Developing HACCP Plans

In this portion of the manual HACCP plans for whole muscle cuts as well as ground meat production will be developed. The process of developing a HACCP plan has 6 steps which are outlined below. Keep in mind that these same steps can be used for any food production process in a retail operation.

1. **Assemble a HACCP Team** – A team of individuals should be created to build the HACCP plan.
2. **Describe the Process** – Completely describe the product and the steps to produce it.
3. **Perform a Hazard Analysis** – Perform a hazard analysis and determine whether hazards should be controlled by the prerequisite programs, standard operating procedures or by what is known as a Critical Control Point (CCP).
4. **Develop the HACCP Written Plan** – Determine critical limits for each CCP and describe monitoring, deviation, and verification procedures to ensure that food safety standards are met.
5. **Create HACCP Records** – Construct records which document that CCPs are monitored and when required corrective action is taken to address any deviation.
6. **Provide Training** – Develop training programs to ensure that the HACCP plan is understood by all personnel.

Following implementation of the plan it is important to conduct periodic reviews to ensure the plan is functioning optimally and any changes within the operation have been taken into consideration. For guidelines on how to perform a written review of the HACCP system see the appendix.

In the following pages, examples of forms and written programs will be given for all steps of HACCP plan development for Ground Meat and Cuts production.

The recommendations in this manual are designed to assist retail meat operations to establish HACCP based food safety systems in the most straightforward manner with a minimum of record keeping. Requirements of individual operations may vary and management, corporate food safety specialists and, when necessary, local regulatory authorities should be consulted in any area where uncertainty exists.

Assemble a HACCP Team

As with the prerequisite programs, a team approach should be used to build HACCP plans. Individuals selected to participate on the team to develop a HACCP plan for ground meat and cut production should include:

- Personnel working within the production process, e.g. packaging, grinding and cutting
- Individuals involved with the prerequisite programs
- Management

You may also wish to involve local regulatory authorities and, if available, corporate quality assurance specialists.

Once a team has been assembled, a team leader should be designated to ensure the development process moves forward and to oversee the implementation of the HACCP plan once it is completed.

Note: Before proceeding to the second step it is useful for the team to review some general information on HACCP principles to provide some background to all team members. Additionally it is advisable to examine any previously developed generic models of HACCP plans for the process of interest. These models can be very helpful in making the development of the HACCP plan as efficient as possible. Sources of HACCP related information and generic models are listed in the appendix.

Describe the Process

The next step in the development of a HACCP plan is to completely describe the product and the steps required to produce it. This can be accomplished by completing four forms which are outlined below.

1. **Product Description Form** – The Product Description Form provides basic information on the products shelf life, packaging, labeling, display and storage requirements, and its intended use.
2. **Incoming Ingredients and Packaging Materials Form** – The Incoming Ingredients and Packaging Form should list all types of ingredients and packaging materials. Restricted ingredients such as phosphate, nitrite or nitrate compounds, and potential allergens such as soy, cereals containing gluten, sulphites, milk, etc., are clearly identified.
3. **Production Process Flow Diagram** – The Production Process Flow Diagram identifies important production steps as well as their relationship to incoming ingredients and packaging materials.
4. **Operation Schematic Diagram** – The Operation Schematic Diagram shows product and personnel flow within the establishment for a particular production process. Review of the schematic allows potential sources of cross contamination as well as other hazards related to the movement of product or people to be identified. The schematic should include the flow of ingredients and packaging materials and indicate important features such as storage areas, coolers, freezers, change rooms, washrooms, lunchrooms, hand wash facilities and footbaths (if present).

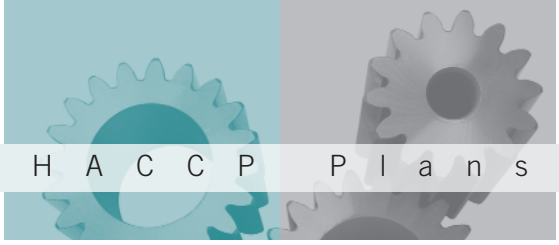
Examples of each form are given for ground meat and cut production on the pages which follow. Upon completion of these forms and diagram they should be verified by on-site observations and interviews with store personnel.

Product Description Form

example

GROUND MEAT AND CUT PRODUCTION

Product Names	Ground meat and cuts
Important Characteristics (a_w, pH, Preservatives, etc.)	Fresh or frozen
Product Use	For sale without further processing, cook before consumption
Packaging Type	Styrofoam trays and oxygen permeable overwrap
Shelf Life	**Ground meats**: 1 day at 4˚C, 2 months at -18˚C **Cuts**: 3 days at 4˚C, 6 months at -18˚C
Where will it be sold	Retail
Labeling Instructions	**Ground meats**: Safe Handling label and "keep refrigerated" or "keep frozen" **Cuts**: "Keep refrigerated" or "keep frozen"
Display and Storage Conditions	**Fresh**: Display and store at -1˚C and 4˚C **Frozen**: Display and store at -18˚C or colder



Incoming Ingredients and Packaging Materials Form

Example

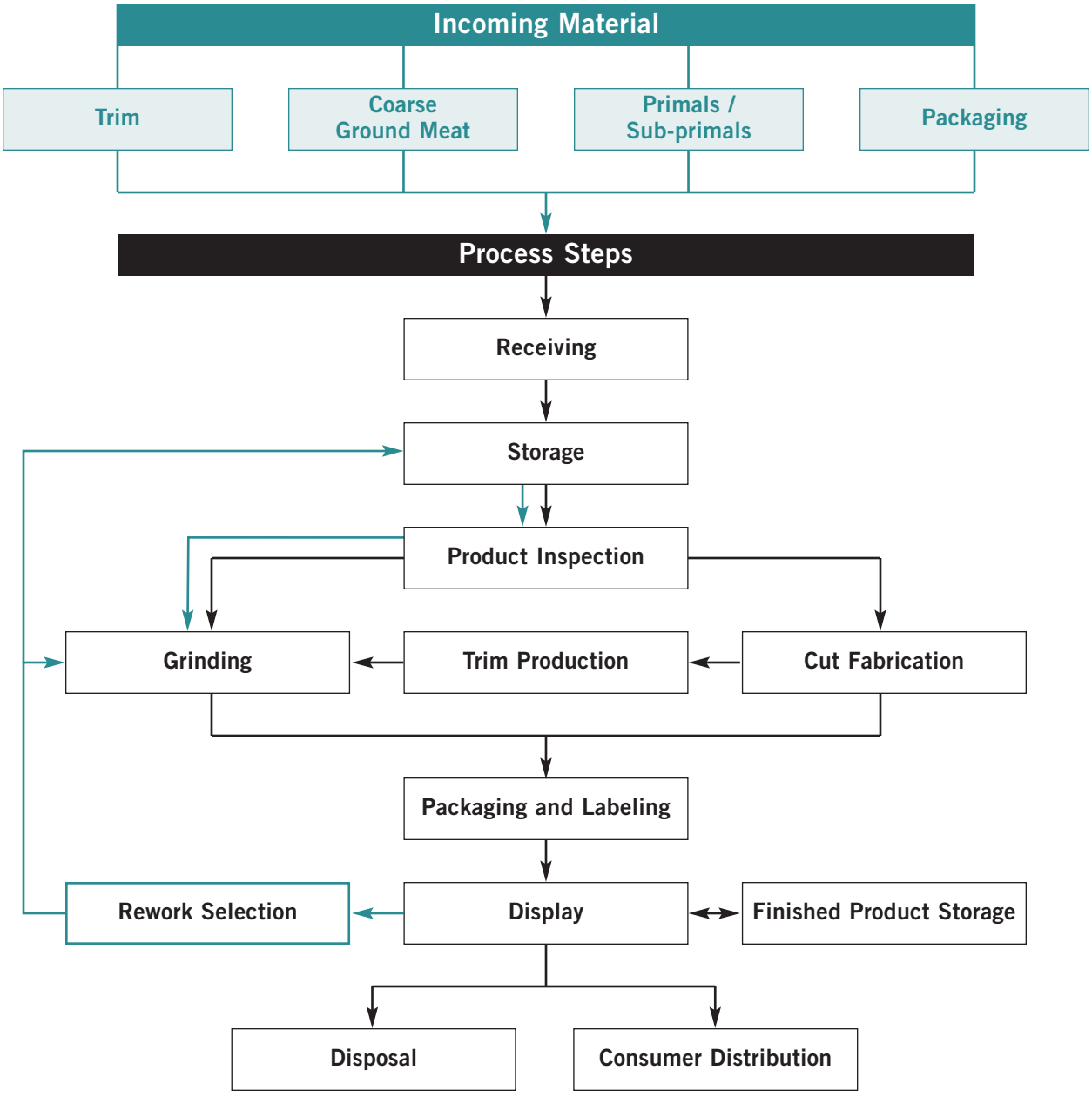
GROUND MEAT AND CUT PRODUCTION

Meat Ingredients	Meat (Beef, Veal, Pork) Rework (Beef, Veal, Pork)
Non-Meat Ingredients	None
Restricted Ingredients	None
Preservatives/Additives	None
Casings	None
Other Ingredients	None
Allergens	None
Packaging Materials	Styrofoam Trays made by ABC Packaging LTD. (CFIA approval code = **X**) Oxygen Permeable overwrap made by ABC Packaging LTD. (CFIA approval code = **Y**)

Process Flow Diagram

Example

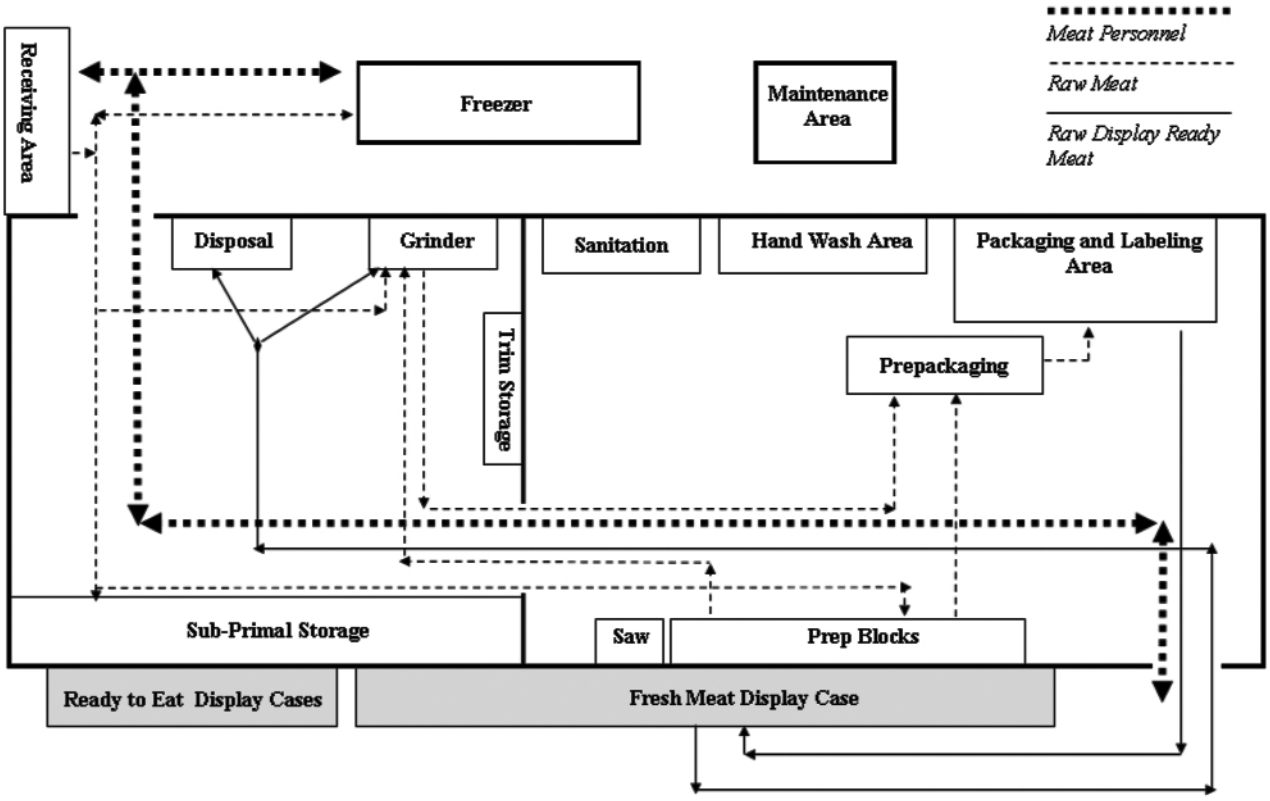
GROUND MEAT AND CUT PRODUCTION



Operation Schematic Diagram

example

GROUND MEAT AND CUT PRODUCTION



Notes: Duis autem vel eum iriure dolor in hendrerit in vulputate velit esse molestie consequat, vel illum dolore eu feugiat nulla facilisis.

Performing a Hazard Analysis

The first purpose of the hazard analysis it to identify potential food safety hazards associated with the production process or with incoming materials. Hazards are classified into three types which are outlined in the table below.

Hazard Type	Examples for Meat Production
Biological	Excessive growth of microorganisms from improper refrigeration of meat products and ingredients or failure to observe shelf-life guidelines. Contamination of meat products and ingredients from uncovered sores and cuts or the presence of contagious diseases in food handlers, e.g. hepatitis A and Norwalk related illness Presence of hazardous levels of pathogenic microorganisms from improper sanitation of food contact surfaces, pest activity or improper meat production practices, e.g. *Staphylococcus aureus*, *Escherichia coli*, *Salmonella spp.*, *Campylobacter spp.*, *Listeria monocytogene*, and *Clostridium perfringens*.
Chemical	Presence of hazardous chemicals due to antibiotic and hormone residues or contamination from cleaning, pest control or maintenance related chemicals. Excessive levels of phosphate, nitrite or nitrate compounds, or any other restricted ingredient. Failure to declare potential allergens in list of ingredients such as milk (including lactose), cereals containing gluten and sulphites.
Physical	Foreign objects such as pieces of metal, plastic or wood from improperly maintained equipment, broken needles or use of damaged pallets during storage. Failure to remove bone chips or cartilage from meat materials before grinding.

Potential biological, chemical or physical hazards are identified by review of the *Product Description Form*, *Incoming Ingredients and Packaging Materials Form*, *Process Flow and Operation Schematic Diagram* by the HACCP team. The results of the hazard analysis are then recorded on the *Hazard Analysis Form* as shown in the example on page 70.

Performing a Hazard Analysis *(continued)*

Once all potential hazards have been identified the next step is to indicate on the *Hazard Analysis Form* how they will be controlled. There are three ways to control hazards as outlined below.

1. **Prerequisite Programs** – Control hazards which are common to many production processes and provide the foundation for the HACCP plan.
2. **Standard Operating Procedures in the HACCP Plan** – Controls hazards which are specific to a production process and are less significant.
3. **Critical Control Points in the HACCP Plan** – Controls significant hazards which can be prevented, eliminated or reduced to acceptable levels through actions which are under the control of the operator.

Some hazards may be uncontrollable by the operator and can only be addressed through the actions of others. When this occurs the *Hazard Analysis Form* should indicate where the hazard could be controlled outside of the system.

To determine where Critical Control Points (CCP) exist, the decision check list at right should be utilized. For each hazard identified on the *Hazard Analysis Form*, answer questions 1 to 4 to determine if a CCP is present.

Performing a Hazard Analysis *(continued)*

CRITICAL CONTROL POINTS* (CCP) DECISION CHECK LIST

1. Could a control measure(s) (C.M.) be used by the operator at any process set?

- ☐ Yes. *C.M.(s) exist*
- ☐ No. *C.M.(s) exist*
  - *Not a CCP. Identify how this hazard will be controlled before or after the process and proceed to the next identified hazard.*

2. Is it likely that contamination with the identified hazard could occur in excess of the acceptable level or could increase to an unacceptable level?

- ☐ Yes.
- ☐ No.
  - *Not a CCP. Proceed to the next identified hazard.*

3. Is this process step specifically designed to eliminate or reduce its likely occurrence to an acceptable level?

- ☐ No.
- ☐ **Yes.** *(This is a CCP).*

4. Will a subsequent step eliminate the identified hazard or reduce its likely occurrence to an acceptable level?

- ☐ Yes.
- ☐ **No.** *(This is a CCP).*

The number and nature of the CCPs will often vary from operation to operation. If prerequisite programs are well developed there will be fewer CCPs which makes the HACCP system easier to manage.

An example of a completed *Hazard Analysis Form* for ground meat and cut production is shown on the next page. This example assumes that all prerequisite programs discussed in the first section of this manual have been implemented.

*** Sourced from the *FSEP Implementation Manual* produced by the Canadian Food Inspection Agency**

Hazard Analysis Form

Example

GROUND MEAT AND CUT PRODUCTION (GMCP)

Describe any (B)iological, (C)hemical or (P)hysical Hazard associated with Ingredients or Process Step	Describe Measures to Control the Hazard	CCP (Y/N)
Ingredients and Packaging Materials		
Meat		
(**B**) – Presence of Hazardous Levels of Microbial Pathogens (**C**) – Presence of Residues (pesticide, cleaning or (**P**) – Presence of Foreign Material sanitizing chemicals, maintenance chemicals)	Externally controlled by HACCP/food safety plan of establishment supplying meat products. Receiving Prerequisite indicates purchase of meat products from only approved establishments noted in the *Food and Ingredient Supplier List.*	**No**
Packaging Materials		
(**C**) – Unapproved packaging causes chemical hazards to food products	Use of CFIA approved packaging as recorded on *Incoming Ingredients and Packaging Materials Form*	**No**
(**BCP**) – Improper handling/manufacturing of packaging at supplier causes biological, chemical or physical hazards.	Controlled by *Letter of Guarantee* from supplier indicating measures to control hazards.	**No**
Process Flow		
Receiving (including transport)		
(**B**) – Loss of temperature control during transport results in excessive growth of microorganisms on meat products. (**BCP**) – Presence of incompatible materials (cleaning chemicals, etc.) or unsanitary conditions in trailer causes biological, chemical or physical hazards to packaging or meat. (**BCP**) – Absence of proper labeling makes knowledge of production dates and supplier information unavailable for use in the event of a recall.	Controlled by Receiving Prerequisite – Inspection of product condition, labeling, temperature and trailer recorded on *Receiving Log.*	**No**
Storage		
(**P**) – Foreign materials enter product due to loose or broken boards or protruding nails on pallets. (**B**) – Improper storage temperature, expired product or failure to use spacers to facilitate cooling (when needed) permits excessive growth of microorganisms. (**BCP**) – Unsanitary conditions in storage areas and/or failure to adequately protect meat products results in biological, chemical or physical hazards.	Controlled by Storage Prerequisite – Inspection of pallets, storage areas, stored products and temperature measurements recorded on *Storage Log.*	**No**
(**C**) – Storage areas for food are not separate from storage areas for chemicals used for cleaning, pest control or maintenance resulting in chemical contamination.	Controlled by Sanitation, Pest Control and Maintenance Prerequisites – Placement of chemicals in approved locations as per *Chemical Storage Map* and recorded on *Storage*, *Sanitation* and *Pest Control Logs.*	**No**

Hazard Analysis Form *(continued)*

GROUND MEAT AND CUT PRODUCTION (GMCP)

Describe any (B)iological, (C)hemical or (P)hysical Hazard associated with Ingredients or Process Step	Describe Measures to Control the Hazard	CCP (Y/N)
Process Flow *continued.*		
Product Inspection		
(**B**) – Expired meat ingredients or contamination caused from ripped or torn packaging causes biological contamination of product.	Controlled by GMCP Standard Operating Procedures – Employees are trained to check production dates, discard products with off-odours and inspect packaging before using ingredients. Recorded on *SOP Training Form*.	**No**
Cut Fabrication		
(**B**) – Unclean cutting boards, bins and tables or food contact surfaces which are in poor condition making cleaning difficult resulting in microbial contamination of meat.	Controlled by Sanitation and Premises Prerequisites – Cutting surfaces are cleaned and sanitized and inspected for excessive wear. Recorded on *Preoperational Inspection Report* and *Sanitation Log*.	**No**
(**BP**) – Bone fragments, cartilage, bruises, dropped product or any other condition which might seriously affect product use.	Controlled by GMCP Standard Operating Procedures – Employees are trained to remove defects or destroy product. Recorded on *SOP Training Form*.	**No**
(**B**) – Unsanitary equipment (mesh gloves, scabbards, bone scrapers, knives).	Controlled by GMCP Standard Operating Procedures – Employees are trained to clean equipment a minimum of once per day. Recorded on *SOP Training Form*.	**No**
Trim Production		
(**B**) – Trim produced during cut fabrication for ground meat production is left in bins in warm cutting room for extended periods permitting excessive growth of microorganisms.	Controlled by **CCP 1B** (See HACCP written plan for details.)	**Yes**
Grinding		
(**P**) – Clips from chubs of coarse ground beef or bone chips from trim enter product creating a physical hazard.	Controlled by GMCP Standard Operating Procedures – Employees are trained to account for all clips before grinding and to inspect trim. Recorded on *SOP Training Form*.	**No**
(**P**) – Grinder has excessive rust, loose, excessively worn or missing parts which lead to meat particles or objects entering product.	Controlled by Maintenance and Premises Prerequisite – Grinder is inspected and results of inspection are recorded on *Maintenance Log* and *Preoperational Inspection Report*.	**No**
(**B**) – Meat used for grinding has been stored improperly permitting excessive growth of microorganisms or contamination.	Controlled by Storage Prerequisite – Storage conditions and temperatures are monitored and recorded on *Storage Log*.	**No**
(**B**) – Materials selected for rework into ground meat products are left in bins in warm cutting room for extended periods permitting excessive growth of microorganisms.	Controlled by **CCP 1B** (See HACCP plan for details.)	**Yes**
(**B**) – Grinder improperly cleaned following end of production or in-between species.	Controlled by Sanitation Prerequisite – Grinder is cleaned as per SSOP and cleanliness monitored and recorded on *Preoperational Inspection Report and Sanitation Log*.	**No**
Packaging/Labeling		
(**BC**) Packaging has become contaminated due to failure to cover packaging materials during cleaning and sanitation activities.	Controlled by Sanitation prerequisite – Packaging materials is protected during cleaning and sanitation activities. Recorded on *Sanitation Log*.	**No**
(**B**) Improper or missing “best before” or “packaged on” dates on packages results in excessive microbial growth.	Controlled by Display Prerequisite – All packages are checked for correct dates. Recorded on *Display Log*.	**No**

Hazard Analysis Form *(continued)*

GROUND MEAT AND CUT PRODUCTION (GMCP)

Describe any (B)iological, (C)hemical or (P)hysical Hazard associated with Ingredients or Process Step	Describe Measures to Control the Hazard	CCP (Y/N)
Process Flow *continued.*		
Display		
(**B**) – Display case temperature is above 4ºC or product is above the load line resulting in excessive microbial growth.	Controlled by Display Prerequisites – Display case temperatures, sanitation, segregation of raw and cooked, and product condition are monitored and recorded on *Display Log*.	**No**
(**B**) – Microbial contamination occurs due to unsanitary display cases and/or leaking packages.		
(**B**) – Microbial contamination occurs due inadequate separation of raw and cooked products.		
Finished Product Storage		
(**BCP**) – Unsanitary conditions in storage areas and/or failure to adequately protect meat products results in biological, chemical or physical hazards.	Controlled by Storage Prerequisite – Storage conditions and temperatures are monitored and recorded on *Storage Log*.	**No**
(**B**) – Improper storage temperature permits excessive growth of microorganisms.		
Rework Selection		
(**B**) Use of product with inadequate remaining shelf-life or previously ground meat materials from the display case as rework results in the presence of excessive levels of microorganisms.	Controlled by **CCP 2B** (See HACCP plan for details.)	**Yes**
(**C**) – Selection of meat materials with spices or seasoning for fresh ground meat production results in undeclared ingredients.	Controlled by GMCP Standard Operating Procedures – Employees are trained to select only cuts without spices or seasoning for use as rework. Recorded on *SOP Training Form*.	**No**
(**B**) – Materials selected for rework into ground meat products are left in bins in warm cutting room for extended periods permitting excessive growth of microorganisms.	Controlled by **CCP 3B** (See HACCP plan for details.)	**Yes**
Disposal		
(**B**) – Failure to dispose product found outside of display case results in excessive microbial growth.	Controlled by Display Prerequisite – Product found outside of display case or returned is destroyed. Recorded on *Display Log*.	**No**
(**B**) – Failure to dispose returned product results in potential chemical, physical or biological hazards.		
Consumer Distribution		
(**B**) – Failure to bag raw meats so they are separate from other items results in microbial contamination.	Controlled Externally – Hazard controlled by training of cashiers to bag meat separately.	**No**

Hazard Analysis Form *(continued)*

GROUND MEAT AND CUT PRODUCTION (GMCP)

Describe any (B)iological, (C)hemical or (P)hysical Hazard associated with Ingredients or Process Step	Describe Measures to Control the Hazard	CCP (Y/N)
Process Flow *continued.*		
All Process Steps		
(**PC**) – Improperly maintained equipment or uncontrolled maintenance procedures causes foreign material or maintenance chemicals to enter product.	Controlled by Maintenance Prerequisite – All equipment is maintained as per written maintenance program and recorded on the *Maintenance Log*.	**No**
(**B**) – Poor Employee Hygiene causes microbial contamination of meat, ingredients, packaging or food contact surfaces. Failure to destroy contaminated material(such as dropped product) and/or clean and sanitize affected food contact surfaces.	Controlled by Hygiene Training prerequisite – Employees are trained in hygienic practices and record of training is made on *Hygiene Policies and Procedures Form.*	**No**
(**B**) – Failure to destroy or trim contaminated material such as dropped product and/or failure to clean and sanitize contaminated food contact surfaces.		
(**B**) – Improper sanitation causes microbial contamination of product.	Controlled by Sanitation Prerequisite – Facilities and equipment are cleaned as per *Sanitation Standard Operating Procedures Form* and recorded on *Sanitation Log*.	**No**
(**BCP**) – Inadequate or improperly maintained premises creates biological, chemical or physical hazards in food products.	Controlled by Premises Prerequisite – Premises are inspected to ensure they are adequate for food production. Recorded on *Premises Log* and *Preoperational Inspection Report*.	**No**
(**B**) – Water supply does not meet Canadian Drinking Water Standards resulting in microbial contamination of food contact surfaces and meat products.	Controlled by Premises Prerequisite – Water is tested on a semi-annual basis. Recorded on *Premises Log*.	**No**
Operation Schematic (Employee and Product Flow)		
(**B**) – Employees entering the meat department should change or clean dirty shoes to avoid tracking excessive soil onto cutting room floor.	Controlled by GMCP Standard Operating Procedures – Employees are trained to clean or change footwear. Recorded on *SOP Training Form*.	**No**
(**B**) – Rendering personnel should not be permitted to enter the meat department to avoid microbial contamination of meat or food contact surfaces.	Controlled by GMCP Standard Operating Procedures – Employees are trained that meat products for disposal should be placed outside of the door for pickup. Recorded on *SOP Training Form*.	**No**

The HACCP Written Plan

Once the hazard analysis has identified the Critical Control Points (CCPs) in the production process, the written HACCP plan can be developed. As noted previously this requires developing critical limits for each CCP and describing monitoring, deviation, and verification procedures to ensure that food safety standards are met.

Determining Critical Limits for a CCP

Critical limits are defined as criteria which separate acceptability from unacceptability.[1] If the critical limits are not met, it is likely that significant food safety hazards will result unless corrective action is taken. Although critical limits may be set to exceed regulatory requirements, it is vital that they ensure that all government and corporate food safety standards are met.

Example: If the meat display case temperature is determined to be a CCP, the critical limit could be that the display case temperature would not exceed 4ºC.

Developing Monitoring Procedures for a CCP

Monitoring is the act of conducting a planned sequence of observations or measurements of control parameters to assess whether a CCP is under control.[1] How often the process will be monitored, who is responsible and the procedures used must be described. Monitoring a CCP allows the operator to determine when critical limits have been, or are likely to be, exceeded.

Example: If the critical limit of the meat display case temperature is determined to be 4ºC, the monitoring procedure could be that the display case thermometer is checked three times per day, by the person designated by the supervisor, to ensure that the temperature did not exceed 4ºC.

Establishing Deviation Procedures for a CCP

A deviation is defined as failure to meet the specified critical limits.[1] Deviation procedures are pre-determined corrective actions taken both to address the cause of the failure *and* to control any potential food safety hazard which occurred while critical limits were not met.

Example: If the meat display case temperature reached room temperature due to refrigeration failure, the deviation procedure could be to have the supervisor contact maintenance to repair the refrigeration system and to dispose of any perishable product in the case when refrigeration failed.

Verification Procedures

Verification activities are methods, procedures and tests that are used to determine if the HACCP plan for that establishment is valid and is operating properly.[1] It is important that the individual(s) doing the verification not be the same individual(s) as those performing monitoring activities. This is to ensure that verification activities are unbiased.

Example: To verify that monitoring for the display case temperature CCP was occurring as intended, monitoring records for the month could be reviewed and a day selected at random another individual could check to see that display case temperatures were as indicated on the monitoring records.

[1] **Quoted from the Food and Safety Enhancement Program (FSEP) Manual produced by the Canadian Food Inspection Agency.**

The HACCP Written Plan

Example

A sample HACCP Written Plan for the ground meat and cut production CCPs identified in the hazard analysis is shown below.

GROUND MEAT AND CUT PRODUCTION

Trim Production/Rework Selection – CCP 1B & 3B *(Excessive Microbial Growth)*

Critical Limits	Monitoring Procedures	Deviation Procedures	Verification Procedures	HACCP Records
If the cutting room temperature exceeds 4ºC, trim and rework must not be left out for more than 1 hour to prevent excessive microbial growth in ingredients used for ground meat production.	Person designated by supervisor to monitor hourly that that trim is moved to cooler for storage at 4ºC. Recorded on *Ground Meat and Cut Production HACCP Log 1.*	Materials which have not been maintained at appropriate temperatures (since last satisfactory monitoring finding) will not used for ground meat production. Retraining of employees in trim production performed by supervisor. Corrective Action to be recorded on *Ground meat and Cut Production HACCP Log 1.*	Supervisor conducts visual inspection once per week and verifies that trim is moved to cooler when as required. Record of verification to be recorded on *Ground Meat and Cut Production HACCP Log 1.* Supervisor will verify record completion weekly and sign logs.	*Ground Meat and Cut Production HACCP Log 1.*

Rework Selection – CCP 2B *(Presence of Excessive Levels of Microorganisms)*

Critical Limits	Monitoring Procedures	Deviation Procedures	Verification Procedures	HACCP Records
All cuts selected for rework must have at least one days shelf life remaining. No ground meat from the display case is to be used as rework.	Person designated by supervisor to monitor, when rework materials are selected, that cuts have adequate shelf life remaining and that no ground meat is used as rework. Recorded on *Ground Meat and Cut Production HACCP Log 2.*	Expired or ground materials will be not be used for ground meat production. Retraining of employees in rework selection performed by supervisor. Corrective Action to be recorded on *Ground meat and Cut Production HACCP Log 2.*	Supervisor will verify record weekly and sign log. Supervisor conducts visual inspection once per week and verifies that rework is selected as required. Record of verification to be recorded on *Ground Meat and Cut Production HACCP Log 2.*	*Ground Meat and Cut Production HACCP Log 2.*

HACCP Records

In order to implement the HACCP Written Plan, records must be created to document the results of monitoring, verification and deviation (corrective action) procedures at each CCP. As HACCP records provide evidence that significant food safety hazards are being controlled, it is important that records be fully completed, accurate, and be submitted on a timely basis. To ensure these criteria are met, the records should be reviewed at the end of each week and signed by an individual who was not involved in monitoring to ensure impartiality. At this time efforts should be made to note any trends which might indicate that critical limits may be exceeded in the future. Documentation should always be completed using pens or other permanent methods, never pencil. Use of corrective liquids and related materials to remove errors is not recommended. If a mistake is made, it should be crossed out and the correct entry made underneath.

It is strongly recommended that records be stored for a period of one year or, at minimum, for a period twice as long as the shelf-life of the products produced under the HACCP plan. The location where records are kept should be known to several individuals so they can be retrieved quickly if required. Appropriate measures should be taken to ensure records are secure and protected from humidity, etc.

In addition to its food safety role, HACCP records, (as well as records from the prerequisite programs), can play a valuable role in maximizing quality of meat products and addressing equipment or supplier issues.

Example HACCP logs for the critical control points indicated on the *Hazard Analysis Form* are shown on the next two pages. HACCP Log 1 documents CCP 1B & 3B which are both related to ensuring that materials being accumulated for ground meat production are placed into storage at 4ºC within one hour. HACCP Log 2 serves as a record for CCP 2B which controls selection of rework materials.

HACCP Log 1

The HACCP Log 1 documents CCP 1B & 3B which are both related to ensuring that materials being accumulated for ground meat production are placed into storage at 4ºC within one hour.

example

HACCP Log 1

ABC Retail Store - Meat Department			
Ground Meat and Cut Production			
Rework Selection/Trim Production – CCP 1B & 3B (Excessive Levels of Microbial Growth)			
Critical Limits: Materials being accumulated for later use in ground meat production must not be left in the cutting room for more than 1 hour before being moved to cooler for storage at 4°C.			
Date/Time	**Rework Materials are moved to cooler within one hour**	**Shop Trim is moved to cooler within one hour**	**Initial**
Aug 27/03 9:10 am	Yes ☑ No ☐ N.A. ☐	Yes ☑ No ☐ N.A. ☐	JS
10:10 am	Yes ☑ No ☐ N.A. ☐	Yes ☑ No ☐ N.A. ☐	JS
11:10 am	Yes ☐ No ☐ N.A. ☑	Yes ☑ No ☐ N.A. ☐	JS MA
12:10 pm	Yes ☐ No ☐ N.A. ☑	Yes ☐ No ☐ N.A. ☑	JS
1:10 pm	Yes ☐ No ☐ N.A. ☑	Yes ☐ No ☐ N.A. ☑	JS
2:10 pm	Yes ☐ No ☐ N.A. ☑	Yes ☐ No ☐ N.A. ☑	JS
3:10 pm	Yes ☐ No ☐ N.A. ☑	Yes ☐ No ☐ N.A. ☑	JS
4:10 pm	Yes ☐ No ☐ N.A. ☑	Yes ☐ No ☐ N.A. ☑	JS
5:10 pm	Yes ☐ No ☐ N.A. ☑	Yes ☐ No ☐ N.A. ☑	JS
Closed at 5:30	Yes ☐ No ☐ N.A. ☐	Yes ☐ No ☐ N.A. ☐	
	Yes ☐ No ☐ N.A. ☐	Yes ☐ No ☐ N.A. ☐	
Corrective Action Taken (if "Unsatisfactory" is indicated above)			

Completion of Corrective Action Verified by _____ **Date** _____
signature

Date *August 27/2003* Form Completed by *Joe Smith*

Date *Sept 1/2003* Form Verified by *Mike Andrews*

Notes: Duis autem vel eum iriure dolor in hendrerit in vulputate velit esse molestie consequat, vel illum dolore eu feugiat nulla facilisis.

HACCP Log 2

The HACCP Log 2 serves as a record for CCP 2B which controls selection of rework materials.

example

HACCP Log 2

ABC Retail Store - Meat Department			
Ground Meat and Cut Production			
Rework Selection – CCP 2B (Excessive Levels of Microorganisms)			
Critical Limits: Materials being selected for rework must have at least one day's shelf life remaining. No ground product removed from the display case can be used as rework.			
Date/Time when Rework Selected	**All Rework materials have at least one day's shelf life remaining**	**Ground Product from the display case was not utilized as rework**	**Initial**
Aug 27/03 9:10 am	Yes ☑ No ❑	Yes ☑ No ❑	JS
	Yes ❑ No ❑	Yes ❑ No ❑	
	Yes ❑ No ❑	Yes ❑ No ❑	
	Yes ❑ No ❑	Yes ❑ No ❑	
	Yes ❑ No ❑	Yes ❑ No ❑	
	Yes ❑ No ❑	Yes ❑ No ❑	
	Yes ❑ No ❑	Yes ❑ No ❑	
	Yes ❑ No ❑	Yes ❑ No ❑	
	Yes ❑ No ❑	Yes ❑ No ❑	
	Yes ❑ No ❑	Yes ❑ No ❑	
	Yes ❑ No ❑	Yes ❑ No ❑	
Describe Corrective Action Taken (if "No" is indicated above)			

mpletion of Corrective Action Verified by ______________________ **Date** ______________
signature

e *August 27/2003* Form Completed by *Joe Smith*

e *Sept 1/2003* Form Verified by *Mike Andrews*

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HACCP Plan Training

The final step in developing a HACCP plan is to develop a training program which will ensure that the plan is correctly implemented and understood by all personnel. Records should be kept of training activities and retraining provided on a semi-annual basis or when changes to the operation occur. In most cases the forms used to develop the HACCP Written Plan, as well as the plan itself and associated logs, can be used as training materials. A separate *Standard Operating Procedures Training Form* should be provided to ensure adequate detail is provided in relation to SOPs (see example on next page). In addition to employee training, it is also important that management be adequately informed of the requirements of the food safety system so they understand and approve all required activities.

The table below outlines some potential training methods for the ground meat and cut production HACCP plan.

Group	Suggested Training Activity for Ground Meat and Cut Production
Management	HACCP team leader provides an overview of the development of the plan and highlights actions required to implement the plan. The *Written HACCP Plan* should be approved and signed by management before it is implemented.
All employees involved in ground meat and cut production	HACCP team leader or supervisor reviews *Hazard Analysis Form*, *Process Flow Diagram* and *Operation Schematic Diagram* with all employees and a signed copy of the form is kept on file.
Employees involved in *implementing Standard* Operating Procedures	HACCP team leader or supervisor reviews *Standard Operating Procedures Training Form* with applicable employees. A copy signed by employee and trainer is kept on file.
Employees involved in monitoring or verifying CCPs	HACCP team leader or supervisor reviews *HACCP Written Plan* and *HACCP Logs* with applicable employees. shown how to complete logs by on-site demonstration. A copy signed by employee and trainer are kept on file.

Standard Operating Procedures Training Form

example

Standard Operating Procedures Training Form

ABC Retail Store - Meat Department

Inspection of Meat Ingredients

• Before opening meat ingredients inspect packaging to ensure that it has not been punctured or become contaminated. Verify that product is within shelf life limits and always select oldest product for use in accordance with the First In-First Out (FIFO) inventory rotation system. Do not use expired meat ingredients.

• Before use meat products should be inspected for blood clots, bruises, bone fragments, detached cartilage, faecal matter, ligaments, ingesta, off condition, harmful extraneous material, hair, hide, lesions, freezer burn, needles, or any other defect that would seriously affect product use. Inspect trim before grinding for small pieces of bone and cartilage to ensure physical hazards are not created in the product.

• If defects are present they should be trimmed, foreign material removed, or the product destroyed. In the event that product is dropped on the floor, or contacts any other unclean surface, it should be destroyed unless it is possible to trim the contamination. Unclean product must not be placed on cutting boards for inspection and/or trimming unless these boards are cleaned immediately afterward. If possible, a hook should be used to trim meat.

• If conditions such as abscesses are present, where contamination may have spread to other products in a box or on the cutting board, these products should be destroyed or trimmed when possible. If surfaces such as cutting boards, knives, or other equipment have been exposed to contaminated product they must be cleaned and sanitized immediately. Contact your supervisor if serious defects are found.

Care and Sanitation of Cutting Tools and Protective Equipment

• Items, such as mesh gloves which are warmed by hands, that will support the growth of high levels of bacteria should be thoroughly cleaned at least once per day by dipping into an approved sanitizing chemical after thorough cleaning. Scabbards, bone scrapers, knives, and steels should also be cleaned as required or at minimum once per day.

• Inspect mesh gloves for loose or missing links daily, any damage should be repaired to avoid creating physical hazards in products. If links are missing, product must be inspected to ensure physical hazards are not present.

Selection of Rework Materials

• If whole muscle products are taken from the counter for grinding always ensure that they are free from any seasoning or any other ingredients and have at least one day shelf life remaining. Product which has off-odours or ...y other defect that would seriously affect product use must not be used.

...o not mix any remaining ground product into another days fresh ground meat production. If you find that you have ...ound more then you can sell it is acceptable to immediately freeze the remaining unexpired product as patties or ...zen ground beef for sale in the frozen counter.

...e *August 27/2003* Reviewed With Employee *Angie Jackson*

...e *August 27/2003* Trainer *Mike Andrews*

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