

**Hazard Analysis and Critical Control Point (HACCP)
Program
Heat Treated, Not Fully Cooked, Not-Shelf Stable
Bacon**

**by
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**Model Plan
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Approved: Signed: _____

Name: _____
Implementation Date: _____
Revision, Date: _____

Trade Secret/Confidential Commercial Information

This document contains trade secret/confidential commercial information pursuant to 5 U.S.C. 552 (b)(4).

Product Category Description

Product: Bacon	
The following areas need to be defined when developing the product category description:	
1. Common Name/Description:	Bacon Beef Bacon
2. How is it to be used?	Cooked and served as an entre for home or food service or as a garnish.
3. Type of Package?	Butcher freezer paper
	Vacuum packaged pouch or roll stock film.
4. Length of Shelf Life; at what temperature?	3 months, frozen at $\leq -10^{\circ}\text{F}$
5. Where will it be sold?	Loeffel Meat Lab to general public
6. Labeling instructions:	Keep Frozen or Keep Refrigerated, safe handling statement
7. Is special distribution control needed?	Frozen or refrigerated distribution

Date: _____ Approved by: _____

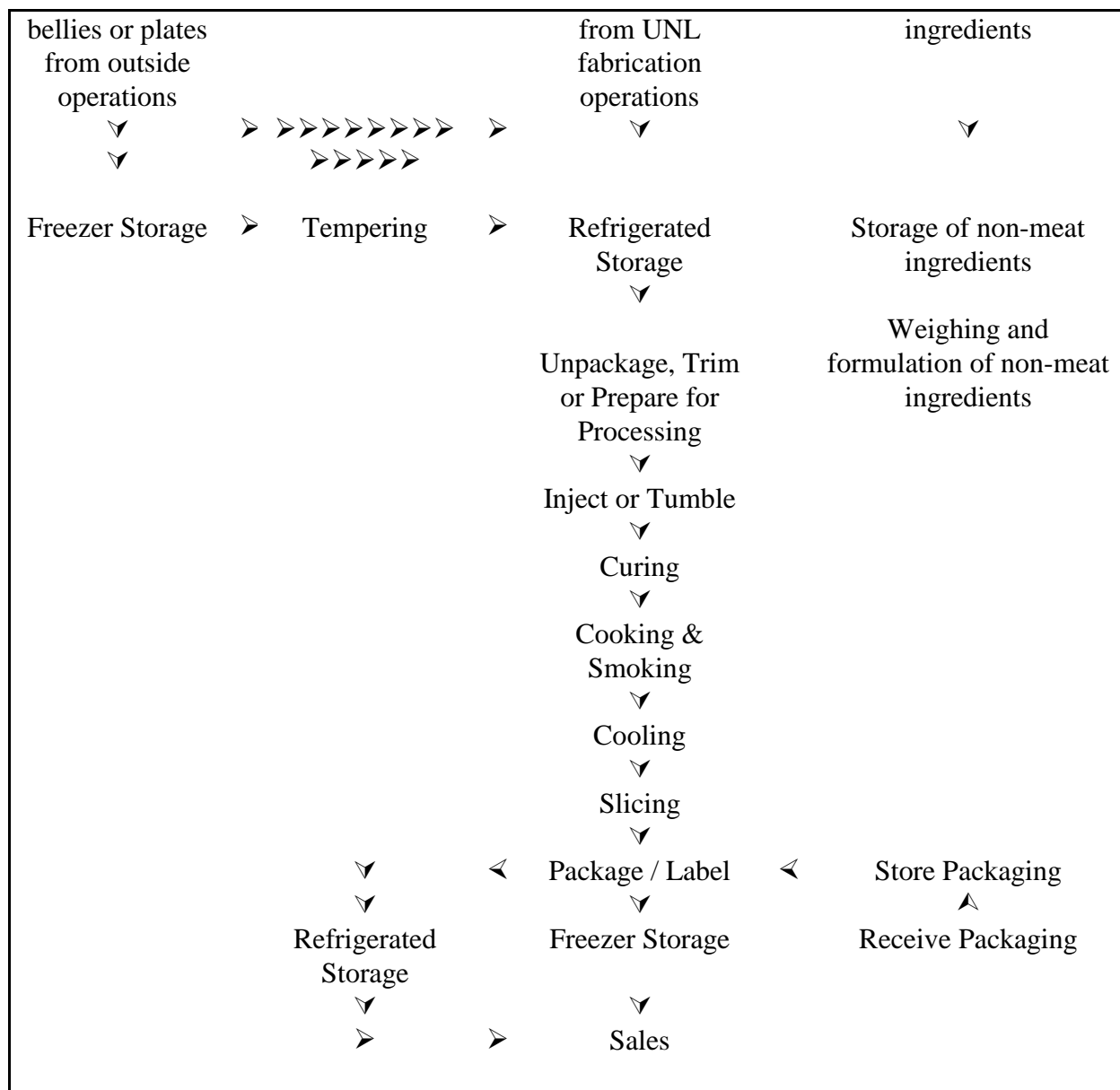
Product and Ingredients

Product: Not Fully Cooked, Non-Shelf Stable
Meat Ingredients:
Pork belly
Beef plate
Non-Meat Ingredients:
Water, Salt, Sugar, Spices or Flavorings
Restricted Ingredients:
Sodium or Potassium Nitrite used as 6.25% nitrite in a cure mix
Ascorbate or Erythrostate and their salts Phosphates
Packaging Materials: Butcher paper, vacuum poly bags, Plastic liners and boxes, or roll stock film.
Casing:
Fibrous casings for some products

Process Flow Chart

Product: Raw, Ground: Beef, Lamb and Pork

Receiving of	Transfer of trim	Receiving of non-meat
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Hazard Analysis				
Product: Not Fully Cooked, Not Shelf Stable				
Process Step	Potential hazard introduced, controlled or enhanced at this step B= Biological C= Chemical P= Physical	Does this potential hazard need to be addressed in the HACCP plan? (Yes or No)	Justification for decision made in previous column	What control measures can be applied to prevent, eliminate or reduce the hazards being addressed in the HACCP plan?
Receiving of bellies or plates from outside operations	B - Presence and growth of pathogens	Yes	Meat is a known source of pathogens and growth of pathogens could cause sever illness	Thermal processing later in the process at a time and temperature to produce lethality to pathogens.
	C -None			
	P -metal, bone, plastic	No	Low occurrence according to plant experience	
Transfer of trim from UNL fabrication operations	B -Presence and growth of pathogens	No	Low occurrence as temperatures are controlled in fresh meat not ground HACCP plan	
	C - None			
	P -Metal	No	Low occurrence according to plant experience	
Refrigerated Storage	B -Growth of pathogens	No	Low occurrence as refrigeration units are maintained a low temperatures to prevent growth	
	C - None			
	P - None			

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Freezer Storage	B -Growth of pathogens	No	Low occurrence as freezer units are maintained a low temperatures to prevent growth	
	C - None			
	P - None			
Tempering	B -Growth of pathogens	No	Low occurrence as tempering units are maintained a low temperatures to prevent growth	
	C - None			
	P - None			
Unpackage, Trim or Prepare for Processing	B -Growth of pathogens	No	Low occurrence of temperature abuse during processing.	
	C - Sanitizer residue	No	Low occurrence as plant has SSOP's	
	P - None			
Inject or	B -Growth of pathogens	No	Low occurrence as of growth	

Hazard Analysis				
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Tumble	C - Excess nitrite	No	Low occurrence with proper formulation.	
	P - None			
Curing	B -Growth of Pathogens	No	Low occurrence of temperature abuse during curing for the growth of pathogens.	
	C - None			
	P - None			
Cooking & Smoking	B -None			
	C - None			
	P - None			
Cooling	B -Growth of pathogens	No	Low occurrence of growth as product cools rapidly and contains nitrite.	
	C - None			
	P - None			

Hazard Analysis

Product: Not Fully Cooked, Not Shelf Stable

Process Step	Potential hazard introduced, controlled or enhanced at this step B= Biological C= Chemical P= Physical	Does this potential hazard need to be addressed in the HACCP plan? (Yes or No)	Justification for decision made in previous column	What control measures can be applied to prevent, eliminate or reduce the hazards being addressed in the HACCP plan?
Slicing	B - None			
	C - None			
	P - None			
Package / Label	B -None			
	C - None			
	P - None			
Freezer Storage	B -None			
	C - None			
	P - None			
Refrigerated Storage	B -None			
	C - None			
	P - None			
Sales	B -None			
	C - None			

Hazard Analysis				
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	P - None			
Receiving of non-meat ingredients	B -Pathogens	No	Low occurrence as indicated by spice supplier.	
	C - None			
	P - None			
Storage of non-meat ingredients	B -None			
	C - None			
	P - None			
Weighing and formulation of non-meat ingredients	B - Inhibition of Growth of Pathogens with nitrite	Yes	Formulation errors could lead to growth of pathogens at cooling	Addition of nitrite to inhibit growth of pathogens during cooling
	C -Excess Nitrite	Yes	Formulation errors could produce excess nitrite in the bacon to produce nitrosamines.	Proper addition of nitrite to the formulation.
	P - None			
Receive	B -None			

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Packaging	C - None			
	P - None			
Store Packaging	B -None			
	C - None			
	P - None			

<p align="center">Principle 2 - CCP Determination</p> <p>Product: A critical control point is defined as a point, step or procedure at which control can be applied and a food safety hazard can be prevented, eliminated or reduced to acceptable levels.</p>						
Process step	Hazard Biological = B Chemical = C Physical = P	Q1. Does this step involve a hazard of sufficient risk and severity to warrant its control?	Q2. Does a preventive measure for the hazard exist at this step?	If Q2. is no: Is control at this step necessary for safety?	Q3. Is control at this step necessary to prevent, eliminate or reduce the risk of the hazard to consumers?	
Receiving of bellies or plates from outside operations	B - Presence and growth of pathogens	Yes	Yes		Yes	CCP-1B
	C -					
	P -					
Weighing and formulation of non-meat ingredients	B - Inhibition of Growth of Pathogens with nitrite	Yes	Yes		Yes	CCP-2B
	C -Excess Nitrite	Yes	Yes		Yes	CCP-2C
	P -					

**Principles 3, 4 and 5
Critical Limits, Monitoring and Corrective Actions**

Product:

Process Step/ CCP	Critical Limits	Monitoring Procedures (Who/What/When/How)	Corrective Actions
Receiving of bellies or plates from outside operations	Meat temperature of less than 45°F	Who: Receiving operator What: Internal meat temperature or surface temperature of lean trim. When: At receiving of each load How: A calibrated thermometer will be inserted into box located near the rear of the truck on each load or a calibrated thermometer will be placed between two vacuum packaged cuts from one box near the rear of the truck on each load to measure temperature.	<ol style="list-style-type: none"> 1. If temperature is above 45° F, notify supervisor for rejection of shipment. 2. Determine if the problem was from trucking refrigeration or shipment of warm product by supplier. 3. Notify supplier to correct problem. 4. Notify shipping company <p>In all other cases comply with guidelines in CFR Section 417.3.</p>
Weighing and formulation of non-meat ingredients	Target of 120 ppm nitrite in product formulation.	Who: Cure master What: Weighing of nitrite according to approved formulation sheets When: During formulation and weighing. How: Curing master will weigh and record weight on a formulation sheet and Supervisor will check weight before use.	<ol style="list-style-type: none"> 1. Adjust formulation by dilution or addition of more nitrite. 2. Check scales and repair or replace if necessary. 3. Retrain employee on proper procedures if necessary. 4. Apply alternative cooling requirements if nitrite is determined to be less than 100 ppm in the formulation. 5. In all other cases comply with guidelines in CFR Section 417.3.

Principles 6 and 7 Verification and Record Keeping		
Product:		
Process Step/CCP	Records	Verification Procedures
Receiving of bellies or plates from outside operations	<ol style="list-style-type: none"> 1. Product receiving temperature monitoring log w/daily review initials: 2. CCP deviations/corrective actions log. 3. Audit report of CCP monitoring activities. 	<ol style="list-style-type: none"> 6. Daily review and initialing of the product receiving temperature monitoring log CCP-1B (including any corrective actions taken) and thermometer calibration log by the HACCP manager. 7. Audit of CCP monitoring activities and procedures by the HACCP manager approximately every 3 months.
Weighing and formulation of non-meat ingredients	<ol style="list-style-type: none"> 1. Nitrite weight/formulation log. 2. CCP deviations/corrective actions log. 3. CCP monitoring activities audit report. 	<ol style="list-style-type: none"> 8. Daily review and initialing of the nitrite weight log (including any corrective actions taken) by the HACCP manager if product is produced that day. 9. Audit of CCP monitoring activities and procedures by the HACCP manager approximately every 4 months.
Overall plan	<ol style="list-style-type: none"> 10. Thermometer Calibration log 	<ol style="list-style-type: none"> 11. Daily calibration of thermometers used to monitor CCP's by a designated employee. 12. Annual review of HACCP plan.

HACCP Plan							
Product:							
Process Step	Hazard Description	CCP Description	Critical Limit	Monitoring Procedures/ Frequency/ Person Responsible	Corrective Action/ Person Responsible	HACCP Records	Verification Procedures/ Person Responsible
Receiving of bellies or plates from outside operations			Meat temperature of less than 45°F	Who: Receiving operator What: Internal meat temperature or surface temperature of lean trim. When: At receiving of each load How: A calibrated thermometer will be inserted into box located near the rear of the truck on each load or a calibrated thermometer will be placed between two vacuum packaged cuts from one box near the rear of the truck on each load to measure temperature.	1. If temperature is above 45° F, notify supervisor for rejection of shipment. 2. Determine if the problem was from trucking refrigeration or shipment of warm product by supplier. 3. Notify supplier to correct problem. 4. Notify shipping company In all other cases comply with guidelines in CFR Section 417.3.	1. Product receiving temperature monitoring log w/daily review initials: 2. CCP deviations/corrective actions log. 3. Audit report of CCP monitoring activities.	13. Daily review and initialing of the product receiving temperature monitoring log CCP-1B (including any corrective actions taken) and thermometer calibration log by the HACCP manager. 14. Audit of CCP monitoring

HACCP Plan							
Product:							
Process Step	Hazard Description	CCP Description	Critical Limit	Monitoring Procedures/ Frequency/ Person Responsible	Corrective Action/ Person Responsible	HACCP Records	Verification Procedures/ Person Responsible
							activities and procedures by the HACCP manager approximately every 3 months.
Weighing and formulation of non-meat ingredients			Target of 120 ppm nitrite in product formulation.	Who: Cure master What: Weighing of nitrite according to approved formulation sheets When: During formulation and weighing. How: Curing master will weigh and record weight on a formulation sheet and Supervisor will check weight before use.	15. adjust formulation by dilution or addition of more nitrite. 16. check scales and repair or replace if necessary. 17. retrain employee	1. Nitrite weight/formulation log. 2. CCP deviations/corrective actions log. 3. CCP monitoring activities audit report.	20. daily review and initialing of the nitrite weight log (including any corrective actions taken) by the HACCP manager if product is produced

HACCP Plan							
Product:							
Process Step	Hazard Description	CCP Description	Critical Limit	Monitoring Procedures/ Frequency/ Person Responsible	Corrective Action/ Person Responsible	HACCP Records	Verification Procedures/ Person Responsible
					on proper procedures if necessary. 18. Apply alternative cooling requirements if nitrite is determined to be less than 100 ppm in the formulation. 19. In all other cases comply with guidelines in CFR Section 417.3.		that day. 21. Audit of CCP monitoring activities and procedures by the HACCP manager approximately every 4 months.

HACCP Plan							
Product:							
Process Step	Hazard Description	CCP Description	Critical Limit	Monitoring Procedures/ Frequency/ Person Responsible	Corrective Action/ Person Responsible	HACCP Records	Verification Procedures/ Person Responsible