

# Meat Messenger

North Dakota State Meat Inspection Program

North Dakota Department of Agriculture

April 2006

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## Erickson's Meat Market Now State Inspected

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By Sara Wagner

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Business is booming for Erickson's Meat Market, says Craig Erickson, part of the family of owners. The family established the Bowman facility in October 2005, and they also have a successful operation in Baker, Montana. Erickson said that at their Baker facility more than 50 percent of their customers were from North Dakota. This led them to open the Bowman facility.

Erickson's Meat Market is one of the newest plants to join the State Meat and Poultry Inspection Program. They became state inspected in December. "We had other businesses that we wanted to serve and handle our products," states Erickson. Although a large part of their business is custom work, they are currently processing 15 head of beef a week.

Erickson credits the State Meat and Poultry Inspection Program with helping them move ahead. "I have been really happy with all the help and support Dr. Grondahl and her staff have offered," said Erickson.

Future plans for the business include becoming a federally inspected facility, which would enable them to sell their product across state lines. Erickson said they are talking with a few grocery store chains about other possibilities. The Ericksons are planning to hire additional help because their business is growing so quickly.

Fourteen meat processing companies are now state inspected. In addition to Erickson's Meat Market, they include: Bridgemart Meats, Wyndmere; Barton Meats, Carrington; Butcher Block, Oakes; DeVore Custom Meats, Steele; Edgeley Meat Processing, Edgeley; Garrison Custom Meats, Garrison; Hickory Hut, Langdon; L & M Meats and Sausage, Grand Forks; M & J Grocery, Wimbledon; Siouland Buffalo, Grand Forks; Wildrose Grocery, Wildrose; The Wurst Shop, Dickinson; and Country Cuisine, Leeds.

For more information on the State Meat and Poultry Inspection Program, call (701) 328-2299 or (800) 242-7535.

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## Natural Beef to be Marketed

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By Ted Quanrud

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The recently-formed North Dakota Natural Beef LLC (NDNB) is teaming up with the North American Bison Cooperative (NABC) to process and market "never-ever antibiotic" and "never-ever growth hormone" natural beef. NDNB will contract with NABC for slaughter and fabrication at the bison cooperative's facility in Carrington. NABC will contract with NDNB for value added processing, storage and distribution at NDNB's new value-added processing and distribution center in Fargo, that will also house an independent, 6,000-square-foot North Dakota State University research and teaching facility. NDNB is currently seeking private investment of \$3.5 to \$4.5 million to fund the proposed operation.

Under the agreement, NABC management and sales will be contracted to NDNB in order to leverage the existing management and sales expertise along with current national and international distribution channels. NABC currently sells its all natural bison to prominent retail grocers and distributors throughout the U.S. and Europe.

"This relationship will help make NDNB a low-cost producer and allow almost instantaneous time to market," said Dieter Pape, NABC chief executive officer and interim CEO of NDNB. "We believe that North Dakota has market advantages than can be capitalized upon—a freight advantage of \$30 to \$60 per head. In addition, the cost of corn for feed is substantially lower in North Dakota." Pape said. "Recent prices reflect an almost \$1 per bushel advantage in North Dakota."

NDNB was formed in October, 2005 as an entity that would meet the requirements stipulated by the Legislature for a Beef Center of Excellence. NDNB is the private partner required for this venture. NDNB's interim board of directors includes Frederick Burgum, Arthur; Tom Bresnahan, Casselton; Ralph Thompson, Page; Roger Stuber, Bowman; Jeff Dahl, Gackle; and Rod Sather, Vivien, SD. Rusty Seedig, chief operating officer of NABC, is the interim COO.



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## New Inspector

By Dr. Andrea Grondahl

Cami Metzger joined the State Meat and Poultry Inspection Program in November 1, 2005. A graduate of North Dakota State University, Cami lives in Langdon with her husband Bill and daughter Kaitlyn, 3. She covers the northeast part of the state.

## State Meat and Poultry Inspection Program Expanding

By Dr. Andrea Grondahl

The Emergency Commission granted the North Dakota Department of Agriculture (Department) the authority to hire an additional full time employee for the meat and poultry inspection program.

The Department filed the request with the Commission due to demands from both existing state-inspected plants that want to expand their volume of slaughter and/or processing as well as other individuals that have indicated their intention to become state-inspected. The Department will advertise the new position later this month and hopes to hire a new inspector by June. If you know someone who is interested in the position, contact Dr. Andrea Grondahl at (701) 328-4762.

## Importance of Controlling Humidity in Your Smokehouse

By Vawnita Best

In recent years, there have been several outbreaks of food borne illness throughout the United States associated with jerky products. While conducting investigations of these outbreaks, it was found that the products had reached proper cooking times and temperatures, but the humidity had not been controlled within the smokehouse during cooking. Further laboratory research found that under extreme conditions of rapid drying prior to cooking, *Salmonella spp.* could survive cooking temperatures provided as guidelines for processors in USDA-FSIS Appendix A (Compliance Guidelines For Meeting Lethality Performance Standards For Certain Meat and Poultry Products).

If you are a jerky producer and currently are not controlling and monitoring relative humidity in the cooking of your ‘uncased’ products, you may have bacterial survival in your products that could affect the safety of your products. USDA-FSIS published a notice (43-05) in June 2005 that restated the importance of relative humidity in the cooking process of jerky products. It said “It is important to note that the RH provisions in Appendix A for cooked, roast, and corned beef (e.g. 90% RH for the entire process; 90% RH for at least 50% of the cooking time but in no case less than 1 hour) apply only to those processes in which the surface moisture of the product can evaporate, and surface drying can occur prior to destruction of the microorganisms. Such processes include the production of meat and poultry jerky and roasts.”

“Relative humidity” is defined as the ratio of water vapor in the air to the maximum capacity of the air at the same temperature. High relative humidity around a product during cooking helps ensure bacteria will be killed. Thus, if a sufficiently high relative humidity surrounding the product is not maintained during heating, undesirable evaporative cooling at the surface will occur. Products produced under conditions of high humidity must reach a higher temperature before evaporation

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# NDSU Students Survey Shoppers' "Natural" Beef Attitudes

By: Dr. Ken Odde

Grocery shoppers would be willing to buy "natural" or North Dakota-raised beef and pay more for it, a North Dakota State University survey shows.

Animal and Range Sciences Department students surveyed about 1,200 shoppers at Fargo and Moorhead Hornbacher's Foods stores. The students questioned shoppers each day of the week at four stores. "Some people do all of their shopping one day of the week," says Ken Odde, a professor in the Animal and Range Sciences Department who helped the students with the survey. "We wanted to reach the full spectrum of shoppers."

The survey found:

- Nearly 38 percent probably or definitely would be more inclined to buy beef labeled "natural."
- About 53 percent would pay 5 percent to 10 percent more for beef labeled "natural."
- Nearly 76 percent probably or definitely would be more inclined to buy beef labeled "raised in North Dakota."
- About 58 percent would pay 5 percent to 10 percent more for beef labeled "raised in North Dakota."

Odde says shoppers' interest in beef raised in North Dakota is very significant because of what it could mean for the state's beef cattle producers and how they raise cattle.

The survey was part of the research being conducted through the Beef Systems Center of Excellence at NDSU. The center's three main objectives are to expand cattle feeding and processing operations in North Dakota, increase research capacity in meat sciences and improve educational opportunities for students in the beef industry.

The survey didn't define "natural," but it generally means one of three things: The beef came from cattle raised without ever receiving antibiotics or growth-promoting implants; beef products entered the "natural" market after tests on carcasses found they had no antibiotic residues; or producers stopped using antibiotics on the cattle for a specified period before the animals went to market.

Also, "natural" beef programs encourage producers to use vaccines because the emphasis is on preventing diseases, as opposed to treating them, Odde says. "Natural" is not the same as "organic," according to Odde. The federal government defines "organic," but not "natural," leaving the marketplace to define "natural," he says.



NDSU senior Lacey Johnson has a grocery shopper fill out a questionnaire on beef products.

The NDSU survey results mirror other studies of consumer preferences for naturally raised beef elsewhere in the country. For example, a three-state survey in 2001 found nearly 65 percent of consumers in Kansas City, Kan., 70 percent in Oklahoma City and 80 percent in Dallas had a positive attitude toward "all-natural" beef.

The responses were based on the consumers' perception of the term "all-natural." After reading a description of the term, the number of people with a positive attitude rose to 81.7 percent in Oklahoma City, 83.2 percent in Kansas City and 88.6 percent in Dallas. The same survey found 47 percent of the consumers in Oklahoma City, 56.6 percent in Kansas City and 81.7 percent in Dallas were willing to pay more for "all-natural" beef.

These results don't surprise Odde. "Over the last several years, the 'natural' beef market has seen significant growth," he says. "In order to understand this growing market, it is important to understand that this is simply one aspect of the growing 'natural' food market."

# **Mad Cow Disease - Update and Review**

By Dr. Andrea Grondahl

On March 13, 2006, USDA announced that a second case of Bovine Spongiform Encephalopathy (BSE), also known as Mad Cow Disease, had been found in Alabama. The positive was found through the Animal and Plant Health Inspection Service's (APHIS) enhanced surveillance program, which was established by in June, 2004. The goal of the program is to test as many cattle from the targeted high-risk population as possible in order to determine the prevalence of BSE in the United States.

Since June 2004, samples have been submitted from more than 650,000 animals from the highest risk populations and more than 20,000 from clinically normal, older animals. To date, including the animal in today's announcement, only two of these highest risk animals have tested positive for the disease as part of the enhanced surveillance program. Statistical conclusions are still pending on the prevalence, but APHIS has stated that by any measure the incidence of BSE in the United States is extremely low.

**In response to the second positive case, USDA Chief Veterinary Officer John Clifford** stated "I want to emphasize that human and animal health in the United States are protected by a system of interlocking safeguards, and that we remain very confident in the safety of U.S. beef. Again, this animal did not enter the human food or animal feed chains."

Some of the primary safeguards in place are in the form of USDA BSE regulations, published on January 12, 2004, and are still in place as first written with only one exception. The original rule declared the distal ileum to be a specified risk material (SRM) in cattle over 30 months of age, but required that all parts of the small intestine still be disposed of and not used for human food. The rule was amended on September 7, 2005, allowing plants to again use beef small intestine, with the exception of the distal ileum, for human food.

The rule published January 12, 2004, included regulations regarding the ban on the slaughter of downers or non-ambulatory cattle and 'Specified Risk Materials'. The following is a summary of the regulations, which are still in place and are enforced by USDA and the ND Meat and Poultry Inspection Program (NDMPIP):

## **Non-ambulatory Disabled Cattle**

**Definition** - cattle "that cannot rise from a recumbent position or cannot walk, including, but not limited to, those with broken appendages, severed tendons or ligaments, nerve paralysis, fractured vertebral column or metabolic conditions."

**Non-ambulatory Disabled Cattle cannot be slaughtered at Federally-inspected plants, State-inspected plants or Custom-exempt plants.** This includes:

- Animals which became non-ambulatory disabled on the way to the slaughter plant.
- Animals which became non-ambulatory disabled on the plant premises, such as when they are being unloaded from the truck.

This regulation was put in place because of information within surveillance data from European countries with BSE, which indicated that the cattle with a greater incidence of BSE were dead cattle, cattle that could not rise from a recumbent position and cattle that show clinical signs of a Central Nervous System (CNS) disorder. Regulations were already in place (prior to January 12, 2004) to prohibit the slaughter of dead cattle and those demonstrating CNS signs. The ban on downers was one additional measure that could be added as another level of assurance. Plus, surveillance in Europe has shown that clinical signs of BSE in non-ambulatory disabled cattle infected with BSE cannot always be differentiated from other conditions which may make the animal non-ambulatory disabled.

## **Specified Risk Materials**

**Definition** - Specified Risk Materials (SRM) are inedible and cannot be used in human food and include;

- In all cattle:
  - o Tonsils
  - o Distal ileum of the small intestine

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- In cattle 30 months and older
  - o Brain
  - o Skull
  - o Eyes
  - o Trigeminal ganglia
  - o Spinal cord
  - o Dorsal root ganglia (DRG)
  - o Vertebral column, excluding
    - Vertebrae of the tail
    - Transverse process of the thoracic and lumbar vertebrae
    - Wings of the sacrum

**SRM Requirements apply to all Federally-inspected plants, State-inspected plants or Custom-exempt plants slaughtering cattle and processing beef products.**

USDA prohibited these parts for human food use because in animals with clinical BSE disease, the brain and spinal cord contain the greatest concentration of the BSE agent.

Furthermore, except for the skull and vertebral column, SRMs have demonstrated infectivity either in cattle naturally or experimentally. The skull and vertebral column are included because they contain the trigeminal ganglia (skull) or the spinal cord and DRG (vertebral column).

Plant Responsibilities for SRM's are as follows:

- **Federally-inspected and State-inspected plants** must:
  - o Implement and maintain written procedures for the removal, segregation, and disposition of SRMs.
  - o Incorporate these procedures into HACCP Plans, Sanitation SOPs or other prerequisite programs.
  - o Have corrective action provisions.
- **Custom-exempt plants** must:
  - o Comply with the adulteration provisions of the FMIA. (SRMs must be handled as inedible).
- **All plants** must:
  - o Segregate/identify bone-in product from cattle 30 months of age and older in order to properly address SRM removal and control.
  - o Recognize that T-bone or porterhouse steaks and bone-in rib roasts can no longer come from cattle 30 months of age and older.
  - o Maintain daily records to document implementation and monitoring of procedures for the removal, segregation, and disposition of SRMs.
  - o Make these records available to NDMPIP or Food Safety Inspection Service (FSIS) inspection program personnel upon request.

**Additional Recommended Procedures**

- If plants slaughter both young cattle and cattle 30 months and older:
  - o Recommend that young cattle be slaughtered first
  - o If cattle 30 months of age and older are slaughtered first, sanitize equipment and verify there is no cross-contamination of carcasses.

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will occur. Secondly, the humidity keeps the product (and any pathogens) wetter and prevents unwanted concentration of solutes (e.g., sugar and salt) as a result of drying. Research has demonstrated that bacteria can become more heat resistant as their moisture level decreases, and increased concentrations of solutes, especially sugars, increase the heat resistance of bacteria. Therefore, drying of the product surface before the pathogens are destroyed will increase pathogen heat resistance and allow them to survive the heating process.

If you do not have a smokehouse that can control relative humidity, there are ways to increase relative humidity in your smokehouse to ensure effective lethality of *Salmonella spp.* at cooking. Close the dampers and place water pans in the bottom of your smokehouse to increase your relative humidity.

If you have additional questions regarding relative humidity in the production of jerky products, there are numerous resources available to you. Some are listed below:

- USDA-FSIS Technical Service Center phone at 1-800-233-3935
- North Dakota Meat and Poultry Inspection Program phone at 1-800-242-7535
- Appendix A web link: [http://www.fsis.usda.gov/OPPDE/rdad/FRPubs/95-033F/95-033F\\_Appendix%20A.htm](http://www.fsis.usda.gov/OPPDE/rdad/FRPubs/95-033F/95-033F_Appendix%20A.htm)
- Notice 43-05 web link: [http://www.fsis.usda.gov/regulations\\_&\\_policies/Notice\\_43-05/index.asp](http://www.fsis.usda.gov/regulations_&_policies/Notice_43-05/index.asp)
- Compliance Guideline for Meat and Poultry Jerky Produced by Small and Very Small Plants web link: [http://www.fsis.usda.gov/PDF/Compliance\\_Guideline\\_Jerky.pdf](http://www.fsis.usda.gov/PDF/Compliance_Guideline_Jerky.pdf)

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