

# **Rosenthal**

# **HACCP Plans**

## **Lamb Slaughter HACCP Plan**



**Rosenthal Meat Science and Technology Center**  
**Department of Animal Science**  
**Texas A&M University**  
**College Station, Texas**

**September 1, 1999**

---

# **Rosenthal**

# **HACCP Plans**

**Signature Page**

## **Lamb Slaughter HACCP Plan**

Signature:

---

*Jeff W. Savell, HACCP Coordinator*  
Department of Animal Science  
Texas A&M University  
College Station, Texas 77843-2471  
Telephone: 409-845-3935  
E-mail: [j-savell@tamu.edu](mailto:j-savell@tamu.edu)  
Web Site: <http://meat.tamu.edu/>

---

Date

---

# Rosenthal

# HACCP Team

<u>Member</u>	<u>Telephone Number</u>
Dr. Gary Acuff, Professor	409-845-4425
Ivan Brigman, Graduate Student	409-845-3957
Dr. Alejandro Castillo, Research Associate	409-845-4425
Darrell Demel, Meat Lab Foreman	409-845-5651
Mike de la Zerda, Graduate Student	409-845-3957
Dr. Davey Griffin, Associate Professor	409-845-0435
Dr. Dan Hale, Professor	409-845-0435
Dr. Kerri B. Harris	409-862-3643
Dr. Jimmy Keeton, Professor	409-845-3936
Lisa Lucia, Research Assistant	409-845-4449
Rob Maddock, Graduate Student	409-845-3957
Misty Pfeiffer, Communication Specialist	409-862-2036
Ray Riley, RMSTC Manager	409-845-5651
Dr. Jeff Savell, Professor	409-845-3935

## HACCP Plan Summary Lamb Slaughter

CCP	Hazard	Critical Limits	Monitoring				Corrective Action	Verification	Records
			What	How	Frequency	Who			
Trim – Zero Tolerance CCP 1B	Pathogens	No visible feces, milk or ingesta.	The carcass, head and variety meats for visible feces, milk or ingesta	Visual observation	Each carcass, head, and variety meats	Carcass trimmer	<ol style="list-style-type: none"> <li>Identify &amp; eliminate cause of deviation.</li> <li>Trimming of visible contamination will bring CCP under control after corrective action is taken.</li> <li>Measures to prevent recurrence are established. Such as retraining employees and/or adjusting equipment, as needed.</li> <li>No product that is injurious to health or adulterated enters commerce.</li> </ol>	<p>Visual observation of 10% of carcasses per kill by the plant manager or designee.</p> <p>On days that lamb slaughter occurs, records will be reviewed daily by the plant manager or designee.</p>	<p>Lamb Slaughter Log</p> <p>Deviation / Corrective Action Log</p>
Organic Acid Spray CCP 2B	Pathogens	Spray all carcasses, heads and variety meats with at least a 2% organic acid solution.	<p>Organic acid solution</p> <hr/> <p>Application of organic acid to carcass, heads and variety meats</p>	<p>Proper formulation</p> <hr/> <p>Visual observation</p>	<p>Every batch</p> <hr/> <p>Every carcass</p>	<p>Organic acid formulator</p> <hr/> <p>Carcass washer</p>	<ol style="list-style-type: none"> <li>Identify &amp; eliminate cause of deviation.</li> <li>Re-spraying the carcass with organic acid could bring CCP under control after corrective action is taken.</li> <li>Measures to prevent recurrence are established. Such as retraining employees.</li> <li>No product that is injurious to health or adulterated enters commerce.</li> </ol>	<p>Visual observation of: Employee mixing organic acid spray, and Employee applying the organic acid spray.</p> <p>Observation will be performed one time during the day of slaughter by plant manager or designee.</p> <p>On days that lamb slaughter occurs, records will be reviewed daily by the plant manager or designee.</p>	<p>Lamb Slaughter Log</p> <p>Deviation / Corrective Action Log</p>
Chilling CCP 3B	Pathogens	≤50°F internal temperature, for carcass, heads, and variety meats before fabrication/ shipping	Internal temperature of carcass (leg), heads, and variety meats.	Calibrated thermometer	25% of the kill; minimum of 1 carcass, head, variety meat per kill.	Cooler person	<ol style="list-style-type: none"> <li>Identify &amp; eliminate cause of deviation.</li> <li>Bring CCP under control after corrective action is taken.</li> <li>Measures to prevent recurrence are established.</li> <li>No product that is injurious to health or adulterated enters commerce.</li> </ol>	<p>Temperature recording device will be calibrated weekly by the plant manager.</p> <p>On lamb slaughter days, records will be reviewed by the plant manager.</p>	<p>Lamb Slaughter Log</p> <p>Deviation/ Corrective Action Log</p> <p>Temperature Recording Device Calibration Log</p>

---

## **PRODUCT DESCRIPTION**

### **COMPANY NAME:**

Rosenthal Meat Science and Technology Center

### **PRODUCT NAME:**

Lamb Carcasses, Heads, Variety Meats (Liver, Kidney, and Heart)

### **PRODUCT DESCRIPTION:**

Lamb carcasses and by-products

### **INTENDED USE OF PRODUCT?**

Retail sale for general public consumption. Periodically, some products are used for teaching, research and extension activities.

### **TYPE OF PACKAGE?**

If shipped, carcasses are poly-bagged.  
Heads and variety meats are poly-bagged and boxed.

### **WHERE WILL IT BE SOLD?**

Retail sales area of the Rosenthal Meat Science and Technology Center  
Wholesale  
Samples for teaching, research and extension programs

### **LABELING INSTRUCTIONS:**

Safe handling label  
Keep refrigerated  
Keep frozen

### **DISTRIBUTION METHOD?**

If shipped, by refrigerated truck or insulated container.

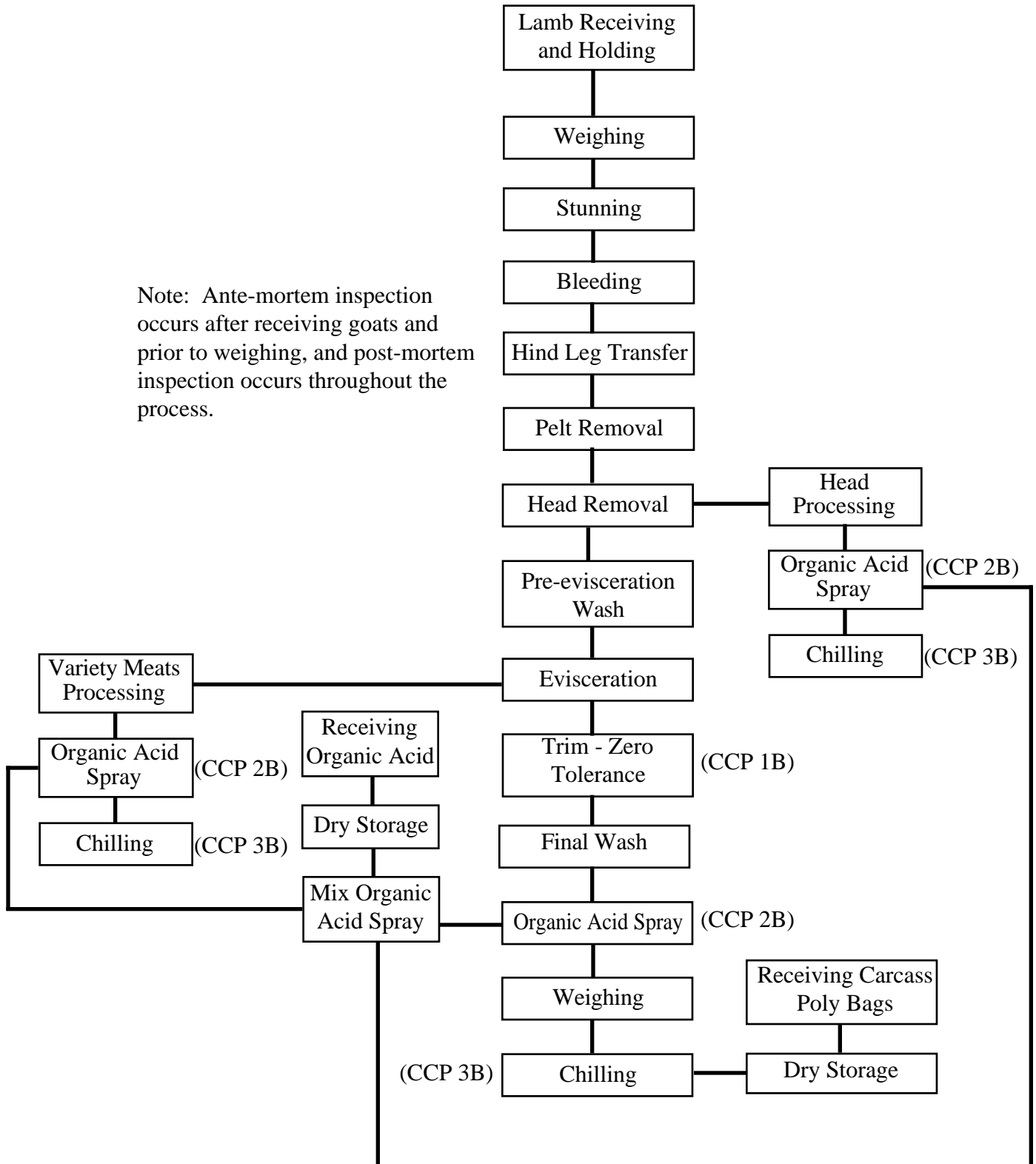
---

**PRODUCTS/INGREDIENTS USED TO PRODUCE PRODUCT:**

<b>MEAT/POULTRY AND BYPRODUCTS</b>	<b>NONMEAT FOOD INGREDIENTS</b>	<b>BINDERS/ EXTENDERS</b>
Live lambs		
<b>SPICES/FLAVORINGS</b>	<b>RESTRICTED INGREDIENTS</b>	<b>PRESERVATIVES/ ACIDIFIERS</b>
		Organic acid spray
<b>OTHER</b>		
Potable water Poly bags		

## Rosenthal Meat Science and Technology Center Lamb Slaughter Flow Chart

Note: Ante-mortem inspection occurs after receiving goats and prior to weighing, and post-mortem inspection occurs throughout the process.



---

# Procedures for Slaughtering and Dressing Lamb

## 1. Weighing, Stunning, Shackling and Sticking

- a. Balance the livestock scale (to zero) and gently drive the slaughter lamb into the crate. Record the live animal weight.
- b. Gently drive or push the lamb into the stunning chute. Immobilization may be accomplished by administering electrical current to both temples or to the center of the forehead or by applying a mechanical stunning device to the poll or the center of the forehead.
- c. If the shackle is used, it is placed around the right hind leg between the dewclaws and the hock. When the lamb is suspended, steady it by placing the flat of the hand on the shoulder (do not grasp the leg), then grasp the ear and insert the knife posterior to the mandible at its juncture with the base of the ear. Stab completely through the neck. Blood removal is accomplished by severance of the carotid arteries and jugular veins. Allow the lamb to remain suspended over the bleeding pit for about 8 minutes before initiating pelt removal. Sterilize knife prior to sticking the next animal.

## 2. Removing the Pelt

- a. Clean hands are an absolute necessity for producing a clean carcass. Utilize nearby lavatories and paper towels to keep hands clean.
- b. Begin opening the pelt on the free hind leg (the left leg). Using the knife, open the pelt along the posterior side of the hind leg and continue towards the anus. Using the knife or fist, open the pelt to expose most of the leg. Fist down the leg and over the rump region. Skin out the remaining pelt from the shank and cut the foot off between the dewclaws and hooves.
- c. Place the A-frame hook, which should be suspended by a trolley and an eye-hook on the lower rail, between the tendons of the left hind leg and lower the upper rail to release the other leg from the shackle. Repeat the hind leg pelt removal process used on the first hind leg. Suspend the right hind leg on the other hook of the A-frame by using the "handle" to hoist the lamb up.
- d. To free the pelt at the front legs, score the joint at the lower end of the metacarpus and break it back and sideways. In lambs, the joint is a cartilaginous suture that can be "broken apart." This "break" joint is the widest bulge in the end of the foreleg, or just above the true "spool" or mutton joint. Make cut through the pelt starting at the break/spool joint and continue up to the elbow pocket.
- e. Open mid-line of pelt by a scoring cut (taking care that you do not penetrate the abdominal cavity) from the crotch region to the throatlatch. Using knife, skin the pelt back until the flanks are exposed and down over the breast region.
- f. Using your fist, separate the pelt from the carcass starting over the flanks and working up toward the legs, rump, and around the sirloin until it is loosened except at the point of attachment at the dock. Work down the ribs, over the loin and rack and down the shoulders. The carcass should now be turned so to pull the pelt loose as close to the bung and dock as possible before a knife is used to cut this attachment. The pelt should be dropped to hang from the carcass with only the neck and fore legs being attached.
- g. Make a knife cut from the cut made in the pelt on the fore leg through the elbow pocket to the breast region. The pelt can now be pulled down off of the neck and fore legs with knife cuts being made to loosen the feet attachment at the break/spool joint. This should leave the pelt attached at the head.
- h. A 4 to 6 inch knife cut made longitudinally down the neck above the throatlatch will expose the trachea. Find the weasand (esophagus) and tie off near attachment to head. Cut the weasand between the tied area and the head. Remove the pelt with the head by cutting the head loose between the occipital condyles and the atlas vertebra.



- 
- i. Move lamb to first wash area. Tie hind legs together and transfer lamb from A-frame to single hook and trolley. Thoroughly wash lamb before evisceration.

### **3. Evisceration**

- a. Cut around the anus and loosen it so that 10 to 12 inches of the colon can be pulled up and out of the body cavity. Tie a string around the colon and allow it to fall back into the body cavity.
- b. If a wether is being slaughtered, the pizzelle should be disclosed free as near the base as possible. Make a short incision in the upper abdominal wall, grasp the knife with the thumb on the back of the blade and insert the fist into the body cavity with the blade out. Push downward cutting the belly wall continuing the cut to the sternum. With the severance of the abdominal wall, the viscera will fall forward and out.
- c. Grasp the viscera with the opposite hand, supporting the intestines with the forearm. Sever the blood vessel near the top of the liver on the right side to release the liver, and inserting the hand behind the stomach, roll it forward and continue to hold it up.
- d. Cut around the juncture of the diaphragm membrane and the skirts and pillars of the diaphragm. Cut across and then behind the dorsal aorta next to the backbone. Pull outward on the pluck and make two cuts, one on either side of the first ribs, to free the thoracic contents. Place the viscera and pluck with proper animal identification on the inspection table.
- e. Remove the kidneys and the kidney and pelvic fat from the abdominal cavity. Expose the kidneys and place them with the viscera and pluck for inspection.
- f. Saw through the sternum with a hand saw.

### **4. Preparation for Chilling**

- a. Bend the trotters back and pin them under the foreshank tendons (cut through the back of the muscular portion of the foreshank about 1/4-inch deep and pull the narrow white tendon out and around the trotter).
- b. Carefully trim and remove any pieces of adhering skin, wool, bruises, hair or manure. Wash the carcass with high pressure water, being certain to clean the pelvic canal, throat region and areas beneath the foreshanks.
- c. Spray the entire carcass with organic acid for approximately 8 seconds.
- d. Weigh the carcass being sure to properly tare for the trolley and hooks, tag the carcass on the upper portion of the leg and place it in the chill cooler.

### **5. Preparation for Inspection**

- a. The viscera and pluck are placed on a pan or table and are identified with their carcass.
- b. The carcass, viscera, and pluck are presented to the inspector for final approval.

---

# Standard Operating Procedures for Preparing the Organic Acid Spray

1. To prepare the acid solution for spraying the carcass, you will need:
  - graduated cylinder
  - pH meter
  - timer
  - spray container
2. To make a 2% Organic Acid Solution:
  - Combine 2 grams of organic acid per 100 milliliters of 140°F water or 7 oz. of organic acid per 2.5 gallons of 140°F water. The pH of the solution should be 2.2 to 2.6.
  - Spray the entire carcass with the acid solution using a timer to ensure the accuracy of the treatment time to achieve 500 milliliters or about 2 cups per carcass.

## Application of Lactic Acid

Natural lactic acid is an effective antimicrobial agent on fresh meat. The application of natural lactic acid on the surface of fresh meat achieves an immediate reduction in total microbial numbers with specific emphasis on enteric microorganisms (i.e. *E. coli*, *Salmonella*). In addition, the lactic acid spray will extend the shelf-life of fresh meat items.

- Application concentration of natural lactic acid is 2%. 3 oz. of lactic acid is combined per 1 gal. of >140°F water.
- The lactic acid spray is applied to the carcass by using an insulated plastic pump-up sprayer.
- The temperature of the lactic acid spray is >70°F during application. The effects of lactic acid spray are more pronounced at higher temperatures.
- The lactic acid solution is sprayed on the entire carcass after the final carcass wash.
- The amount and time of spray varies among species.
  - Beef: Spray each side for 16 sec.
  - Pork: Spray each side for 8 sec.
  - Lamb: Spray each side for 8 sec.

*Note: Approximately 16 sec. of spray = 1 cup of acid solution.*

**LAMB SLAUGHTER HAZARD ANALYSIS**

Ingredient/ Process Step	Potential hazard introduced, controlled, enhanced or reduced at this step	Is the potential food safety hazard significant? (Risk:Severity)	Justification for decision	What control measures can be applied to prevent the significant hazard(s)?	Is this step a critical control point (CCP)?
Lamb Receiving and Holding	<b>Physical:</b> Buckshot Metal or plastic eartags	No	Unlikely to occur. No reported incidences of these hazards have been made at this facility Jan. 1, 1998 to August 31, 1999..		
	<b>Chemical:</b> Antibiotic residues Pesticides Growth promotants	No	Unlikely to occur. USDA Residue Monitoring Program indicates that the great majority of livestock are free of violative residues when slaughtered in inspected facilities. Any animals used for research involving chemical exposure will follow protocol for proper use.		
	<b>Biological:</b> Enteric pathogens (i.e., <i>Salmonella</i> , <i>Campylobacter</i> , and verotoxigenic <i>E. coli</i> ) and <i>Listeria monocytogenes</i>	Yes	Live animals are potential reservoirs of pathogens.	Subsequent steps: <ul style="list-style-type: none"> <li>• Organic acid spraying will reduce potential pathogens.</li> <li>• Proper chilling of the carcass will reduce potential for pathogen growth.</li> </ul>	No
Weighing	<b>Physical:</b> None identified at this time.				
	<b>Chemical:</b> None identified at this time.				
	<b>Biological:</b> None identified at this time.				

Ingredient/ Process Step	Potential hazard introduced, controlled, enhanced or reduced at this step	Is the potential food safety hazard significant? (Risk:Severity)	Justification for decision	What control measures can be applied to prevent the significant hazard(s)?	Is this step a critical control point (CCP)?
Stunning	<p><b>Physical:</b> Bone fragments</p> <p>.....</p> <p><b>Chemical:</b> None identified at this time.</p> <p>.....</p> <p><b>Biological:</b> None identified at this time.</p>	No	Unlikely to occur. Stunning mechanism may fracture the skull, but as required by inspection, the brain cavity is flushed with water.		
Bleeding	<p><b>Physical:</b> None identified at this time.</p> <p>.....</p> <p><b>Chemical:</b> None identified at this time.</p> <p>.....</p> <p><b>Biological:</b> Pathogens</p>	Yes	Live animals may be a reservoir for pathogens. Opening the pelt and sticking may introduce pathogens.	<p>Subsequent steps:</p> <ul style="list-style-type: none"> <li>• Organic acid spraying will reduce potential pathogens.</li> <li>• Proper chilling of the carcass will reduce potential for pathogen growth.</li> </ul>	No

Ingredient/ Process Step	Potential hazard introduced, controlled, enhanced or reduced at this step	Is the potential food safety hazard significant? (Risk:Severity)	Justification for decision	What control measures can be applied to prevent the significant hazard(s)?	Is this step a critical control point (CCP)?
Hind Leg Transfer	<p><b>Physical:</b> None identified at this time.</p> <p>.....</p> <p><b>Chemical</b> None identified at this time.</p> <p>.....</p> <p><b>Biological:</b> Pathogens</p>	<p>Yes</p>	<p>The pelt is a potential reservoir for pathogens. Hind leg transfer may introduce pathogens.</p>	<p>Subsequent steps:</p> <ul style="list-style-type: none"> <li>• Organic acid spraying will reduce potential pathogens.</li> <li>• Proper chilling of the carcass will reduce potential for pathogen growth.</li> </ul>	<p>No</p>
Pelt Removal	<p><b>Physical:</b> None identified at this time.</p> <p>.....</p> <p><b>Chemical:</b> None identified at this time.</p> <p>.....</p> <p><b>Biological:</b> Pathogens from the pelt (i.e., <i>Salmonella</i>, <i>Campylobacter</i>, and verotoxigenic <i>E. coli</i> and <i>Listeria monocytogenes</i>)</p>	<p>Yes</p>	<p>Live animals are a potential reservoir for pathogens. Pelt removal may introduce pathogens onto the carcass.</p>	<p>Subsequent steps:</p> <ul style="list-style-type: none"> <li>• Organic acid spraying will reduce potential pathogens.</li> <li>• Proper chilling of the carcass will reduce potential for pathogen growth.</li> </ul>	<p>No</p>

Ingredient/ Process Step	Potential hazard introduced, controlled, enhanced or reduced at this step	Is the potential food safety hazard significant? (Risk:Severity)	Justification for decision	What control measures can be applied to prevent the significant hazard(s)?	Is this step a critical control point (CCP)?
Head Removal	<p><b>Physical:</b> None identified at this time.</p> <p>.....</p> <p><b>Chemical:</b> None identified at this time.</p> <p>.....</p> <p><b>Biological:</b> Pathogens from the pelt (i.e., <i>Salmonella</i>, <i>Campylobacter</i>, and verotoxigenic <i>E. coli</i> and <i>Listeria monocytogenes</i>)</p>	Yes	Live animals are a potential reservoir for pathogens. Head removal may introduce pathogens onto the carcass.	<p>Subsequent steps:</p> <ul style="list-style-type: none"> <li>• Organic acid spraying will reduce potential pathogens.</li> <li>• Proper chilling of the carcass will reduce potential for pathogen growth.</li> </ul>	No
Pre- evisceration Wash	<p><b>Physical:</b> None identified at this time.</p> <p>.....</p> <p><b>Chemical:</b> None identified at this time.</p> <p>.....</p> <p><b>Biological:</b> None identified at this time.</p>				

Ingredient/ Process Step	Potential hazard introduced, controlled, enhanced or reduced at this step	Is the potential food safety hazard significant? (Risk:Severity)	Justification for decision	What control measures can be applied to prevent the significant hazard(s)?	Is this step a critical control point (CCP)?
Evisceration	<p><b>Physical:</b> Plastic bag and string</p>	No	Plastic bag and tying devices are used to secure weasand and bung during evisceration. Viscera is removed and discarded at this facility.		
	<p><b>Chemical:</b> None identified at this time.</p> <p><b>Biological:</b> Pathogens from the gastro-intestinal tract (i.e., <i>Salmonella</i>, <i>Campylobacter</i>, and verotoxigenic <i>E. coli</i>) and <i>Listeria monocytogenes</i></p>	Yes	Visceral contents may contain pathogens. Pathogens may be introduced during evisceration.	<p>Subsequent steps:</p> <ul style="list-style-type: none"> <li>Organic acid spraying will reduce potential pathogens.</li> <li>Proper chilling of the carcass will reduce potential for pathogen growth.</li> </ul>	No
Trim – Zero Tolerance	<p><b>Physical:</b> None identified at this time.</p>				
	<p><b>Chemical:</b> None identified at this time.</p> <p><b>Biological:</b> Visible feces, milk or ingesta may indicate potential pathogen contamination.</p>	Yes	Removal of visible contamination is required by a Federal Register notice from USDA/FSIS entitled “Livestock Carcasses and Poultry Carcasses Contaminated With Visible Fecal Material” published on Nov. 28, 1997.	Trim all visible feces, milk or ingesta.	Yes

Ingredient/ Process Step	Potential hazard introduced, controlled, enhanced or reduced at this step	Is the potential food safety hazard significant? (Risk:Severity)	Justification for decision	What control measures can be applied to prevent the significant hazard(s)?	Is this step a critical control point (CCP)?
Final Wash	<p><b>Physical:</b> None identified at this time.</p> <p>.....</p> <p><b>Chemical:</b> None identified at this time.</p> <p>.....</p> <p><b>Biological:</b> None identified at this time.</p>				
Organic Acid Spray	<p><b>Physical:</b> None identified at this time.</p> <p>.....</p> <p><b>Chemical:</b> Organic acid</p> <p>.....</p> <p><b>Biological:</b> Enteric pathogens</p>	<p>No</p> <p>.....</p> <p>Yes</p>	<p>Unlikely to occur. A food-grade organic acid is used in a recognized method of application.</p> <p>.....</p> <p>The proper application of food grade organic acids can reduce pathogens.</p>	<p>Organic acid spray</p>	<p>Yes</p>



Ingredient/ Process Step	Potential hazard introduced, controlled, enhanced or reduced at this step	Is the potential food safety hazard significant? (Risk:Severity)	Justification for decision	What control measures can be applied to prevent the significant hazard(s)?	Is this step a critical control point (CCP)?
Weighing	<p><b>Physical:</b> Carcass tags and carcass tag fasteners</p> <p>.....</p> <p><b>Chemical:</b> None identified at this time.</p> <p>.....</p> <p><b>Biological:</b> None identified at this time.</p>	No	Unlikely to occur. Carcass tags and fasteners are easily removed before further processing. No reported incidences of these hazards have been made at this facility Jan. 1, 1998 to August 31, 1999.		
Chilling	<p><b>Physical:</b> None identified at this time.</p> <p>.....</p> <p><b>Chemical:</b> None identified at this time.</p> <p>.....</p> <p><b>Biological:</b> Pathogens</p>	Yes	Proper chilling can reduce pathogen growth.	Temperature	Yes

Ingredient/ Process Step	Potential hazard introduced, controlled, enhanced or reduced at this step	Is the potential food safety hazard significant? (Risk:Severity)	Justification for decision	What control measures can be applied to prevent the significant hazard(s)?	Is this step a critical control point (CCP)?
Head Processing	<b>Physical:</b> Bone fragments	No	Unlikely to occur. Stunning mechanism may fracture the skull, but as required by inspection, the brain cavity is flushed with water		
	<b>Chemical:</b> Sanitizer (BI QUAT)	No	Unlikely to occur. SSOPs address the proper use of sanitizers.		
	<b>Biological:</b> <i>Staphylococcus aureus</i>	No	Unlikely to occur..		
Organic Acid Spray	<b>Physical:</b> None identified at this time.				
	<b>Chemical:</b> Organic acid	No	Unlikely to occur. A food-grade organic acid is used in a recognized method of application.		
	<b>Biological:</b> Pathogens	Yes	The proper application of food grade organic acids can reduce pathogens.	Organic acid spray	Yes
Chilling	<b>Physical:</b> None identified at this time.				
	<b>Chemical:</b> None identified at this time.				
	<b>Biological:</b> Pathogens	Yes	Proper chilling can reduce pathogen growth.	Temperature	Yes

Ingredient/ Process Step	Potential hazard introduced, controlled, enhanced or reduced at this step	Is the potential food safety hazard significant? (Risk:Severity)	Justification for decision	What control measures can be applied to prevent the significant hazard(s)?	Is this step a critical control point (CCP)?
Variety Meats Processing	<p><b>Physical:</b> None identified at this time.</p> <p>.....</p> <p><b>Chemical:</b> None identified at this time.</p> <p>.....</p> <p><b>Biological:</b> Pathogens</p>	<p></p> <p>.....</p> <p>Yes</p>	<p></p> <p>.....</p> <p>Raw variety meats are potentially contaminated with pathogens</p>	<p></p> <p>.....</p> <p>Subsequent step (proper chilling of the variety meats) will reduce potential pathogen growth.</p>	<p></p> <p>.....</p> <p>No</p>
Organic Acid Spray	<p><b>Physical:</b> None identified at this time.</p> <p>.....</p> <p><b>Chemical:</b> Organic acid</p> <p>.....</p> <p><b>Biological:</b> Pathogens</p>	<p></p> <p>.....</p> <p>No</p> <p>.....</p> <p>Yes</p>	<p></p> <p>.....</p> <p>Unlikely to occur. A food-grade organic acid is used in a recognized method of application.</p> <p>.....</p> <p>The proper application of food grade organic acids can reduce pathogens.</p>	<p></p> <p>.....</p> <p>Organic acid spray</p>	<p></p> <p>.....</p> <p>Yes</p>
Chilling	<p><b>Physical:</b> None identified at this time.</p> <p>.....</p> <p><b>Chemical:</b> None identified at this time.</p> <p>.....</p> <p><b>Biological:</b> Enteric pathogens</p>	<p></p> <p>.....</p> <p>Yes</p>	<p></p> <p>.....</p> <p>Proper chilling can reduce pathogen growth.</p>	<p></p> <p>.....</p> <p>Temperature</p>	<p></p> <p>.....</p> <p>Yes</p>

Ingredient/ Process Step	Potential hazard introduced, controlled, enhanced or reduced at this step	Is the potential food safety hazard significant? (Risk:Severity)	Justification for decision	What control measures can be applied to prevent the significant hazard(s)?	Is this step a critical control point (CCP)?
Receiving Organic Acid	<b>Physical:</b> None identified at this time. <b>Chemical:</b> Organic acid <b>Biological:</b> None identified at this time.	No	Food-grade organic acid is used.		
Receiving Packaging Materials	<b>Physical:</b> None identified at this time. <b>Chemical:</b> Residues <b>Biological:</b> None identified at this time.	No	Food-grade packaging materials are used.		
Dry Storage	<b>Physical:</b> None identified at this time. <b>Chemical:</b> None identified at this time. <b>Biological:</b> None identified at this time.				
Mix Organic Acid	<b>Physical:</b> None identified at this time. <b>Chemical:</b> Organic acid <b>Biological:</b> Pathogens	No  Yes	Food-grade organic acid is used.  Food grade organic acids can reduce enteric pathogens.	Organic acid spray	Yes

## CCP Description, Critical Limits, Monitoring Procedures, Corrective Action(s)

PRODUCT: Lamb Slaughter					
Process Step	CCP Number	CCP Description	Critical Limits	Establishment Monitoring Procedures: (What/How/Frequency/Responsible Person)	Corrective Action(s)
Trim – Zero Tolerance	CCP 1B	No visible contamination.	No visible feces, milk or ingesta.	What: Carcass, head, and variety meats for visible feces, milk or ingesta How: Visual observation Frequency: Every carcass Responsible Person: Carcass trimmer	<ol style="list-style-type: none"> <li>1. Identify &amp; eliminate cause of deviation</li> <li>2. Trimming of visible contamination will bring CCP under control after corrective action is taken</li> <li>3. Measures to prevent recurrence are established. Such as retraining employees and/or adjusting equipment, as needed.</li> <li>4. No product that is injurious to health or adulterated enters commerce.</li> </ol>
Organic Acid Spray	CCP 2B	Organic Acid Spray	<ol style="list-style-type: none"> <li>1. The concentration of the organic acid solution must be at least 2%.</li> <li>2. That each carcass, head and variety meats are sprayed with the organic acid solution.</li> </ol>	<p>What: Organic acid concentration How: Proper formulation Frequency: Every batch Responsible person: Organic acid formulator</p> <p>What: Application to carcass, heads and variety meats How: Visual Frequency: Every carcass Responsible person: Carcass washer</p>	<ol style="list-style-type: none"> <li>1. Identify &amp; eliminate cause of deviation</li> <li>2. Re-spraying the carcass with organic acid could bring CCP under control after corrective action is taken</li> <li>3. Measures to prevent recurrence are established. Such as retraining employees.</li> <li>4. No product that is injurious to health or adulterated enters commerce.</li> </ol>
Chilling	CCP 3B	Chilling of carcass, head and variety meats	50°F internal temperature before fabrication/shipping	<p>What: Internal temperature of carcass (round), internal temperature of variety meats, and internal temperature of heads. How: Calibrated thermometer Frequency: 25% of the kill; minimum of 1 carcass, head and variety meats per kill Responsible person: Cooler person</p>	<ol style="list-style-type: none"> <li>1. Identify &amp; eliminate cause of deviation</li> <li>2. Bring CCP under control after corrective action is taken</li> <li>3. Measures to prevent recurrence are established.</li> <li>4. No product that is injurious to health or adulterated enters commerce.</li> </ol>

### Unforeseen Hazards

There are chances that unforeseen hazards may occur at the Rosenthal Meat Science and Technology Center. Therefore, if an unforeseen hazard occurs, this establishment will:

1. Segregate and hold the affected product, at least until the requirements of (2) and (3) are met;
2. Perform a review to determine the acceptability of the affected product for distribution;
3. Take action, when necessary, with respect to the affected product to ensure that no product that is injurious to health or otherwise adulterated, as a result of the deviation, enters commerce;
4. Perform or obtain reassessment by an individual trained in accordance with section 417.7 of the USDA/FSIS *Pathogen Reduction; Hazard Analysis and Critical Control Point (HACCP) Systems; Final Rule*, to determine whether the newly identified deviation or other unforeseen hazard should be incorporated into the HACCP plan.

## Lamb Slaughter Verification and Recordkeeping

PROCESS STEP/CCP	VERIFICATION	RECORDS
<p style="text-align: center;">Trim – Zero Tolerance CCP 1B</p>	<p>Visual inspection of 10% of carcasses, heads and variety meats per kill by the plant manager or designee.</p> <p>On days that lamb slaughter occurs, records will be reviewed daily by the plant manager or designee.</p>	<p>Lamb Slaughter Log</p> <p>Deviation/Corrective Action Log</p>
<p style="text-align: center;">Organic Acid Spray CCP 2B</p>	<p>Visual observation of: (1) Employee mixing organic acid spray, and (2) Employee applying the organic acid spray. Observation will be performed one time during the day of slaughter by plant manager or designee.</p> <p>On days that lamb slaughter occurs, records will be reviewed daily by the plant manager or designee.</p>	<p>Lamb Slaughter Log</p> <p>Deviation/Corrective Action Log</p>
<p style="text-align: center;">Chilling CCP 3B</p>	<p>Temperature recording device will be calibrated weekly by the plant manager or designee.</p> <p>On days that lamb slaughter occurs, records will be reviewed daily by the plant manager or designee.</p>	<p>Lamb Slaughter Log</p> <p>Deviation/Corrective Action Log</p> <p>Temperature Recording Device Calibration Log</p>



# Lamb Slaughter Processing Log

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

Slaughter Number	Critical Limit/Deviation		Performed By	Time	
	CCP 1	CCP 2			
					CCP 1 Trim – Zero Tolerance; Critical Limit: No visible feces, milk or ingesta.
					CCP 2 Organic Acid Spray; Critical Limit: Spray all carcasses, heads and variety meats with at least a 2% organic acid solution
					<b>Acceptable Statements:</b> No Visible FMI; Carcass Sprayed; VM Sprayed; Head Sprayed
					<b>CCP Verification</b>

Organic Acid Concentration – CCP 2				Chilling – CCP 3			
				Critical Limit: 50°F internal temperature (leg) before fabrication/ shipping			
Amount of Acid	Amount of Water	Performed By	Time	Carcass #	Temp.	Time	Initial
<b>CCP Verification</b>							
Pre-shipment Review Signature: _____							
Approved Date: _____ Time: _____							



### Deviation/Corrective Action Record

1. Identify and eliminate cause of deviation
2. Bring CCP under control after corrective action is taken
3. Measures to prevent recurrence are established
4. No product that is injurious to health or adulterated enters commerce.

CCP No.	Product I.D.	Deviation	Corrective Action No. 1	Corrective Action No. 2	Corrective Action No. 3	Corrective Action No. 4	Performed By	Time

Pre-shipment Review Signature: \_\_\_\_\_ Approved Date: \_\_\_\_\_ Time: \_\_\_\_\_