



Meat Messenger

North Dakota State Meat and Poultry Inspection Program

2012 Quarter 2

FSIS Announces New Policies

The Food Safety and Inspection Service of the U.S. Department of Agriculture (USDA-FSIS) has announced new policies designed to improve the agency's ability to trace adulterated food, take quicker action on contaminated food and verify the effectiveness of food safety systems.

FSIS Docket 2008-0025 spells out the requirements for officially inspected establishments to notify FSIS or the North Dakota Meat and Poultry Inspection Program (NDMPIP) of adulterated or misbranded products. Officially inspected establishments must also prepare and maintain written recall procedures and document certain Hazard Analysis and Critical Control Point (HAACP) system reassessments.

NDMPIP is developing a written recall procedure and will assist state-inspected plants with the other requirements.

The complete document is at www.fsis.usda.gov/OPPDE/rdad/FRPubs/2008-0025.htm

FSIS Docket 2011-0009 announces proposed changes to traceback and recall procedures for E. coli O157:H7-positive raw beef products and the availability of compliance guidelines.

These proposed procedures will enable FSIS to determine if establishments that produced source materials for product that tests presumptive positive, have produced other products that may not be microbiologically independent from the tested products. The agency intends to request a recall if an establishment was the sole supplier of beef trim source materials for ground product that FSIS or other federal

or state agencies find positive for E. coli O157:H7 and evidence suggests that contamination most likely occurred at the supplier establishment. Although comments on this policy are requested and must be submitted by July 6, 2012, FSIS intends to implement this procedure as written as of now.

The complete document is at www.fsis.usda.gov/OPPDE/rdad/FRPubs/2011-0009.htm

FSIS Docket 2009-0019 announces the issuance of a revised draft of the compliance guideline for HACCP systems validation. The validation guidance reviews the steps that are necessary to verify a plant's HACCP system will work as designed to control food safety hazards.

The first element of validation is scientific or technical support, such as peer-reviewed journal articles, FSIS compliance guidelines and challenge studies, for the decisions made in designing the HACCP system.

The second element is evidence from the existing HACCP plan, such as cooking logs, cooling logs, temperature control and microbial testing, that demonstrate the establishment can meet the critical operating parameters necessary to achieve the results documented in the scientific or technical support. Comments are requested and must be received by July 9, 2012.

The complete document is at: <http://www.fsis.usda.gov/OPPDE/rdad/FRPubs/2009-0019.pdf>

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Regulation Reminder

North Dakota Administrative Code
Chapter 7-13-02:
Registration and Records Requirements

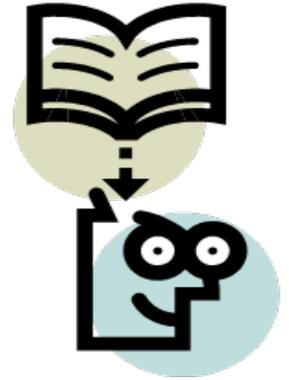
7-13-02-03. Records requirement. Any slaughtering establishment, meat processing establishment, or custom-exempt plant that is required to be inspected pursuant to North Dakota Century Code chapter 36-24 to operate under this chapter must prepare and maintain those records required under title 9, Code of Federal Regulations, parts 320 and 381.

What this regulation means:

Any slaughtering establishment, meat-processing establishment, or custom exempt establishment is required to keep records, which fully and accurately disclose all transactions involved in its business subject to the Acts (Federal Meat Inspection Act and Poultry Products Inspection Act.) Examples of required records are bills of sale, invoices, bills of lading, and receiving and shipping papers. These records must document the following information with respect to each transaction:

- The name or description of the livestock or products
- The net weight of the livestock or products
- The number of outside containers (if any)
- The name and address of the buyer of livestock or product sold
- The name and address of the seller of livestock or products purchased
- The method of shipment
- The date of shipment
- The name and address of the carrier
- Guaranties provided by suppliers of packaging materials
- Records documenting procedures and sampling results to destroy trichinae for dry cured processes
- Records documenting nutrition labeling or exemption
- Records of labeling and processing procedures (official establishments)
- Numbers and kinds of livestock slaughtered on a custom basis
- The quantities and types of products prepared on a custom basis
- The names and addresses of the owners of the livestock and products
- Sales transactions to hotels, restaurants, or institutions (HRI)

All records must be stored at the business or at the business headquarters if the firm owns multiple stores. Records must be kept two years after December 31st of the year in which the transaction took place. Additional recordkeeping requirements apply to official establishments and in certain circumstances.



Choosing Your Suppliers: Some Helpful Tips From Small Plant Owners

By Larae Booker

The U.S. Department of Agriculture's (USDA) Food Safety and Inspection Service (FSIS) wants you to have the information you need to comply with regulatory requirements and to produce the safest possible food.

To help the Agency do this, from time to time Small Plant News will bring you tips from small and very small plant owners—just like you—on topics that matter most to your operation.

For this issue, Small Plant News reached out to Hugh Tyler, owner and operator of the Columbia, South Carolina-based, The Butcher Shop, with over 40 years in the meat industry, and to Mark Schad, who in his position with Smart Food Safety, Inc., a consulting company, uses knowledge from 30-plus years in the meat industry, primarily as owner of a small processing operation based in Cincinnati, Ohio, to advise small and very small plant owners.

Tyler and Schad weighed in on an area they both found of critical importance to you: choosing your suppliers. The following are four major tips that came out of Small Plant News' conversations with these experienced—and successful—meat industry professionals.

Tip 1: Relationships are key. Both Schad and Tyler suggest buying only from suppliers with whom you can have a relationship. Schad, whose processing operation made only one product, was able to form a solid relationship with a single supplier. He recognized that other operations that produce multiple products may need several suppliers, but the idea is the same: "Nail it down to one supplier and form a relationship with him or her, or narrow it down to as few suppliers as possible."

While Tyler suggested a slightly different approach of using two to three suppliers to spur competition for pricing, he also stressed the importance of relationships. And because reputations are invaluable to small and very small processors, you should buy from those suppliers who work hard to protect their own reputation. His advice is to work with suppliers who have too much to lose if they don't.

Tip 2: When it comes to the quality and safety of the food you produce, the better the materials you have coming in the door, the better product you'll have going out. Or as Schad explained, "Aim for minimal defects when you receive the product." Defects can include not only the presence of bone, blood, and excess fat associated with food quality, but pathogens as well. Catching defects at the door by choosing quality suppliers saves your operation the time and expense of removing them.

Tyler agreed. "Look for suppliers who are careful about what they themselves buy." Beware of "salvage dealers" who don't use quality ingredients in their products.

Tip 3: Upfront costs for better suppliers are worth the price. A simple concept, but a hard sell: you get what you pay for. If you're forging a relationship with quality suppliers and aiming for minimal defects, it may come at a slightly higher price. Schad advises, "Don't always buy cheaper. Paying more up front can be better in the end." But, as Tyler added, "losing customers is a much greater cost than, say, 3 cents on the pound for a good supplier with quality product."

Tip 4: Flex your muscles as a buyer. Work with suppliers who understand that your operation is under Federal inspection and who will help you stay in compliance. For example, you can inform suppliers up front that if the product doesn't meet your critical limits—like temperature—when you receive it, you won't accept it. Tyler's establishment uses this practice.

Be confident that you have some buying power, especially if you're building relationships with good suppliers. Be critical about what comes in the door and even consider paying a little more for it.

Your suppliers have an impact on the quality and safety of the products that come out under your establishment's name. Choose them wisely.

If you have a tip you'd like to share with other owners of small and very small plants, contact Small Plant News at (800) 336-3747 or email SmallPlantNews@fsis.usda.gov.

Best Practices: Manufacturing High-quality Cooked Poultry Sausages

By Wes Schilling, Ph.D on 1/16/2012

With appropriate processing techniques and ingredient technology, poultry raw materials can be utilized to produce high-quality sausages such as those that contain dry fruits, herbs and nuts.

The material and the technology

Chicken thigh meat has minimal value and is often sold as an export item by poultry processors in the United States. Use of thigh meat in specialty sausages allows for the production of high quality coarse ground sausage and adds value to dark meat. For large sausage companies, chicken thighs, drumsticks and skin (natural proportion to the meat) are commonly used to produce specialty chicken and turkey sausages. Smaller processors that may only make specialty sausages often use chicken thighs, drumsticks and skin, but it is also likely that they use meat from parts of the whole chicken.

Cooked specialty chicken sausages usually fall into three categories based on ingredients:

1. those that have sodium nitrite (cured) and are smoked;
2. those that are either labeled as “all-natural” or “organic” and include celery powder or juice as a source of nitrite; and
3. those that are uncured (no nitrite).

Nitrite helps prevent oxidation in products that have substantial percentages of fat and allows for extended product shelf-life under refrigerated conditions. Sodium lactate is sometimes added to specialty sausages to extend shelf-life by reducing microbial growth. Almost all specialty sausages are smoked during thermal processing for flavor and preservation prior to packaging.

How to process specialty sausages

Meat raw material is commonly ground and mixed with salt, phosphate (when appropriate), occasionally water and spices. Other ingredients that may be included in this step are sodium lactate, sodium nitrite in traditional form or as celery powder, sugar and

natural flavors. After mixing and possibly regrinding, the ingredients that make the product a specialty sausage are mixed into the formulation. The different ingredients that are sometimes used include cheeses, fruit, nuts, exotic vegetables and even wine. After the desired ingredients are added and mixed sufficiently, the product is often vacuum-stuffed into natural pork casing and heat processed and smoked prior to chilling and vacuum packaging.



Low-fat poultry sausages usually include skinless meat. This meat may be from any part of the poultry carcass and is likely either a combination of thigh and drumstick, or a combination of skinless meat from the entire carcass. This allows for products that only have 4-5 grams of fat per link and have approximately 7-8

percent fat based on product weight.

Low-fat frankfurters that are made with skinless chicken meat may contain modified food starch to bind water and improve firmness and a fat replacer such as soy or milk protein or hydrocolloids such as carrageenan or carboxy methyl cellulose. However, if these ingredients are added, the specialty frankfurters cannot be labeled as “all-natural” or “organic” unless specific natural or organic functional ingredients are used.

Types of specialty sausages

The ingredients that are used in specialty sausages are often used to create a flavor that is found in different regions throughout the U.S. as well as throughout the world. The ingredients that are used to make specific specialty sausages are usually the highest-percentage ingredient in the sausage – with the exception of chicken. These ingredients are important for the desired product flavor but also serve as functional ingredients.

For example, enough functional carbohydrate or protein needs to be present in these ingredients to help bind the product together and exhibit the appropriate texture when cooked. In addition, it is important to

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make sure that an acceptable pH is maintained in the sausage. If acidic ingredients are used in the formulation, other ingredients may need to be added to increase the pH and buffer the food.

Conclusion

Many poultry specialty sausages are available that represent desired flavor profiles from many cultures. With respect to specialty sausages, if processors can imagine a flavor profile to meet a niche market, they can probably create a coarse ground sausage with that profile.

Brian S. Smith and J. Byron Williams also contributed to this article.

<http://www.meatingplace.com/Industry/TechnicalArticles/Details/27635>

How You Can Prevent Recalls

By Jeff Tarrant, LCDR U.S. Public Health Service

Pathogens—Test and Hold

Products sampled for microbiological testing may be either shipped or held pending the results. Holding your product may be difficult, especially if the product has a short shelf life and storage space is at a premium. Furthermore, the vast majority of tests (over 12,000 tests for E. coli O157:H7 in 2006) do come back negative. However, the short- and long-term costs to your business of even one recall can be enormous.

In 2006, 10 of that year's 34 recalls (29 percent) could have been avoided if the companies had held their products until testing was complete. Therefore, although "test and hold" is strictly voluntary, FSIS urges establishments to hold product until testing results arrive.

Allergens—Intensify Quality Control

An increasing number of recalls are due to undeclared allergens. FSIS refers to these as "ingredients of public health concern" because to some consumers with food allergies, exposure to even very small amount can be fatal. Milk, eggs, fish, crustacean shellfish, peanuts, tree nuts, wheat and soybeans are the most common "ingredients of public health concern," accounting for over 90 percent of all reported food allergies in the United States.

It's essential that products declare these ingredients on the label if they are in the food. If they are not declared then the product is mislabeled, and product already shipped will need to be recalled.

How can you prevent a food recall due to undeclared allergens? According to Lisa Volk, director of FSIS Office of Field Operations, Recall Management Staff, "more double-checking of label and ingredient statements and better quality control could go a long way."

In many companies today, changing ingredient suppliers and multiple product lines can make their food production process complicated and make it a challenge to ensure all ingredients are absolutely controlled.

The responsibility to ensure that the food label accurately reflects the product rests with the company. FSIS recommends that operators double-check to ensure that product formulations match the ingredient statements. This is particularly important when suppliers of ingredients are changed. A seemingly insignificant change in the vendor or ingredient specifications may result in the unintended introduction of an allergen and, potentially, a recall.

By holding tested product pending the test results, and by double-checking that your ingredient statement is accurate and that there are no undeclared allergens—perhaps even making it a critical control point—you can avoid costly recalls, helping to protect public health and your bottom line simultaneously.

Small Plant News; FSIS Web site at www.fsis.usda.gov/Fsis_Recalls/index.asp

Creative Ways of Reducing Sodium While Maintaining Flavor

By Robert Maddock, Ph.D on 9/12/2011

Lowering sodium is a popular trend for meat processors to make. Government influence has recently caused many food processors to consider methods to lower sodium content of food products. To frame this article, following is a quick reminder of where sodium comes from and what it does in meat products.

Unintended consequences

Sodium is found naturally at low levels in almost all meat products, including fresh meat. For example, fresh beef will provide about 50 milligrams of sodium per 3-4-ounce serving, assuming no sodium was added during cooking. With most meats sodium is added as part of common salt, which chemically is sodium chloride.

Many meat formulations call for 0.3-2.0 percent salt added. Salt has many roles in processed meat, including improving flavor, protein extraction for meat binding, as a preservative, and to increase water binding of meat protein. The important question is how to achieve similar quality – especially flavor – while reducing the use of salt.

The first consideration when starting to reformulate meat products for lower sodium is the affect that reducing sodium will have on product sales. The Campbell Soup Company last year announced that it was reducing the sodium content of many of its regular soups. The news was greeted with applause from many consumer advocates who believe that a lower sodium diet is healthier.

But the company sold less soup after the formulation change. Consumers did not like the reduced-sodium product and therefore did not buy as much. Campbells will now produce two lines of soup: the regular line with the levels of salt it had traditionally used, and a low-sodium version for people who want to consume less sodium in their soup.

It is essential that any effort to reduce the sodium

content does not result in products that are less desirable to consumers. So instead of simply trying to reduce sodium content of meat formulations, processors should consider adding low-sodium products as a separate line.

Seven steps to reduce sodium

Following are seven processing steps that can be used to reduce sodium content of meat.

1. Cut the salt. For some products, reducing sodium content without altering flavor is a simple formulation change that uses less salt. Adequate bind, taste and preservative actions of salt can be achieved at levels of 1.4 percent in cooked sausages and 1.75 percent in formed products. If your current formulations are higher, it is possible to simply reduce salt.

2. Use phosphates. The addition of phosphates (note many phosphates do contain some sodium, such as STPP (sodium tripoly phosphate)) allows products to be processed at lower sodium levels while maintaining bind and juiciness. Phosphates improve the solubility of proteins to increase binding, and also effectively bind water in cooked meats.

3. Add fat. Higher fat products will have a saltier flavor at lower salt concentrations. Fat helps flavor development and allows a person to taste the salt in products. Of course, this may not be possible if you are trying to develop a “healthy” line of products with low salt and low fat.

4. Replace sodium chloride with potassium chloride. Potassium chloride (KCl) is chemically similar to sodium chloride (NaCl) and will provide many of the same binding, water holding, and preservative advantages as regular salt. However, KCl has a more bitter flavor than NaCl and should be limited to replacing about 40 percent of the NaCl in a formulation.

5. Add flavors with other ingredients. Ingredients such as lactates and diacetates are now commonly used to control microbial growth and increase shelf life of



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products. These products also tend to improve the flavor ratings of processed meats when used at low levels. Note again that these products also typically contain sodium, but at lower levels than salt. Other products such as MSG (mono sodium glutamate) or hydrolyzed vegetable proteins are a way to enhance the flavor of low sodium products, but it will also clutter up a label.

6. Pump up the spices. I teach a processing class at North Dakota State University where we make several batches of hot dogs, but leave a key ingredient out of each batch. One batch has no salt added, and after a quick taste, even college students won't eat the hot dogs without salt in the formulation. Another batch has no spices added. The no-spice batch is generally well-liked, until they try to batch that has all the ingredients. The point is that it's possible to add a lot of flavor with a small amount of spice. The addition of spices such as mace or cinnamon to cooked meat products, or by adding heat via red peppers, can give a product that consumers will enjoy even at lower sodium levels.

7. Add less water or extenders. Water obviously has no flavor, and most binders and extenders do not add desirable flavors to meat ingredients. A highly extended product, such as a hot dog with 40 percent added fat and water does not provide much flavor, especially in a low-sodium formulation. It may be better to develop low-sodium products that are at a higher price point so that binders and extenders are not used.

<http://www.meatingplace.com/Industry/TechnicalArticles/Details/19845>

How Far has Food Safety Come in 150 years?

Alexandra Tarrant, Public Affairs Specialist, Food Safety and Inspection Service

Throughout the year, and this month in particular, USDA celebrates 150 years of existence. The legislation that established USDA was signed on May 15, 1862, by President Abraham Lincoln. At that point, food safety wasn't a major concern for the People's Department.

The turning point for domestic meat inspection really came in 1905 and 1906, after Upton Sinclair published *The Jungle*. The details of the book described unsanitary working conditions in a Chicago meatpacking house, putting meat consumers at risk for disease. This led to the passing of legislation providing for meat inspection. Over the years, Congress passed the Federal Meat Inspection Act, the Poultry Products Inspection Act, the Humane Methods of Slaughter Act and the Egg Products Inspection Act, which the Food Safety and Inspection Service (FSIS) enforces.



Inspection changed from a sight, smell, and touch approach to a more science-based method when Hazard Analysis and Critical Control Points (HACCP) was implemented between January 1997 and January 2000. And science and technology improvements have allowed our inspection to evolve as well, with the implementation of new policies like testing ready to eat meat and poultry products for *Listeria monocytogenes*, applying stricter *Salmonella* and new *Campylobacter* performance standards to raw poultry products, and declaring that six additional serogroups of pathogenic *E. coli* (in addition to *E. coli* O157:H7) are adulterants in non-intact raw beef.

FSIS is in the process of fully implementing a dynamic, comprehensive data analysis system called the Public Health Information System, or PHIS. This system will allow the agency to collect, consolidate and analyze data in a more efficient and effective way, ultimately leading to better protection of the public's health and a more preventative approach toward inspection.

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