

Guidance and checklists for NMD *Salmonella* detections

The purpose of this document is to assist operators to undertake the *Salmonella* Performance Standards (SPS) tasks specified in the National Microbiological Database Programme Specifications, Schedule 1 section 6.7.1

Group 1 and porcine Group 2– *Salmonella* performance standard

The current Notice and Schedule 1 document can be found in the following location:

<http://www.foodsafety.govt.nz/elibrary/industry/animal-products-national-nmd/schedule-2011.pdf>

For all positive *Salmonella* detections, operators should complete Table 1, sections (a) and (b) and Table 2 as relevant to either a first, second, third or subsequent *Salmonella* detection.

In addition, Table 2 provides some guidance for operator process reviews. Two Appendices are attached to provide specific details for porcine and bobby calf hygienic dressing investigations.

TABLE 1(a): Actions for *Salmonella* detections

Operator to complete Table 1 for <u>all</u> positive <i>Salmonella</i> detections. Attach recommended records.		
Processor information	Processor name: RMP Identifier: Contact name: Telephone number: Email:	
Sample information	Detection number (1 st , 2 nd or 3 rd ?)	
Action	Comment/recommended records	Record date completed & Any additional notes
Inform the MAF VS verifier	Record NMD sampling date and species involved. Attach copy of laboratory result and notification to verifier	
Traceback records	Attach copies of supplier declarations	
Confirm the laboratory has submitted purified cultures to ESR	Record details of confirmation of sample submission to ESR and attach results of serotyping	
Contact the animal health laboratories	Record details of consultation with animal health service and note whether any reported increase in salmonellosis cases	
Review personnel health records	Record details of any reported salmonellosis symptoms in personnel	

TABLE 1 (b): Escalating response actions for *Salmonella* detections

To confirm all actions required for the *Salmonella* detection have been completed, the operator completes the following sections as applicable to a first, second and third detection.

First detection:	Attach or cross reference records
Review entire process	
Identify contributing factors	
Implement corrective and preventative actions (including any applicable market access requirements)	
Second detection:	Attach or cross reference records
Complete review as for first detection	
Review first detection corrective and preventative actions	
Implement further corrective/preventative actions where required (including any applicable market access requirements)	
Inform MAF primary verifier	
Third detection:	Attach or cross reference records
Complete review as for first detection	
Review first & second detection corrective and preventative actions	

TABLE 1 (b): Escalating response actions for *Salmonella* detections continued

Implement further corrective/preventative actions where required (including any applicable market access requirements)	
Complete a <i>Salmonella</i> management plan describing process/HACCP reviews (submit to MAF verifier)	

TABLE 2: Guidance material for operator *Salmonella* investigation

This table describes the recommended investigation of pre-slaughter management, hygienic dressing and operator support programme review investigations. Note: Post slaughter management is not included in this check sheet.

Transporter Supplier's own transport used? Other transport operators used? Truck/driver details? Time from farm to premises? Transporter vehicle cleaned between use? Transporter cleaning procedures?	
Receiving and holding Flooring type in ramp/yards Holding time in yards Cross contamination between mobs Cleaning/hygiene of holding and unloading ramps/holding pens/races/restrainer equipment.	
Ante-mortem examination Ante-mortem inspection issues? Stock health and suitability for hygienic processing (e.g. cleanliness)? Adequate feed withdrawal period to reduce the incidence of punctured/ruptured viscera?	

TABLE 2: Guidance material for operator *Salmonella* investigation continued

<p>Washing</p> <p>Effective washing to reduce gross faecal/dirt contamination on the skin?</p> <p>Stock drying to avoid drip from pelt during dressing?</p>	
<p>Slaughter and dressing</p> <p>(review slaughter floor hazard control as applicable to species from stun area to PM examination)</p> <p>Additional guidance provided for pigs (Appendix 1) and bobby calves (Appendix 2)</p>	
<p>Support programme review</p>	<p>Comments</p>
<p>Review operator support programmes to identify changes or other factors that may have contributed to the <i>Salmonella</i> detection. Comment on process control by supervisory staff.</p>	
<p>Design, construction and maintenance of buildings, facilities and equipment</p>	
<p>Repairs and maintenance of equipment</p>	
<p>Sanitation and cleaning of processing areas, facilities and equipment</p>	
<p>Personnel hygiene, entry and exit of personnel</p>	
<p>Training of personnel</p>	
<p>Further comments or details:</p>	

Appendix 1 - Porcine slaughter and dressing guidance material

Processing of pigs should be reviewed using the premises HACCP plan. The following provides some guidance on key steps where contamination and distribution may occur during dressing.

Process Step		Comment
Sticking and bleeding	Hygienic sticking technique to minimise contamination?	
Scalding	Adequate scald tank temperature to minimise bacterial load? Addition of pH modifiers – e.g. soda ash to minimise bacterial load?	
Dehairing and scraping	Hygienic technique to minimise contamination?	
Singeing	Effective flaming technique to reduce the micro load on the skin surface?	
Scrubbing / polishing	Effective cleaning and maintenance of backscraping or polishing equipment to minimise contamination of carcasses?	
Evisceration	Hygienic techniques during freeing and dropping of the bung (e.g. bagging), and prevention of puncturing the gut to minimise contamination? Note any incidence of punctured/ruptured viscera? Note any incidence of faecal spillage? Hygienic removal of contamination?	
Post-mortem examination	Effective identification and removal of defects?	
Retain trim / re-examination	Hygienic inspection procedures to minimise contamination?	

Appendix 2 - Bobby calf slaughter and dressing guidance material

Processing of calves should be reviewed using the premises HACCP plan. The document "An Evaluation of Young Calf Processing in New Zealand" contains useful guidance and can be located through the following link:

<http://www.foodsafety.govt.nz/password-protected/animal-products/meat-manuals/calf-processing/an-evaluation-of-young-calf-processing-in-nz.pdf>

Several recommendations were identified in the above report and should be reviewed. There should be clear justification by the operator where recommendations have not been implemented and how the risk is otherwise managed. These recommendations are listed below.

If you can not open the document at the above link, ask your verifier for a copy of it.

Recommendation	Comment
An effective rectal bung should be used and preferably as soon as the procedure can be carried out.	
The tail should be left entire until after the hide puller and then removed entirely prior to the ringing station	
The weasand should be isolated and clipped prior to the Y cut.	
If the forelegs are not shortened prior to the scales, contamination of the knuckles on the forelegs during the shifting from the wide to narrow spreaders should be minimized.	
The pizzle should be clipped after the hide puller to avoid contamination transfer between the hide and pizzle to the carcass.	
A ringing hook should be used so that any contact between the ringer's hand, the anus and the carcass is eliminated.	
Trimmers should be using tweezers to grasp any contamination.	
Rectal contents should be contained by bagging after careful ringing and exteriorization of the anus, followed by replacement into the rectal cavity. <i>If the bagging procedure is adopted, it must be done in an effective and hygienic manner. This procedure was viewed at one Australian premises (chain speed 8.5 per minute) and by using a plastic bag and rubber band the distal rectum was effectively sealed.</i>	
The bung set should be left attached to the colon.	
Steam vacuum intervention should be used on the forequarters and areas exposed by opening cuts	

The table below provides further guidance material, derived from the 2011 bobby calf season review, on areas where contamination and distribution of *Salmonella* may occur. It is recommended the operator completes the table as a checklist as early as practical in the bobby calf processing season.

Process Step		Comment
Stockyards	Review stock washing in stockyards	
Slaughter floor	Review cleaning and sanitation programme including pre-op, overheads, gut buggy etc	
	Review chain speeds and production configuration. NB: High chain speed or high utilisation of staff and equipment is a common element reported from <i>Salmonella</i> incidences.	
	Review hock cutter washing and sterilisation process. Eg. modify to allow greater insertion of the hock into the sterilization chamber.	
	Review techniques at Y cut ProVac and Flap Provac	
	Review carcass contact points around the hide puller sensor eg. forelegs contacting above the rail sprinkling contamination downward over the carcass.	
	Review personnel hygiene eg. protective clothing shall be kept in a clean condition or otherwise change on a regular basis. Damaged clothing shall be replaced.	
Boning room	Review cleaning and sanitation programme including pre-op, overheads, bandsaws, conveyance belts.	
	Review Pre-trim results regularly. NB: System must be in place to communicate any poor results to the slaughter floor immediately. Action must be taken to identify and correct the cause(s) that could be contributing to the pre-trim results	

	Review processing environment eg. room temperatures, ventilation, water, drains, vents, personnel entry and egress	
General	Review staff training programme esp. hygienic standards (hand washing, apron washing, knife washing/sterilization etc).	
	Ensure weekly meetings are conducted (as per NMD Notice 2011) with slaughter floor and boning room management and the verifier to discuss results/findings, instigate preventative measure, and ensure production schedules are tailored to minimise contamination.	