



Find the Legend

Quarterly newsletter for Ontario's provincially licensed meat plant operators
Issue 30 Winter 2020

The **meat inspection legend** is the stamp that goes on meat products when they have met all regulatory requirements and are deemed safe for Ontario consumers.

The Meat Industry Engagement Panel has launched!

On October 1st, the new Meat Industry Engagement Panel met for the first time. The meeting began with remarks from Minister Ernie Hardeman on the importance of industry and government working together. The panel is a joint initiative between Ontario's Meat Inspection Program, Meat and Poultry Ontario and the provincially regulated meat processing sector. The panel is a forum for open dialogue allowing the members to share ideas, to address industry challenges and to collaborate on improving food safety practices.

The panel is a response to industry feedback requesting more engagement with the ministry about meat inspection policies, guidelines and economic initiatives. The second meeting was held in early 2020.

SRM Weights by Plants

The Ontario Ministry of Agriculture, Food and Rural Affairs (OMAFRA) Specified Risk Material (SRM) Policy requires that all provincially licensed meat plants that slaughter bovines must provide actual weights of SRM produced and shipped from the plant. Estimated SRM weights are not permitted; however, actual weights provided by a rendering company are acceptable. This aspect of SRM policy is contained in section of [7.4 of Meat Plant Guideline \(MPG\) C9.09.03.04](#).

Atwood Resources Inc. were previously providing actual SRM weights for their clients. It has recently come to the ministry's attention that they are now providing estimated SRM weights only. Plants that use the services of Atwood Resources for their SRM collection will now be required to weigh the SRM on site prior to pick up and to maintain a record of these weights.

If you have any questions or concerns regarding this change, please contact your Regional Veterinarian or Area Manager for your plant.

Contents

- 1 The Meat Industry Engagement Panel has launched!
- 1 SRM Weights by Plants
- 4 From our Food Safety Desk: Ready-to-Eat (RTE) Meat testing results summary
- 5 Hygienic Slaughter and Dressing: Spotlight on poultry
- 6 Porcine Epidemic Diarrhea and Abattoirs
- 7 Are you ready for a recall?
- 9 Vigilance against and Awareness of: Allergens
- 10 E. coli Monitoring of Beef and Veal in Provincially Licensed Abattoirs
- 11 Environmental Monitoring in Ready-to-Eat Meat Plants

Sign up to get **Behind the Legend** by email

Do you get too much mail?
Is your desk cluttered with paper?

Sign up to get a digital version of Behind the Legend. All you have to do is send an email to meat.inspection.communications@ontario.ca with "Email me Behind the Legend" in the subject line, and the newsletter will be emailed to you every quarter. No more paper! It's as simple as that.



Ministry of Agriculture, Food and Rural Affairs Meat Inspection Program Management Team

Your Area Manager can be reached by dialing their mobile device directly. We encourage initial contact by telephone during office hours (unless for emergencies) as text messages and or emails are not always reliable.

General Manager:

Rodger Dunlop - 519-826-4367 (or 519-827-6726)

Operations Manager:

Tracy Adams - 613-847-5116

Regional Managers

East: Kim Landers - 289 213-4081

West: Nick Van Lankveld - 226 820-2102

Central and North: Pierre Adrien - 416 524-1851

Area Managers

Peel: Alan Yee - 905-903-5389

Midhurst: Eloise Jones - 416-433-2483

Kemptville: Philip Hawken - 613-868-7917

Brighton: Robin Drew - 613-848-1432

Vineland: Goce Manevski - 905-515-5500

Woodstock: Eric DeBoer - 519-274-9123

Ridgetown: Nick Van Lankveld - 226-820-2102

Stratford: Katy Field - 519-788-6533

Guelph: Kathryn Evans-Bitten - 519-994-3244

Verner: Vicky French - 705-491-2523

GTA: Ivona Jarosz - 647-231-8866

York: Natasha Jordanovska - 416-728-0326

Follow us on Twitter!

Get food safety and traceability
information for
Ontario's agri-food industry:
twitter.com/OMAFRASafeFood



For more information:

Telephone:

1-877-424-1300

Email:

ag.info.omafra@ontario.ca

Web: ontario.ca/meatinspection

Twitter: @OMAFRASafeFood

Aussi disponible en français

From our Food Safety Desk: Ready-to-Eat (RTE) Meat testing results summary

As part of our monitoring and surveillance programs, OMAFRA tests samples of RTE meat produced at provincially licensed plants. Occasionally these tests will come back with an adverse result. When the adverse result is a pathogen, in addition to a review of practices/protocols/procedures, the meat inspector will assist the operator as they take steps to ensure that there is no risk to the public. They will also assist the plant operator to complete a root cause analysis to aid in the identification of the potential source of contamination (e.g., environmental testing).

Year	Number of Sampled Lots with Adverse Results ⁽¹⁾	Percentage of Lots with Adverse Results	Number of Adverse Results, by Type							
			Indicator Organisms			Pathogens/toxins				
			Aerobic Colony Count (ACC) > 10,000	Coliforms > 1,000	<i>E. coli</i> > Health Canada	<i>Listeria monocytogenes</i>	Verocytotoxigenic <i>E. coli</i>	<i>Staphylococcus aureus</i> > HC limits ⁽³⁾	<i>S. aureus</i> toxin	<i>Salmonella</i>
2009	64	11.3%	52	1	0	11	0	0	0	1
2010	47	6.9%	36	8	0	6	0	0	0	0
2011	57	7.0%	48	2	0	9	0	0	0	1
2012	50	6.4%	36	1	0	11	2	2	1	2
2013	50	6.9%	39	4	0	13	0	2	0	0
2014	49	6.2%	32	1	0	17	0	0	0	1
2015	42	6.0%	34	0	0	8	0	0	0	0
2016	45	6.3%	37	1	0	7	0	1	0	0
2017	27	4.2%	26	0	0	1	0	0	0	0
2018	34	4.8%	26	3	0	4	0	0	0	2
2019	24	3.8%	19	5	0	3	0	0	0	1

(1) When levels of indicator organisms and/or pathogens are unsatisfactory (i.e. when levels found in the sample exceed Health Canada Limits). There could be more than one type of adverse result per lot.

(2) Health Canada limits for Generic *E.coli* are any of the following:

Heat treated Fermented Sausage $>10^3/g$ in 1 subsample or $>10^1/g$ in more than 1 subsample

Raw Fermented Sausage $>10^3/g$ in 1 subsample or $>10^2/g$ in more than 1 subsample

Non-Fermented products $>10^3/g$ in 1 subsample or $>10^2/g$ in more than 2 subsamples

(3) Health Canada limits for *S. aureus* are any of the following:

FCC, FCNC & Dried: if any subsample has $>10^4/g$ or $>10^2/g$ in more than 2 subsamples

Heat Treated Fermented Meats: if any subsample has $>10^4/g$ or $>50/g$ in more than 1 subsample. Raw Fermented: $>10^4/g$ or $>250/g$ in more than 1 subsample.

FCC – Fully Cooked Comminuted

FCNC – Fully Cooked Non-Comminuted

Hygienic Slaughter and Dressing: Spotlight on poultry

For poultry meat plant operators, controlling contamination of carcasses during slaughter and processing is critical in reducing major risk factors for foodborne illnesses in humans. The bacteria *Salmonella* and *Campylobacter* can be transmitted to people through the consumption of contaminated foods, especially poultry products.

By law, operators are required to prevent contamination of carcasses and meat products.

Contamination in poultry occurs when a carcass - including the carcass cavity - comes into contact with material such as: fecal matter, bile, ingesta, crop contents, the floor, extraneous material, and egg material.

Here are some ways you can minimize the risk of poultry carcass contamination at your plant:

- Provide easy access to handwashing stations to enable frequent handwashing practices - including the use of soap and water; especially when contacting contaminated materials.
- Encourage frequent tool, equipment and PPE sanitation by providing easy access to knife and equipment sanitizers, and apron wash stations.
- Ensure the access of employees and other persons at the meat plant is controlled to minimize the potential for contamination.
- Ensure all employees wear designated, sanitary work clothing.
- Monitor scald tanks and chilling tanks for sufficient inflow and overflow to reduce water tank contamination.
- Monitor all carcass washing stations to ensure they provide sufficient coverage for every carcass and ensure the water pressure is effective without causing carcass contamination.
- Ensure all viscera and egg contents (as applicable) are kept intact, particularly during evisceration, and that presentation of viscera does not contaminate any part of the carcass.

- Immediately trim all visible internal and external contamination prior to washing.

Hygienic Slaughter is everyone's business. *Inspectors* may direct carcasses for trimming, removal or trimming of parts, or, at times full condemnation of carcasses or parts depending on the degree of contamination. *Operators* play a critical role in ensuring that sanitary slaughter and dressing procedures consistently occur at their plant.

Together, we can minimize carcass contamination during the slaughter and dressing process!

Porcine Epidemic Diarrhea and Abattoirs

Porcine epidemic diarrhea (PED) was first reported in England in 1971. Since then it has been identified in several European countries as well as China, the Philippines, Thailand, and Japan. In May of 2013, the first diagnosis of PED was made in Iowa and in January of 2014, the first case of PED was reported in Ontario.

PED is caused by a coronavirus and clinical signs are very similar to transmissible gastroenteritis (TGE) which is also caused by a coronavirus, i.e. profuse watery diarrhea and occasional vomiting. The virus is shed in large quantities in the feces of infected individuals and typically all swine on an infected premise will be naturally exposed. Mortality is generally 100% in pigs less than two weeks of age and rapidly declines to less than 4% in pigs 21 days of age and older.

The profuse watery diarrhea leads to dehydration and death within 48 hours of infection in pigs younger than 14 days of age. Early weaning of affected pigs greater than 14 days of age and treatment with free-choice electrolytes and milk replacer is associated with lower mortality in pigs between 14 and 21 days of age.

Two to three weeks following exposure to the virus, gestating sows produce sufficient amounts of antibodies in their milk to protect their litters. Over the past 5 years veterinarians have become proficient at eliminating PED from farms through a combination of intentional sow and gilt exposure to produce lactational immunity, cleaning, disinfection, internal biosecurity practices, and partial depopulation. It is estimated today that there are less than 10 PED-infected farm sites in Ontario although it is assumed that most assembly yards and some abattoirs are chronically or sporadically infected. There have been approximately 7 to 10 new cases of PED reported annually in Ontario since the initial outbreak although there has not been a newly infected herd identified in Ontario in the last 7 months. Most new infections occur in the fall and winter months which is typical of many corona viruses such as TGE, winter dysentery in cattle, and Severe, Acute Respiratory Syndrome (SARS) in people.

Provincial abattoirs can become infected with PED virus. Pigs shed the virus prior to the onset of diarrhea as well as after the diarrhea has resolved so one cannot rely on clinical signs to ensure that pigs are not shedding infectious virus. PED infected pigs do not constitute a problem for abattoirs as PED does not produce gross systemic lesions and is not transmissible to people. However, the abattoir is a potential source of contamination for anyone and any vehicle delivering pigs to the plant. Abattoirs should strive to avoid becoming sources of infection for other producers. Cleaning and disinfection of areas with pig contact such as loading ramps, alleyways, and lairage areas is recommended where

possible. Recommendations for disinfectants can be found at:
www.omafra.gov.ca/english/livestock/swine/facts/peddisinfectionproc.

The link includes recommendations for disinfecting areas that freeze in winter such as loading ramps. Prior to disinfecting it is necessary to remove as much organic material as possible to ensure the disinfectants can work properly. Cleaning and disinfecting procedures for PED are also effective against several other production diseases of swine such as PRRS virus, mycoplasma infections, swine dysentery, and others.

The spread of PED has slowed significantly over the last several months. Reducing the risk at abattoirs for Ontario swine farms is a worthwhile objective.

Are you ready for a recall?

In late 2019, the Canadian Food Inspection Agency (CFIA) issued a recall for beef and veal products from stores, restaurants and health care institutions across Canada due to ongoing concerns of *E. coli* O157:H7 contamination. The U.S. Department of Agriculture also issued a public health alert for some raw beef products linked to this recall that were imported from Canada and distributed in at least 10 U.S. states. This recall was quite significant in that it affected a very large volume of products and several manufacturers, including many provincially licensed operators who conducted further processing activities on the affected raw beef and veal.

Provincially licensed meat plants are diligent in establishing operational and process controls to protect the food safety of their products, but sometimes despite best efforts a product may be manufactured and sold that presents a health risk to consumers. The CFIA has concluded the investigation into various raw beef and veal products recalled due to *E. coli* O157: H7. There have been no reported illnesses associated with the product, and this in part can be attributed to effective recall plans established by meat plant operators to ensure rapid removal of potentially hazardous products from the supply chain.

Safety issues with products may be due to chemical, physical or biological contamination of the products or the presence of undeclared allergens due to mislabelling. A food recall plan ensures quick and efficient removal of food that may be hazardous from the supply chain and from reaching consumers. A food recall aims to:

- Stop the delivery and sale of the product(s) in question;
- Inform the appropriate regulatory agencies, such as the CFIA; and,
- Remove all affected product from the marketplace.

As a plant operator you must have written procedures that would ensure the timely and effective recall of any carcass or meat product shipped from your plant. A recall plan should include all of the procedures and information that you will need to initiate and complete a recall quickly, such as:

- The name of all personnel responsible for the coordination and implementation of a recall, their contact information, and a description of their roles.
- Procedures to identify, locate and control recalled products until a product disposition is made.

- Procedures to investigate, locate and control other potentially affected products.
- Methods to investigate and respond to consumer complaints.
- Traceability procedures which include access to customer and supplier names, addresses and phone numbers.
- Procedures to test the effectiveness of the recall program by performing a mock recall at pre-determined intervals.
- Procedures to notify the Ontario Ministry of Agriculture, Food and Rural Affairs (OMAFRA)
- Procedures to evaluate the effectiveness of a recall and update the plan as necessary.
- All distribution records and documentation required in the event of a recall.

Being able to trace each product or ingredient you use back to its source and being able to track your products after they leave your plant are the foundation of a recall plan. Maintaining records for incoming product and creating distribution records for all products that leave your plant are critical to the efficacy of your recall plan. Distribution records should be legible, complete, easily identifiable and accessible at all times. Records for thermally processed, hermetically sealed meat products must be kept at the plant for three years. All other products records must be kept at the plant for at least one year from the date they were produced.

Distribution records should include:

- customer name
- customer phone number
- product identification
- size of product
- product lot number/code
- quantity of product shipped

This information helps with the timely recovery of all affected products. If this information is not readily available, recall of affected products will be delayed and this potentially puts more consumers at risk.

When a recall happens, you need to be prepared ahead of time. You can evaluate the effectiveness of your recall plan by conducting a mock recall exercise. A mock recall can help you identify any gaps or weaknesses in your plan.

- Pick a recall scenario describing a food safety problem with a specific lot of finished products.
- Follow your recall procedures; identify and locate all of the affected product. Note that government authorities and customers are not required to be notified during a mock recall exercise; however, they may be happy to work with you to test your plan as recalls also affect them.
- If the procedure was not able to account for 100% of the affected product or took more than 4 hours to complete; identify the reasons, implement corrective actions, and repeat the mock recall.

The CFIA has published a helpful guide for food business to assist you in developing a recall plan. This guidance document can be accessed here: [Recall procedure: a guide for food businesses.](#)

Vigilance against and Awareness of: Allergens

It is very important that all operators who produce prepared meat products maintain vigilance against and an awareness of allergens and allergen-containing ingredients. For individuals with hypersensitive immune systems, certain foods can cause allergic reactions. Individuals with food allergies experience an abnormal immune response to proteins found in the foods to which they are allergic. The symptoms of an allergic reaction include: rash or itchy mouth, migraine headaches, a drop-in blood pressure, anaphylaxis (a very severe allergic reactions to food involving failure of multiple organ systems), and in rare cases death. There is no cure for food allergies and the only way for an allergic individual to protect themselves is strict avoidance of the allergen.

Any food can cause an allergic reaction if the person who is allergic to that food item consumes it. However, in Canada there are 10 priority allergens that have been identified as being the most common food allergies. For the rest of this article, the term “allergens” refers to the following foods:

- Eggs
- Milk
- Mustard
- Peanuts
- Seafood
- Sesame
- Soy
- Sulphites
- Tree nuts
- Wheat

Some ingredient names may not inform consumers about the presence of allergens within food products. Please test your knowledge by naming the allergen associated with these ingredient names:

Common Name:	Allergen*:
1. Atta	
2. Gingelly/gingelly oil	
3. Goober Peas	
4. Kinako	
5. Marzipan	
6. Tahina	

*Answers at the bottom of the article

In this exercise, the ingredient names alone would not be acceptable, and the allergens would have to be properly declared. Although the labelling of ingredients is a federal requirement that all provincial meat plant operators must observe, allergens may still be incorrectly identified on incoming ingredients. It is very important that operators not only pay attention to the labelling of their own meat

products, but that they also maintain an awareness of their incoming ingredients. This includes paying attention to the ingredients and their components that are purchased and/or received from suppliers, and further investigating any ingredients that are not known to the operator.

Further controls must be put in place by operators who use allergen or allergen-containing ingredients in their production. All allergen-containing products must be properly labelled as containing allergens in order for them to be considered safe. Effective allergen controls are further outlined within [MeatPlant Guideline P9.10.09.01 Allergens](#), and include using dedicated processing lines or equipment for the production of allergen and non-allergen containing meat products, separate production schedules of allergen and non-allergen containing meat products, implementing effective sanitation schedules, and maintaining good record-keeping.

For any questions regarding all federal labelling requirements, including allergen labelling, please contact your [local CFIA office](#) for more information.

Answers: 1. Wheat 2. Sesame 3. Peanuts 4. Soy 5. Tree Nuts 6. Sesame

E. coli Monitoring of Beef and Veal in Provincially Licensed Abattoirs

In 2018-19, OMAFRA's Food Safety Science Unit repeated a baseline study to quantify the prevalence of *E. coli* O157 and Shiga toxin-inducing *E. coli* (STEC) on beef and veal carcasses slaughtered in provincially licensed plants. The original study in 2016 demonstrated a need to focus attention on hygienic slaughter and dressing practices and implement microbial control interventions to mitigate food safety risks on carcasses. Since the implementation of improved hygienic slaughter practices and the mandatory requirement for microbial control interventions on beef and veal, the prevalence rates of *E. coli* O157 and other STECs have dropped significantly.

Current test results suggest that ongoing efforts are needed to combat ongoing challenges abattoirs face in terms of hygienic slaughter. Some of these challenges include:

- Application of sufficient amounts of intervention, maintaining the correct concentration of intervention,
- Fluctuations in water pressure and temperature, where part of the intervention system,
- Processing cattle with unclean hides,
- Staff training and knowledge of hygienic slaughter practices,
- Carcass-to-carcass contact and contamination via contact with unclean equipment, pooling water due to clogged drains, hide flap-back after raising off cradle, wetting of carcasses with water used during dressing, and overspray with hoses used on kill floors.

Beginning on April 1, 2020, the Meat Inspection Program is implementing an ongoing monitoring program for *E. coli* O157 and STEC on beef and veal carcasses slaughtered in provincially licensed abattoirs. Under this program, inspectors will collect carcass swabs on a regular basis, after the

application of the intervention, to ensure carcasses continue to be free of *E. coli* O157 and other STECs. When positive results occur, a response protocol will be triggered that requires operators to conduct a root cause analysis and write a corrective action plan to mitigate risks of future product contamination. Repeat carcass swabs will be scheduled at the plant within 2 weeks of the positive result, requiring operators to hold the leading, trailing and swabbed carcasses until results are confirmed from the laboratory. All lab confirmed contaminated beef and veal carcasses will be subject to condemnation.

If you have technical questions regarding this ongoing monitoring program, please contact Dr. Jeanine Boulter-Bitzer, Microbial Analyst, at 647-297-3473 or jeanine.boulter-bitzer@ontario.ca.

Environmental Monitoring in Ready-to-Eat Meat Plants

The pathogen *Listeria monocytogenes* is widely distributed in nature, occurring in soil, sewage, vegetation, water, silage, livestock, and humans. The infection of persons with listeriosis is most often due to consumption of foods contaminated with *Listeria monocytogenes*. Those most severely affected by listeriosis are pregnant women and their fetuses, the elderly, and persons with weakened immune systems. The use of an environmental monitoring program helps reduce the risk of ready-to-eat (RTE) processing facilities inadvertently contaminate its products with *Listeria monocytogenes* by testing for the presence of *Listeria* spp. on surfaces.

Listeria monocytogenes is a pathogen of concern in RTE foods because they do not undergo require further cooking (i.e. a lethality step) by the consumer prior to consumption. This pathogen is capable of growth at refrigerated temperatures and under conditions that are common in RTE meat products that often include high salt and low available water conditions. RTE meat and poultry products are susceptible to contamination with pathogens, like *Listeria*, from equipment during slicing, repackaging, and other processing steps after the pathogen kill step, as well as from cross contamination via the handling of raw products by personnel, or from in-plant reservoirs of *Listeria* in the post-lethality RTE environment.

The purpose of an environmental monitoring program for *Listeria* is to monitor the effectiveness of sanitation and Good Manufacturing Practices (GMP) as this will assist with preventing contamination of the RTE processing environment and products. Pre-moistened swabs can be used to sample food contact surfaces (FCS) (any surface or object that encounters the RTE meat or poultry product) and non-FCS (e.g., equipment housing, walls, carts or door handles in the immediate vicinity of FCSs) in the post-lethality treatment areas of the plant. To strengthen and support your current food safety programs, all plants producing RTE should implement sampling programs to monitor FCS and non-FCS for *Listeria* spp. Cost-effective measures for performing this testing can include in-house rapid methods or batching swabs into plant areas vs. individual surfaces.

Beginning in May 1, 2020, Further Processing Inspectors (FPIs) will swab FCS and non-FCS when visiting plants producing RTE meat products. Food contact and non-food contact surfaces will be swabbed in the RTE processing area. Swabs will be taken either at pre-operation or two to three hours after the start of the operations. The frequency of swabbing for each RTE meat plant is dependent on characteristics of the plant, including history of sanitation deficiencies, past positive samples of RTE meat products, production volume, etc.

When *Listeria* spp. positive swabs occur and unsanitary conditions are identified, the Area Manager and/or FPI will notify the operator and an intensive cleaning and sanitation will be required prior to the next production of RTE product. The Area Manager and/or FPI will work with the operator to identify corrective actions specific to the operation, and retest swabbing will take place. Any further *Listeria* spp. positive results will trigger further intensive cleaning and sanitizing and the operator will be required to develop a plan to ensure *Listeria* spp. harborages are eliminated and no further positive swabs are identified. Meat & Poultry Ontario is a resource that can be used to assist in set up of a regular in-plant swabbing program.