

Mobile Slaughter Unit Manual

April 2010

Written by:

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This manual offers comprehensive guidance for anyone interested in building and/or operating an inspected mobile slaughter unit (MSU) based upon on the experiences and expertise of several USDA-inspected MSUs in operation.

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**NOTE: Parts 2 and 8 will be added soon; to receive notice when they are posted, please visit www.nichemeatprocessing.org to join the NMPAN email list.*

We also strongly suggest you visit these pages before taking any step to build an MSU:

- How to apply for a USDA grant of inspection:
http://www.extension.org/pages/How_to_apply_for_Meat_and_Poultry_Inspection
- Videos showing how an MSU works:
http://www.extension.org/pages/Mobile_Slaughter_Unit_Videos
- MSU case studies (red meat and poultry):
http://www.extension.org/pages/Niche_Meat_Processor_Case_Studies#Mobile_Units

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Chapter 1: MSU Model HACCP plan, SSOPs, and SOPs

Introduction

This set of model food safety documents for a USDA-inspected mobile slaughter unit includes:

- A. Guide to the Model Plans
- B. Hazard Analysis Critical Control Point (HACCP) Plan
- C. Sanitary Standard Operating Procedures (SSOPs)
- D. Standard Operating Procedures (SOPs)

These model plans have been reviewed by food safety experts, HACCP experts, and policy staff from USDA's Food Safety Inspection Service (FSIS). But this does not mean that your FSIS inspector will automatically accept these plans for use with your mobile unit.

REMEMBER: these plans are MODELS that must be adapted to each specific MSU. Do not just cut and paste.

If you have not yet taken HACCP training, required by FSIS, some terms in our plans may be confusing. FSIS (http://www.fsis.usda.gov/Science/hazard_analysis_&_pathogen_reduction/), the International HACCP Alliance (<http://www.haccpalliance.org/sub/index.html>), and others offer many resources you can consult until (and after) you go through training.

The HACCP plan includes the required forms; see the Guide for instructions.

“Sanitary Standard Operating Procedures” includes:

- General information page with revision/reassessment signature table
- SSOP-1: Pre-operational sanitation
- SSOP-2: Potable Water
- SSOP-3: Operational sanitation
- SSOP-4: Cooler, Carcass, and Variety Meat Temperature Monitoring
- SSOP-5: Waste Water, Dust, and Fly Management
- Monitoring Logs
- Sample Deficiency/Corrective Action Log

“Standard Operating Procedures” includes:

- SOP-1: Live Animal Receiving
- SOP-2: Organic Acid Spray Preparation and Use
- SOP-3: Thermometer Calibration (reference includes log)
- SOP-4: Procedures for Minimizing BSE Risks Associated with Specified Risk Materials
- SOP-5: Generic E.Coli Testing Plan
- Receiving Log per SOP-1
- Organic Acid Spray Log per SOP-2

Acknowledgements

NMPAN gratefully acknowledges the following groups and individuals for their assistance in developing these models:

- Barbara Thomas, HACCP Coordinator, Island Grown Farmers' Cooperative
- Terrie Bad Hand and Pati Martinson, Taos County Economic Development Council/Mobile Matanza
- Debra Garrison, Coast Grown Mobile Harvest Unit
- Catherine Cutter and Chris Raines, Pennsylvania State University
- Stacy Scramlin, Center for Meat Process Validation, University of Wisconsin
- Denise Amann, State Outreach and Technical Assistance, USDA-FSIS
- Additional reviewers at USDA-FSIS

A. GUIDE TO NMPAN’S MODEL HACCP PLAN, SSOPS, AND SOPS FOR MOBILE SLAUGHTER UNITS

This guide to NMPAN’s model HACCP plan, SSOPs, and SOPs for a mobile slaughter unit provides instructions on how to use these model plans, as well as explanations of specific plan elements.

The plans themselves should be as simple as possible. For example, you must be able to provide adequate justification for all elements of your HACCP plan, such as identification of what is and is not a hazard and how you will address hazards. Justification documents must be in your files (e.g. a copy of the research paper describing why your specific hazard intervention works) but is typically not written in the HACCP plan itself.

Our model plans have been reviewed by food safety experts, HACCP experts, and policy staff from USDA’s Food Safety Inspection Service. **Remember, they are MODELS.** You must adapt them to your specific operation. Don’t just cut and paste.

If you have not yet taken HACCP training, required by FSIS, some terms in our plans may be confusing. FSIS, The HACCP Alliance, and others offer many resources you can consult until you go through training.

1. HACCP Model Plan

The model HACCP plan has four parts:

- Front Matter: title/signature page; revision records; process category description
- Process Flow Diagram
- Hazard Analysis Form
- Critical Control Points

Title/signature page: fill in your MSU’s information. Your plan should be signed by your MSU’s HACCP coordinator (not the state HACCP coordinator).

Process category description: Adjust the answers per your specific operation. Create a similar page for each species slaughtered, noting differences. It is fine to use “harvest” instead of “slaughter.”

Because this HACCP plan is for the MSU, this page should refer only to what happens at the MSU. For example, “labeling” doesn’t include what will happen at the cut and wrap.

Process Flow Diagram: Delete all steps that are NOT part of your process and add any steps not already shown, making make sure to assign each new step a number/renumber as necessary.

Be aware that if the “mechanical; gunshot” method is used for slaughter, the head is condemned, and the tongue is the only portion of the head considered edible under this HACCP plan.

Hazard Analysis Form

Instructions:

1. Make sure that every step shown on the Process Flow Diagram is included in the Hazard Analysis Form and that the numbers match.
2. Check the three categories of hazard (Chemical, Physical, Biological) shown for each step.
 - a) If you think a listed hazard is not reasonably likely to occur at that process step, leave it in column 2 (Food Safety Hazard) and enter “No” in column 3 (Reasonably likely to occur?). You are not required to list your reason for “No” in column 4 (Basis). However, you must be able to provide documentation for why you believe the hazard is not likely to occur. The one hazard for which it is prudent to provide a basis even when answering “no” is prions, because of heightened concern about them.
 - b) If you think that a relevant hazard should be added at a step, describe the hazard in column 2 (Food Safety Hazard). Then determine whether the hazard is reasonably likely to occur and put the answer in column 3. If you said “yes,” provide a basis in column 4.
 - c) Column 5 can be left blank if a hazard is not reasonably likely to occur.
 - d) If the hazard is reasonably likely to occur: fill in columns 5 and 6.
 - e) In column 5, list measures that could be applied to prevent, eliminate, or reduce the hazard to an acceptable level. At least one of these measures must be either a Critical Control Point (CCP) at that step, or a CCP at a later step.
 - f) If the hazard is controlled by a CCP at that step, enter the CCP number in column 6.

Hazard Analysis Form Annotation

Here, we provide the basis for some of the “No” answers we gave in column 3 of our model plan.

Step 1: Animal Receiving

- Chemical: Chemical residues are not likely, because producer will certify suitability of animal for slaughter including absence of chemical residues by signing the Slaughter Log saying they have documentation. There is a low risk of antibiotic and pesticide residues in meat according to USDA’s Residue Monitoring Program.
- Physical: Visual observation for foreign materials during processing and inspection of equipment during cleaning make physical hazards unlikely. There is a low incidence of occurrence.
- Biological – prions: Though we said “no,” we did provide a basis – SOP-4, our SRM plan – because of concern over this issue. Non-ambulatory animals and downer animals are

not accepted for slaughter, per 9 CFR 309.3(e). FSIS data indicate that BSE has occurred in very few downer cows in the U.S.

Step 3: Bleeding

- Chemical: No chemical substances unsuited to food processing are introduced during the slaughter process.
- Physical: Animals slaughtered with gunshot will have heads condemned.
- Biological – pathogens: The bleeding process punctures the animal's hide and may transfer pathogens. However, the sticking knife will be heat-sanitized prior to sticking. Visible contamination in neck area will be avoided or trimmed off before cutting through the hide.

Step 10: Splitting

- Physical: Visual observation for foreign materials during processing and inspection of equipment during cleaning make hazard unlikely.

Step 13: Organic Acid Spray

- Chemical – excessive acid: SOP-2 for preparing organic acid spray and SSOP-1 Log to monitor pH levels together make hazard unlikely. Organic acid used is food-grade.

A note about pH v. titration:

Our model plan uses pH to monitor acidity, a decision validated by PSU 2005.² Another option, used by one MSU, is to titrate the original acid (each 50 gallon drum purchased), because pH is not an exact indicator. However, some experts recommend pH as easier for a small and/or mobile plant to manage.

Bottom line: whether you use titration or pH or temperature, you must have documentation to validate your choice. E.g. if you use pH, you can use the PSU study for back up, as long as you follow their methodology.

Step 11: Zero Tolerance Trim

This step is required by federal regulation, and many plants make it a CCP. However, it is not required to be a CCP, and we have chosen not to make it one. You will have to decide what is best for your MSU.

Step 14: Transfer to cooler:

- Biological – pathogens: Pathogens are adequately controlled by the final wash/organic acid spray. Carcasses are stored under refrigeration, and the cooler is monitored for

² Pennsylvania State University. 2005. Antimicrobial Spray Treatments for Red Meat Carcasses Processed in Very Small Meat Establishments. Available at: <http://foodsafety.psu.edu/movies/intervention%20booklet%202005.pdf>.

proper ($\leq 40^{\circ}$ F) conditions, per SSOP-4 for final product storage, making growth of pathogens unlikely.

Step 15: Transport to processing facility

- Biological – whether species cross contamination is likely to occur depends on whether your MSU has more than one species in the cooler at one time. How you control this potential hazard will depend to some degree on your unit configuration.

Critical Control Points

Our model HACCP plan suggests one CCP. You must decide if this is appropriate for your MSU.

1. Examine the Critical Limits listed for the CCP and make sure that these are the limits that will work best in your MSU. The scientific documentation for our CCP is PSU 2005 (see footnote 1).
2. If you choose to add a new CCP, you will need to determine the scientifically valid Critical Limits to be used and obtain supporting scientific information. Your inspector and/or university extension specialists can help.
3. Examine the “Monitoring Procedures and Frequency” column for the CCP. You may change the procedure and/or the frequency, but we advise that you check with your inspector or a university extension specialist for help. You will also need to write down your reasoning for making the change and include this reasoning in your HACCP files.
4. Examine the “HACCP Records” column. If you use different forms for recordkeeping, please put the correct form title(s) in this column.
5. How often you verify (once per operation day, once per week) is up to you. However, you must be able to show that this is a reasonable frequency. If you choose to do additional verification activities, enter them in the “Verification Procedures and Frequency” column. Again, consult your inspector or university extension specialists for help.
6. Be sure to have a form to document corrective actions that you take. A corrective action form is included in this model.

2. Standard Operating Procedures (SOPs)

Our model has five SOPs and two monitoring logs. Adjust them to fit your operations. Additional info/explanation:

SOP-1: Live Animal Receiving

Not all MSUs may require livestock owners to provide all of this information. This wording is suggested based on current practice among some MSUs. You can also use this form to record/verify production practices, for example, whether the animal is certified organic.

SOP-2: Organic Acid Spray Preparation and Use

Make sure you have validation documentation to back up your choice of acid & concentration. We focus on two types of organic acid – lactic and acetic – in our plan, but there are other options, including peracetic acid and FreshBloom®, a mix of citric acid, ascorbic acid, and erythorbic acid. PSU recommends lactic acid primarily because of the smell, discoloration on carcass surfaces, and employee complaints associated with acetic acid.

SOP-3: Thermometer Calibration

This SOP is self-explanatory.

SOP-4: Procedures for Minimizing BSE Risks Associated with Specified Risk Materials

This SOP, because it is specific to the MSU, does not have to explain the details of how SRMs are handled during further processing at the cut and wrap facility. However, if you slaughter cattle 30 months of age or older, this SOP must say that (a) those cattle will be kept separate from younger cattle during chilling and transport, and (b) the remaining SRMs (vertebral column) will be removed at the cut and wrap facility. The point is that you must account for all SRMs.

SOP-5: Generic E.coli Testing Plan

This SOP is self-explanatory.

3. Sanitary Standard Operating Procedures (SSOPs)

Our model has a general information page and five SSOPs. Adjust them to fit your operations. We also include a monitoring log for each SSOP and a sample Deficiency/Corrective Action log.

Additional info/explanation:

SSOP-3: Operational sanitation

By “as necessary” we mean when contamination occurs. For example, if an intestine ruptures during evisceration, then all equipment contacted must be cleaned with 180° F water. (Carcass areas should be trimmed clean.)

FSIS Directive 6410.1, “Verifying Sanitary Dressing and Process Control Procedures in Slaughter Operations of Cattle of Any Age,” provides useful guidance on effective sanitary dressing procedures: <http://www.fsis.usda.gov/OPPDE/rdad/FSISDirectives/6410.1.pdf>

Chemical sanitizers may be used in lieu of 180° F water if they provide an equivalent sanitizing effect and the requirements of 9 CFR 416.4(c) are met, i.e. that the sanitizer is safe and effective under the conditions of use; chemicals are used, handled, and stored in a manner that will not adulterate product or create insanitary conditions; and documentation substantiating the safety of a chemical’s use in a food processing environment is available to FSIS inspectors for review.

The rest of the SSOPs are self-explanatory.

4. Additional Plans FSIS recommends that an MSU have:

- Training program for employees on humane handling

For guidance, see the FSIS guidebook, “Humane Handling of Livestock and Poultry”:
http://www.fsis.usda.gov/PDF/Humane_Handling_Booklet.pdf.

A companion DVD, featuring Dr. Temple Grandin, is also available from FSIS. You can order it here:

http://origin-www.fsis.usda.gov/Science/HACCP_Resources_Order_Form/index.asp (it is listed near the bottom of the “Other HACCP Information” section).

- Training program for employees on using dentition to determine age of cattle

For guidance, see Harris and Savell (2009), “Complying with Regulations on Specified Risk Materials (SRMs),” posted here:

www.fsis.usda.gov/PPT/How_To_Comply_SRM.ppt

The model documents – HACCP plan, SSOPs, and SOPs – are at the end of this manual, immediately following Chapter 9, which ends on p. 28.

Chapter 3: State and local government regulations that may apply to an MSU

Introduction

A state- or federally-inspected mobile slaughter unit (MSU), like any inspected meat slaughter or processing business, must comply with USDA food safety regulations promulgated and enforced by USDA's Food Safety and Inspection Service and, for state-inspected MSUs, the state's meat inspection program.

An MSU must also comply with a variety of other regulations promulgated and enforced by public agencies at multiple levels of jurisdiction, including municipal, county, state, regional, and federal.

Here, we walk you through the maze of regulations, based on the experiences of several operational USDA-inspected MSUs. Each state, county, and locality in the U.S. may do things slightly differently. However, these stories will help you get started.

For each example, we briefly describe the MSU operation, list the applicable agencies and regulations, and discuss challenges that have arisen and "lessons from the field."

Categories of Regulation

An MSU – and the farm/ranch-sites where the MSU operates – will typically be required to comply with regulations and permitting regarding:

- Water supply and waste water disposal
- Offal disposal
- Food handling/distribution
- Transportation
- Food Defense
- Humane livestock handling
- Brand inspection
- Business licensing/weights and measures
- Employees

Food handling permits and even anti-terrorism requirements may also come up.

Every MSU must partner with a fixed facility ("cut and wrap") where further processing is done. Often, the entity that operates the MSU also operates the cut and wrap and therefore is responsible for complying with all regulations relevant to that facility, not just the MSU. In some cases, the entity that operates the MSU has a contractual arrangement with the cut and wrap; the latter handles its own regulatory compliance.

Example 1: Taos County Economic Development Corporation (TCEDC): “Mobile Matanza”

About TCEDC

TCEDC, founded in 1987, is a non-profit, community economic development organization, “supporting people, land, cultures, and food of Northern New Mexico.” More than 40 local food businesses work out their “Taos Food Center,” a 5000sf commercial kitchen, which now serves as the cut and wrap facility for the TCEDC MSU, called the “Mobile Matanza.” The Matanza, completed in 2006, received its grant of federal inspection in May of 2008, and the Food Center came under inspection soon after.

A. Water supply and waste water disposal

The New Mexico Environment Department (NMED) has jurisdiction over several elements of the Matanza and Food Center, including water.

1. Water supply

The Matanza brings its own potable water, drawn from the TCEDC commercial well, to each ranch site in a large tank. NMED requires TCEDC to test its water monthly for potability. The samples are taken and tests performed by the New Mexico Water Testing Laboratory. The Lab issues a report to TCEDC, and TCEDC provides a copy to FSIS.

2. Waste water disposal at the ranch site

NMED allows TCEDC to let the waste water used during carcass cleaning and preparation run off onto the soil at the ranch site. The run-off includes the 2.5% acid solution (a mixture of white vinegar and potable water) used to wash the carcasses to control pathogens. The total amount of water used each slaughter day is small, only a few hundred gallons.

3. Waste water disposal at the Food Center

TCEDC originally planned to build an environmental waste water treatment facility: all waste water would run into an anaerobic tank, where it would be treated and then be used to water trees on the property. NMED rejected this plan and required the Food Center to be hooked up to the town sewer (which cost \$3000). However, depending on the results of a series of effluent tests currently being done by NMED, TCEDC may be allowed to revisit that original plan.

B. Offal disposal

TCEDC worked with NMED and FSIS to establish that offal is recognized as the responsibility of the rancher, and that the rancher may compost it on his own land. The offal is placed into bins as it is removed from the animals, and the ranchers compost it accordingly. They are permitted to take bones to the landfill. TCEDC offers an organic butcher waste composting workshop for

ranchers to teach them proper composting methods and assure they do not violate NMED regulations.

C. Food handling/distribution

The Food Center is inspected by NMED, which issues its establishment permit. The agency, following US Food and Drug Administration (FDA) guidelines, has requirements about meat handling, including that meat processed at the Center be transported in an approved cooler. To comply, TCEDC purchased coolers to deliver packaged meat back to the ranchers.

The county office of NMED originally required each rancher who had livestock slaughtered by the Matanza to have an establishment permit. TCEDC argued that this was not necessary, since the ranchers were not handling meat: they provided a live animal and picked up packaged meat. It took intervention from state legislators and the state NMED office, but the problem was solved: only the Food Center must have an establishment permit.

D. Transportation

Because the Matanza is a commercial tractor-trailer, it must have a permit from the New Mexico Department of Transportation (NMDOT) and follow agency guidelines about maintenance and recordkeeping. If the Matanza eventually travels on an interstate highway, it must stop at weigh stations.

E. Food Defense

The New Mexico Department of Homeland Security (NMDHS), as part of its mission to prevent terrorist attacks on the nation's food supply, has two sets of requirements:

- Water for the TCEDC Food Kitchen and Matanza comes from a commercial well on the organization's property. NMDHS requires TCEDC to (a) test the well water monthly, and (b) build a small shed around the well.
- NMDHS also requires that anyone importing food products – for example, a barrel of salt from Ethiopia for prepared meat products – to register with the agency and keep records of the vendors.

F. Humane handling

For a USDA-inspected slaughter facility – mobile or fixed – the requirements for humane handling in connection with slaughter are spelled out in the Humane Methods of Slaughter Act (9 CFR 313) and are under FSIS jurisdiction. In addition to HMSA, FSIS recently issued a notice, “Humane Handling and Slaughter Requirements and the Merits of a Systematic Approach to Meet Such Requirements,”³ which includes a Standard Operating Procedure (SOP) that employees and livestock owners can sign stating that they understand Humane Handling requirements.

³ Available at: <http://www.fsis.usda.gov/OPPDE/rdad/FRPubs/04-013N.pdf>

Facilities are encouraged, though not required (as of January 2010) to adopt the suggested systematic approach.

In New Mexico, USDA's Animal and Plant Health Inspection Service (APHIS), which focuses primarily on communicable animal disease, visits TCEDC four times a year for site visits and HACCP plan review. This is because NM is not certified as a tuberculosis-free state. In addition, if an inspected mobile unit does any custom-exempt slaughter, APHIS has jurisdiction over the handling of those animals.

G. Brand inspection

The New Mexico Livestock Board (NMLB) has jurisdiction over brand inspection. Typically, the agency works directly with livestock producers, but TCEDC must have documentation of ownership: i.e., that the livestock slaughtered in the Matanza are actually owned by the ranchers who brought them. Currently, TCEDC is allowed to have the ranchers sign an affidavit; a brand inspector need not be present. However, one of the counties they serve has begun requiring ranchers to provide NMLB with eartag information. This is to assure that the Matanza does not slaughter any stolen livestock.

H. Weights and Measures

The New Mexico Department of Agriculture (NMDA) is in charge of making sure all agricultural weights and measures (e.g. scales) are properly calibrated. This is an annual visit and applies only to the Food Center.

I. Business permit

TCEDC – the entire organization, including the Matanza – operates under a business permit issued by the town of Taos. TCEDC is a nonprofit community development organization; another type of entity, such as a cooperative, might need another type of permit.

J. Employment taxes & worker safety

Like all businesses, non-profit or otherwise, TCEDC pays employment taxes and worker compensation for its employees. In addition, because employees who work with the Matanza are operating a tractor-trailer, which requires a special license (Class A CDL), they must comply with specific state Department of Transportation requirements including drug/alcohol testing and background checks.

K. Tips for working well with regulators

TCEDC co-directors Terrie Bad Hand and Pati Martinson recommend several useful strategies.

- Regulators don't like to be the last to know your plans. Visit with them early on in project planning, and keep them informed throughout. You are developing a relationship: be as

open and clear as possible. “Ask them, ‘Will you partner with us?’ That seems to work quite well.”

- Invite all the relevant regulators to meet as a group. When they are together in the same room, explain your project’s purpose clearly and ask, “How can all of you help us do this?” If they can see the larger goals of the project – not just the specific details their agency must regulate – they may become more invested in helping you accomplish those goals.
- Documentation may help: TCEDC provided NMED with extensive scientific documentation about offal and waste water composting from the Cornell University Waste Management Institute (<http://cwmi.css.cornell.edu/mortality.htm>). This documentation convinced the agency that the waste water and offal disposal methods TCEDC proposed would not cause a public health problem.

Example 2: Central Coast Agricultural Cooperative (trade name "Coast Grown")

About Coast Grown

This MSU, which CCAC calls a "Mobile Harvest Unit," was built in 2002 by ranchers in the Central Coast region of California who wanted better access to a USDA-inspected slaughter facility. Regulatory complexities paired with uncertain markets kept it parked for seven years, but in 2009, it finally began operating as a USDA-inspected mobile slaughter unit.

The MSU is operated by Central Coast Agricultural Cooperative, trade name “Coast Grown.” For further processing of carcasses, CCAC has partnered with a separately-owned and operated USDA-inspected processor.

For more details about this MSU, see NMPAN’s Coast Grown case study (http://www.extension.org/pages/Coast_Grown_Mobile_Harvest_Unit).

Meat processors operating in the state of California will need to be familiar with the state’s Food and Agriculture Code (<http://www.leginfo.ca.gov/cgi-bin/calawquery?codesection=fac&codebody>).

A. Water supply and waste water disposal

Several state, regional, and local agencies have jurisdiction over water issues.

1. Water supply

The MSU brings its own potable water, drawn from a municipal water source, to each ranch site in a 300 gallon tank. The County Environmental Health department in each county where the MSU operates requires that CCAC test this water source annually to certify potability; the health department provides water testing kits.

This MSU uses 300 gallons for 2 to 3 beef. Any additional water needed for processing and clean up is provided by the ranch site. This water source must also be tested to certify potability; private wells must be tested biannually. The MSU must carry a copy of the potability certification for each location.

2. Waste water disposal at the ranch site

Wash water may not run off-site and must be contained. Wash water can be applied to land for disposal using NRCS recommendations which were developed as follows:

(a) Before FSIS approves a grant of federal inspection for any processor, that processor must obtain an approved sewage system letter. To fulfill this requirement, CCAC contacted the county Environmental Health Department, and that agency contacted the Regional Water Quality Control Board (part of the state's Water Resources Control Board).

(b) RWQCB staff reviewed the MSU operation as proposed and required CCAC to adopt wash water management guidelines approved by USDA's Natural Resources Conservation Service (NRCS). The Central Coast Resource Conservation and Development District (<http://www.centralcoastrcandd.org/>) assisted CCAC with this process.

(c) CCRCD developed a proposal and submitted it to technical experts in the NRCS CA state office, who reviewed the requirements, made a few changes, and established an official California standard and specification for the practice.⁴ This standard/spec can be used by others in the state in the future.

Now that the MSU is using more than 300 gallons of water at each ranch site, it is required to have NRCS review its management plan again.

B. Offal disposal

California does not permit on-ranch composting of offal (or any mammalian tissue; see CA Environmental Protection Agency statute Section 17855.2), and so CCAC must dispose of it off-site. To do this requires an "inedibles" permit from the California Department of Food and Agriculture (CDFA) Meat and Poultry Inspection Branch (http://www.cdffa.ca.gov/ahfss/Meat_and_Poultry_Inspection/MPI_Home.html). The permit establishes an approved rendering plant, pet food plant, or collection station where CCAC may take the offal.

C. Food handling/distribution

Because CCAC does not handle further processing (ranchers arrange cut and wrap and pickup of products directly with the processor), it is not responsible for food handling/distribution concerns once the carcasses are transferred from the MSU to the cut and wrap facility.

Before that point, MSU requirements for food handling and distribution are covered in the unit's

⁴ Available at: http://www.extension.org/mediawiki/files/c/c2/NRCS_Water_Quality_Spec_for_CA_MSUs.pdf

HACCP plan and Sanitary Standard Operating Procedures, as required by FSIS. For example, the further processor receiving dock must be sealed to eliminate insects and dust.

D. Transportation

The tractor that pulls the MSU must be registered with the California Highway Patrol's "biannual inspection terminal" (BIT) program and follow guidelines about maintenance and recordkeeping.

E. Food Defense

Unlike TCEDC (see above), CCAC is not subject to requirements from the state Department of Homeland Security. USDA-FSIS has suggested that CCAC consider adopting a Food Defense Plan, which is currently recommended but not required for all processors. As of early 2010, CCAC had not yet done this.

F. Humane Handling

As noted in the TCEDC example, humane handling in connection with slaughter is under FSIS jurisdiction and requirements are spelled out in the Humane Methods of Slaughter Act (9 CFR 313). FSIS encourages (though does not yet require) a "systematic approach" per the FSIS Notice "Humane Handling and Slaughter Requirements and the Merits of a Systematic Approach to Meet Such Requirements" (link given above).

In California, the FSIS Alameda District Humane Handling inspector also suggested that CCAC conduct regular self-audits and an annual training program for employees.

G. Brand Inspection

The MSU must be registered with the CDFA Animal Health and Food Safety Division. The brand inspector usually does not need to be present if she knows the ranch. If she does not know the ranch, the hide must be taken to the processing plant where the inspector meets the MSU to inspect the hide. All hides must carry hide tags linked to an affidavit that states the animal belongs to the rancher.

H. Weights and measures

This MSU has no scales on board and does not operate its own cut and wrap facility, so weights and measures regulations do not apply.

I. Business permit

Although the MSU is USDA-inspected, the MSU must also have a license from CDFA's Meat and Poultry Inspection Branch, which also issues the MSU's offal disposal permit (see above).

J. Employees

Like all businesses, non-profit or otherwise, TCEDC pays employment taxes and worker compensation for its employees. And as in New Mexico, employees who operate the tractor-trailer require a special license (Class A CDL) and must comply with specific state Department of Transportation requirements including drug/alcohol testing and background checks.

K. Tips for working well with state and local regulators

Deb Garrison, former coordinator of the CCAC MSU, suggests that before you talk to any regulators, you should become familiar with the codes, regulations, and ordinances that pertain to the permit you need. You can find this information through your local farm support agencies (Resource Conservation Districts, Farm Bureau, and others). Occasionally you may find yourself seeking information from a new regulatory agency staff member who will unknowingly give you wrong information, which can be costly to you in both time and money. Knowing the rules to at least some degree ahead of time will help you be prepared.

For more information or clarification about either of these examples, please contact NMPAN:

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Chapter 4: Food Safety Assessments: what they are & how to prepare

What's an FSA?

A Food Safety Assessment (FSA), done randomly or in response to a problem, is an audit done by FSIS at federally inspected plants to assure that food safety procedures are effective. According to FSIS, a central goal of the FSA process is to “reduce recalls and enforcement actions by providing valuable information to plants about their food safety systems.”

An FSA is done by an FSIS Enforcement Investigations & Analysis Officer (EIAO) who visits your plant to review your food safety documents (HACCP, SSOPs, etc.) and to assess your plant in action.

Current FSIS practice is that every federally-inspected establishment will receive an FSA at least once every 4 years. However, an FSA can be justifiably requested at the district level for a long list of reasons, including:

- Positive (showing pathogens) laboratory findings
- To determine whether a plant has reassessed its HACCP plan or evaluated its SSOP.
- Food-borne illness outbreaks, recalls, or consumer complaints.
- Randomly selected by district office officials.

Bottom line?

1. Be prepared for an FSA at any time.
2. Ask the EIAO why the FSA is being performed: FSIS does want you to know. You may be completely unaware of “issues” the inspector has communicated to the supervisor.
3. Request the regulatory basis for all findings made during the FSA. If the EIAO's explanation is not sufficient, call the FSIS Office of Policy and Program Development (OPPD) in Omaha: (402) 344-5000. OPPD is available to comment on all matters related to the interpretation and application of current agency policy.

According to FSIS, OPPD should be the **only** FSIS unit contacted to settle disputes related to the interpretation and application of Agency policy. Do **not** start with your USDA district office. In some cases, a three way call (plant, district office, and OPPD) may help assure agreement on interpretation of regulations.

How to prepare for an FSA

The “EIAO draft tools,” designed to assist EIAOs in supporting FSA findings, can help you know what to expect during a FSA. The EIAO will use any relevant versions of these tools during an FSA, responding to each question as appropriate.

Find the tools here: http://origin-www.fsis.usda.gov/FSIS_Employees/EIAO_Training_Modules/index.asp#Tools.

FSIS has also posted a series of presentations (ppt/pdf) to explain the FSA methodology. Find them here: http://origin-www.fsis.usda.gov/News_&_Events/Presentations_Industry_FSA_Walkthru/index.asp.

One Mobile Unit's FSA experience

The Island Grown Farmers Cooperative Mobile Slaughter Unit,⁵ in Washington State, has gone through two food safety assessments (FSA) since it began operating in 2002: the first in 2008 and the second in 2009.

This schedule is unusual in two ways: (1) the first FSA didn't happen for the first 6 years of operation, and (2) the second happened so soon after the first, when there had been no food safety issues or complaints.

IGFC passed both FSAs, but the two were very different.

The first, done by an EIAO from the USDA Denver office, went quickly. The EIAO spent a day with Barbara Thomas, IGFC's HACCP Coordinator, going over their HACCP plan and other food safety documents and observing the MSU and plant in action. He wrote his report and then discussed his findings with IGFC, explaining the few changes he required them to make, which were minor. And that was it.

The second FSA began in mid-January 2009 and lasted until mid-April. The EIAO, from the USDA office in Bothell, WA, also went over the plans and observed the MSU and plant. He then continued to ask Barbara questions by email multiple times a week for many weeks, all of which she answered meticulously. The EIAO had two main concerns: IGFC's testing lab and the Sanitary Standard Operating Procedures (SSOPs) for the IGFC cutting room.

IGFC had been using a lab that had been recommended by USDA and had always done a great job. But the EIAO required IGFC to ramp up its testing program for E.coli 0157:H7, saying that new USDA testing requirements were coming. IGFC's lab wasn't able to do the increased testing (the required equipment was too costly). The EIAO strongly encouraged IGFC to do its own testing, in-house.

Barbara looked into in-house testing and even found a testing kit manufacturer willing to donate the equipment to IGFC so they would only have to buy supplies. One of IGFC's members, a cheesemaker, had her own lab, extremely clean and sanitary, where IGFC could have done the testing. Yet even with the equipment donated, in-house testing would still cost more using an outside lab, even including shipping.

Fortunately IGFC's original lab was able to recommend another lab, which has worked out very well.

The EIAO was also concerned that the SSOPs for IGFC's cutting room, which relied on time and temperature to assure product safety, were not adequate. However, Barbara was able to find

⁵ Case study available here: http://www.extension.org/pages/Island_Grown_Farmers_Cooperative

research done by Dr. Steve Ingham, at the University of Wisconsin, that backed up this method in the specific way IGFC was doing it.

Additional concerns were minor, including small wording changes in the plans themselves. Barbara, a careful wordsmith herself, disagreed with a few of these suggestions, but they eventually worked through all of them. “It just takes time,” she says.

Key lessons for plant operators

- Always be prepared for an FSA, even if you had one recently.
- EIAOs are not all alike and may interpret the same regulation differently.
- Answer each of the EIAO’s questions fully and carefully. Think about everything you write and document it all.
- If you don’t know the answer, say, “I’m not sure, I’ll get back to you.” And then do your homework.
- Ask **WHY**: if you don’t understand an EIAO’s interpretation or requirement, ask for clarification. What is the specific regulation? What is the reasoning behind that regulation? "Because USDA says so" is not good enough.
- Once you understand the "why," ask for guidance to solve the problem.
- Befriend your interlibrary loan librarians – you’ll need their help tracking down all the research papers you need for back up.
- Call on university extension meat scientists – in your state and beyond. Visit “Find Help Near You” (<http://www.nichemeatprocessing.org/stateaffiliates.html>) on the Niche Meat Processor Assistance Network website.

Chapter 5: Humane Handling and MSUs

Here we provide references to the regulatory requirements for humane handling in connection with slaughter and describe one mobile unit's experience with a humane slaughter audit.

Regulatory Requirements and Guidance

For a USDA-inspected slaughter facility, mobile or fixed, the requirements for humane handling in connection with slaughter are spelled out in the Humane Methods of Slaughter Act (9 CFR 313)⁶ and are under FSIS jurisdiction.

In addition to the HMSA, FSIS recently issued a notice, "Humane Handling and Slaughter Requirements and the Merits of a Systematic Approach to Meet Such Requirements,"⁷ which includes a Standard Operating Procedure (SOP) that employees and livestock owners can sign stating that they understand Humane Handling requirements.

Facilities are encouraged, though not required (as of March 2010) to adopt the suggested systematic approach.

FSIS provides additional guidance in the booklet, "Humane Handling of Livestock and Poultry."⁸ A companion DVD, featuring Dr. Temple Grandin, is also available from FSIS, using their order form.⁹ (it is listed near the bottom of the "Other HACCP Information" section).

The Humane Slaughter Audit: One Mobile Unit's Experience

The Coast Grown Mobile Harvest Unit, a USDA-inspected MSU operating in the Central Coast area of California, had its first humane slaughter audit in the summer of 2009. It was their 9th operating day, and they had harvested 32 animals total since beginning operations under inspection.

The audit was performed by the Veterinary Medical Specialist for USDA's Alameda District, who serves as the district's humane handling inspector.

The frequency of audits depends in part on volume, how many animals are handled by the plant. Based on the Coast Grown MSU's volume, the former MSU coordinator, Deb Garrison, expects an audit about once per year. However, they must always be ready for an audit at any time.

The Audit Process

The vet observed the entire process, from ante-mortem inspection through sticking for bleed-out, for three animals. "They are really watching you with a microscope on how you're treating the

⁶ Available at: http://ecfr.gpoaccess.gov/cgi/t/text/text-idx?c=ecfr&tpl=/ecfrbrowse/Title09/9cfr313_main_02.tpl

⁷ Available at: <http://www.fsis.usda.gov/OPPDE/rdad/FRPubs/04-013N.pdf>

⁸ Available at: http://www.fsis.usda.gov/PDF/Humane_Handling_Booklet.pdf

⁹ Available at: http://origin-www.fsis.usda.gov/Science/HACCP_Resources_Order_Form/index.asp; the DVD is listed near the bottom of the "Other HACCP Information" section of the order form.

animals prior to stick,” Deb says.

During ante-mortem inspection, the vet wanted to assure that the animals had shade and were at rest. When the butcher and helper led the animal up through the alleyway into the stun box, she checked that they were moving the animal quietly and did not use electric prods (they used their caps), and that all areas where the animal walked were non-slip surfaces.

After the stun, the vet wanted to see that the butcher was checking for sensitivity, before the stick, by tapping the eyeball (if nothing happens, the animal is insensitive).

Audit Results

Overall, the vet was satisfied with what she saw. She was particularly impressed with the butcher’s patience and skill during stunning. He waited a full 20 minutes, while the steer moved his head up and down repeatedly, until the steer’s head was in the right position to stun and then did it perfectly.

The vet had two concerns. The first was the size of the knock box at that ranch: it was too wide for the small steer they slaughtered that day, so he had too much room to move around, and the butcher could have missed the stun on the first try. The vet suggested that for smaller animals, in that knock box, they put in a tire or two, to reduce space to move.

The second was where the butcher stuck the animal for bleed-out: the vet recommended he move down into the jugular, down and to the left. This good advice really helped the butcher, who did much better after that. A cleaner bleed means better meat quality.

Recommendations

In her report, sent in a follow-up email, the vet recommended Coast Grown do the following:

- Write a Standard Operating Procedure (SOP) for humane slaughter and a separate SOP for humane handling (before slaughter); these SOPs would allow any butcher, if not familiar with the MSU, to know exactly what to do and what is required.
- Hold an annual humane handling training session for all MSU employees and, perhaps, for ranchers who use the MSU.
- Document (e.g. through the training sessions) that all staff understands 9 CFR 313, “Humane Slaughter of Livestock.”
- Conduct regular self-audits on humane handling and slaughter.

The vet also sent them the FSIS notice referenced above, “Humane Handling and Slaughter Requirements and the Merits of a Systematic Approach to Meet Such Requirements,” and the AMI Animal Handling and Audit Guidelines¹⁰ written in collaboration with Dr. Temple Grandin.

¹⁰ Available at: <http://www.animalhandling.org/ht/d/sp/i/26752/pid/26752>

Chapter 6: Food Defense Plans for an MSU

What is a Food Defense Plan?

According to USDA's Food Safety and Inspection Service (FSIS), food defense "focuses on protecting the food supply from intentional contamination, with a variety of chemicals, biological agents, or other harmful substances by people who want to do us harm." A food defense plan (FDP) "can increase your preparedness and response to an emergency" and "provide protection to your customers, employees, brand name, and company reputation."

As of March 2010, federally inspected processing establishments are not required, only encouraged, to adopt an FDP. Yet if FSIS does not soon reach its goal of 90% compliance (90% of all establishments having an FDP in place), the agency may make FDP adoption mandatory.

FSIS Model Food Defense Plan

FSIS provides a model Food Defense Plan¹¹ to help you write a plan for your MSU or plant.

One Mobile Unit's Experience with a Food Defense Plan

The Island Grown Farmers Cooperative (IGFC) adopted a Food Defense Plan and found the process simple and straightforward. The FSIS model is not specific to MSUs, but that didn't matter.

"You don't have to use everything in their model," explains Barbara Thomas, IGFC HACCP Coordinator. "You just have to look at all the suggestions and implement the ones that make sense for your plant. I just read through the model plan, talked it over with the MSU manager and our inspector, and figured out what was appropriate for us."

For example, some parts of the FSIS model were really only necessary for a large plant, such as ID tags for employees. The IGFC staff is so small, everyone knows everyone else.

The only major change IGFC made was to rekey. They had been operating for 10 years, and there were a lot of keys out there, among staff, board, and members. "So we collected all the keys, had the locks rekeyed, and got new keys made. And now we control them better."

Bottom line advice: read through the FSIS model FDP, talk it over with the MSU manager and inspector, and decide what elements of the model are appropriate for your MSU.

¹¹ Available at: http://www.extension.org/mediawiki/files/7/77/FSIS_Food_Defense_Plan_Model_9-3-09.pdf

Chapter 7: Mobile Slaughter Unit Design

The first USDA-inspected mobile slaughter unit, built and operated by the Island Grown Farmers Cooperative, is 34 feet long. It was designed by Bruce Dunlop, IGFC member, with Featherlite, a trailer company.

These photos show the unit's interior:



The photo on the left shows the MSU skinning and evisceration area as seen from rear of trailer.

The photo on the right shows the carcass cooler behind the skinning area. Inedible offal and blood from livestock are composted at the respective farms.

For more MSU photos, see NMPAN's MSU case studies (red meat and poultry) at: http://www.extension.org/pages/Niche_Meat_Processor_Case_Studies#Mobile_Units.

Chapter 9: Product Labeling

A. Introduction

All labels on meat and poultry products must be pre-approved (before sale of product) by either USDA's Food Safety and Inspection Service (for federally-inspected products) or the state inspection agency (for state-inspected products). Here we overview the federal label approval process. (State inspection programs may vary in their process; contact the inspection agency directly for details.)

The rules and processes are not any different for Mobile Slaughter Units than for fixed facilities.

More detailed info on labeling can be found in the NMPAN webinar, "Meat Labels and Label Claims: What They Mean and How They Work,"¹² July 2009. You can both listen to the webinar and download the presentations.

B. Label Basics

1. Who approves labels?

Labels are approved by the Labeling Program and Delivery Division (LPDD) of FSIS. Their 10-person technical staff evaluates approximately 60,000 label approval applications each year.

2. What must a label have on it?

Submit your label for approval using FSIS Form 7234-1¹³, with a sketch of your label.

Per the requirements of Chapter 9 Code of Federal Regulations, Section 317¹⁴ and Section 381 subpart N,¹⁵ all meat and poultry products must have labels with up to 8 required features. Only the first 3 label features listed below will be required on all products. All products with more than 1 ingredient must have an ingredients statement. Almost all products will require a net weight. Only shelf-stable products *do not* require a handling statement.

- Product Name
- Inspection Legend with Establishment Number (explained below)
- Plant Address (or company address)
- Ingredients Statement
- Net Weight
- Handling Statement (i.e. "keep refrigerated")
- Nutritional Facts
- Safe Handling Instructions

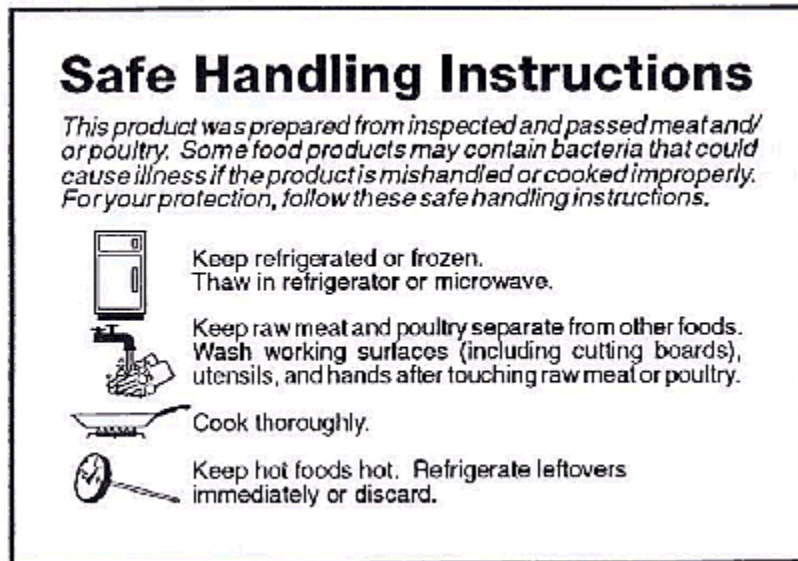
¹² Available at: http://www.extension.org/pages/Meat_Labels_and_Label_Claims

¹³ Available at: <http://www.fsis.usda.gov/FSISForms/7234-1.pdf>

¹⁴ Available at: http://www.access.gpo.gov/nara/cfr/waisidx_07/9cfr317_07.html

¹⁵ Available at: http://www.access.gpo.gov/nara/cfr/waisidx_07/9cfr381_07.html

The last feature, safe handling instructions, is distinct from the "handling statement" feature which has to do with how to store a meat or poultry product that has been processed. "Safe handling instructions" are used for raw products only. A label will only have safe handling instructions (raw product) *or* a handling statement (processed product) NOT both. Below is a sample of what safe handling instructions could look like.



Some products also require nutritional information and safe handling labeling. Optional features include product claims, graphics, UPC codes, cooking instructions, and others. (See J. Hochstetler's presentation, on webinar website above, for detail on these label elements.)

Some generic labels do not require pre-approval, such as labels for single-ingredient products with no special statements or claims (e.g. about animal production practices or nutrient content), and products with a standard of identity in Federal Regulations or the Food Standards and Labeling Policy book which do not bear any special statements or claims.

However, producers using an MSU are unlikely to use generic labels, since they are most likely engaged in some form of niche marketing and will want their labels to have the farm name, product qualities, and other messages to their buyers about why their products are special.

3. Top 11 label submission mistakes

According to FSIS-LPDD, the top 11 mistakes people make when submitting labels for approval are:

- Multi-ingredient components are not sub-listed on the label (e.g., soy sauce, teriyaki marinade);
- The percentage of restricted ingredients is not provided or supported in the application (e.g. % fat in the product is required for some ingredients);

- Binders in the solution pumped into meat or poultry products are not included in product names/qualifiers;
- Ingredients aren't listed in their order of predominance;
- Geographic claims and styles are not supported by data;
- Nutrition claims are not supported by data or permitted by regulations;
- Only one copy of submission form and sketch was sent – two are required;
- Submission is not legible (labels or application);
- Reason for a temporary label approval is not supported by required information;
- Product name prominence/letter size conflict with requirements;
- Meaningful terms/claims are not validated on the application, e.g., “#1 seller of franks in the West” is not supported by data.

4. Where to find LPDD information and forms online

- LPDD Staff and Contact Info:
http://www.fsis.usda.gov/about/labeling_&_consumer_protection/index.asp
- A Guide to Federal Food Labeling Requirements for Meat and Poultry Producers:
http://www.fsis.usda.gov/PDF/Labeling_Requirements_Guide.pdf
- Labeling Procedures:
http://www.fsis.usda.gov/Regulations_&_Policies/Labeling_Procedures/index.asp

5. Mark of Inspection and Establishment Number

Once an application for inspection has been filed, an official establishment number will be reserved. This number must be used within a "mark of inspection" (sometime also called an "inspection legend") on all labels to show that products have been inspected and passed by a food safety inspection authority (federal or state). Below are examples of USDA marks of inspection. Each state inspection agency will have its own unique mark(s) of inspection.

Inspection mark on raw beef, pork, lamb and goat



Inspection mark on processed beef, pork, lamb and goat



Inspection mark on raw and processed poultry



All carcasses must be ink-branded with the mark of inspection. All packaged meat products must have the mark of inspection printed on the label of the package. All labeling material must be approved and on-hand before inspection will be granted. Each time you introduce a new product you will have to apply for a new label. All labels must be pre-approved for use by your

inspection agency before they can be used on any product (unless you are selling the product under retail exemption¹⁶).

6. Voluntary Label Claims

As part of the label approval process, FSIS LPDD also evaluates and approves label claims that highlight certain aspects about the way animals used as the source for meat and poultry products are raised. The basic requirement is that the claim be truthful and not misleading.

For most animal production claims, you must submit the following documentation:

- A detailed written protocol explaining controls for assuring the production claim;
- A signed affidavit declaring the specifics of the animal production claim(s) and that the claims are not false or misleading;
- Product tracing and segregation mechanism from time of slaughter and/or further processing through packaging and wholesale or retail distribution;
- A protocol for the identification, control, and segregation of non-conforming animals/product;
- A current copy of the certification/verification, if a third-party certifies/verifies a claim.

More on claims certified by a third-party:

If your label claim is certified by a third party certifier – e.g. certified organic or one of the humane certification programs – you must also submit a copy of your certification. If FSIS has already evaluated that certifying entity's animal raising standards and has determined that they are truthful and not misleading, FSIS will allow your label to bear that certified claim. On the label, you must clearly identify the certifier, e.g. "certified pasture-raised by... (name of certifier)."

IMPORTANT NOTE: Based on concerns about how claims are verified, FSIS is currently reviewing its label claim approval process. The agency is also reconsidering some label claim definitions (natural and naturally raised) and is said to be working with USDA's Agricultural Marketing Service to make the use of the grass-fed label claim consistent. No decisions on these issues had been made as of March 2010, but please check with LPDD for updates (see staff link above for contact info).

¹⁶ See http://www.extension.org/pages/Meat_Inspection#Retail-Exempt

Mobile Slaughter Unit

Name of the business/responsible entity

USDA Facility Number: 00000

Model HACCP Plan

Slaughter: beef, swine, goat, and lamb

(list all species you intend to slaughter)

Mailing Address of Organization

Address

City, State, Zip

Mobile Unit is parked at:

Location address

City, State, Zip

Phone number

Name and title of MSU's HACCP Coordinator

Date

HACCP trained in accordance with the requirements of Sec. 417.7.

Available to *name of business/responsible entity* for reassessment

Name of the business/responsible entity
HACCP Plan for Mobile Harvest Unit Operations

Revision Number	Date	Reason for Reassessment	Signature of MSU's HACCP Coordinator

This Plan will be reassessed a minimum of once per calendar year or whenever changes occur that could affect the hazard analysis or alter the HACCP plan. 9 CFR 417.4 (a) (3)

Process Category Description

Slaughter: beef

Product Name

Beef

Common Name

Beef

Beef Edible Offal (or "Variety Meats")

Intended Product Use

Carcasses, Quarters

Variety Meats: no further processing

Packaging

Carcasses, Quarters: None

Variety Meats: butcher paper, freezer wrap, or plastic bags

Storage of Beef and Temperature Regulation

Stored in Mobile Processing Unit cooler maintained at 40 degrees or lower for transport to a USDA inspected processing facility for further processing

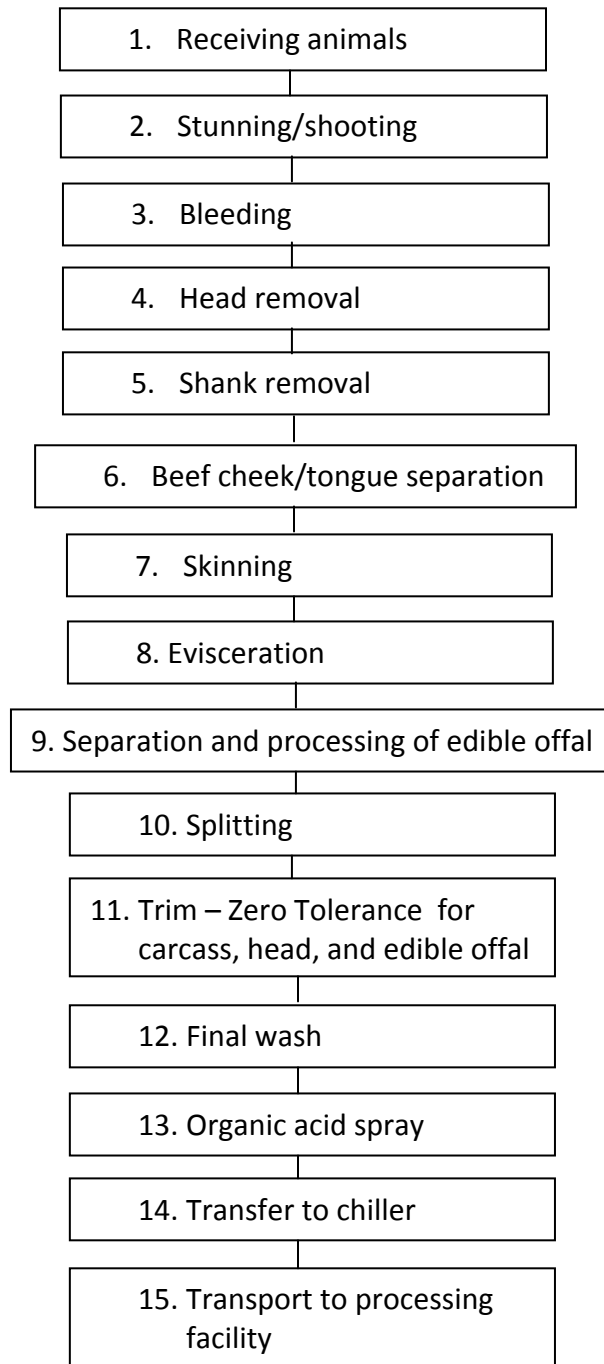
Sales of Beef

Beef will be further processed for sale at a USDA inspected processing plant (*give plant name*) or carcasses will be sold and delivered to retail-exempt operations.

Labeling Instructions:

Carcasses and edible offal (livers, hearts, and tongues) are labeled with the USDA inspection legend.

Process Flow Chart for Mobile Meat Harvest Unit Operations
Slaughter: *list all species you intend to slaughter*



Process # 1	Food Safety Hazards Introduced at this Step	Reasonably Likely to Occur?	Basis	If yes in Column 3, What Measures Could be Applied to Prevent, Eliminate or Reduce the Hazard to an Acceptable Level?	Critical Control Point
Receiving animals	Chemical – drug residues	No			No
	Physical – buckshot, needles, bullets	No			No
	Biological – pathogens (Salmonella, E.coli O157:H7)	Yes (pathogens)	Live animals are potential reservoirs of pathogens. Based on Smith, et al. (2001) and Elder, et al. (2000) data supplied by FSIS, these microorganisms are reasonably likely to occur.	Hazard will be addressed at later step, CCP-1.	No
	Prions (if animal has BSE)	No (prions)	This is addressed by SOP-4, “Procedures for Minimizing BSE Risks Associated with Specified Risk Materials.”		

Process # 2	Food Safety Hazards Introduced or Controlled at This Step	Reasonably Likely to Occur?	Basis	If yes in Column 3, What Measures Could be Applied to Prevent, Eliminate or Reduce the Hazard to an Acceptable Level?	Critical Control Point
Stunning/ Shooting	Chemical	No			No
	Physical – bone, metal	No			No
	Biological	No			No

Process # 3	Food Safety Hazards Introduced or Controlled at This Step	Reasonably Likely to Occur?	Basis	If yes in Column 3, What Measures Could be Applied to Prevent, Eliminate or Reduce the Hazard to an Acceptable Level?	Critical Control Point
Bleeding	Chemical	No			No
	Physical – bone, metal	No			No
	Biological – pathogens (Salmonella, E.coli O157:H7)	Yes	Live animals are potential reservoirs of pathogens. Based on Smith, et al. (2001) and Elder, et al. (2000) data supplied by FSIS, these microorganisms are reasonably likely to occur.	Hazard will be controlled at later step, CCP-1.	No

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Process # 4	Food Safety Hazards Introduced or Controlled at This Step	Reasonably Likely to Occur?	Basis	If yes in Column 3, What Measures Could be Applied to Prevent, Eliminate or Reduce the Hazard to an Acceptable Level?	Critical Control Point
Head removal	Chemical	No			No
	Physical – Metal	No			No
	Biological – prions associated with SRMs	No	This is addressed by SOP-4, “Procedures for Minimizing BSE Risks Associated with Specified Risk Materials.”		No
	Biological – pathogens (Salmonella, E.coli O157:H7)	Yes	Hide opening and removal of head may introduce pathogens onto the carcass.	SSOP #3, Operational Sanitation, addresses this. Hazard will be controlled at later step, CCP-1.	

Process # 5	Food Safety Hazards Introduced or Controlled at This Step	Reasonably Likely to Occur?	Basis	If yes in Column 3, What Measures Could be Applied to Prevent, Eliminate or Reduce the Hazard to an Acceptable Level?	Critical Control Point
Shank removal	Chemical	No			No
	Physical – Metal	No			No
	Biological – pathogens (Salmonella, E.coli O157:H7)	Yes	Hide opening and removal of shank may introduce pathogens onto the carcass.	SSOP #3, Operational Sanitation, addresses this. Hazard will be controlled at later step, CCP-1.	No

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Process # 6	Food Safety Hazards Introduced or Controlled at This Step	Reasonably Likely to Occur?	Basis	If yes in Column 3, What Measures Could be Applied to Prevent, Eliminate or Reduce the Hazard to an Acceptable Level?	Critical Control Point
Beef tongue and cheek separation	Chemical	No			No
	Physical	No			No
	Biological –pathogens	No			No
	Biological – prions associated with SRMs	No (prions)	Tonsils are an SRM in all cattle, but SOP-4 makes hazard unlikely.		

Process # 7	Food Safety Hazards Introduced or Controlled at This Step	Reasonably Likely to Occur?	Basis	If yes in Column 3, What Measures Could be Applied to Prevent, Eliminate or Reduce the Hazard to an Acceptable Level?	Critical Control Point
Skinning	Chemical	No			No
	Physical	No			No
	Biological – pathogens (Salmonella, E.coli O157:H7)	Yes	Livestock hide is a known source of biological pathogens.	SSOP #3, Operational Sanitation, addresses this. Hazard will be controlled at later step, CCP-1.	No

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Process # 8	Food Safety Hazards Introduced or Controlled at This Step	Reasonably Likely to Occur?	Basis	If yes in Column 3, What Measures Could be Applied to Prevent, Eliminate or Reduce the Hazard to an Acceptable Level?	Critical Control Point
Evisceration	Chemical	No			No
	Physical	No			No
	Biological – pathogens (Salmonella, E.coli O157:H7)	Yes	The intestinal tract of cattle is a known source of pathogens, which can get onto the carcass.	SSOP #3, Operational Sanitation, addresses this. Hazard will be controlled at later step, CCP-1.	No
	Presence of prions in SRM (distal ileum)	No	Distal ileum is considered an SRM in all cattle, but SOP-4 makes this hazard unlikely.		

Process # 9	Food Safety Hazards Introduced or Controlled at This Step	Reasonably Likely to Occur?	Basis	If yes in Column 3, What Measures Could be Applied to Prevent, Eliminate or Reduce the Hazard to an Acceptable Level?	Critical Control Point
Separation and processing of edible offal, “variety meats”	Chemical	No			No
	Physical	No			No
	Biological – pathogens (Salmonella, E.coli O157:H7)	Yes	Raw variety meats are potentially contaminated with pathogens, including E. coli O157:H7 and Salmonella.	Hazard will be controlled at later step, CCP-1.	No

Process # 10	Food Safety Hazards Introduced or Controlled at This Step	Reasonably Likely to Occur?	Basis	If yes in Column 3, What Measures Could be Applied to Prevent, Eliminate or Reduce the Hazard to an Acceptable Level?	Critical Control Point
Splitting	Chemical	No			No
	Physical – metal or bone fragments	No			No
	Biological – pathogens (Salmonella, E.coli O157:H7) Prions associated with spinal cord and vertebral column	Yes No	Pathogens are known to be present on animal carcasses; splitting saw may transfer pathogens from carcass to carcass or from location to location on one carcass. Spinal cord and vertebral column are an SRM, but SOP-4 makes this hazard unlikely.	SSOP #3, Operational Sanitation, addresses this. Hazard will be controlled at later step, CCP-1.	No

Process # 11	Food Safety Hazards Introduced or Controlled at This Step	Reasonably Likely to Occur?	Basis	If yes in Column 3, What Measures Could be Applied to Prevent, Eliminate or Reduce the Hazard to an Acceptable Level?	Critical Control Point
Trim – Zero Tolerance For carcass, head, and edible offal	Chemical	No			No
	Physical	No			No
	Biological – pathogens Visible feces, milk, and ingesta may indicate pathogen contamination.	Yes	Removal of visible contamination is required by a Federal Register notice from FSIS entitled “Livestock Carcasses and Poultry Carcasses Contaminated with Visible Fecal Material,” published on Nov. 28, 1997.	All visible fecal material, milk, ingesta will be trimmed off carcass halves and quarters, head meat, and variety meats. Results of Zero Tolerance will be recorded on SOP-1 Slaughter Log at the time.	No

NMPAN MSU HACCP plan revised March 2010

Process # 12	Food Safety Hazards Introduced or Controlled at This Step	Reasonably Likely to Occur?	Basis	If yes in Column 3, What Measures Could be Applied to Prevent, Eliminate or Reduce the Hazard to an Acceptable Level?	Critical Control Point
Final Wash Carcass, head, and edible offal	Chemical	No			No
	Physical	No			No
	Biological – presence or growth of pathogens (Salmonella, E.coli O157:H7)	No			No

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Process # 13	Food Safety Hazards Introduced or Controlled at This Step	Reasonably Likely to Occur?	Basis	If yes in Column 3, What Measures Could be Applied to Prevent, Eliminate or Reduce the Hazard to an Acceptable Level?	Critical Control Point
Organic acid spray	Chemical	No			No
Carcass, head, and edible offal	Physical	No			No
	Biological –pathogens (Salmonella, E.coli O157:H7)	Yes	Pathogens are known to be present on carcasses and are reasonably likely to be present on head meat and edible offal. Organic acid spray reduces the likelihood of pathogens remaining on the carcass and prevents pathogen growth during transfer to the cooler.	Each carcass, head, and edible offal is sprayed with an organic acid solution (prepared according to SOP-2) to cover carcass completely until some drips off.	CCP-1

Process # 14	Food Safety Hazards Introduced or Controlled at this step	Reasonably Likely to Occur?	Basis	If yes in Column 3, What Measures Could be Applied to Prevent, Eliminate or Reduce the Hazard to an Acceptable Level?	Critical Control Point
Transfer to cooler	Chemical	No			No
	Physical	No			No
	Biological – pathogen outgrowth (Salmonella, E.coli O157:H7)	Yes	Proper chilling controls pathogen growth.	Chilling	No

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Process # 15	Food Safety Hazards Introduced or Controlled at This Step	Reasonably Likely to Occur?	Basis	If yes in Column 3, What Measures Could be Applied to Prevent, Eliminate or Reduce the Hazard to an Acceptable Level?	Critical Control Point
Transport to processing facility	Chemical	No			No
	Physical	No			No
	Biological –pathogens (Salmonella, E.coli O157:H7) from species cross-contamination	Yes		Proper chilling is maintained during transport. See SSOP-4 monitoring log. Cross-contamination is avoided by keeping adequate distance between carcasses.	No

CCP # 1	Critical Limits*	Monitoring Procedures & Frequency	Corrective Action	Verification Procedures & Frequency	Records
Organic Acid Spray	Acid spray concentration will be maintained at 2 - 2.5%. Carcasses and edible offal will be rinsed until completely covered with acid spray and some runs off. Beef sides will be rinsed for at least 1 minute, pork and lamb sides for at least 30 seconds.	The Managing Butcher or designee will visually confirm that each carcass, carcass half, head, and piece of edible offal is thoroughly washed and sprayed with the acid spray solution and recorded on the Slaughter Log.	If a deviation from the critical limit occurs, the Managing Butcher or designee is responsible to take corrective action as stated in 9 CFR 417.3.	<p>Managing Butcher or designee will review the Slaughter Log and Corrective Action Log once per production day.</p> <p>Managing Butcher or designee will observe monitoring of organic acid spraying at least once per production day and if necessary take corrective action.</p>	<p>Slaughter Log</p> <p>Corrective Action Log</p> <p>SOP-2</p> <p>SOP-2 Monitoring Log</p>

*** NOTE TO USERS OF THIS MODEL PLAN: Your choice of critical limit(s) depends on your validation documentation. If you use different documentation from what we use here, then your limits will be different! See accompanying guide to using this model.**

Corrective Action Log	
Product:	Lot ID:
Date / Time:	Responsible Person:
Deviation:	
Cause of Deviation:	
Cause of Deviation Eliminated By:	
CCP Under Control After Corrective Actions Taken:	
Preventative Measures:	
Product Disposition:	

Verification (Records Review) by and Date: _____

Mobile Slaughter Unit

Name of the business/responsible entity

USDA Facility Number: 00000

Sanitation Standard Operating Procedures (SSOP)

Signature Page

Slaughter: beef, swine, goat, and lamb
(list all species you intend to slaughter)

Mailing Address of Organization

Address

City, State, Zip

Mobile Unit is parked at:

Location Address

City, State Zip

Phone number

Managing Butcher

Date

Table of Contents

- General information page with revision/reassessment signature table
- SSOP-1: Pre-operational sanitation
- SSOP-2: Potable Water
- SSOP-3: Operational sanitation
- SSOP-4: Cooler, Carcass, and Variety Meat Temperature Monitoring
- SSOP-5: Waste Water, Dust, and Fly Management

Followed by Monitoring Logs and an example of a Deficiency/Corrective Action Log:

- SSOP-1 Pre-Operational Sanitation Monitoring Log
- SSOP-2 Potable Water Monitoring Log
- SSOP-3 Operational Sanitation Monitoring Log
- SSOP-4 Cooler, Carcass, and Variety Meat Temperature Monitoring Log
- SSOP-5 Waste Water, Dust, and Fly Management Monitoring Log

SSOP-1: Pre-Operational Sanitation

A. Cleaning and Sanitizing Procedures

1. Pre-Operational cleaning procedures will be implemented in carcass processing and storage areas prior to each day slaughter operations are conducted.
2. Employees will wash hands and arms with soap and water and will be free of illness and open or infected wounds.
3. Knives, hand tools, aprons, boots, and saws will be cleaned and sanitized.
4. All floors, walls, ceilings, tools, and equipment will be rinsed with potable water to remove all debris, washed with a cleaning solution approved for a food handling and storage environment, and sanitized with a chemical agent labeled as safe and effective for a food handling and storage environment.
5. All equipment will be disassembled as necessary to assure that all parts and surfaces undergo rinse, wash, and sanitizing procedures. Equipment will be reassembled after monitoring and verification has been completed.

B. Monitoring, Corrective Action and Verification

1. After cleaning & sanitation procedures have been completed by the Managing Butcher or designee, and monitoring, corrective action, and verification have been found to be acceptable, notification will be given to USDA to allow opportunity for verification.
2. Monitoring, corrective action, and verification will be done by the Managing Butcher or designee.
3. Frequency of monitoring, corrective action, and verification will be dictated by utilization of the MSU. Monitoring in carcass processing and storage areas will be done every day that slaughter operations are conducted, before slaughter is conducted. The unit typically is utilized for slaughter (*insert #*) days per week or until the capacity of the cooler is reached.
4. Daily records of pre-operational procedures in carcass processing and storage areas, and of monitoring, corrective action, and verification, will be recorded on the Pre-Operational Monitoring Log and Deficiency and Corrective Action Log for SSOP-1.

SSOP-2: Potable Water

A. Processing Water and Testing Records

1. Water taken on the MSU and used for processing will meet the definition of potable water.
2. Testing records will be obtained annually from the municipalities and twice a year from well systems from which the MSU takes its water.
3. If water testing records are not available from the water system source, the MSU will not take water from that system.
4. All water testing records will be maintained in a file onboard the MSU.
5. Water tanks will be cleaned and sanitized as scheduled by the Managing Butcher or designee.

B. Record Verification and Corrective Action

1. The Managing Butcher or designee will fill the water tank with potable water and record each fill on SSOP-2 Monitoring Log.
2. The Managing Butcher or designee will verify that system testing records indicate that the quality of the water is within USDA standards for potable water.
3. Water storage tanks will be monitored weekly by the Managing Butcher or designee and scheduled for cleaning and sanitizing as required. Record of cleaning and sanitizing will be maintained on SSOP-2 Monitoring Log.
4. If necessary, Deficiency and Corrective Action will be recorded (SSOP-2 DCA Log), and corrective action will be taken. The Managing Butcher or designee will record the actions that have been taken in a timely manner and notification will be given to USDA to allow opportunity for review.

SSOP-3: Operational Sanitation

A. Cleaning and Sanitizing Procedures

1. Employees will clean hands, arms, aprons, boots, knives, and hand tools as required in order to maintain sanitary operating procedures and employee hygiene in the animal processing area.
2. Employees will clean and sterilize knives, other hand tools, and saws as necessary during the slaughter/dressing process with 180 degree water to prevent contamination of carcasses.
3. Employees doing eviscerating will keep hands, arms, clothes, aprons, boots, knives, etc., clean during the evisceration process. If contamination occurs, the employee is to step away from the carcass to clean and sanitize his apron, boots and knives. He may need to wash hands and arms with soap and water.
4. Washing and sanitizing agents used must be labeled as safe and effective in food processing and storage environments.

B. Monitoring, Corrective Action and Verification

1. Monitoring will be done by the Managing Butcher or designee and be conducted at two hour intervals. All equipment listed on the Monitoring Log will be monitored each time monitoring is conducted.
2. Monitoring will be recorded on SSOP-3 Monitoring Log.
3. Verification of monitoring will be done at the end of each slaughter day by the Managing Butcher or designee.
4. Deficiency and Corrective Action will be recorded on SSOP-3 DCA Log.

SSOP-4: Cooler, Carcass, and Variety Meat Temperature Monitoring

A. General Information

1. The MSU cooler is used as the primary cooler for carcasses handled in the MSU. The MSU cooler will be set at 32-36 degrees (F). The cooler is used to store carcasses from the time of harvest until the MSU returns to the processing facility. The cooler is part of the MSU, and all Sanitary Standard Pre-Operational and Operational Procedures for the MSU apply to the cooler.
2. The MSU, in the process of traveling among different farm locations, may upon occasion spend several days in transit before returning to the processing facility. If this occurs, the cooler in the MSU will be used as the storage cooler, and once per day, carcass temperatures will be checked by taking the temperature of the largest carcass in a large muscle. That temperature, which must be less than 40 degrees F, will be recorded on the SSOP-4 Monitoring Log.

B. Record Verification and Corrective Action

1. Recording of the cooler temperature will be done by a temperature data logger to ensure the cooler is properly operating. Temperatures will be printed and monitored by Managing Butcher.
2. Carcass and variety meat temperatures will be measured and recorded on SSOP-4 Monitoring Log each morning by the Managing Butcher or designee before the unit begins operation each day that the unit does not return to the processing facility.
3. The cooler temperature will be measured by a thermometer calibrated per SOP-4 and recorded on the SOP-4 Calibration Log.
4. If necessary, Deficiency and Corrective Action will be recorded on SSOP-4 DCA Log and corrective action will be taken. The Managing Butcher or designee will record the actions that have been taken in a timely manner, and notification will be given to USDA to allow opportunity for review.

SSOP-5: Waste Water, Dust, and Fly Management

A. Waste Water

Water will be onboard the MSU. At every farm site, waste water will be drained away from slaughter locations to areas where waste water will be a benefit, never a problem, or be directed to existing waste water systems. Blood clots, rumen contents, and any manure will be removed and handled by the ranch site owner to his best advantage.

B. Dust

Dust will be controlled according to the conditions at each slaughter location. Farmers will be responsible for mitigating dust before the MSU arrives.

C. Fly Control

- a. Fly control will be handled by the farmer before slaughter by spraying or baiting in the harvest area. Commercially produced fly sprays should be food-safe.
- b. The door to the mobile unit's processing area will be kept closed during processing to prevent flies from entering.
- c. If flies enter processing area, they will be properly disposed of. If fly lands on the carcass, the landing spot will be trimmed.

D. Corrective Action

- a. Managing Butcher or designee will work with site owners to mitigate the above mentioned.
- b. If necessary, corrective action will be taken and recorded on SSOP-5 Deficiency and Corrective Action Log. The Managing Butcher or designee will verify that actions have been taken before returning to the farm site.

SSOP-1 Monitoring Log: Pre-Operational Sanitation (Start of Day):

Operational (to be observed and recorded prior to start of operation day)	Daily Results: Each column represents one operating day Enter: V=acceptable X=unacceptable (see Deficiency, Corrective Action Form for SSOP-1) Initial after every entry.						
	Date:	Date:	Date:	Date:	Date:	Date:	Date:
Employees have clean hands and arms and are free of illness and open/infected wounds.							
Knives, hand tools, aprons, boots, and saws are cleaned and sanitized.							
Walls, floors, overhead structures and surfaces, shelves, containers, rollers, and drain are clean & sanitized.							
All equipment is clean, reassembled, and in good repair.							

Monitored and Recorded by: _____ Date & Time _____ Result _____

Reviewed by: _____ Date & Time _____ Result _____

SSOP-3 Monitoring Log: Operational Sanitation

Operational (to be observed and recorded at least once per operation day)	Daily Results: Each column represents one operating day Enter: V=acceptable X=unacceptable (see Deficiency, Corrective Action Form for SSOP-3) Initial after every entry.						
	Date:	Date:	Date:	Date:	Date:	Date:	Date:
Employees wash hands and arms with soap and water.							
Tools, aprons, and boots are cleaned and sanitized as necessary to prevent contamination during evisceration and during processing of carcasses.							
Knives, hand tools, and saws are cleaned and sanitized as necessary to prevent contamination during evisceration and during processing of carcasses.							
Temperature of water in sanitizing buckets is 180°F.							

Monitored and Recorded by: _____ Date & Time _____ Result _____

Reviewed by: _____ Date & Time _____ Result _____

Deficiency and Corrective Action Log Model

EACH SSOP MUST HAVE A DCA LOG WITH THE FOLLOWING CATEGORIES/SIGNATURE LINES:

Deficiency Explanation (identify the cause of the deviation):

Corrective Action (how the cause of the deviation is eliminated):

Restoration of Sanitary Condition (the CCP is under control):

Disposition of Product (no product that is injurious to health or otherwise adulterated as a result of the deviation enters commerce):

Preventative Measures (measures to prevent recurrence are established):

Monitored and Recorded by: _____ Date & Time _____ Result _____

Reviewed by: _____ Date & Time _____ Result _____

Mobile Slaughter Unit

Name of the business/responsible entity

USDA Facility Number: 00000

Standard Operating Procedures (SOP)

Signature Page

Slaughter: beef, swine, goat, and lamb
(list all species you intend to slaughter)

Mailing Address of Organization

Address

City, State, Zip

Mobile Unit is parked at:

Location address

City, State, Zip

Phone number

Managing Butcher

Date

Table of Contents

- SOP-1: Live Animal Receiving
- SOP-2: Organic Acid Spray Preparation and Use
- SOP-3: Thermometer Calibration (reference includes log)
- SOP-4: Procedures for Minimizing BSE Risks Associated with Specified Risk Materials
- SOP-5: Generic E.Coli Testing Plan
- Receiving Log per SOP-1
- Organic Acid Spray Log per SOP-2

SOP-1: Live Animal Receiving

The owner of the livestock to be slaughtered will fill out the SOP-1 Receiving Log to certify the age of cattle; that all animals presented for slaughter are suitable for slaughter and free of residues and foreign materials; and that records of all medications administered and pesticides used have been kept and will be available for review on request for 3 years after the slaughter date.

SOP-2: Organic Acid Spray Preparation and Use

This MSU will use one of two types of organic acid spray solutions: acetic acid (vinegar) or lactic acid. The type of acid used each slaughter day shall be recorded in the Organic Acid Spray Log, along with the amounts of acid and tap water (certified as potable, per SSOP-2) used to prepare the solution. The organic acid solution shall be prepared to yield the following concentrations:

- Acetic Acid: 2.5% (vol/vol). Commercial vinegar is usually 5% acetic acid (label will be checked), so a 50:50 dilution in tap water will normally produce the 2.5% solution.
- Lactic acid: 2 – 2.5% (vol/vol). Purchased lactic acid is usually 88% (label will be checked), so adding 3.25 fluid ounces of that solution to a gallon of water will result in a 2.1% solution, or adding 3.75 fluid ounces of that solution to a gallon of water will result in a 2.4% solution.

The pH of the acid solution will be taken and recorded on the Organic Acid Spray Log.

Regardless of the acid used, the following basic steps shall be followed.

- a. Each carcass half shall be thoroughly rinsed with tap water (Final Wash step) before the organic acid spray is applied;
- b. Each organic acid spray solution shall be prepared fresh on the day of use with tap water (cold or hot) and stored in the MSU for use that day and one consecutive day (i.e. if the MSU is out for a two day period).
- c. Each carcass half shall be sprayed thoroughly on the exterior (hide) surface from top to bottom and back to the top. Then the interior (gut) surface shall be sprayed from top to bottom and back to the top. Whole heads, removed head and cheek meats, livers, hearts, or tongues shall be sprayed in one application of the same organic acid spray used for carcass halves.

SOP-3: Thermometer Calibration

For this SOP, we recommend using Flores and Boyle, 2000, "Thermometer Calibration Guide," Kansas State University, available at

<http://www.agr.state.nc.us/meatpoultry/pdf/Thermometer%20Calibration.pdf>.

The guide also includes a log. The entire publication can be used as a plant's SOP for this topic.

SOP-4: Procedures for Minimizing BSE Risks Associated with Specified Risk Materials

These procedures, based on the requirements of 9 CFR 309.3 and 9 CFR 310.22, outline how this establishment will reduce the risk of BSE agent entering the human food chain.

Ante-Mortem Inspection

All livestock to be slaughtered will be presented for ante-mortem inspection by FSIS inspection personnel to determine whether the animals are fit for slaughter for human food. The livestock owner will be responsible for presenting livestock for ante-mortem inspection.

Non-ambulatory cattle, as defined in 9 CFR 309.2(b), will not be accepted for slaughter. Any livestock condemned by inspection personnel will be humanely handled and destroyed. All destroyed animals will be coated with a denaturant and properly disposed of according to state and local law. Establishment personnel will immediately notify the inspector when cattle that have passed ante-mortem inspection become non-ambulatory. The inspector will determine the disposition of such cattle.

All owners of livestock will be required to certify that all livestock presented for slaughter have not recently received antibiotics or hormones that would prohibit human consumption.

The age of all cattle presented for slaughter will be determined so that Specified Risk Materials (SRMs) can be identified for removal from the human food chain. Documentation will be the primary means of determining the age of cattle to be slaughtered. During ante-mortem inspection, cattle 30 months of age or older will be identified to assure they are slaughtered after all other animals less than 30 months of age have been slaughtered. The owner of cattle to be slaughtered will be required to provide accurate and reliable documentation verifying the age of cattle. Acceptable forms of documentation:

- Records or certificates that can be related to individual cattle;
- Records or certificates that provide evidence of age that goes back to the farm where cattle were born or raised, including the name and address of the owner;
- Pregnancy check records;
- Calving records;
- Branding, ear tag, or electronic ear ID records;
- Artificial insemination records;
- Purchase receipts showing age of animal when purchased.

Whether cattle are older or younger than 30 months will be recorded on the Slaughter Log. If accurate and reliable documentation is not provided, dentition will be used to determine whether cattle are 30 months of age or older.

Removal, Segregation, and Disposition of Specified Risk Materials

All cattle 30 months of age and younger will be slaughtered before cattle 30 months of age and older are slaughtered.

SRMs to be removed from all cattle include the tonsils and small intestine.

SRMs to be removed from cattle 30 months of age and older include:

- Tonsils and small intestine;
- Brain, skull, eyes, trigeminal ganglia, spinal cord, vertebral column (excluding the vertebrae of the tail, the transverse processes of the thoracic and lumbar vertebrae, and the wings of the sacrum), and the dorsal root ganglia.

SRMs removed during the slaughtering process include the tonsils, small intestine, brain, skull, eyes, trigeminal ganglia, and spinal cord.

The head will be skinned and removed from the carcass and placed on the inspection rack. The tongue will be removed from the head. The skull, brain, trigeminal ganglia, and tonsils will be injected with a denaturant and placed in a container outside the offal chute to await disposal. During evisceration, the heart, liver, and kidneys will be removed and placed in the inspection tray for inspection. After viscera inspection, all viscera with SRMs attached will be marked with a denaturant and placed in a separate container for SRM disposal. After the carcass is split, the spinal cord will be removed and placed in the container for SRM disposal. The vertebrae will be marked with branding ink identifying them for removal at the further processing stage. All SRMs removed will be marked with a denaturant and properly disposed of, according to state and local law. Red carcass tags will be used to identify the animal as being 30 months of age or older. Carcasses will be hung separately and will not be allowed to touch other carcasses younger than 30 months. The cut & wrap facility manager will be made aware of these animals at the time of off-loading.

SRMs removed during the further processing stage will include the transverse processes of the thoracic and lumbar vertebrae, and the wings of the sacrum.

The removal of SRMs for each animal 30 months of age and older will be recorded on the Slaughter Log. The managing butcher or designee will verify that all SRMs were removed and disposed of accordingly.

This establishment will evaluate the effectiveness of these procedures and will revise these procedures whenever necessary to reduce the risk of BSE agent from entering the human food chain.

SOP-5: Generic E.Coli Testing Plan

For this SOP, we recommend using FSIS’s “Guidelines for Escherichia coli Testing for Process Control Verification in Cattle and Swine Slaughter Establishments,” available here:

http://www.fsis.usda.gov/PDF/Guideline_for_Ecoli_Testing_Cattle_Swine_Estab.pdf

The Pathogen Reduction/HACCP Regulation (9 CFR 310.25) requires that all establishments that slaughter livestock test carcasses for generic E.Coli as a way to verify control processes.

You can read the regulation here: http://edocket.access.gpo.gov/cfr_2003/9CFR310.25.htm

The “Guidelines” document outlines sampling and microbial testing procedures that meet this requirement.

We do recommend you read the regulation also. FSIS notes that the Guidelines document “is a supplement to the Regulation but not a substitute; in-depth details of microbial sampling and testing may be found in the Regulation.”

SOP-1: Receiving Log

Owner: _____ **Date:** _____

Owner address: _____ **Telephone:** _____

Owner certifies the age (under or over 30 months) of cattle and that all animals presented for slaughter are suitable for slaughter and free of residues and foreign materials. The owner certifies that records of all medications administered and pesticides used have been kept and will be made available for review on request for 3 years from this date.

Owner signature: _____

Species	Animal ID # (ear or hide tag)	Older/Younger than 30 months (cattle only; per dentition)

Signature of Managing Butcher or Designee: _____ **Date & Time** _____

