



Lean Finely Textured Beef: The “Pink Slime” Controversy

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Summary

Since early March 2012, the use of lean finely textured beef (LFTB) in the U.S. ground beef supply has come under a barrage of media criticism and consumer backlash. The depiction of LFTB in the media as "pink slime" raised the product's "yuck" factor and implied that there were food safety issues with LFTB, mainly because ammonium gas is used as an antimicrobial intervention in the production of LFTB. Also, the fact that ground beef purchased for the school lunch program could contain LFTB triggered consumer calls for the U.S. Department of Agriculture (USDA) to immediately end the practice.

The meat industry saw media sensationalism as a campaign of misinformation to undermine a product used for more than ten years to supplement lean beef supplies used in ground beef. Ground beef is the most popularly consumed beef item among American consumers, and consumers have increasingly demanded lean ground beef. USDA approved the process that Beef Products, Inc. (BPI), the primary producer of LFTB, uses to produce LFTB, and USDA continues to affirm that LFTB is a safe, nutritious beef product.

Although LFTB received negative press in previous years, the uproar starting in March 2012 has had greater impacts. USDA changed its policy on school lunches to allow schools to have a choice of whether to buy ground beef with LFTB or not. Major grocery chains announced that they were discontinuing the use of LFTB in retail ground beef. The result has been an immediate, sharp decline in 50% beef trimming prices, and expectations of higher ground beef prices. Some companies decided to voluntarily use LFTB labels on ground beef containing the product. Some food safety advocates who believe BPI was a food safety innovator have expressed concern that the barrage of negative publicity could stifle further innovation by meat companies.

The LFTB controversy demonstrates that consumers' perceptions and understanding of modern food production can quickly affect markets and/or a company's business. It raises policy issues about how consumers should be informed by either industry or government. Some Members of Congress have expressed strong interest in the LFTB controversy through statements and letters to USDA. Some Members have called for the immediate end of LFTB in the school lunch program, and others have asked that ground beef include labels informing consumers that LFTB is used in a beef product. Legislation also has been introduced that would require LFTB labels.

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Introduction

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The meat industry saw media sensationalism as a campaign of misinformation to undermine a product used for more than ten years to supplement lean beef supplies used in ground beef. Ground beef is the most popularly consumed beef item among American consumers, and consumers have increasingly demanded lean ground beef. USDA approved the process that Beef Products, Inc. (BPI), the primary producer of LFTB, uses to produce LFTB, and USDA continues to affirm that LFTB is a safe, nutritious beef product.

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Ground Beef

Ground beef is the most widely consumed beef product among American consumers. It is estimated that 40% to 45% of beef is consumed as ground beef, and when beef is prepared for meals eaten at home, ground beef is used 60% of the time.¹ Some analysts believe ground beef as a percentage of beef consumption has increased over the past several years, to maybe as much as 50%, because it is a relatively inexpensive protein choice that consumers turned to during the recent recession and the period of high unemployment.

Ground beef, also called chopped beef, is defined in regulation as chopped fresh and/or frozen beef with or without seasoning, having no more than 30% fat, and with no added water, phosphates, binders, or extenders.² Ground beef is produced from any part of the boneless beef carcass, but usually beef trimmings, which are a mixture of fat and meat that are trimmed from larger beef cuts. Beef trimmings remain after beef cuts, such as roasts and steaks, are fabricated,

¹ National Cattlemen's Beef Association, "Beef Industry Statistics," *Average Annual Per Capita Consumption, Beef Cuts and Ground Beef*, and *Beef at a Glance*, January 2012, <http://www.beefusa.org/beefindustrystatistics.aspx>. Accessed March 27, 2012.

² 9 C.F.R. §319.15 (a). According to the regulation, ground beef may also contain beef cheek meat, but if it exceeds 25% by volume, it must be noted on the label. Extenders are described by the National Meat Association (NMA) as cereals, legumes, vegetables, root, and tubers. Available at <http://nmaonline.org/pdf/lftb-statement-ltrhd.pdf>.

or shaped, to required specifications. A substantial portion—about 25%—of a beef carcass is lean beef trimmings.³

Ground beef sold at retail is labeled according to the lean percentage, and most retail outlets carry several types of lean ground beef. Common ground beef leanness labels range from 70% lean to 90%-plus lean, but lean variations are available depending on the store. Ground beef that is labeled as ground chuck, round, or sirloin is derived from these portions of the beef carcass and has a lean percentage from 80% to over 90%. Consumers often buy ground beef of different degrees of leanness based on personal preference or the type of recipe being prepared.

About 80% of the 26 billion pounds of beef produced in the United States in 2011 was from grain-fed cattle, which produce a more marbled or fattier beef, thus limiting the domestic supply of the leanest beef trimmings but providing ample supplies of fattier beef trimmings. Lean U.S. cow and bull beef are used to supplement lean supplies. In addition, to meet the demand for lean ground beef, the United States annually imports more than 2 billion pounds of beef, mostly lean beef, to be blended with fatter domestic beef trimmings.

Lean Finely Textured Beef

LFTB is a beef product developed by Beef Products, Inc. (BPI), in 1991 to provide more domestic lean beef.⁴ BPI purchases beef trimmings, mostly 50% lean or less, from USDA-inspected beef processing plants, heats the trimmings, and sends them through a centrifuge process that separates the fat and the meat. The resulting product is LFTB that is 94% to 97% lean beef, according to BPI.

In addition to developing the process to extract the meat from beef trimmings, BPI developed a process that uses ammonium gas (anhydrous ammonia) as an antimicrobial intervention directed primarily at *E. coli* O157:H7,⁵ but also effective on *Salmonella*. The ammonium hydroxide antimicrobial process, called pH enhancement by BPI, was approved by USDA in 2001.⁶ During the production process, BPI treats the LFTB with food-grade ammonia gas; the gas mixes with water in the meat and creates ammonium hydroxide, which in turn raises the pH level in the LFTB and kills pathogens.⁷ After the ammonium hydroxide treatment, the LFTB is quick-frozen and pressed. LFTB is then ready to be combined with beef trimmings to produce ground beef. LFTB is often combined at 10% to 20% by volume of the ground beef, depending on the

³ John R. Romans et al., *The Meat We Eat* (Danville, IL: Interstate Publishers, Inc., 1994), p. 591.

⁴ Information on BPI is available at <http://www.beefproducts.com/index.php>.

⁵ *E. coli* O157:H7 has been considered an adulterant since 1994. If it is found in meat, the meat may not enter commerce.

⁶ Letter from Philip S. Derfler, Deputy Administrator, Office of Policy, Program Development and Evaluation, FSIS, to Dennis R. Johnson, Attorney (BPI representative), Olsson, Frank and Weeda, P.C., May 11, 2001. Available at <http://documents.nytimes.com/meat-industry-and-government-records>.

⁷ American Meat Institute, "Facts About Lean Finely Textured Beef." Includes fact sheets, videos, and links to news articles. Available at <http://meatsafety.org/ht/d/sp/i/76540/pid/76540>. Annys Shin, "Engineering a Safer Burger: Technology Is Entrepreneur's Main Ingredient for Bacteria-Free Beef," *Washington Post*, June 12, 2008, <http://www.washingtonpost.com/wp-dyn/content/article/2008/06/11/AR2008061103656.html>. Also see research report on ammonium hydroxide, Steven E. Niebuhr and J. S. Dickson, "Impact of pH Enhancement on Populations of *Salmonella*, *Listeria monocytogenes*, and *Escherichia coli* O157:H7 in Boneless Lean Beef Trimmings," *Journal for Food Protection*, vol. 66, no. 5 (2003), pp. 874-877.

specifications of the end users. LFTB is widely used as a way to boost the leanness of meat products. Besides ground beef, LFTB is also used in other products such as lunch meats, sausage, and canned meats.

Pathogen contamination is of special concern for ground beef, and pathogen reduction has been a crucial part of USDA’s inspection process. BPI’s pH enhancement method has been embraced by some food safety advocates, such as the Consumer Federation of America and STOP Foodborne Illness (formerly Safe Tables Our Priority), as an effective means to control pathogens in ground beef. LFTB has been widely used in the fast food sector and blended with ground beef that is sold at retail. It also has been used in ground beef that USDA’s Agricultural Marketing Service (AMS) buys for domestic feeding programs, including the National School Lunch Program.

Regulation of Ammonium Hydroxide

Ammonium hydroxide has been widely used in food processing for many years. The Food and Drug Administration (FDA) first evaluated ammonium hydroxide’s health and safety status in the early 1970s. It is used directly in baked goods, cheese, chocolates, and puddings. In addition, ammonium hydroxide is a processing aid in dairy products, confections, baked goods, breakfast cereals, eggs, fish, sports drinks, beer, and meat.⁸ It is used as a leavening agent and pH control agent in food production.⁹ The use of ammonium hydroxide is based on its status as an FDA “generally recognized as safe” (GRAS) substance that is used according to current good manufacturing practices.

Addressing concerns about substances in foods, in 1969, President Nixon directed the FDA to evaluate the safety of GRAS food substances used in food production. The FDA contracted with the Life Sciences Research Office (LSRO) of the Federation of American Societies for Experimental Biology to assess the health effects of GRAS food substances, to review the scientific literature on the substances, and to make any necessary recommendations for restrictions in food use. LSRO established a committee of scientists—the Select Committee on GRAS Substances (SCOGS)—to evaluate the data on GRAS substances and provide reports to FDA. Once FDA reviewed and accepted the SCOGS conclusions, FDA issued proposed rules in the *Federal Register* to affirm the status of GRAS substances.¹⁰

The FDA affirmed that ammonium hydroxide was a GRAS food substance in 1974.¹¹ On a scale of 1 to 5, ranging from no evidence of a hazard (1) to insufficient evidence to evaluate a

⁸ International Food Information Council Foundation, *Food Insight*, “Questions and Answers about Ammonium Hydroxide Use in Food Production,” December 30, 2009. Ammonia and ammonium hydroxide are very common compounds, found naturally in the environment (in air, water, and soil) and in all plants and animals, including humans. Ammonia is a source of nitrogen, an essential element for plants and animals. Ammonia is also produced by the human body—by our organs and tissues and by beneficial bacteria living in our intestines. See http://www.foodinsight.org/Resources/Detail.aspx?topic=Questions_and_Answers_about_Ammonium_Hydroxide_Use_in_Food_Production.

⁹ 21 C.F.R. §184.1139 (c)(1).

¹⁰ Food and Drug Administration, HHS, *History of the GRAS List and SCOGS Reviews*, <http://www.fda.gov/Food/FoodIngredientsPackaging/GenerallyRecognizedasSafeGRAS/GRASSubstancesSCOGSDatabase/ucm084142.htm#>.

¹¹ Food and Drug Administration, “Select Committee on GRAS Substances (SCOGS) Opinion: Ammonium hydroxide,” 1974, <http://www.fda.gov/Food/FoodIngredientsPackaging/GenerallyRecognizedasSafeGRAS/GRASSubstancesSCOGSDatabase/ucm260862.htm>. For further information on GRAS, see FDA’s website on GRAS at <http://www.fda.gov/Food/FoodIngredientsPackaging/GenerallyRecognizedasSafeGRAS/default.htm>. Also see CRS (continued...)

hazard (5), the SCOGS reached conclusion number 1 for ammonium hydroxide: "There is no evidence in the available information on ... ammonium hydroxide ... that demonstrates, or suggests reasonable grounds to suspect, a hazard to the public when it is used at levels that are now current or might reasonably be expected in the future."¹²

In April 1978, FDA issued a proposed rule to affirm the GRAS status of ammonium hydroxide (43 *Federal Register* 14064). The rule was finalized in November 1983 (48 *Federal Register* 52438) and amended to make a technical correction in 1994. Ammonium hydroxide is regulated under 21 C.F.R. §184.1139.

The Food Safety and Inspection Service (FSIS) of USDA is responsible for the inspection of meat and poultry products to ensure safety and wholesomeness for human consumption. FSIS determines the suitability of GRAS substances for use in meat and poultry production.¹³ FSIS Directive 7120.1, "Safe and Suitable Ingredients Used in the Production of Meat, Poultry, and Egg Products" lists two uses of ammonium hydroxide: The first as a pH control agent in brine solutions, and the second as an antimicrobial agent for beef carcasses and boneless beef trimmings.¹⁴ Anhydrous ammonia is listed as an antimicrobial agent for LFTB when LFTB is quick-frozen and mechanically stressed.¹⁵ Whether it is used as a pH control or an antimicrobial agent, labeling is not required, because it is used as a processing aid (see below).

Labeling Requirements for Ammonium Hydroxide

Federal regulations require that ingredients used in foods be included on food labels.¹⁶ When USDA approved BPI's use of ammonium hydroxide as an antimicrobial intervention, USDA determined that it was a processing aid and not an ingredient. USDA does not define processing aids, but uses FDA's definition. Processing aids are defined in regulation as:

1. substances that are added during the processing of a food but are removed in some manner from the food before it is packaged in its finished form;
2. substances that are added to a food during processing, are converted into constituents normally present in the food, and do not significantly increase the amount of the constituents naturally found in the food; or
3. substances that are added to a food for their technical or functional effect in the processing but are present in the finished food at insignificant levels and do not have any technical or functional effect in that food.¹⁷

(...continued)

Report RL34247, *Federal Regulation of Substances Generally Recognized As Safe (GRAS) and the Use of Carbon Monoxide in Packaging for Meat and Fish*, by Vanessa K. Burrows and Cynthia Brougher.

¹² Ibid.

¹³ See CRS Report RL34247, *Federal Regulation of Substances Generally Recognized As Safe (GRAS) and the Use of Carbon Monoxide in Packaging for Meat and Fish*, by Vanessa K. Burrows and Cynthia Brougher, for information on the joint role of FDA and USDA in GRAS substance use in meat and poultry products.

¹⁴ FSIS Directive 7120.1, available at <http://www.fsis.usda.gov/OPPDE/rdad/FSISDirectives/7120.1.pdf>, pp. 3 and 7.

¹⁵ Ibid. p. 7.

¹⁶ 21 C.F.R. 101.4.

¹⁷ 21 C.F.R. 101.100 (a)(3).

FSIS’s Labeling and Program Delivery Division decides on a case-by-case basis whether or not a substance meets the FDA requirements and does not allow meat processors to self-determine the use of a substance as a processing aid.¹⁸ Processing aids do not have to be included in the ingredient list on food labels.

The “Pink Slime” Controversy Redux

Although LFTB had received negative press in previous years, the issue re-emerged dramatically on March 7, 2012, when ABC News broadcast a report about the use of LFTB in retail beef products.¹⁹ The report referred to LFTB as “pink slime,” and described LFTB as “beef trimmings that were once used only in dog food and cooking oil, but now [are] sprayed with ammonia to make them safe to eat.” Two days before the ABC News report, *The Daily*, an online news publication, reported that USDA was buying 7 million pounds of LFTB for the school lunch program.²⁰ The report also referenced a video from celebrity chef Jamie Oliver’s *Food Revolution* television show from April 2011 that shows beef trimmings, characterized as inedible, being mixed with what appears to be household cleaning ammonia to simulate the process for making LFTB.²¹ At about the same time, *The Lunch Tray*, an online blog focused on kids, food, and school lunches, set up an online petition calling for USDA to stop buying LFTB for the school lunch program.²²

Even before the current explosion of negative press about LFTB, questions were raised about BPI’s LFTB product from the standpoint of both the quality of meat (i.e., beef trimmings) and the use of ammonium hydroxide in the production process. An article in the *New York Times* in December 2009 raised issues about BPI’s LFTB. The article noted opposition to LFTB by two former USDA employees on the basis of the quality of the meat and the validation process for the safety of the ammonium hydroxide process. Their opposition dated back to USDA’s approval of the ammonium hydroxide process more than ten years ago. At that time, in an internal email, which became public as part of a *New York Times* Freedom of Information Act (FOIA) request, one of the USDA employees had called LFTB “pink slime,” and characterized as “fraudulent labeling” the labeling of ground beef blended with LFTB as “ground beef.”²³

Prior to the latest wave of publicity about LFTB, three of the largest fast food chains stopped using LFTB in their ground beef. McDonald’s, the largest buyer of ground beef; Burger King; and

¹⁸ USDA, Food Safety and Inspection Service, *Compliance Guide on the Determination of Processing Aids*, April 8, 2008, http://www.fsis.usda.gov/pdf/determination_of_processing_aids.pdf.

¹⁹ Jim Avila, “70 Percent of Ground Beef at Supermarkets Contains ‘Pink Slime,’” *ABC News*, March 7, 2012. Video available at <http://abcnews.go.com/blogs/headlines/2012/03/70-percent-of-ground-beef-at-supermarkets-contains-pink-slime/>.

²⁰ David Knowles, “Partners in ‘Slime,’” *The Daily*, March 5, 2012, <http://www.thedaily.com/page/2012/03/05/030512-news-pink-slime-1-3/>.

²¹ *Ibid.* Accessed on March 19, 2012. Also see, “Jamie Oliver’s Food Revolution: Pink Slime—70% of America’s Beef Is Treated with Ammonia,” <http://www.youtube.com/watch?v=wshlnRWnf30>.

²² Bettina Elias Siegel, “Let’s Put a Stop to ‘Pink Slime’ on School Lunch Trays,” *The Lunch Tray*, March 6, 2012. Available at <http://www.thelunchtray.com/lets-put-a-stop-to-pink-slime-on-school-lunch-trays/>. The online petition is available at <http://www.change.org/petitions/tell-usda-to-stop-using-pink-slime-in-school-food#>.

²³ Michael Moss, “Safety of Beef Processing Method Is Questioned,” *New York Times*, December 31, 2009, <http://www.nytimes.com/2009/12/31/us/31meat.html?pagewanted=all>.

Taco Bell reportedly stopped using LFTB in 2011.²⁴ Although some press stories credited Jamie Oliver's campaign against "pink slime" for the decision by McDonald's, according to the McDonald's senior director for U.S. Quality Systems and Supply Chain Management, "the decision to remove BPI products from McDonald's system was not related to any particular event but rather to support our effort to align our global beef raw material standards."²⁵ Burger King also issued a similar statement.

Fallout from the LFTB Controversy

One of the first reactions to the LFTB controversy was USDA's decision to give school districts the option to buy ground beef without LFTB. Those who oppose the use of LFTB maintained that if fast food chains will not use LFTB, then it should not be used in ground beef for school lunches. Quickly thereafter, major grocery store chains announced that they would stop using LFTB in ground beef sold in their stores. As a result, the makers of LFTB have reduced production, cattle and beef market prices have declined, and some companies have decided to voluntarily label ground beef that contains LFTB.

School Lunches

On March 15, 2012, USDA announced that, due to consumer demand, it would allow school districts that participate in the National School Lunch Program to choose whether or not to buy ground beef that includes LFTB for the next school year.²⁶ In its press release, USDA also affirmed that LFTB is a safe, nutritious product. In a news conference on March 29, 2012, Secretary of Agriculture Vilsack affirmed the safety and benefits of LFTB, but also said that USDA had to listen to its customers. He hoped that "this choice is being made based on the facts; this product is safe, it contains less fat and historically has been less expensive."²⁷

USDA does not buy LFTB but allows ground beef suppliers to include LFTB in ground beef, up to 15% by volume. In 2011, USDA bought 117 million pounds of ground beef that included 7.2 million pounds (about 6.2%) LFTB.²⁸ According to USDA's Undersecretary for Food, Nutrition, and Consumer Services, schools buy about 60% of their beef through USDA.²⁹

²⁴ Philip Brasher, "Questions, Perception Prompt Burger Chains to Ditch Product," *Argus Leader*, December 25, 2011, p. A4.

²⁵ Helena Bottemiller, "Fast Food Companies Abandon Ammoniated Beef," *Food Safety News*, January 6, 2012, http://www.foodsafetynews.com/2012/01/fast-food-companies-abandon-ammoniated-beef/?utm_source=newsletter&utm_medium=email&utm_campaign=120106. Also see "Discontinued Use of Select Lean Beef Trimmings (SLBT)," undated statement by McDonald's. Available at http://www.aboutmcdonalds.com/mcd/newsroom/mcdonalds_statements_and_alerts/Discontinued_Use_of_Select_Lean_Beef_Trimmings.html.

²⁶ USDA, "USDA Announces Additional Choices for Beef Products in the Upcoming School Year," press release, March 15, 2012. Available at http://www.usda.gov/wps/portal/usda/usdahome?contentid=2012/03/0094.xml&navid=NEWS_RELEASE&navtype=RT&parentnav=LATEST_RELEASES&edeployment_action=retrievecontent.

²⁷ Tom Johnston, "Vilsack, Iowa Governor Stump for BPI and Its LFTB product," *Meetingplace*, March 29, 2012, <http://www.meetingplace.com/MembersOnly/webNews/details.aspx?item=31865>.

²⁸ Lisa M. Keefe, "AMS: Pricing the Next Battle in LFTB Debate," *Meetingplace*, March 19, 2012, <http://www.meetingplace.com/MembersOnly/webNews/details.aspx?item=31502>.

²⁹ Jerry Hagstrom, "Concannon Doesn't Watch Jamie Oliver," *Hagstrom Report*, March 30, 2012.

It is too early to determine the economic impact of USDA's announcement. Schools and school districts will make decisions this spring about ground beef purchases for the next school year. The decision to purchase only ground beef that does not include LFTB could raise the cost of ground beef purchases. Reportedly, in mid-March the price of 90% lean beef trimmings was 16% higher than the price of LFTB.³⁰ However, this is not the price difference that schools will be considering in their buying decisions. AMS buys 85% lean fine beef (90% lean ground beef patties) for USDA feeding programs. In an initial analysis of the potential effect, if the 85% lean fine beef that AMS buys includes LFTB, the LFTB would be limited to 15% of the formulation and USDA estimates the cost could be 3% less than 85% lean fine beef formulated without LFTB.³¹ This cost reflects the blending of LFTB with other ground beef, plus the cost of pathogen testing that is required on all ground beef purchased by AMS, and delivery costs. The price that schools will ultimately pay depends on market prices and demand when buying decisions are finalized later this year.

Retailers Halt Use of LFTB

Shortly after the onslaught of media attention, grocery retail chains began re-evaluating the use of LFTB in ground beef. ABC News reported on March 21, 2012, that Safeway, SuperValu, and Food Lion, large supermarkets with thousands of stores across the United States, would stop buying ground beef with LFTB.³² Over the next two days, most of the major grocery chains, such as Kroger (the largest U.S. grocery chain), BI-LO/Winn Dixie, Giant, and Hy-Vee announced that they would no longer sell ground beef that included LFTB. Several chains (for example, Costco and Whole Foods) reported that they did not carry ground beef with LFTB, while Walmart said it would give consumers a choice of ground beef with and without LFTB. In statements released to the press, the grocery stores that stopped carrying ground beef with LFTB stated that it was safe, but that their customers were demanding that it not be used in ground beef. Since the initial announcements, Hy-Vee, a Midwestern grocery chain, revised its policy based on feedback from customers and decided to offer a choice of ground beef with and without LFTB.³³

BPI Cuts LFTB Production

The immediate weight of LFTB being in the media spotlight for nearly three weeks fell on BPI. On March 26, 2012, in response to decreased demand for LFTB, BPI announced that it would temporarily shut three of its four processing plants, laying off 650 employees.³⁴ The closed plants are in Garden City, Kansas; Amarillo, Texas; and Waterloo, Iowa. The fourth BPI plant, in South Sioux City, Nebraska, remains open. BPI indicated that it would pay employees in the interim as

³⁰ Lisa M. Keefe, "AMS: Pricing the Next Battle in LFTB Debate," *Meatingplace*, March 19, 2012, <http://www.meatingplace.com/MembersOnly/webNews/details.aspx?item=31502>.

³¹ Telephone conversation with Craig Morris, Deputy Administrator, Livestock and Seed Program, AMS, March 19, 2012.

³² Jim Avila, "Safeway, SUPERVALU and Food Lion to Stop Selling 'Pink Slime' Beef," *ABC News*, March 21, 2012. Available at <http://abcnews.go.com/US/safeway-supervalu-food-lion-stop-selling-pink-slime/story?id=15974064#.T2tUDV1Lp8E>.

³³ Hy-Vee, "Hy-Vee Statement on Lean Finely Textured Beef," press release, March 28, 2012, <http://www.hy-vee.com/company/press-room/press-releases/hy-vee-statement-on-lean-finely-textured-beef.aspx>.

³⁴ Lisa M. Keefe, "BPI Suspends Operations at Three Plants," *Meatingplace*, March 26, 2012, <http://www.meatingplace.com/MembersOnly/webNews/details.aspx?item=31707>.

the situation is sorted out. This move cuts BPI's estimated daily production capacity of LFTB by more than half, from about 1.5 million pounds per day to about 700,000 pounds.³⁵ Two days after the BPI announcement, Cargill, which produces a similarly finely textured beef (FTB), also announced that it was cutting production of FTB as some of its customers asked for ground beef without it.³⁶

Total production of LFTB and FTB in the United States has been reported to be about 850 million pounds per year.³⁷ Another analyst estimates that BPI and Cargill produced about 600 million pounds in 2011, and at the peak of production, around 2009 or 2010, produced 725 million pounds annually.³⁸ It takes about two to three pounds of 50% lean trimmings to make one pound of LFTB, thus adding substantial value to more than 1 to 2 billion pounds of low-valued 50% beef trimmings. Some cattle and beef analysts have argued that it would take an additional 1.5 million head of cattle to produce the beef necessary to replace the use of LFTB and FTB.³⁹

The cutback in LFTB also will have an impact on processors who use LFTB. According to the National Meat Association (NMA), more than 3,000 suppliers will be affected by the cutbacks in LFTB output. On April 2, 2012, a Pennsylvania ground beef processor, AFA Foods, filed for bankruptcy. AFA Foods has five facilities and the capacity to process 800 million pounds of ground beef annually. AFA uses LFTB in its ground beef formulations and stated that the LFTB controversy had collapsed the market for its product.⁴⁰

Higher Ground Beef Prices Expected

Even before the LFTB controversy flared up in early March, U.S. beef prices were heading higher. The primary reason is that the U.S. cattle herd is the smallest it has been since the early 1950s. With the small cattle herd, beef prices have been high and continue to increase. The average retail price of all fresh beef was a record \$4.44 per pound in 2011. Through February 2012, the average price has already risen to about \$4.63 per pound. Higher beef prices are expected to persist, as it will take a couple of years before the U.S. herd will begin to expand to the point that more beef is produced. Beef analysts believe the decisions made by many retailers to halt the use of LFTB will result in even higher prices, especially in the near term, as seasonal demand for ground beef increases heading into the summer months.

Recent decisions on the use of LFTB have greatly altered the demand for 50% lean beef trimmings (used to produce LFTB), and the effect on price has been immediate. Since the beginning of March 2012, the price of fresh 50% lean beef trimmings has plunged 42%, from

³⁵ Steve Kay, "Consumers Will Ultimately Pay," *Cattle Buyers Weekly*, April 2, 2012.

³⁶ Meredith Davis and Andrew Stern, "Cargill Cuts 'Pink Slime' Output, Sees Hamburger Price Rise," *Reuters*, March 28, 2012, <http://www.reuters.com/article/2012/03/28/us-food-slime-idUSBRE82R1LP20120328>. Cargill is a major producer of beef and other meat products. Cargill produces finely textured beef (FTB), similar to LFTB, but uses citric acid instead of ammonium hydroxide in its production.

³⁷ Ian Berry, "Tyson Foods Says 'Pink Slime' Fight Hurting Short-Term Beef Demand," *Dow Jones Newswires*, March 27, 2012.

³⁸ Steve Kay, "Consumers Will Ultimately Pay," *Cattle Buyers Weekly*, April 2, 2012.

³⁹ American Meat Institute, "Questions and Answers About Lean Finely Textured Beef," undated, <http://www.meatami.com/ht/a/GetDocumentAction/i/76184>.

⁴⁰ Rita Jane Gabbett, "Ground Beef Maker Files Chapter 11; Cites LFTB Flap," *Meatingplace*, April 2, 2012, <http://www.meatingplace.com/MembersOnly/webNews/details.aspx?item=31949>.

\$1.01 per pound to \$0.59. The price of fresh 90% lean beef trimmings, which are already near record highs, has held fairly steady at \$2.18 per pound, \$0.01 lower than at the beginning of March.⁴¹ However, most beef analysts expect the price of 90% lean beef trimmings to rise as an increased amount of 90% lean will be needed to replace LFTB in ground beef. The price of 50% lean will be lower, but 50% lean trimmings account for a small portion of ground beef because many consumers want leaner ground beef products.

According to Oklahoma State University's Dr. Derrell Peel, the impact of the use of LFTB can be demonstrated with two different formulations of lean ground beef. First, a combination of 10% fat trim (50% lean) and 90% lean trim (90% lean) will yield ground beef that is 86% lean, a fairly common leanness sold in grocery stores and desired by consumers wanting lean ground beef. The same 86% lean ground beef could be formulated with 10% LFTB (95% lean), 11.25% fat trim, and 78.75% lean trim.⁴² The use of LFTB results in a more efficient use of fat beef trimmings and a nearly 13% reduction in the most expensive raw input in ground beef, 90% lean, for which supplies are tight.

Another likely effect is that more beef will be imported from Australia and New Zealand to supplement the tight domestic supplies of lean beef. In early March, USDA raised its forecast for beef imports by nearly 7% to 2.2 billion pounds.⁴³ This increase was forecast prior to the LFTB controversy, so importers may now find increased demand for foreign beef, especially as the price of lean beef trimmings increases.

The LFTB decisions are also showing up on the beef packers' bottom line. Reportedly, beef packers are currently losing more than \$100 for each head of cattle slaughtered, and a beef analyst estimated that more than \$30 of the \$100 was due to the loss of the LFTB market and the falling demand for 50% lean trimmings.⁴⁴ Eventually, packer losses will affect feedlots as packers reduce the price they pay feedlots for slaughter-ready cattle. Ultimately, cattle producers will be paid less for their cattle as feedlots offer less money for feeder cattle placed on feed. Some analysts estimate that the loss of the LFTB market will result in producers receiving \$10 less per head of cattle.

Labels for LFTB

On April 2, 2012, USDA confirmed that some companies have asked to include LFTB labels on ground beef, and USDA indicated that it would approve the requests.⁴⁵ By adding a label stating that a package of ground beef does or does not contain LFTB, the company would be making a claim, similar to stating that beef is from Angus or Hereford cattle. Adding the LFTB claim label

⁴¹ USDA, Agricultural Marketing Service, *Boneless Cow Beef & Trimmings-Negotiated Sales*, weekly report, http://www.ams.usda.gov/mnreports/lm_xb460.txt. Price changes are for prices quoted for April 4, 2012 compared with average prices for the week ending March 2, 2012.

⁴² Derrell S. Peel, "Getting What You Asked For and Not Liking What You Get," *Cow/Calf Corner: The Newsletter*, April 2, 2012.

⁴³ USDA, World Agricultural Outlook Board, *World Agricultural Supply and Demand Estimates*, March 9, 2012, <http://www.usda.gov/oce/commodity/wasde/index.htm>.

⁴⁴ Rita Jane Gabbett, "LFTB Fallout: Beef Packers Losing Nearly \$100 a Head," *Meatingplace*, April 3, 2012, <http://www.meatingplace.com/MembersOnly/webNews/details.aspx?item=31975>.

⁴⁵ Rita Jane Gabbett, "USDA Will Approve LFTB Label Requests," *Meatingplace*, April 2, 2012, <http://www.meatingplace.com/MembersOnly/webNews/details.aspx?item=31955>.

would be voluntary. USDA will certify that the labels are correct. LFTB would not be included in the required ingredient label.

In response to USDA's decision, BPI stated:

While ground beef is a single ingredient product (beef) and lean finely textured beef therefore is not required to be listed separately on any label, we believe USDA's decision to allow companies to voluntarily include information on their label regarding LFTB content will be an important first step in restoring consumer confidence in their ground beef. Based upon the numerous taste panel studies conducted using BPI's lean beef and strong consumer preference for ground beef that contains our LFTB, we feel this development will allow more customers to provide options to consumers and pave the way for BPI's lean beef to reestablish its place in the market.⁴⁶

Food Safety Concerns

On March 29, 2012, the governors of Iowa, Kansas, and Texas, along with the lieutenant governors of Nebraska and South Dakota, toured the BPI plant in South Sioux City, Nebraska, and held a news conference to support BPI and the production of LFTB.⁴⁷ The governors emphasized that LFTB is beef and that it is safe. Generally, the safety of the product has not been questioned, although many of the stories imply there may be a food safety issue with LFTB. ABC News, whose reports focused the public's attention on LFTB, said it never reported that LFTB was unsafe, only that ground beef was not labeled when LFTB was used.

As reported in an online blog on food safety, Dr. James Marsden, a food safety expert from Kansas State University, noted as the controversy was unfolding early on that:

There are all kinds of ingredients in food products that can be falsely characterized as unappetizing when viewed out of context. When lay persons see the processes of cheese manufacturing, wine making and the production of the most high quality gourmet processed meats, some of the stages in the process are less than appetizing. I think the criticism of BPI's products are based on quality perceptions, not food safety.⁴⁸

BPI has been recognized for its innovation in food safety through extensive testing for *E. coli* O157:H7, and recently started to test for other strains of *E. coli*. BPI also was an early adopter of the "test and hold" policy, whereby all of its product is withheld from commerce until pathogen test results are confirmed negative. Some food safety advocates who have defended the use of LFTB have expressed concern that the outcry over "pink slime" could have a detrimental effect on food safety, as the barrage of publicity could stifle further innovation. Nancy Donley, president and spokesperson for STOP Foodborne Illness, described the situation in a recent opinion piece in *Food Safety News*:

There has been a lot of misinformation swirling around the Internet and on TV about lean beef trim produced by Beef Products, Inc. As I stated earlier, I have personally visited their plant and

⁴⁶ Rita Jane Gabbett, "BPI, Others Weigh In on LFTB Labeling," *Meatingplace*, April 3, 2012, <http://www.meatingplace.com/MembersOnly/webNews/details.aspx?item=31976>.

⁴⁷ "Governors, Other Officials Tour BPI Plant," *Meat&Poultry*, March 30, 2012.

⁴⁸ Phyllis Entis, "What's Wrong With Pink Slime?" *eFoodAlert*, March 8, 2012, <http://efoodalert.net/2012/03/08/whats-wrong-with-pink-slime/>.

the categorization of calling their product "pink slime" is completely false and incendiary. Consumers need to understand that this product is meat, period, and that the use of ammonia hydroxide in minute amounts during processing improves the safety of the product and is routinely used throughout the food industry. There are many types of interventions including food-grade antimicrobial sprays which are used on all manner of foods. Some of these things may sound icky and gross, especially when inaccurately portrayed. These interventions are necessary in ridding meat of deadly pathogens and are required to prove they pose no threats to consumers. Companies would be prohibited by the USDA and FDA to use substances that could be harmful in human consumption.⁴⁹

Donley continues that she is "very concerned that mis-categorization campaigns such as this 'pink slime' campaign will cause well-intentioned companies such as BPI to cease innovations for developing better food safety technologies and strategies."

Congressional Interest

Some Members of Congress expressed concern about LFTB in the weeks following the media focus on LFTB. Some congressional reactions focused on USDA's decision to give school districts a choice about whether to buy ground beef with or without LFTB. For example, Senator Feinstein (in a letter to Secretary Vilsack) and Representative DeLauro (in a statement) applauded USDA for giving school districts a choice, and for providing consumers the right to know and choose what is in their food.⁵⁰ Other letters to USDA from Senator Gillibrand, Senator Tester, and from Representative Pingree called on USDA to completely remove "pink slime" from school lunches.⁵¹

Besides calling for outright bans on LFTB in school lunches, other members called on USDA to re-evaluate labeling policy for LFTB. In a March 29, 2012, letter to Secretary Vilsack, Representative DeLauro and Representative Farr encouraged USDA to "evaluate the transparency of labeling related to LFTB products."⁵² They further noted that some companies have offered a choice on LFTB, but only USDA could ensure that all consumers have a choice.

In addition to letters and statements, Representative Pingree, on March 30, 2012, introduced the Requiring Easy and Accurate Labeling of Beef Act (REAL Beef Act; H.R. 4346), which amends the Federal Meat Inspection Act to require that packages of beef include a label stating whether the product contains lean finely textured beef. Representative Pingree noted that H.R. 4346 is about "choice and transparency," giving consumers the information they need to make decisions about what they buy.

⁴⁹ Nancy Donley, "In Defense of Food Safety Leadership," *Food Safety News*, March 17, 2012, http://www.foodsafetynews.com/2012/03/in-defense-of-food-safety-leadership/?utm_source=newsletter&utm_medium=email&utm_campaign=120317. For views from other food safety advocates, see Helena Bottemiller, "Fast Food Companies Abandon Ammoniated Beef," *Food Safety News*, January 6, 2012, <http://www.foodsafetynews.com/2012/01/fast-food-companies-abandon-ammoniated-beef/>.

⁵⁰ The Feinstein letter is available at http://www.hagstromreport.com/assets/2012/2012_0319_FeinsteinLetter.pdf. The DeLauro statement is available at <http://delauro.house.gov/release.cfm?id=3300>.

⁵¹ The Gillibrand letter is available at <http://www.gillibrand.senate.gov/newsroom/press/release/gillibrand-to-usda-pull-pink-slime-beef-from-school-meals-now>. The Tester letter is available at <http://tester.senate.gov/Legislation/upload/Document-10.pdf>. The Pingree letter is available at http://pingree.house.gov/images/Letter_to_Secretary_Vilsack_March_14_2012.pdf.

⁵² The DeLauro and Farr letter is available at <http://delauro.house.gov/release.cfm?id=3316>.

On March 28, 2012, three members of the Iowa House delegation, Representative Boswell, Representative King, and Representative Latham, sent Secretary Vilsack a letter asking that USDA take steps to educate the public about the safety and benefits of LFTB.⁵³ On April 2, 2012, Representative King circulated a “Dear Colleague” letter—titled “Beef Is Not a By-Product”—to fellow House members, asking that they review material about LFTB. The letter noted that LFTB was safe and nutritious and that BPI had been subjected to a misinformation campaign over the previous several weeks. Reportedly, Representative King is seeking a congressional hearing on the BPI/LFTB situation.⁵⁴

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⁵³ The Boswell, King, and Latham letter is available at http://steveking.house.gov/images/stories/LFTB_Letter_to_USDA.pdf.

⁵⁴ Helena Bottemiller, “Iowa Leaders Seek Congressional Hearing on Pink Slime Critics,” *Food Safety News*, April 5, 2012, http://www.foodsafetynews.com/2012/04/iowa-leaders-seek-congressional-hearing-on-lftb-firestorm/?utm_source=newsletter&utm_medium=email&utm_campaign=120405.