



**Food Safety and Quality  
Procedures Manual  
for On-Farm Poultry  
Processing**

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## Table of Contents

|   |    |
|---|----|
| Introduction .....                          | 3  |
| Handling of Poultry Before Processing ..... | 4  |
| Procedure for Processing.....               | 4  |
| Setting up the Equipment.....               | 5  |
| The Kill Line.....                          | 6  |
| The Evisceration Line.....                  | 8  |
| Packaging.....                              | 8  |
| Storage .....                               | 8  |
| Cleaning.....                               | 9  |
| Record Keeping.....                         | 9  |
| Producer's Record Form .....                | 10 |
| Disposal.....                               | 10 |
| Feathers.....                               | 10 |
| Offal.....                                  | 10 |
| Labour .....                                | 10 |
| Pricing schedule for 2007.....              | 11 |

The Yukon poultry processors would like to thank the governments of  
Canada and the Yukon for their support.

The Agricultural Policy Framework (APF) ♦ a Federal-Territorial Initiative

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Energy, Mines and Resources

# **Food Safety and Quality Procedures Manual** **for On-Farm Processing**

## **Introduction**

This document will provide guidelines to use the processing equipment in order to increase the quality of meat, reduce wastage, and decrease contamination by pathogens. Meat processed following these recommendations is recognized and sold as farm gate sales. These guidelines are not intended to meet territorial inspection standards. Each producer is solely responsible for the quality and safety of the meat (s)he sells.

The equipment to be provided will include the stun knife, shackles, air compressor, dunker and scalding, feather picker, stainless steel eviscerating table and bleach or hydrogen peroxide. The producer is responsible for providing the remaining equipment required.

Each producer will be responsible for providing ice, potable water, propane, access to electrical power, two chilling tanks, a hand washing station, offal containers, a killing table and blood collection area, a packaging table and supplies, and a fridge or coolers for storing completed birds. Cold water and a chilling area are required after plucking and following evisceration. Water used in this process must be potable water that should have been tested for fecal coliforms within the 15 days prior to processing. Water from an approved municipal water supply should also be tested. The hand washing station must be near the processing area and should consist of flowing potable water, soap and clean towels.

The producer is responsible for disposing of feathers, offal, and waste water.

Priority will be given when processing organically raised poultry. If two producers are booked to slaughter on the same day, the organic birds will be processed first and the non-certified birds will be processed afterwards.

## **Handling of Poultry Before Processing**

Birds will be handled in a recognized humane way prior to slaughter. (see <http://www.sPCA.bc.ca/farm/standards.asp> and [http://www.carc-crac.ca/english/codes\\_of\\_practice/index.htm](http://www.carc-crac.ca/english/codes_of_practice/index.htm) for the recommended code of practice for the care and handling of farm animals). If the birds are to be crated prior to processing, they should be shaded from the sun and protected from extreme temperatures or rain.

Always handle the birds as gently as possible. Hold by a leg or around the body, not by a wing.

Feed should be withheld for 8 hours prior to processing. Any birds showing signs of illness or distress should be processed last to prevent contamination of equipment and chilling water. No dead birds will be processed.

## **Procedure for Processing**

The first half of the process, the kill line, from killing the birds to plucking, is an area of high contamination. The evisceration line consists of moving the carcass from the cold bath after plucking to evisceration and final packaging.

The closer the carcass gets to a finished product, the more attention that must be paid to avoiding contamination. Two different lines are used for sanitary reasons. In the on-farm processing configuration described here, there is no physical barrier between the two lines. Extra care must therefore be taken to prevent contamination from the kill line to the evisceration line.

Every person involved in the process should be conscious of the possibility of contamination and should take care to prevent it. Workers should come prepared with their hair (including facial hair) well trimmed, washed, tied back if necessary, and covered. Jewellery, including wristwatches must be removed. Clean and sanitary protective clothing should be worn. Hands must be washed thoroughly with hot water and soap after using the washroom, and when entering or leaving the processing area.

## ***Setting up the Equipment***

The equipment should be set up in the order it will be used. Equipment should be placed reasonably close together to minimize the distances travelled while allowing enough room for workers to manoeuvre. A line of some kind between the equipment used on the kill line and the equipment used for evisceration is helpful to remind processors of the risk of contamination from the kill line to the evisceration area. A chill tank dividing the two areas can be an effective barrier. Workers on the kill line must not work near the evisceration equipment before changing their clothes and thoroughly cleaning their hands.

The equipment should be placed in this order:

### **Kill line**

- killing/draining table with hanging shackles
- automatic dunker and scalding
- feather picker
- first chill tank.

### **Evisceration line**

- small table for head and leg removal and oil gland removal (depending on number of workers available)
- evisceration table
- gizzard cleaning station
- second chill tank

### **Packaging**

- table with scale, labels and bags
- coolers

To set up a blood collection area for the killing table, wrap two 2x4s with plastic to make a trench on a 3 x 6 table. Use clamps to attach to the gantry and shackles above the trench.

Remove the hoses from inside the scalding and connect the intake and outflow hoses. Position the automatic dunker on top of the scalding. Connect a household water hose to the intake hose. Connect the propane and air compressor to the scalding and dunker assembly. Rinse the scalding and fill with water to the overflow mark.

Connect the other end of the hose assembly to the feather picker and a household hose from the feather picker to the evisceration table.

Wash and sanitize the evisceration table and any other tables to be used in processing. Set up the packaging table.

### ***The Kill Line***

The process to be followed in the kill line is for each bird to be hung from the SH-5 shackle by both legs, with the breast facing the operator. Each bird will be stunned with the stun knife. The operator should wear a large rubber glove on the non-dominant hand (the glove can be turned inside-out for right hand use). The stun knife is ON only when the button on the handle is pushed. After stunning the bird, the button should be released. The switch should be OFF when inserting or removing the knife from the bird. This will prevent burning the knife blade. Bleeding for 90 seconds is desirable.

Use the power selector to control the stunning effect. The power should be enough to just knock out the bird. Birds may require different amounts of power from day to day. To test the level of power, depress the button and gently rub the back of the blade against a shackle. You should see small sparks at the contact point.

Slit the carotid artery with the knife. Keep the knife sharp. Avoid cutting the trachea or severing the spine. A proper cut will not be felt by the bird.

When the birds have finished bleeding, transfer the entire shackle to the automatic dunker. Slide the shackle into the locking channels on either end of the shackle immersion bar with the hook under the restraining spring. Then, press the start button.

Where possible, the inflow of fresh water and the out flow to a drain should be installed on the scalding. Fire protection under the scalding may be necessary, and wind baffles too if the scalding is used outside. If the scalding is used indoors, make up air and a chimney are necessary. Lighting the scalding is similar to lighting a propane furnace. Turn the knob to PILOT, depress the button and hold a flame to the pilot burner underneath the tank. Continue depressing the knob for at least 30 seconds after the pilot ignites to flush the line of air and then slowly release. If the pilot goes out when you release the

knob, repeat these steps as necessary. Once the pilot light remains lit, turn the control knob to ON and adjust the thermostat to the desired setting. (Check periodically during operations to ensure the pilot light hasn't been blown out by a gust of wind.)

Success in picking by machine is mostly a matter of getting the scalding right. If you have difficulty in picking – either the feathers do not come out easily, or the skin tears, adjust your scalding time or the scalding temperature. When scalding, the factors you can control are the length of time spent in the scald and the water temperature. The longer the bird is in the water, the lower the temperature can be.

There are no hard and fast rules for exactly “how long” and “how hot”. There are differences between types of fowl as well as between different breeds. Experiment to arrive at what works best for you. As soon as a few wing feathers come out easily by hand, you should be ready for picking. If the skin gets torn in the picker, the scald was either too hot or too long. If the feathers don't come out easily in the picker, the scald was either too cool or too short.

The most common recommendation is 30 – 60 seconds of immersion at 63 to 66 degrees Celsius (145 to 150 degrees Fahrenheit).

After removing the birds from the scald, drain excess moisture, turn the plucker on, and drop the birds in. Open one of the Y valves to let in the water spray. Check in 20 seconds. Give more time if necessary.

Remember: If the skin tears, you may have scalded too long or at too high a temperature. If the feathers stick, you may need to increase the scalding time or the scalding temperature.

The carcass will be placed in a chilling water bath to await evisceration. It is at this point that decisions can be made as to the grade of the bird. A bird may be rejected from the line if disease is suspected or that bird could be set aside and eviscerated last.

Producers who see an illness trend or are concerned about disease in their flock can take specimens, keep them chilled, and present them to a veterinary clinic to assist with identification of the problem. (The Yukon Ag Branch may be willing to assist with costs.)

## ***The Evisceration Line***

Care must be taken to prevent fecal contamination of the carcass. If contamination of the evisceration table occurs, the fecal matter must be removed and the table sanitized.

Evisceration should be in this order:

- Remove head and feet. Remove oil sack
- Cut neck skin and detach esophagus, crop and trachea
- Cut around the vent and remove viscera
- Separate gizzard and set aside in designated cooling bowl to await cleaning
- Detach the liver - remove gall sack from liver
- Separate heart and set aside with liver in designated cooling bowls (chill to 4° C within two hours)
- Remove kidneys, lungs, testicles/ovaries
- Wash the inside of the bird with spray hose

Final wash and chill to 4° C. Birds should not stay in water for longer than 24 hours. Birds should be drained before packing.

## ***Packaging***

Each producer is responsible for weighing if necessary and packaging his/her birds.

## **Storage**

If birds are to be picked up by customers following processing, it is suggested that the producer advise customers regarding the transport of their birds. It is recommended that customers bring a cooler with ice if they have far to travel. The chilled birds should be stored in a facility that will maintain a temperature of 4°C or less.

## **Cleaning**

The producer is responsible for cleaning all the equipment. Cleaning of equipment will be done on site with soap and potable water followed by a bleach or peroxide rinse. Equipment will be cleaned to meet organic certification standards.



The knife blade should be thoroughly cleaned with soapy water, dried and stored in the protective sheath. The glove should be cleaned inside and out with soapy water and given a quick dunk in bleach water before being hung to dry. Be sure the glove is dry inside and out before storage.

The shackle assemblies must be scrubbed with a brush in soapy water and rinsed.

Turn off the propane and drain the scalding. Disconnect the propane hoses. Use a teflon pad to thoroughly clean the scalding with warm, soapy water. Use a pressurized spray to rinse. Flush out the drain hose, disconnect it and coil it inside the cooled scalding. Remove the inflow hoses and store inside the scalding.

Gently clean the automatic dunker. Harmful chemicals or synthetic lubricants will damage the plastic bowls on the filter and lubricator. After washing, coat the guide rods with mineral oil.

The picker can be cleaned with a pressurized spray. Take care to avoid wetting the motor assembly unnecessarily.

Clean the evisceration table with teflon pads and warm soapy water. Be sure to clean inside the evisceration drains, along the sides and underneath the table. Rinse thoroughly. Use a twist tie to connect the hoses and eviscerate wands in the centre of the table for transport.

## **Record Keeping**

The producer will keep track of the number of birds processed and those rejected from the human food chain. A report on these numbers will be completed by the producer using the form provided. A copy of this report and payment for processing will be given to the owner/operator on the day processing occurs.

## ***Producer's Record Form***

Date: \_\_\_\_\_

Farm Name: \_\_\_\_\_ Owner \_\_\_\_\_

Producers Name: \_\_\_\_\_

Total Number and Species Processed:

Turkeys \_\_\_\_\_ Chickens \_\_\_\_\_ Ducks \_\_\_\_\_ Geese \_\_\_\_\_ Rabbits \_\_\_\_\_

Amount Enclosed: \_\_\_\_\_

Number Rejected: \_\_\_\_\_

## **Disposal**

### ***Feathers***

The producer is responsible for the disposal of feathers. The most environmentally sound method of feather disposal is composting. Bagging and taking to the land fill or total incineration would also be acceptable.

### ***Offal***

The producer is responsible for the disposal of offal. Offal will normally consist of heads, feet, blood, viscera and oil glands. Producers are encouraged to direct any parts that may be desired for dog food to dog owners. Offal can be composted or completely incinerated. Offal may be bagged and taken to an approved government land fill.

## **Labour**

The owner/operator will have Food Safe Level 1 certification. It is recommended that all producers also have Food Safe certification.

It is anticipated that a minimum of 4 people are required to efficiently run this equipment. One owner/operator who is knowledgeable about the

operation and maintenance of the equipment will accompany the equipment to any job. That person will be responsible for providing instruction to on-farm workers on all aspects of equipment operation.

Each person will need to follow basic hygiene rules. Hand washing for 20 seconds before starting at any station on the line, or after meals, using the washroom, etc. is required.

It is recommended that all workers wear head cover and remove all jewellery. Water resistant clothing or water resistant apron and rubber boots are recommended.

Each worker will be given instruction on their specific task. If they choose to move to another station further instruction may be necessary. Instruction should be given to maintain a high level of cleanliness and reduce possibility of pathogen contamination as well as worker safety.

A small first aid kit is included in the trailer. Be sure to clean wounds thoroughly and disinfect before applying a band aid. Gloves should be worn to cover the bandage and prevent contamination.

## **Pricing schedule for 2007**

Each owner/producer will pay \$1.00 per bird to be held by the project leader for equipment repair and replacement.

Non-owner producers will pay a travel fee of \$20.00 and \$0.35 per kilometre to and from the Whitehorse city limits. Non-owner producers will pay \$2.00 per bird. \$1.00 per bird will be held by the project leader for repair and replacement of equipment. \$1.00 per bird will go to the owner/operator as their contract fee. Producers will supply a minimum of 4 people in addition to the owner/operator to operate the equipment. The owner/operator will demonstrate and supervise each phase. For operations requiring more than one day, special arrangements can be made.

Producers and consumers need to know that the meat processed in this way is not inspected and does not meet inspected standards. All sales are considered farm gate sales.

**Funding for the Poultry Processing  
Equipment was provided through  
the Canada Yukon Agricultural  
Framework Agreement**

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