## HAZARD ANALYSIS - RAW, GROUND - Ground Beef

1. Process Step	2. Food Safety Hazard	3. Reasonably likely to occur	4. Basis of Reasonably likely to occur	5. If Yes in Column 3, What Measures Could be Applied to Prevent, Eliminate, or Reduce the Hazard to an Acceptable Level?	6. Critical Control Point
1. Receiving – Packaging Materials	Biological - Contamination with meat, other biological material	No	SOP for receiving makes hazards unlikely to occur.		
	Chemical - Non-food grade materials	No	Letter of guarantee for packaging materials makes hazards unlikely to occur.		
	Physical - None	No	SOP for receiving makes hazards unlikely to occur.		
2a. Receiving – Raw Meat from supplier with COA	Biological- Pathogens: Salmonella; E. coli 0157:H7, Non E. coli	No No	Adoption of intervention treatments and	Hazard of pathogen growth (including STEC) will be controlled by a later CCP.	
	O157:H7 STECs and BSE prions in SRMs;	(prions; presence of STEC on beef treated with an	product testing by suppliers prevents hazard of pathogens from occurring. USDA has advised	Letter of guarantee is on file for each supplier of beef documenting the application of at least one intervention step against E. coli O157:H7 and other	
		intervention	that interventions	STEC and supplier of beef has	

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		or tested for presence of STEC)	shown to be effective against E. coli O157:H7 are also considered effective against STEC. SRM's may be found in incoming product from animals over 30 months of age.	provided certificate of analysis indicating that <i>E. coli</i> O157:H7 (or STEC) were not detected by testing of the shipped lot of beef. Certificate from suppliers that product supplied is from animals under 30 months of age or animals that have had the SRM's removed prior to fabrication of the raw product.	
	Chemical - None			,	
2b. Receiving - Raw Meat from supplier without COA	Physical - None  Biological - Salmonella; E. coli 0157:H7, Non E. coli 0157:H7 STECs, and BSE prions in SRMs;	No	SOP for sampling makes hazards unlikely to occur. Adoption of intervention treatments by suppliers prevents hazard of pathogens from occurring. USDA has advised that interventions	Hazard of pathogen growth (including STEC) will be controlled by a later CCP. Letter of guarantee is on file for each supplier of beef documenting the application of at least one intervention step against E. coli O157:H7 and other STEC. Certificate from suppliers that product supplied is from animals under 30 months of age	

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			shown to be effective against <i>E. coli</i> O157:H7 are also considered effective against STEC. SRM's may be found in incoming product from animals over 30 months of age.	or animals that have had the SRM's removed prior to fabrication of the raw product. Establishment sampling program	
	Chemical - None				
	Physical - None				
<ol> <li>Storage</li> <li>(Frozen/Refrigerated</li> <li>) Raw Meat</li> </ol>	Biological - Salmonella; E. coli 0157:H7, Non E. coli 0157:H7 STECs,	No	SOP for storage makes hazards unlikely to occur.		
	Chemical - None				
4.7	Physical - None	<b>.</b>	T		
4. Tempering Frozen Meat	Biological Salmonella; E. coli 0157:H7, Non E. coli 0157:H7 STECs,	No	Tempering done according to SOP for Tempering/Thawing of Frozen Materials		
	Chemical - None				

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	Physical - None				
5. Grinding	Biological: Pathogens Salmonella; E. coli 0157:H7, Non E. coli 0157:H7 STECs,  Prions present in meat	Z <sub>0</sub>	contamination via equipment and workers unlikely to occur. Grinding is done quickly enough to prevent pathogen growth.  Meat received from an outside source will accompanied by a certificate that product is from animals under 30 months of age or animals that have had the SRMs removed prior to fabrication of the		
			raw product.		
	Chemical - cleaning/sanitizing	No	SSOP makes chemical residue		

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	chemical residues.		hazard unlikely to occur.		
	Physical - Metal	No	Visual observation makes hazards unlikely to occur		
6. Weighing Meat	Biological – Pathogens Salmonella; E. coli 0157:H7, Non E. coli 0157:H7 STECs,	No	Weighing is done quickly enough to prevent pathogen growth. SSOP makes contamination unlikely to occur.		
	Chemical - None				
7. Moving to cooler before further steps (if necessary)	Physical - None  Biological - Salmonella; E. coli 0157:H7, Non E. coli 0157:H7 STECs,  Chemical - None	No	Cooler SOP makes hazard unlikely to occur.		
	Physical – None Biological – None				
8. Storage of Packaging Materials	Biological - None				

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	Chemical -None				
	Physical - None				
9. Packaging and Labeling	Biological- Pathogens Salmonella; E. coli 0157:H7, Non E. coli 0157:H7 STECs,	Yes	Growth may occur if product exposed for an excessive time to a temperature that allows pathogen growth.	Controlled by monitoring time and product temperature	1B
	Physical - None				
	Chemical - None				
10. Finished Product Storage	Biological – None				
	Chemical - None				
	Physical - None				
11. Shipping or Retail	Biological – None				
	Chemical - None				
	Physical - None				

Raw, Ground Model