**Facility: (INSERT COMPANY NAME AND ADDRESS)**

**Other retail facilities, farmer markets, etc.: (INSERT NAME)**

**Purpose:**

This HACCP plan describes products and process used for Reduce Oxygen Packaging of raw meat, poultry, and farm raised game products. The establishment has a Specialized Meat Processing at Retail Food Establishment Variance that contains Good Manufacturing Practices (GMPs) and Standard Operating Procedures (SOPs) which are followed.

**Type of food(s):** Fresh Raw Products:

* Beef (Beef and Veal): roasts, steaks, cuts, diced, ground
* Pork: Roasts, chops, cuts, ground,
* Poultry (Turkey, Chicken, Game Birds): whole, parts, cuts, ground
* Farm Raised Game (Bison / Buffalo, Elk, etc.): roasts, steaks, cuts, ground
* Meat or Poultry further processed items, with or without non-meat ingredients\*
* Sausage\* (meat or poultry) bulk, patties, links

\*ingredients available in Food Label section

**Process Flow diagram:** see below

**Facility Layout:** see attached

**Equipment used:**

* Coolers
* Mixer
* Stuffer linker
* Grinder
* Raw Meat Slicer
* Vacuum packaging machine (INSERT TYPE)

**Food employee and supervisory training plan addressing food safety issues of concern:** Employees are trained in proper food safety issues associated with reduced oxygen packaging of raw and cooked foods. This includes preventing cross-contamination throughout processing and packaging by doing cooked foods before raw food, properly cooling cooked foods, and refrigerating all reduced oxygen packages after packaging. Employees will be observed to make sure they follow practices.

**Standard Operating Procedures (SOP)**

U.S. Department of Agriculture inspected or authorized raw whole muscle cuts are utilized.

Whole muscle/carcass, roasts, steaks, chops, parts, cuts, fillets processing:

* Removed from package,
* Evaluate and trim as necessary,
* Cut into individual portions as necessary,
* Reduced oxygen packaged (vacuum packaged),
* Labeled, placed on trays or containers, frozen, and
* Held at refrigerated temperature until sale.

Ground and sausage processing:

* Removed from packaging,
* Reduced in size as needed,
* Ground,
* Mixed/blended with or without non-meat ingredients per formulation/recipe if needed,
* Stuffed into casings or formed per product design,
* Reduced oxygen packaged (vacuum packaged),
* Labeled, placed on trays or containers, refrigerate, and
* Held at refrigerated temperature until sale.

Note: If multiple species of ground product is processed on the same shift, grinder, mixer/blender is cleaned between species.

There will be no cross contamination between ready to eat (RTE) food products and raw food products.

Vacuum package machine (reduced oxygen packaging) is cleaned at the end of each processing shift or more frequently as needed according to our Specialized Retail Meat Processing Variance written Sanitation Standard Operating Procedure (SSOP).

Product label will include **“Must keep refrigerated, ≤41°F”** and a “**Use or Freeze by” date.** The use by date is not to exceed 30 days from date of packaging or the use by date, whichever occurs first (2013 FC 3-502.12(B)(3)(4)). Extended shelf life of greater than 30 days can be obtained by utilization of sodium nitrite impregnated film (FSIS DIRECTIVE 7120.1, attached).

Product transport from processing facility to other company owned facility or farmer’s markets under refrigerated and/or frozen transportation. Product remains refrigerated during transportation and through sale. Product label includes safe handling instructions.

**Each Critical Control Point (CCP)**

Temperature monitoring of food products in refrigerated storage

**Critical Limits for each Critical Control Point**

Food product temperature is less than or equal to 41°F.

**Method and frequency for monitoring and controlling each CCP and who**

Contact tip or equivalent calibrated thermometer used to measure the food product temperature in the warmest part of the cooler a minimum of once per day of operation day by designated employee.

**Corrective actions**

* If the product temperature is greater than 41°F, determination of the cause of cooler malfunction will be found, corrected, or repaired.
* Product temperature is measured and action as followed:

|  |  |
| --- | --- |
| Product Temperature | Actions |
| > 41°F ≤ 48°F | Restore power supply, move product to another cooler, place in insulated container with dry ice, or other appropriate actions to maintain refrigerated product temperature. |
| > 48°F ≤ 70°F | If within 8 hours from product temperature reaching 41°F, thermal process or conduct pathogen modeling for growth of organisms of concern (*C. botulinum* and *L. monocytogenes*) to the last acceptable temperature check or use other process authority input based on new technology or scientific supporting documentation for product of concern; and sell within given timeframe based on supporting scientific documentation and/or pathogen modeling. |
| > 70°F for more than 8 hours | Conduct pathogen modeling for growth of organisms of concern (*C. botulinum* and *L. monocytogenes*) to the last acceptable temperature check or use other process authority input based on new technology or scientific supporting documentation for product of concern; and utilize or sell within given timeframe based on supporting scientific documentation and/or pathogen modeling. |

**Records**

Food temperature log (see attached)

*Process Flow Diagram*

***Process Category: Raw Meat and Poultry Reduced Oxygen Packaging***

***2.*** *Receiving*

*Raw Meat/Poultry/Game*

***4.*** *Storage (Frozen/Refrigerated)*

*Raw Meat/Poultry/ Game*

***5.*** *Tempering*

*Frozen Meat/Poultry*

***7.*** *Cut*

*Raw Meat/Poultry*

***8.*** *Grinding (if needed)*

***10.*** *Mixing/blending (if needed)*

***13.*** *Package / Labeling*

***15.*** *Finished product storage*

***1.*** *Receiving Packaging Materials*

***12.*** *Storage of Packaging Materials, incl. collagen or synthetic casings*

***3.*** *Receiving and*

***6.*** *Storage of Non-Meat/Non-Poultry Food Ingredients and Water*

***16.*** *Retail sales or transfer to other company locations*

14. Place on tray or container

***11.*** *Stuffing or forming (if needed)*

CCP < 41°F

***9.*** *Weighing of Non-meat/Non-poultry Food Ingredients and Water*

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **(Facility Name)** |  | **Refrigeration Food Temperature Log** | | | | |
| **(Facility Address)** |  |
|  |  |  |  |  |  |  |
| **Product Name** | **Date / Time** | **Temperature (°F) Max. 41°F** | **Initials** |  |  |  |
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**Additional scientific data / supporting documentation as required**

**Tompkin paper**, Table 1, minimum temperatures for growth of bacteria of concern

Bruce Tompkin Ph.D. Armour Swift-Eckrich

Table 1. Minimum growth temperatures for selected foodborne pathogens.

Minimum Growth

Temperatures\_\_\_\_\_\_

|  |  |  |
| --- | --- | --- |
| Salmonellae1 | 7C | 44.6F |
| Pathogenic *E. coli* | 7-8C | 44.6-46.4F |
| *L. monocytogenes* | -0.4C | 31.3F |
| *Y. enterocolitica* | -1.3C | 29.7F |
| *Campylobacter jejuni* | 32C | 89.6F |
| *Staphylococcus aureus* | 7C | 44.6F |
| *Bacillus cereus*2 | | |
| psychrotrophic strains | 4C | 39.2F |
| *Clostridium perfringens* | 12C | 53.6F |
| *Clostridium botulinum* | | |
| nonproteolytic | 3.3C | 38F |
| proteolytic | 10C | 50F |

• 1One report of initial growth on bacon at 5C but then the population decreased.

• 2While growth of *B. cereus* occurs in milk at refrigeration temperatures (e.g., <7C), there is no evidence for this in meat and poultry. One study reported death of vegetative cells in ground beef at 12.5C (54.5F) and below.

• Parasites (e.g., *Trichinella spiralis*, *Taenia* spp., *Toxoplasma gondii*) and viruses do not multiply in meat or poultry products.

Source: International Commission on Microbiological Specifications for Foods. 1996.

Microorganisms in Foods: Microbiological Specifications of Food Pathogens. Blackie

Academic & Professional, New York.

Table 2. Estimated time (hours) for a ten-fold increase at 50, 60 and 70F.

Estimated Time (hours) to increase from 10 to 100 CFU/ml

|  |  |  |  |
| --- | --- | --- | --- |
|  | 50F (10C) | 60F (15.6C) | 70F (21.1C) |
| Salmonellae | 107 | 24 | 9 |
| *E. coli* O157:H7 aerobic | 50 | 21 | 9 |
| anaerobic | 123 | 38 | 16 |
| *L. monocytogenes*  aerobic | 38 | 16 | 8 |
| anaerobic | 58 | 27 | 16 |

*Y. enterocolitica* 68 31 16

Source: USDA ARS Pathogen Modeling Program Version 4.0.

Conditions: broth medium, pH 6.0, salt 0.5%, sodium nitrite 0.0%

FSIS DIRECTIVE 7120.1       Rev. 40 3/14/17

SAFE AND SUITABLE INGREDIENTS USED IN THE PRODUCTION OF MEAT, POULTRY, AND EGG PRODUCTS

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| SUBSTANCE | PRODUCT | AMOUNT | REFERENCE | LABELING REQUIREMENTS |
| **Miscellaneous** | | | | |
| Sodium nitrite | For use on one side of a food packaging film used for vacuum packaging raw red meat and raw whole muscle cuts of red meat as a color fixative | At a maximum level of 113 milligrams per square meter of film. | GRAS Notice No. 000228 | Red meat packaged in a film containing sodium nitrite must be coded with a “Use or Freeze by” date not to exceed 34 days after packaging for ground red meat and 36 days for whole muscle cuts of red meat. |

From [2013 Food Code 3-502.12](https://www.fda.gov/downloads/Food/GuidanceRegulation/RetailFoodProtection/FoodCode/UCM374510.pdf)

(3) Describes how the PACKAGE shall be prominently and conspicuously labeled on the principal display panel in bold type on a contrasting background, with instructions to: Pf (a) Maintain the FOOD at 5o C (41o F) or below, Pf and (b) Discard the FOOD if within 30 calendar days of its PACKAGING if it is not served for on-PREMISES consumption, or consumed if served or sold for off-PREMISES consumption; Pf (4) Limits the refrigerated shelf life to no more than 30 calendar days from PACKAGING to consumption, except the time the product is maintained frozen, or the original manufacturer’s “sell by” or “use by” date, whichever occurs first;