

Hazard Analysis Review Workshop Pork and Beef Pepperoni

Use the Meat and Poultry Hazard and Controls Guide to answer the questions. Identify any concerns or items needing clarification.

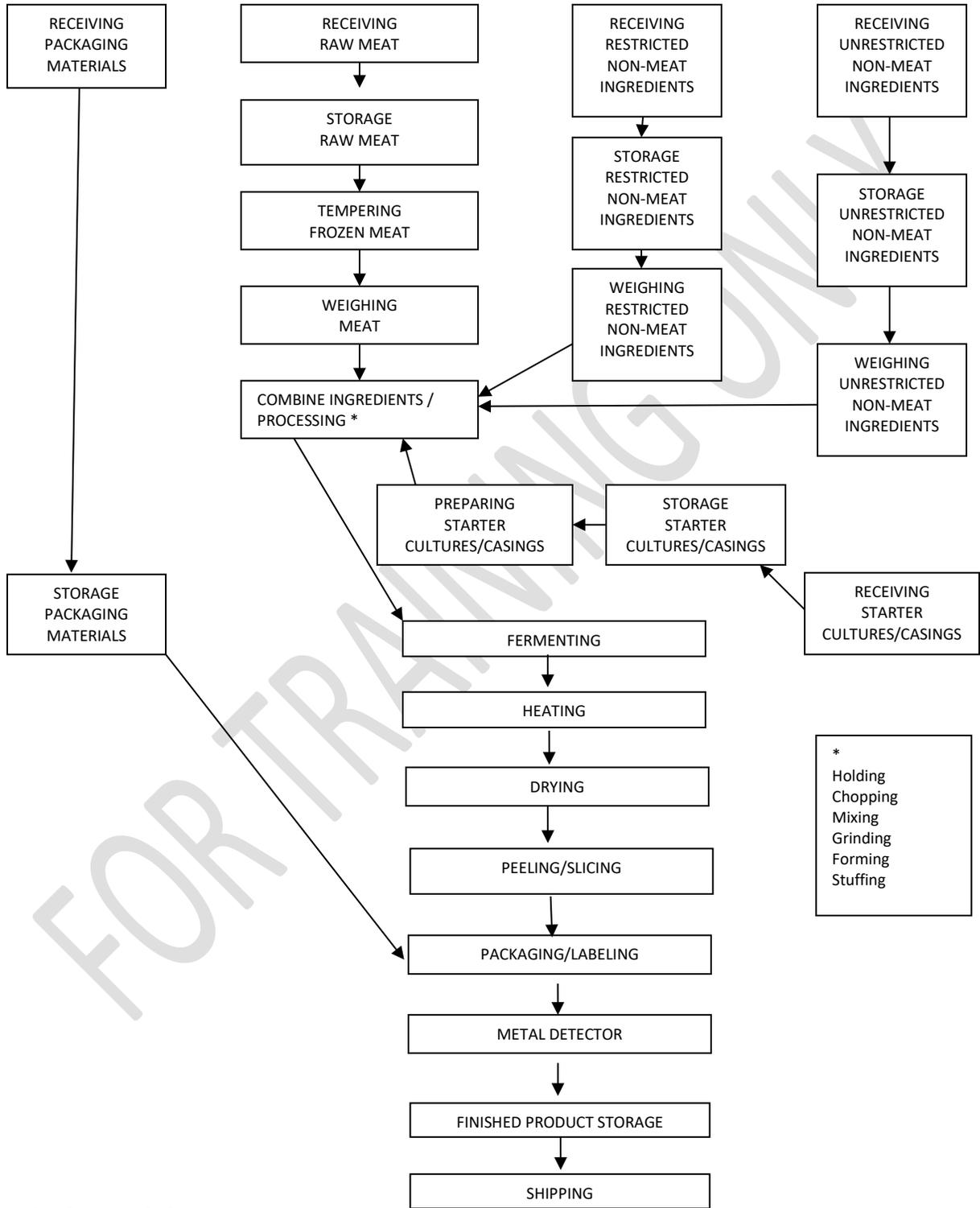
1. Does the establishment's flowchart and hazard analysis include all the applicable steps?

2. Has the establishment considered the hazards that would typically be associated with the steps in its production process?

3. Has the establishment identified measures to prevent or control the hazards at the relevant points in the process?

PORK AND BEEF PEPPERONI FLOW DIAGRAM

DESCRIPTION: HEAT TREATED, SHELF STABLE; SLICED AND PACKED IN 1 LB VACUUM PACK FOR RETAIL



No Product is Reworked

PORK AND BEEF PEPPERONI HAZARD ANALYSIS – HEAT TREATED, SHELF STABLE (For Training Purposes Only)

Process Step	Food Safety Hazard	RLTO	Basis	If yes in Column 3, What measures could be applied to prevent, eliminate, or reduce the hazard to an acceptable level?	Is This Step a Critical Control Point?
Receiving Frozen Raw Pork and Raw Beef	Biological- Pathogen growth	No	Temperature monitoring at receipt		No
	<i>STECs</i>	Yes	Supporting documents-Letter of Guarantee (LOG)	STECs and other vegetative pathogens are eliminated at the fermenting and heating steps	
	<i>Salmonella, Staph aureus, Listeria monocytogenes(Lm)</i>	Yes			
	<i>Clostridium botulinum Clostridium perfringens (Clostridia)</i>	Yes		Growth of Clostridia is prevented at the fermentating and drying steps	
	<i>Trichinella spiralis</i>	No	Heat treatment meets requirements for trichina control		
	<i>SRMs from cattle</i>	No	Purchase Program- Purchase only boneless beef		
	Chemical-None				
Physical-foreign materials (metal, glass, wood, etc)	No	Visual inspection at receiving program and metal detector step			
Receiving Restricted and Unrestricted Nonmeat Food Ingredients; spices, starter cultures; casings; packaging materials	Biological- Salmonella (spices)	Yes		Eliminated at heating step (no spices added post-lethality)	No
	Clostridia	Yes		Growth prevented by fermenting and drying steps	
	Chemical-None				
	Physical-foreign materials (metal, glass, wood, etc.)	No	Visual inspection at receipt program and metal detector step		

Process Step	Food Safety Hazard	RLTO	Basis	If yes in Column 3, What measures could be applied to prevent, eliminate, or reduce the hazard to an acceptable level?	Is This Step a Critical Control Point?
Storage – Restricted & Unrestricted Nonmeat Food Ingredients; Starter Cultures, Casings; Packaging materials, etc	Biological-None				No
	Chemical-restricted ingredients	No	Nitrite storage control SOP		
	Physical-None				
Storage Frozen and Refrigerated Raw Meat	Biological Pathogen growth	No	Temperature control program		No
	Chemical-None				
	Physical-None				
Tempering Frozen Meat	Biological-Pathogen growth	No	Tempering SOP with surface temperature monitoring		No
	Chemical-None				
	Physical-None				
Weighing Raw Meat	Biological-None				No
	Chemical-None				
	Physical-None				
Weighing Restricted & Unrestricted NonMeat Food Ingredients; Preparing Starter Cultures/Casings	Biological-None				No
	Chemical-toxic nitrite levels	No	Formulation SOP ensures nitrite levels are safe and suitable. Historical records show no nitrite formulation errors		
	Physical-None				
Combine Ingredients/ Processing (Includes one or more of the following; holding, grinding,	Biological-Pathogen growth	No	Temperature control program Formulation SOP ensures the following parameters are met for adequate lethality during heating step: 75% pork and 25% beef, fat 32%, 55 mm diameter fibrouse		No

Process Step	Food Safety Hazard	RLTO	Basis	If yes in Column 3, What measures could be applied to prevent, eliminate, or reduce the hazard to an acceptable level?	Is This Step a Critical Control Point?
chopping, mixing, stuffing, forming			casings. Antimycotics added to prevent mold growth.		
	Chemical-None				
	Physical-Metal contamination	Yes		Eliminated at metal detector step	
Fermenting	Biological- Pathogen survival	Yes		Ferment at 96°F and 85% RH to pH≤5.0 within 27 hours to inhibit <i>Staph aureus</i> growth and toxin production and meet critical parameter for heat lethality	Yes-1B
	Chemical-None				
	Physical-None				
Heating	Biological-Survival of STECs and other vegetative pathogens	Yes		Heat to internal temperature of 128°F and hold for 60 minutes.	Yes-2B
	Chemical-None				
	Physical-None				
Drying	Biological- <i>outgrowth of Clostridia</i>	Yes		Dry at 55°F, 65% RH, to $a_w=0.90\pm0.03$ (MPR≤1.6:1)	Yes-3B
	Chemical-None				
	Physical-None				
Peeling/Slicing	Biological-contamination and growth of <i>Lm</i>	No	Sanitation SOPs and <i>Lm</i> Prevention Procedures prevent post-lethality contamination. <i>Lm</i> growth precluded by low a_w (Alt 2-Choice 2)		No
	Chemical-None				
	Physical-None				
Packaging/ Labeling	Biological-contamination and growth of <i>Lm</i>	No	Post processing contamination prevented by implementation of SSOP and <i>Listeria</i> prevention procedures.		No

Process Step	Food Safety Hazard	RLTO	Basis	If yes in Column 3, What measures could be applied to prevent, eliminate, or reduce the hazard to an acceptable level?	Is This Step a Critical Control Point?
			<i>Lm</i> growth precluded by low a_w (Alt 2-Choice 2)		
	Chemical-None				
	Physical - None				
Metal Detector	Biological-None				Yes-4P
	Chemical-None				
	Physical-(Metal contamination potentially introduced in earlier steps)	Yes		Functioning metal detector	
Finished Product Storage	Biological-None				No
	Chemical-None				
	Physical-None				
Shipping	Biological-None				No
	Chemical-None				
	Physical-None				

PORK AND BEEF PEPPERONI HACCP PLAN-HEAT TREATED, SHELF STABLE (FOR TRAINING PURPOSES ONLY)

CCP	Critical Limits	Monitoring Procedures and Frequencies	Verification Procedures and Frequencies	HACCP Records	Corrective Actions
1B-Fermenting	<p>pH≤5.0 (to meet critical factor for heat lethality) within 27 hours (to meet degree hour requirement for <i>Staph aureus</i>)</p> <p>Chamber dry bulb temperature 96°F and wet bulb 92°F (85% RH)</p>	<p>At the beginning and end of fermenting, QC technician monitors dry bulb and wet bulb temperatures</p> <p>After fermenting 16 hours, the QA technician will use a needle type probe to test the center pH of three individual pieces from each lot.</p> <p>QA technician will record chamber dry and wet bulb temperature, fermentation start and end times, and the pH of each piece tested in the Fermentation Log.</p>	<p>Once per day, QA supervisor will observe QA technician perform bulb readings and pH testing</p> <p>Once per day, QA supervisor will review records maintained under 417.5(a)(3)</p> <p>Once per day, QA will calibrate the pH meter to ±0.1 per procedures on file</p> <p>Once per day, QA will calibrate the chamber temperature thermometers to ±1°F using an instrument of known accuracy</p>	<p>Fermentation Log</p> <p>Corrective Actions Log</p> <p>Calibration Log-pH meter, chamber thermometer</p>	<p>If a deviation from the critical limit occurs, the QA supervisor will perform corrective actions per 417.3(a)</p>
2B-Heating	<p>Product internal temperature is at 128°F or higher for at least 60 minutes</p>	<p>The QA technician inserts a thermocouple into the center (cold spot) of two individual pieces. During the heat cycle, a datalogger records internal temperature and times. After the final cook cycle (5 hours from start), the QA technician monitors the data to determine whether the critical limits have been met.</p>	<p>Once per day, QA supervisor will observe QA technician perform heating time and temperature monitoring</p> <p>Once per day, QA supervisor will review records maintained under 417.5(a)(3)</p> <p>Once per week, QA will use an instrument of known accuracy and follow the manufacturer's procedures to calibrate the datalogger and thermocouples.</p>	<p>Heating Cycle Record</p> <p>Corrective Actions Log</p> <p>Calibration Log-data logger and thermocouple</p>	<p>If a deviation from the critical limit occurs, the QA supervisor will perform corrective actions per 417.3(a)</p>

CCP	Critical Limits	Monitoring Procedures and Frequencies	Verification Procedures and Frequencies	HACCP Records	Corrective Actions
3B-Drying	<p>Chamber dry bulb at 55°F and wet bulb at 50°F (65% RH)</p> <p>Product dried to water activity (a_w) <0.90</p>	<p>At the beginning and end of drying, QA technician monitors dry bulb and wet bulb temperatures</p> <p>At the end of the each lot's drying cycle, QA technician will check the a_w of 1 portion from 3 different chubs from the lot using a water activity meter</p> <p>QA technician will record chamber dry and wet bulb temperature and the a_w of each piece tested in the Drying Log</p>	<p>Once per day the QA supervisor will observe the QA technician perform bulb readings and the a_w check.</p> <p>Once per shift, QA supervisor will review records maintained under 417.5(a)(3)</p> <p>Once per day, QA technician will follow manufacturer's documented procedures and calibrate the water activity meter against a known standard to ± 0.003 of the standard.</p>	<p>Drying Log</p> <p>Corrective Actions Log</p> <p>Calibration Log-water activity meter</p>	<p>If a deviation from a critical limit occurs, the QA supervisor will perform corrective actions per 417.3(a)</p>
4P-Metal Detector	<p>Metal detector functioning</p>	<p>Packaging line supervisor will check the in-line metal detector before the start of packaging and every 2 hours thereafter using 4.5mm Ferrous, 5.0 mm Non Ferrous, and 7.0 mm Nonmagnetic Stainless Steel wands</p> <p>Results will be recorded in the metal detector performance log.</p>	<p>Twice per week, QA supervisor will observe the Packaging line supervisor perform the metal detector check.</p> <p>Once per day, the QA supervisor will verify that the metal detector functions properly by running the wands through the metal detector</p> <p>Once per day, QA supervisor will review records maintained under 417.5(a)(3)</p>	<p>Metal Detector Performance Log</p> <p>Corrective Action Log</p>	<p>Packaging Line Supervisor will control and segregate affected product.</p> <p>Maintenance personnel will identify and eliminate any problems with the metal detector or kick out mechanism.</p> <p>Preventive maintenance program will be implemented.</p> <p>QA Supervisor will run wands through detector after repair.</p> <p>All potentially contaminated product will be run through</p>

CCP	Critical Limits	Monitoring Procedures and Frequencies	Verification Procedures and Frequencies	HACCP Records	Corrective Actions
					functional metal detector prior to shipment. All product rejected by detector will be destroyed

FOR TRAINING ONLY