



Meat Messenger

North Dakota State Meat and Poultry Inspection Program

2016 Quarter 1

Beulah Business is Newest State Processing Plant

M & L Concessions in Beulah is the newest North Dakota company operating under the State Meat and Poultry Inspection Program.

“M & L Concessions has met all requirements for the meat inspection program,” said Agriculture Commissioner Doug Goehring. “This will allow for more opportunities for their business.”

Owner Lori Yeager and her mother, Marlene Sasse, have operated a concessions trailer and provided catering to various events for the last several years, primarily making fleischkuekle.

Lori decided to go through the process to become an inspected plant due to demand for her product and the desire to run her own business. She plans to sell to restaurants, grocery stores, bars and grills in the local area.

Meat processing plants, accredited by the state inspection program, can sell their products wholesale

to other retail establishments. Meat and poultry products that have been processed under state inspection can be sold on a wholesale or retail basis anywhere in North Dakota. After operating as an official state establishment for at least three months, plants are eligible to apply for the Cooperative Interstate Shipment Program, which allows them to ship anywhere in the United States.

State Meat Inspection Director Dr. Andrea Grondahl and other meat inspection staff from the North Dakota Department of Agriculture (NDDA) helped Yeager meet regulatory requirements, including a written Hazard Analysis Critical Control Points (HACCP) plan and Sanitation Standard Operating Procedures (SSOPs).

HACCP is a science-based approach to manufacturing food products. The goal behind the HACCP program is to identify the crucial steps in the manufacturing process and to gain complete control over those places



Frying fleischkuekle in the M & L Concessions chuck wagon.

where a danger of microbiological, physical or chemical contamination exists. SSOPs outline the procedures for maintaining overall plant sanitation, including daily cleaning, regularly scheduled maintenance, food handling practices and employee hygiene.

Goehring said 13 North Dakota companies now operate under the State Meat & Poultry Inspection Program. NDDA also inspects 74 custom exempt facilities in the state, which process private game and livestock.

Dakota Territories Meat Processors Convention

The ND Meat Processors Association is hosting this year's convention April 21-23, 2016 at the Baymont Inn, in Fargo, ND. Everyone is welcome to attend meat processing related seminars, network with other meat processors, compete for the best meat in the product show and have a good time. Submit the enclosed preregistration card and convention fees ASAP to Jami Reister, the ND Meat Processors Secretary.

Meat Messenger

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**North Dakota
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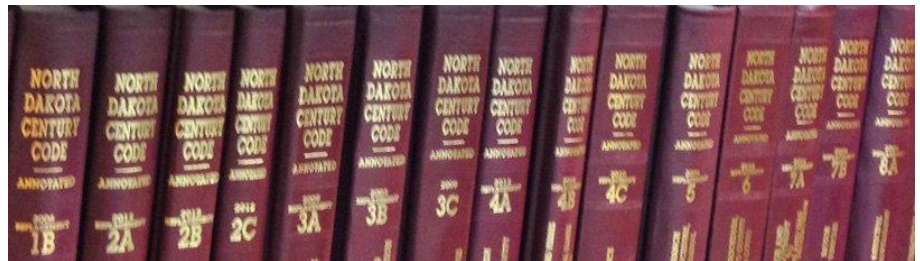
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Regulation Reminder

7-13-06-01. Designated inspection hours.

Establishments shall designate to the department regular inspection days and hours for requested inspection services, subject to department approval. Establishments doing custom slaughter or custom processing shall do so only on designated hours or days apart from the regular inspection schedule unless preapproved by the department.

History: Effective August 1, 2000.

General Authority: NDCC 36-24-24

Law Implemented: NDCC 36-24-02

7-13-06-02. Inspection fees.

Except for overtime hours, inspection fees for providing meat inspection services will not be charged to a person or establishment requiring those services. Overtime incurred by the department for providing meat inspection services requested by a person or establishment will be charged at such rates as the commissioner may determine from time to time. The commissioner may waive overtime charges to establishments.

History: Effective August 1, 2000.

General Authority: NDCC 36-24-24

Law Implemented: NDCC 36-24-24

Further explanation

The plant must separate custom operations from inspected operations and they can only perform inspected operations during a set scheduled time. This is to allow the NDMPPI inspectors the ability to provide coverage with respect to travel time and other inspection coverage needs for the most efficient use of funds. The inspection services are free of charge, unless an establishment requires overtime hours of inspection. Establishments can request to operate outside the normal schedule due to extenuating circumstances.

Building Maintenance

Sanitary conditions are a must for clean meat products. Facility maintenance is part of ensuring sanitary conditions. Simple little issues can create expensive issues in the future. An example of this situation arose when a food manufacturing plant decided to close off the box-forming room from the outside. There was a doorway leading from the dirty loading dock into the box-forming room and they closed off that doorway by removing the door handle so that the door no longer functioned, but they forgot to fill the 1.5” doorknob hole.

Air was sucked through the hole, through the box room and into the main production area. This decreased the shelf life of their products by three days, which was enough to begin spoilage and increase customer complaints. After the hole was identified, the plant filled it and added exhaust fans to correct the air flow problem. Amazingly enough, the shelf life of their products was regained.

A simple 1.5” hole leading outside in a room adjacent to the production area allowed for enough dust and bacteria to circulate for a 3-day shelf life drop, which is a very significant reduction in quality. That would also bring in the question of environmental pathogens, such as *Listeria monocytogenes*. Good housekeeping costs money, but poor sanitation costs more.

Schuler, G.A, Nolan, M.P., Reynolds, A.E. & Hurst, W.C. (1999) *Cleaning, Sanitizing & Pest Control in Food Processing, Storage and Service Areas*. University of Georgia College of Agricultural and Environmental Sciences Cooperative Extension Service.

It’s Not Sausage Without Salt

The word sausage comes from the Latin word *salsus* meaning “salted.” So why is salt added to sausage?

When salt is used to preserve meat, the salt draws out water through osmotic pressure. This reduction in water, slows down bacterial growth. This process requires nearly 20% salt concentration, which was the main method preservation before refrigeration. With the advent of refrigeration, sausages are generally salted to 1.8 to 2.2%. When used in sausage, salt extracts meat proteins at the surface of the sausage. These proteins coagulate while the sausage is heated, helping hold the sausage together. Salt also has the added benefit of slowing down the oxidative process, essentially preventing the meat from turning rancid so quickly. Salt plays a major impact on taste, texture and shelf-life; therefore, sausage is not sausage without salt.



Savic, I.V. (n.d.) “Small-scale sausage production.” Food and Agriculture Organization of the United Nations. Web. 8 Feb. 2016. <<http://www.fao.org/docrep/003/x6556e/X6556E02.htm>>.

“Curing (food preservation).” (Jan. 2016). In *Wikipedia*. Web. 8 Feb. 2016. <[https://en.wikipedia.org/wiki/Curing_\(food_preservation\)](https://en.wikipedia.org/wiki/Curing_(food_preservation))>.

Preventing and Removing Rust

By Nathan Kroh

No regulations mandate the types of materials that are allowable for meat processing facilities and equipment, except for one caveat. All materials must be kept in sanitary condition. Rusty equipment can be difficult to clean, can harbor microorganisms, and can contaminate meat with rust flakes. Pitted metal surfaces are very difficult to sanitize properly. Rust is considered an insanitary condition and is unacceptable in food processing areas.

Rust is an iron oxide, formed by the reaction of iron and oxygen in the presence of moisture through a process called oxidation. Chlorine ions (from salt and bleach) and high humidity will accelerate the oxidation of iron. Most metal food contact surfaces are stainless steel, which is more resistant to corrosion, but it is expensive. Stainless steel does not rust, because the stainless steel is made with chromium that reacts with water and air to form a very thin, stable film that prevents further corrosion. When less expensive metals are used for the non-food contact surfaces, these parts need to be maintained, to prevent excessive corrosion, especially rust.

There is no solution better than prevention. The tendency of paint to peel makes it a less than ideal

solution. High quality polymer coatings that will not flake or chip are a better option. If coating the



parts is not an option, maintenance is critical. Use food-safe silicones and greases to protect equipment from corrosion. The parts and pieces from grinders such as the disks, knives and augers have a potential to rust, so treating them is important. Food-safe mineral oil will rust. Vegetable oil will work, but avoid aerosol oil sprays that contain soy lecithin, as this is considered an allergen.

Mildly rusted equipment can be restored, before pitting occurs. Vigorously scrubbing saw blades should remove developing rust. Small parts (i.e. grinder plates, augers, cart wheels) can be fixed with vinegar. Sand excessive rust off, submerge the parts in vinegar for a day or two. The rust should wash off cleanly. Rinse, dry and coat with a food safe oil or grease. Resurfacing small sections on larger equipment should be done after

food production hours, then cleaned and sanitized before any production occurs in the same room.

More extensive rust issues can be controlled with rust converters. The main active ingredient is tannic acid that chemically converts the iron oxide into ferric tannate, and creates a protective barrier to slow the further oxidation of iron. After treating heavily rusted areas, it is important to use a high quality coating or sealant,

so the surface can be scrubbed without flaking. It is suggested that only stainless steel, aluminum or food grade plastic are used for direct food contact, but it is important to maintain all equipment to prevent unsightly corrosion and insanitary conditions.

Free, Michael L. "Why doesn't stainless steel rust?" *Scientific American*. Scientific American, 12 Mar. 2001. Web. 25 Jan. 2016. <<http://www.scientificamerican.com/article/why-doesnt-stainless-steel/>>.

"Rust." (Jan. 2016). In *Wikipedia*. Web. 12 Dec. 2014. <<https://en.wikipedia.org/wiki/Rust>>.

"Rust Converter FAQ's." The Rust Store.. The Rust Store, n.d. Web. 15 Dec. 2014. <<https://www.theruststore.com/Rust-Converter-FAQs-W48C42.aspx>>.

Listeria monocytogenes: Living Beneath Your Feet

By Nathan Kroh

In a 2008 Kansas State University study, *Listeria monocytogenes* (*Lm*) was inoculated in a floor drain and flooded with cleaning agents and sanitizers. *Lm* was found up to 5 feet from the drain after 8 hours. Traditional sanitation techniques may not be sufficient to interrupt or prevent *Lm* transmission once *Lm* has harbored within a floor drain, and *Lm* will form sanitizer resistant biofilms. A majority of *Lm* positives found in food processing facilities have been recovered from floor drains.

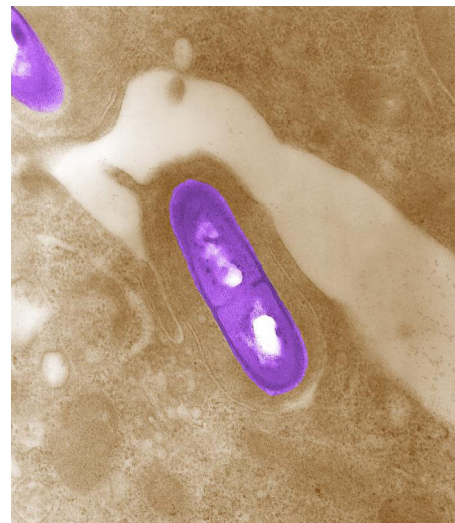


Lm easily enters facilities on animals, dust from the holding pens, or even outside construction dust that enters through the ventilation system. Preventing entrance is critically important, but eliminating potential harborage sites is even more critical. *Lm* has the ability to grow in any moist environment down to 3°C or 38°F, and it can survive for years, especially if given the opportunity

to develop protective biofilms. Cross-contamination can easily occur. Think about how easy it would be to step on a floor drain, then step on untied apron strings hanging down. Most people wouldn't think twice about re-tying apron strings, then pushing a cart out of the way. Another person comes along, pushes that cart over to the ready-to-eat packaging area and starts packaging hot dogs. The transmission of *Lm* would have just occurred. Now imagine a young child may grab that hot dog at the next picnic, before it is thrown on the grill.

Translocation of *Lm* may happen even easier than that. Most companies employ a high pressure washing system for cleaning equipment, walls, and floors. That high pressure water dislodges large food particles, but it also splashes contamination all over the processing facility. The exhaust from a wet/dry shop vacuum, used to suck up water, can even spread *Lm* in invisible particulates thrown in the air by the vacuum. Soapy water and a brush will dislodge particles without throwing dirty water or contaminated dust all over the facility. *Lm* contamination is relatively rare, but not preventing biofilms and establishing a sanitation protocol for floor drains could lead to serious consequences.

Listeriosis has one of the highest mortality rates of any foodborne illness, with nearly 20% of patients dying. Meat and poultry foods are not the only foods susceptible to *Lm* contamination. A large ice cream manufacturer recently recalled every product they produced due



Listeria

to *Lm* contamination, resulting in several deaths from their ice cream. *Listeriosis* is the third leading cause of death from foodborne illness in the US (19%). That is why every FSIS or state-inspected facility must follow the regulations for establishing a control plan for *Listeria monocytogenes*.

Saini. (2008) "Validating the efficacy of commercial foaming cleaner and sanitizer for controlling *Listeria innocua* (surrogate for *Listeria monocytogenes*) in drains and potential translocation from the drain to the food contact surface." Web. 11 May 2015. <<http://krex.k-state.edu/dspace/bitstream/handle/2097/1061/JasdeepSaini2008.pdf?sequence=1>>

"Estimates of Foodborne Illness in the United States. CDC 2011 Estimates: Findings." CDC. CDC, 2011. Web. Jan. 2014. <<http://www.cdc.gov/foodborneburden/2011-foodborne-estimates.html#death>>.

Identify, Prevent and Control, Declare:

New Guide Available to Help Food Processors Keep Track of Allergens/Hazards

New guidelines, released Nov. 2015 by U.S. Department of Agriculture's Food Safety and Inspection Service (FSIS), are for assisting the meat and poultry industry handling the "Big Eight" allergens (wheat, crustacean shellfish, eggs, fish, peanuts, milk, tree nuts and soybeans). The guidelines highlight proper procedures for processing, handling, storing, and labeling a product with an allergenic ingredient or ingredient of public health concern based on three basic principles for ingredients that cause allergies or other sensitivities: 1)Identify, 2)Prevent and Control, 3)Declare.

Included in the table of contents, but not limited to:

- *Chapter 1: Introduction and Background.*
- *1.1 Why did FSIS develop this document?*
- *1.2 What is a food allergen?*
- *1.3 What are the undeclared allergen trends that FSIS has observed in industry?*
- *1.4 What is the Food Allergen Labeling and Consumer Protection Act?*
- *Chapter 2: Prevention and Control Measures for Undeclared Allergens.*
- *2.1 Identify: Inspection of Incoming Ingredients, Cross-referencing Components, and Separation.*

- *2.2 Prevent and Control: Equipment, Sanitation, and Processing.*
- *2.3 Declare: Packaging, Labeling, Storage.*
- *Chapter 3: Allergen Training Commitment.*

Also, contained in the guidance document is:

- *Appendix 1: How to Handle Labels of Incoming and Outgoing Products,*
- *Appendix 2: Process Flow Diagram with Mitigation Targets,*
- *Appendix 3: Allergen Risk Evaluation and Labeling Diagram,*
- *Appendix 4: Establishment Checklist,*
- *Appendix 5: Allergen Scenarios and Possible Preventive Measures,*
- *Appendix 6: Allergenic Ingredients and Foods, and*
- *Appendix 7: References and Resources*

As reported by Richard J. McIntire, Congressional and Public Affairs Staff, USDA Deputy Under Secretary for Food Safety Al Almanza said "Our mission as a public health agency is to protect America's most vulnerable populations, from harm, and these new guidelines do just that. Beyond keeping our families safe, these

guidelines also provide a useful tool to help food companies avoid preventable, costly recalls."

The rise in recalls, discovered mainly from inspectors reviewing labels that are not declaring allergens, is not because allergens are a new thing, the cause is from industry overlook. Reviewing the guide will help understand the required law pertaining to allergens.

By following these new guidelines, establishments are more likely to ensure that product labels declare all ingredients, as required by law, and that products do not contain undeclared allergens or other undeclared ingredients. The guidance covers prevention and control measures of potentially allergic ingredients, packaging, labeling, storage, checklists, and allergen training, among others.

The guidelines can be found online at: <http://www.fsis.usda.gov/AllergenGuide>.

What would you like to read in the next issue?

The Meat Messenger is your newsletter. If you like the content, please feel free to share this issue with your employees, your livestock producers and customers. We welcome any questions, comments, or suggestions for future topics. Please contact **Nathan Kroh** at nkroh@nd.gov or 701-328-4767 or **Julie Nilges** at jnilges@nd.gov or 701-204-3248.

Classified Ads

We are always looking for industry related items to advertise in the Meat Messenger. We post sale and want ads FREE. Contact Julie Nilges (701-204-3248) at jnilges@nd.gov or Nathan Kroh (701-328-4767) at nkroh@nd.gov with product description and contact information.

True Brand cooler: Cooler has two sliding doors and was manufactured in 2001 - \$1,000;

New one-quart plastic containers with lids: \$20 per lot of 50.

Please contact Calvin or Alex for more information at 701-743-4451. Located in Parshall.

Slaughter/processing business located in Esmond, ND. Fully operational meat processing facility, all equipment and supplies included. Currently custom-exempt, with option for retail and/or state inspected status, many equipment/facility upgrades last four years. Very strong customer base. Please contact Denise for more information at: 701-438-2334 or 701-351-1231.

*Housing is available and the local area market is favorable for those interested.

Hobart Vacuum Packing Machine: Hobart double chamber vacuum packer (model H-210G-2) asking \$2200;

Zuber Smokehouse: This smokehouse has 750 lb. capacity currently set up with liquid smoke delivery, but natural smoke generator may be included in sale. Call for price.

Please call Keith for more information and pricing at 701-256-2116. Located in Langdon, ND.

FSIS Recalls & Alerts Count 2015 Totals

Reason for Recall	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter	2015 Year End Total
Undeclared allergens and misbranding	31	20	7	6	64
Product shipped without import inspection or the benefit of inspection	13	6	4	5	28
Possible bacterial contamination	5	6	7	3	21
Possible presence of foreign materials	2	8	2	1	13
Quarterly Totals for 2015	51 recalls	40 recalls	20 recalls	15 recalls	126 recalls

*recalls were more loosely categorized for brevity

Further information on all current recalls and alerts can be found at: <http://www.fsis.usda.gov/wps/portal/fsis/topics/recalls-and-public-health-alerts>



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