A final review would then occur to determine whether there is a risk and the any associated risk management options. Any risk management options would be expected to include the continuation of the microbiological monitoring programme, the inclusion of microbiological limits for *Salmonella* and *Campylobacter* at the end of primary processing and the cessation of the NMD programme for turkeys and ducks.

### 5.4 SAMPLING PROGRAMME

MPI proposes that ducks and turkeys should form discrete sample sets and should be sampled and reported independently of each other and of chicken results. In other words, that where an operator is processing both turkeys and ducks that these should be subject to the independent random sampling and testing requirements.

### 5.5 SAMPLING METHODS AND PROCEDURES

MPI is proposing that the sampling method for turkey and duck carcasses remains the same as the current sampling method for chickens – a whole carcass rinse, using the procedure as stated in section 3.3 of the current National Microbiological Database Schedule with the following amendment for turkeys.

Each turkey carcass will be held in a large turkey bag equivalent to e.g. 3M, TBR3037 Turkey rinse bag, 760 mm x 940 mm. The amount of Buffered Peptone Water (BPW) required to be placed in each bag is 600 mL due to the larger carcass size. This increased volume of diluent is a deviation from the chicken sampling method.

## 5.6 SAMPLING FREQUENCY

MPI is proposing that the sampling frequency for ducks and for turkey's remains aligned with the current sampling frequency for chickens.

- Standard throughput premises: 3 carcasses from each species shall be sampled on each processing day –
  - 3 carcasses shall be analysed for *Campylobacter*;
  - 1 carcass shall be analysed for *Salmonella*
- Very low throughput premises: 3 carcasses from each species shall be sampled each processing week –
  - 3 carcasses shall be analysed for *Campylobacter*;
  - 1 carcass shall be analysed for *Salmonella*.

## 5.7 TECHNOLOGICAL AMENDMENTS

A technological amendment will also be required to add turkey and duck species into the NMD programme. MPI is proposing that the database is amended to record the other species of bird processed.

## 5.8 COSTS

It is expected that duck and turkey processors will replace any existing *Salmonella* and *Campylobacter* sampling programmes with those specified in the NMD programme. MPI is aware that turkey and ducks may be processed in the same premises as chickens, and that the inclusion of ducks and turkeys in the NMD programme will add the cost of testing additional species to their business.

However a small number of operators processing poultry (ducks and turkeys) are not currently participating in the NMD programme and will need to comply with all the requirements of setting up. These costs are detailed in the following sections.

The set up costs are variable depending on if they are already doing routine laboratory testing of product.

### 5.8.1 Management and technological costs

#### 5.8.1.1 NMD set-up

A premises will need to complete the administrative set-up associated with the database, and have MPI Verification Services review and confirm participation. This will come at an hourly cost of \$165/hour as per the Animal Products (Fees, Charges, and Levies) Amendment Regulations 2015 (MPI, 2015c).

The NMD is supplied via the internet for no fee. If the operator does not have access to the internet or to a computer there would be an initial capital outlay and ongoing monthly internet charges, but this would be expected to be covered under general business operating expenses. No additional software is required as the NMD web portal performs all statistics and calculations.

### 5.8.1.2 Management

There are costs for the operator associated with setting up management protocols to review NMD data, including management meetings, staff training, and ensuring time is made available for their NMD controller to become familiar with the NMD web portal and to go on-line to the NMD web portal each processing day to observe results and determine if corrective actions are required.

## 5.8.2 Training

### 5.8.2.1 Certified Trainer

Any processor of ducks and/or turkey that is new to the NMD programme will need to ensure staff are competent to take samples. To do this, staff that are sampling carcasses for the NMD must be either a NMD certified trainer or an approved sampler. There is a cost for the operator associated with training samplers. Whilst MPI currently offers Certified Trainer courses at no charge to the RMP operator there is a cost incurred to the operator through the loss of an employee for the day, loss of productivity plus transport/travel and any necessary accommodation costs for getting that employee to the course ~ \$500 travel: accommodation, plus the lost productivity cost. However this does deliver a benefit to the employer/operator in that there is an increase in knowledge gain for them.

Alternatively approved samplers may be trained by a certified trainer from another poultry processor, or a lab where the cost would be an hourly figure (decided by the contractor) for half a day and transport.

### 5.8.2.2 NMD controller

A premises will need to nominate an NMD controller. There is a cost associated with training the NMD Controller. Whilst MPI currently provides NMD Controller courses for free there is a cost for the operator associated with the loss of the employee for the day, the loss of productivity plus costs for travel and accommodation. There would also be a further cost to the operator associated with providing the employee with time to become familiar with the NMD programme. There would be ongoing costs associated with analysing data and meeting the monitoring requirements of their RMP.

## 5.8.3 Sampling and testing

If the operator is not already doing routine laboratory testing they will need to engage with a laboratory that is either a MPI Laboratory Accredited Scheme (LAS) approved or Recognised Laboratory Programme (RLP) recognised for NMD testing. The cost of the testing is 3 samples per sampling day for *Campylobacter*, plus one *Salmonella* which is estimated to be around \$200 per set of tests plus the costs to courier the samples to the laboratory.

If the *Salmonella* test comes back with a positive result, the processor will need to pay an additional \$50 for the *Salmonella* to get molecularly typed.

## 5.8.4 Other costs

Any other costs associated such as capital expenditure, maintenance costs, costs of hiring advice to improve their processes to meet standards is a cost associated with maintaining an RMP, and not directly a NMD cost.



## 6 References

- French, N. and Molecular Epidemiology and Veterinary Public Health Group (2009). Enhancing surveillance of potentially foodborne enteric diseases in New Zealand: Human campylobacteriosis in the Manawatu: Project extension incorporating additional poultry sources. Final Report FDI/236/2005. Available from: <http://www.foodsafety.govt.nz/elibrary/industry/enhancing-surveillance-potentially-researchprojects/finalreportducketc2009.pdf> Hopkirk Institute, Massey University, NZ.
- King, N., Lake R. and Cressey, P. (2011) Risk Profile: *Salmonella* (non-typhoidal) in Poultry (whole and pieces). MPI Technical Paper No: 2015/04. Prepared for the Ministry for Primary Industries. ISBN No: 978-0-477-10568-2 (online). ISSN No: 2253-3923 (online). Available from: <http://www.mpi.govt.nz/document-vault/6256>
- Lake, R and Cressey, P. (2013) Risk Profile: *Campylobacter jejuni/coli* In Poultry (Whole and Pieces). Client report no. FW11065. Prepared for the Ministry for Primary Industries under project MRP/10/01 - Microbiological Risk Profiles, as part of an overall contract for scientific services. Available from: <http://www.mpi.govt.nz/document-vault/5440>
- NZFSA (2008). New Zealand Food Safety Authority (NZFSA) *Campylobacter* Risk Management Strategy 2008-2011. Available from: [http://www.foodsafety.govt.nz/elibrary/industry/Campylobacter\\_Risk-Aims\\_Acheive.pdf](http://www.foodsafety.govt.nz/elibrary/industry/Campylobacter_Risk-Aims_Acheive.pdf)
- MPI (2015a). Animal Products (National Microbiological Database Specifications) Notice 2015 - effective from 31 August 2015. Available from: <http://www.foodsafety.govt.nz/elibrary/industry/animal-products-national-nmd/index.htm>
- MPI (2015b). Review of the Poultry NMD Programme's *Campylobacter* Performance Target (CPT) Limit(s). Available from: <http://mpi.govt.nz/document-vault/7031>
- MPI (2015c) Animal Products (Fees, Charges, and Levies) Amendment Regulations 2015. Available from: <http://www.legislation.govt.nz/regulation/public/2007/0130/latest/DLM437410.html#DLM437410>
- USDA FSIS (2015). DEPARTMENT OF AGRICULTURE Food Safety and Inspection Service [Docket No. FSIS-2014-0023] Changes to the *Salmonella* and *Campylobacter* Verification Testing Program: Proposed Performance Standards for *Salmonella* and *Campylobacter* in Not-Ready-to-Eat Comminuted Chicken and Turkey Products and Raw Chicken Parts and Related Agency Verification Procedures and Other Changes to Agency Sampling

## 7 Appendix: USDA FSIS Performance Standards for Salmonella and Campylobacter in Poultry

On January 26, 2015, FSIS published a Federal Register Notice (80 FR 3940) that announced changes to the *Salmonella* and *Campylobacter* verification testing program and issued a FSIS Notice 22-15 on 1<sup>st</sup> April 2015 that FSIS will begin using a moving window approach for young chickens and young turkey carcasses on May 1, 2015, starting with carcass sampling programs. Under this new approach, FSIS will no longer collect sample sets but will sample on a continuous basis throughout the year, using a moving window approach, to assess whether the establishment's processes are effectively addressing pathogens on poultry carcasses and other products derived from these carcasses.

The Performance Standards for *Salmonella* and *Campylobacter* in Poultry are provided:

### *Salmonella*/*Campylobacter* Performance Standards for Poultry

Product	Maximum Acceptable % Positive		Performance Standard	
	<i>Salmonella</i>	<i>Campylobacter</i>	<i>Salmonella</i>	<i>Campylobacter</i>
Broiler Carcasses <sup>^</sup>	7.5	10.4	5 of 51	8 of 51
Turkey Carcasses <sup>^</sup>	1.7	0.79	4 of 56	3 of 56
Comminuted Chicken <sup>*</sup>	25.0	1.9	13 of 52	1 of 52
Comminuted Turkey <sup>*</sup>	13.5	1.9	7 of 52	1 of 52
Chicken Parts <sup>*</sup>	15.4	7.7	8 of 52	4 of 52

<sup>^</sup> The maximum percent positive for *Salmonella* and *Campylobacter* under the performance standards for young chicken and turkey carcasses is listed in FSIS Directive 10,250.1

<sup>\*</sup> Developed proposed performance standards published in the FRN Docket No. FSIS-2014-0023

Note: The new *Salmonella* performance standards are to be applied to sample results in place of the performance standards for young chickens (as broilers) and ground chicken and ground turkey codified in 9 CFR 381.94(b).