http://www.huffingtonpost.com/2012/03/15/pink-slime-school-lunch-opt-out_n_1347784.html?ref=mostpopular

March 15, 2012 – The Huffington Post

'Pink Slime' For Lunch: Schools Can Opt Out Of Ammonia-Treated Ground Beef Filler

"Pink slime" might soon have a leaner presence in public schools than many might have initially anticipated.

The U.S. Department of Agriculture announced today that it will offer schools an option between two types of ground meat to purchase for student meals. The move is in response to requests from districts amid a weeks-long firestorm of public outcry against the ammonia-treated cow product.

U.S. Department of Agriculture Press Release – March 15, 2012:

http://usda.gov/wps/portal/usda/usdahome?contentid=2012/03/0094.xml&navid=NEWS_RELEASE&navtype=RT&parentnav=LATEST_RELEASES&edeployment_action=retrievecontent

The controversy was spurred by a report earlier this month by The Daily revealing that the USDA planned to purchase 7 million pounds of ground beef for schools that is mixed with "lean finely textured beef," or what has been nicknamed "pink slime." Two microbiologists, Carl Custer and Gerald Zernstein, said they warned the USDA against the "high risk" product years ago, but federal officials did not heed their advice.

The lean finely textured beef is a low-cost product rendered from the mostly fatty outside trim of cow carcasses or leftovers from other cuts. To salvage every bit of meat, the trimmings, combined with connective tissues and cartilage, are heated at a low temperature to remove about 95 percent of the fat. The resulting product is then compressed into blocks to be mixed into ground beef and treated with ammonium hydroxide (essentially

ammonia and water) to kill pathogens like E. coli and salmonella that could have emerged during the rendering process.

Discovery of the USDA's purchase prompted Houston mother of two Bettina Siegel to start an online petition on Change.org asking Secretary of Agriculure Tom Vilsack to "please put an immediate end to the use of 'pink slime' in our children's school food." The petition had more than 225,000 signatures as of Thursday morning.

The USDA contracted to buy more than 111.5 million pounds of ground beef for the National School Lunch Program, with 7 million pounds of it coming from Beef Products: This South Dakota-based company produces lean finely textured beef. No more than 15 percent of Beef Products' ground beef mix for schools may be composed of lean finely textured beef, according to the USDA.

The announcement grants schools the option to purchase either 95 percent lean beef patties made with Beef Products' mixed product or fattier bulk ground beef without the controversial mix. The change will not affect schools until the fall as a result of existing contracts.

But districts may have always had that choice. Administered by the USDA, the National School Lunch Program's purchases account for 20 percent of the food used in U.S. schools. The rest is bought by schools or districts directly through USDA-approved private vendors. The distribution of USDA and private vendor products varies by school.

The Chicago Public Schools elect not to purchase ground beef from the USDA and instead buy ground beef from two USDA-approved private vendors, schools spokesman Frank Shufton told The Huffington Post. "It's not even a part of the picture," Shufton said.

The Chicago district is one among several that have issued statements assuring concerned parents that it does not use the ammonia-treated lean beef mix. When schools use that product, it shaves about $0.03 off the cost of ground beef, according to a 2009 *New York Times* report. But other school districts say they still can't afford not to purchase from the USDA.

Schools that participate in the National School Lunch Program receive cash subsidies for meals in compliance with USDA's nutritional standards.

'IS IT STILL SAFE?'

"I have people asking me, 'So is it still a safe product?'" Zernstein, the retired USDA microbiologist, told HuffPost. "And I say, 'Well, hopefully they add enough ammonia. Hopefully. Hopefully."

Questions about ground beef's safety have become more frequent after the 2009 *New York Times* report revealing that despite the added ammonia, tests of lean beef mix in schools across the country revealed dozens of instances of E. coli and salmonella pathogens. From 2005 to 2009, E. coli was found three times and salmonella 48 times; this includes two contaminated batches of 27,000 pounds of meat, according to the *Times*.

When treated properly, the "filler" is absolutely safe for consumption, Zernstein says; it could even be safer than the raw beef muscle it is added to. Problems arise only when the trimmings aren't sufficiently to eliminate the heightened rancidity levels and bacteria that emerge during processing -- and when testing is lax or regulations aren't strictly enforced.

Still, the USDA contends that the products it purchases adhere to safety guidelines. Ammonium hydroxide is also "generally recognized as safe" by the USDA and the Food Safety and Inspection Service.

"All USDA ground beef purchases must meet the highest standards for food safety," USDA spokesperson Aaron Lavalles said. "USDA has strengthened ground beef food safety standards in recent years and only allows products into commerce that we have confidence are safe."

'BEEF' ISN'T EXACTLY BEEF

Schools aren't the only ones affected. According to an ABC News investigation, lean finely textured beef is mixed into 70 percent of ground beef sold in supermarkets across the country -- but meat-packers and grocery stores aren't required by law to include "lean finely textured beef" on package labels because the USDA categorizes it as meat.

Beef Products and other industry players have sought to debunk "myths of 'pink slime,'" asserting that beef trimmings are 100 percent USDA-inspected beef and edible.

"Our lean beef is 100 percent beef," Beef Products spokesman Rich Jochum told HuffPost. "No other part of the animal or any other product is in our lean beef."

Even so, consumers and parents want to know just what they're consuming, says Siegel, the Lunch Tray blogger who started the Change.org petition.

People don't feel it's quite right to refer to both lean finely textured beef and ground beef as "beef," Siegel said. "It's about the overall issue of disclosure."

The controversial mix does have some useful qualities. Adding the product to otherwise very lean beef patties makes the texture of the cooked meat softer and more appealing. Its production could be termed a sustainable

practice in that it salvages protein that may otherwise be wasted and it makes ground beef cheaper: Fresh 50 percent lean trimmings -- the raw product that Beef Products renders -- sold at an average of $.95 a pound last week, compared with 80 percent lean ground beef chuck for $1.84 a pound and 93 percent lean ground beef for $2.50 a pound.

Beef Products maintains its product is a nutritiously equivalent or superior substitute for ground beef muscle, and a side-by-side comparison of nutrition labels for the two would yield the same conclusion.

But what the labels don't tell consumers, experts say, is the ultimate nutritional value behind the numbers on those labels. A 1996 *Journal of Food Science* report revealed that ground beef muscle is 69.2 percent soluble protein while lean finely textured beef is only 22.8 percent soluble protein -- the protein most easily digestible by children. (See a visual comparison in the graphic below.)

Additionally, ground beef muscle is about 18.3 percent collagen -- the predominant ingredient of connective tissue -- while lean finely textured beef is about 36.8 percent collagen. Collagen is what's considered an incomplete protein; its amino acid composition is different from that of a complete protein like muscle meat, eggs and fish. Complete proteins are used by the body for growth and repair, but people burn up the calories in incomplete proteins in about the way that they process sugar unless they are consumed with specific foods to result in a complete protein during digestion.

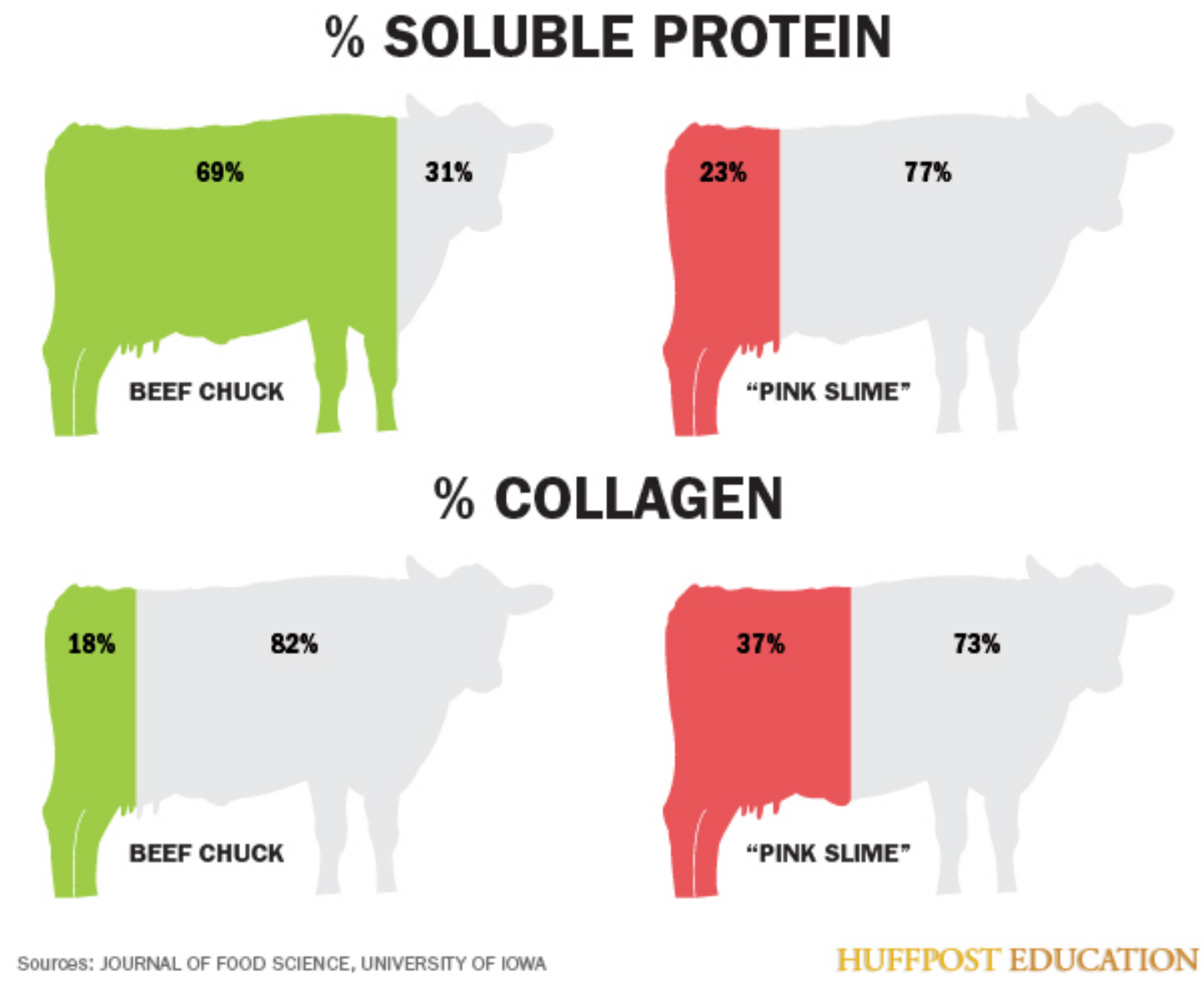
Treating the lean beef product with ammonia might also change the amino acids in proteins, further reducing the nutritional value, according to a 1980 University of California study.

But when it comes to consumer nutrition labels, complete and incomplete proteins are the same thing, making the two indistinguishable to those seeking information on what they're actually buying.

"They're calling this a meat; it's not. It's connective tissue and it is a much poorer quality protein even if they treat it, however they may treat it, to make it more digestible or more integrated," Sharon Akabas, associate director of Columbia University's Institute of Human Nutrition, told HuffPost.

Although the USDA's announcement might mark a step forward for "pink slime" critics, Siegel isn't ready to claim her victory, yet. She wrote on her blog Thursday morning that she's "still digging" for answers to questions like "Is there an even larger cost differential for schools who must shoulder labor charge to convert bulk beef to patties if they opt not to purchase the LFBT patties?" or "Does this create an even higher bar for districts wanting to avoid pink slime?"

"It's economic disclosure; it's an economic fraud issue," Zernstein said. "It's really not so much food safety. Put as much ammonia in it as you want. I don't care. Kill it. It still ends up being low quality, but you at least need to label it so much percent lean finely textured beef ... so I can say, 'I'm broke; it's low quality, but I'll buy it because I'm hungry.' The USDA knows better. Their labeling people blew it."



Huffington Post Article - End

The Lunch Tray News

http://www.thelunchtray.com/breaking-our-petition-causes-change-to-usda-pink-slime-policy-but-is-it-a-win/

BREAKING: Our Petition Causes Change to USDA Pink Slime Policy – But Is It a Win?

by Bettina Elias Siegel on March 15, 2012

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www.chicagotribune.com/health/sns-bc-apfn-us--food-pinkslime-tastetest,0,1589457.story

chicagotribune.com

Is 'pink slime' in your burger? You may not know until it's in your mouth _ or ever

J.M. HIRSCH - AP Food Editor, March 16, 2012

All this angst over "pink slime" has made one thing clear: We don't always know what we're getting when we bite into a big juicy burger.

Which leaves unanswered some of the most basic questions in the debate over what the meat industry calls lean finely textured beef, a processed meat filler that experts say has found its way into much of the ground beef consumed in the United States.

But as a professional eater, I needed to know two things: What does this stuff do to the taste and texture of ground beef? And how can consumers know when they're eating it?

Neither answer came easily, the former because of the sheer volume of beef I needed to eat, the latter because of the rather opaque way ground beef is made.

For schools, that opacity began to clear Thursday, when the U.S. Department of Agriculture announced that as of the fall the National School Lunch Program will allow districts to choose ground beef that does not contain the product. Previously, it was difficult for schools to know whether the beef they bought from the feds had it or not. That's because pink slime — no matter what you call it or what you think of it — really is made from beef and therefore doesn't need to be listed as a separate ingredient.

But Thursday's announcement doesn't do much for the average consumer. At the grocer, a steak is a steak, and it is nearly always labeled by the cut of beef it's from. There was a time when ground beef was similarly labeled and you knew at least roughly what part of the animal you were getting.

And though some packages still indicate "ground chuck" or "ground sirloin," today most is labeled simply as "ground beef."Most consumers don't care. They'd rather focus on another part of the label — the fat percentage. And producers don't care. It has made it easier for them to take a more amalgamated approach to ground beef, using whatever cuts they want or have without worrying about spelling it out.

Now introduce lean finely textured beef, and the meat picture is further muddied. The product is made from bits of meat left over from other cuts. It's heated and spun to remove the fat, then compressed into blocks for mixing into conventional ground beef. Because it's so lean and inexpensive, producers often mix it into fattier meat to produce an overall leaner product. That means two packages labeled "ground beef 80 percent lean" may look and sound the same but be composed of different meats.

One could be unadulterated ground beef made from cuts of meat containing 20 percent fat. The other could be made from poorer quality — much fattier — meat but cut with and made leaner by pink slime, a term coined by a federal microbiologist grossed out by it and now widely used by critics and food activists.

How do you tell the difference? For the most part, you don't. "You can't differentiate beef from beef," said Jeremy Russell, a spokesman for the National Meat Association, which represents processors, suppliers and exporters. "Talking to your retailer would be the only way.

"So that's what I did. But it got me only partial answers:

At grocer No. 1, the folks behind the butcher counter were able to show me one brand, a pricy "all-natural" ground beef that did not contain the meat filler. But for the many other and far less expensive varieties of ground beef? They had no way of knowing.

Grocer No. 2 presented the opposite problem. The workers there found one brand that definitely did have the pink stuff, but they couldn't say whether any others did or didn't.

And don't be fooled by the "all-natural" beef label at store No. 1. That term is unregulated, so it doesn't really mean anything. At another store, another brand of ground beef could be similarly labeled but still contain the meat filler. **But the term "organic" is regulated, and that provides a clue. If you can find it — and are willing to pay the price — ground beef labeled organic cannot contain lean finely textured beef.**

Despite the odds, I had lucked out. Between the two grocers, I'd managed to identify two packages of 85 percent lean ground beef, one with pink slime and one without. Time to taste.

By label alone, it was clear we were talking different beef demographics. The pink slime-free product bragged that it was minimally processed and that the cows had been raised without antibiotics, growth hormones or animal byproducts in their food. Price — $5.99 per pound.

The pink slime version? Just a minimalist "compare and save." Price — $3.09 per pound. Outwardly, they seemed the same: They smelled the same, and they looked basically the same, though the pink slime sample was slightly lighter in color. Until you touched them. The all-natural sample was slightly fattier to touch. That seemed odd, since both products should have the same fat content.

For the taste test, I kept it simple and pure. I formed a half-pound of each ground beef into a thick burger patty, adding nothing to the meat. And though I prefer my burgers on the grill, I decided to fry these in a skillet

because it's easier to control the cooking, ensuring both would be cooked to the same degree and under the same conditions. I added nothing to the pan. Meat this fatty generally bleeds out a robust amount of grease, so I wasn't concerned with sticking.

That was my second surprise. The pink slime patty released very little fat during cooking. The other patty gave off two or three times as much. About 5 minutes per side, and I declared them medium-rare. After giving them a few minutes to rest, I seasoned them lightly with salt and pepper, then cut in.

First, the unadulterated burger. The aroma was luscious. The meat was juicy, tender and nicely seared. Where I'd cut, juices slowly dribbled out onto the plate, collecting in a pool. The taste was savory and meaty, with big beefy flavor. The chew had just the right texture, substantial but giving. Basically, everything you would want in a burger.

The Taste Test:

The pink slime burger also was perfectly seared and drew me in with an equally alluring aroma. But no juices collected on the plate. Or dribbled out. Or were apparent in the meat in really any way. The taste was — OK. I took another taste of the first burger, then back to the pink slime burger. It was not bad. But nor was it good. It was flat. I added more salt. No. It was simply one-dimensional. And then there was the texture. Unpleasantly chewy bits of what I can only describe as gristle, though they were not visible, seemed to stud the meat of the pink slime burger. The result was a mealy chew that, while not overtly unpleasant, didn't leave me wanting another bite. Of course, I did take another bite. In the interest of good journalism, I ate both burgers entirely. And then I felt sick. I'm confident that has nothing to do with slime of any sort.
Freelance food writer Michele Kayal in Washington contributed to this report. End

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This company sells this type of Beef Products – Website:

http://www.beefproducts.com/

"…Beef Products, Inc. is the world's leading producer of lean beef processed from fresh beef trimmings. BPI® Boneless Lean Beef, is approximately 94% lean beef, and made with great attention to food safety and quality. Our lean beef is an important part of many common foods; from fresh retail ground beef, to foodservice beef patties, hamburgers, cooked meats, and processed luncheon meats to name a few. BPI's lean beef is a part of nearly 20 billion meals per year, with an unsurpassed food safety record, adding over $250 Million in value to the U.S. beef industry annually. BPI actively promotes sustainable agriculture while ensuring the foods we eat remain safe and wholesome…"

History & Number of Plants: **http://www.beefproducts.com/history.php**

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http://www.nytimes.com/2009/12/31/us/31meat.html?_r=2&pagewanted=all

December 31, 2009 – NYTimes article

Safety of Beef Processing Method Is Questioned

By MICHAEL MOSS

Eight years ago, federal officials were struggling to remove potentially deadly E. coli from hamburgers when an entrepreneurial company from South Dakota came up with a novel idea: injecting beef with ammonia.

The company, Beef Products Inc., had been looking to expand into the hamburger business with a product made from beef that included fatty trimmings the industry once relegated to pet food and cooking oil. The trimmings were particularly susceptible to contamination, but a study commissioned by the company showed that the ammonia process would kill E. coli as well as salmonella.
Officials at the United States Department of Agriculture endorsed the company's ammonia treatment, and have said it destroys E. coli "to an undetectable level." They decided it was so effective that in 2007, when the department began routine testing of meat used in hamburger sold to the general public, they exempted Beef Products.

With the U.S.D.A.'s stamp of approval, the company's processed beef has become a mainstay in America's hamburgers. McDonald's, Burger King and other fast-food giants use it as a component in ground beef, as do grocery chains. The federal school lunch program used an estimated 5.5 million pounds of the processed beef last year alone.

But government and industry records obtained by The New York Times show that in testing for the school lunch program, E. coli and salmonella pathogens have been found dozens of times in Beef Products meat, challenging claims by the company and the U.S.D.A. about the effectiveness of the treatment. Since 2005, E. coli has been found 3 times and salmonella 48 times, including back-to-back incidents in August in which two 27,000-pound batches were found to be contaminated. The meat was caught before reaching lunch-rooms trays.

In July, school lunch officials temporarily banned their hamburger makers from using meat from a Beef Products facility in Kansas because of salmonella — the third suspension in three years, records show. Yet the facility remained approved by the U.S.D.A. for other customers.

Presented by The Times with the school lunch test results, top department officials said they were not aware of what their colleagues in the lunch program had been finding for years.

In response, the agriculture department said it was revoking Beef Products' exemption from routine testing and conducting a review of the company's operations and research. The department said it was also reversing its policy for handling Beef Products during pathogen outbreaks. Since it was seen as pathogen-free, the

processed beef was excluded from recalls, even when it was an ingredient in hamburgers found to be contaminated.

The Beef Products case reveals a schism between the main Department of Agriculture and its division that oversees the school lunch program, a divide that underscores the government's faltering effort to make hamburger safe. The U.S.D.A. banned the sale of meat found to be contaminated with the O157:H7 strain of E. coli 15 years ago, after a deadly outbreak was traced to Jack in the Box restaurants. Meat tainted with salmonella is also a hazard. But while the school lunch program will not buy meat contaminated with salmonella, the agriculture department does not ban its sale to the general public.

Even so, E. coli outbreaks nationwide have increased in recent years. And this summer, two outbreaks of particularly virulent strains of salmonella in hamburger prompted large recalls of ground beef across several states.

Although no outbreak has been tied to Beef Products, officials said they would thoroughly scrutinize any future industry innovations for fighting contamination "to ensure that they are scientifically sound and protect public health," and that they were examining the government's overall meat safety policies.
The founder and owner of Beef Products, Eldon N. Roth, declined requests for interviews or access to the company's production facilities. Responding to written questions, Beef Products said it had a deep commitment to hamburger safety and was continually refining its operation to provide the safest product possible. "B.P.I.'s track record demonstrates the progress B.P.I. has made compared to the industry norm," the company said. "Like any responsible member of the meat industry, we are not perfect."

Beef Products maintains that its ammonia process remains effective. It said it tests samples of each batch it ships to customers and has found E. coli in only 0.06 percent of the samples this year.

The company says its processed beef, a mashlike substance frozen into blocks or chips, is used in a majority of the hamburger sold nationwide. But it has remained little known outside industry and government circles. Federal officials agreed to the company's request that the ammonia be classified as a "processing agent" and not an ingredient that would be listed on labels.

Within the U.S.D.A., the treated beef has been a source of friction for years. The department accepted the company's own study as evidence that the treatment was effective. School lunch officials, who had some doubts about its effectiveness, required that Beef Products meat be tested, as they do all beef used by the program.

School lunch officials said that in some years Beef Products testing results were worse than many of the program's two dozen other suppliers, which use traditional meat processing methods. From 2005 to 2009, Beef Products had a rate of 36 positive results for salmonella per 1,000 tests, compared to a rate of nine positive results per 1,000 tests for the other suppliers, according to statistics from the program. Beef Products said its testing regime was more likely to detect contamination.

Despite some misgivings, school lunch officials say they use Beef Products because its price is substantially lower than ordinary meat trimmings, saving about $1 million a year.

Another snapshot of processed beef's performance emerges from confidential records of tests in 2007 by the food giant Cargill. In the preceding year and a half, Cargill, which used more than 50 vendors, suspended three facilities for excessive salmonella; two were Beef Products plants, records show.

Since introducing the treated meat, Beef Products has faced the challenge of balancing safety with taste, records and interviews show.

Pathogens died when enough ammonia was used to raise the alkalinity of the beef to a high level, company research found. But early on, school lunch officials and other customers complained about the taste and smell of the beef. Samples of the processed beef obtained by The Times revealed lower levels of alkalinity, suggesting less ammonia was used.

Beef Products acknowledged lowering the alkalinity, and the U.S.D.A. said it had determined that "at least some of B.P.I.'s product was no longer receiving the full lethality treatment."

Beef Products said it had submitted new research to the agriculture department showing that its treatment remained effective with lower alkalinity. Agriculture officials said Beef Products' latest study is under review.

A Safety Solution (Questionable)

Headstrong and self-assured, Eldon N. Roth had the good fortune of being in the right place at the right time.

Mr. Roth spent the 1990s looking to give Beef Products a competitive edge by turning fatty slaughterhouse trimmings into usable lean beef. Mr. Roth and others in the industry had discovered that liquefying the fat and extracting the protein from the trimmings in a centrifuge resulted in a lean product that was desirable to hamburger-makers.

The greater challenge was eliminating E. coli and salmonella, which are more prevalent in fatty trimmings than in higher grades of beef. According to a 2003 study financed by Beef Products, the trimmings "typically includes most of the material from the outer surfaces of the carcass" and contains "larger microbiological populations." Beef Products said it also used trimmings from inside cuts of meat. Mr. Roth was well suited to tackle the problem, friends say. Though lacking a science background, he had a knack for machinery and obtained patents for over two dozen pieces of equipment and methods used in processing beef. "He looked and looked at stuff and always wondered, why can't it be done this way?" said Dr. David M. Theno, a food safety consultant and friend of Mr. Roth. "He is like a lot of inventors. Not everyone sees Eldon's vision."

One of Mr. Roth's early trials involved running electricity through the trimmings to kill bacteria, Dr. Theno and others said. Mr. Roth eventually settled on ammonia, which had been shown to suppress spoilage. Meat is sent through pipes where it is exposed to ammonia gas, and then flash frozen and compressed — all steps that help kill pathogens, company research found.

The treated beef landed in Washington in 2001, when federal officials were searching for ways to eliminate E. coli. Beef Products already had one study showing its treatment would do that; another company-sponsored study by an Iowa State University professor that was published in a professional journal seconded that finding.

Mr. Roth asserted that his product would kill pathogens in untreated meat when it was used as an ingredient in ground beef — raising the prospect of a risk-free burger. “Given the technology, we firmly believe that the two pathogens of major concern in raw ground beef — E. coli O157:H7 and salmonella — are on the verge of elimination,” Mr. Roth wrote to the department.

The Food and Drug Administration signed off on the use of ammonia, concluding it was safe when used as a processing agent in foods. This year, a top official with the U.S.D.A.’s Food Safety and Inspection Service said, “It eliminates E. coli to the same degree as if you cooked the product.”

Carl S. Custer, a former U.S.D.A. microbiologist, said he and other scientists were concerned that the department had approved the treated beef for sale without obtaining independent validation of the potential safety risk. Another department microbiologist, Gerald Zirnstein, called the processed beef "pink slime" in a 2002 e-mail message to colleagues and said, “I do not consider the stuff to be ground beef, and I consider allowing it in ground beef to be a form of fraudulent labeling.”

One of the toughest hurdles for Beef Products was the Agricultural Marketing Service, the U.S.D.A. division that buys food for school lunches. Officials cited complaints about the odor, and wrote in a 2002 memorandum that they had “to determine if the addition of ammonia to the product is in the best interest to A.M.S. from a quality standpoint.” “It is our contention,” the memo added, “that product should be labeled accordingly.”

Represented by Dennis R. Johnson, a top lawyer and lobbyist for the meat industry, Beef Products prevailed on the question of whether ammonia should be listed as an ingredient, arguing that the government had just decided against requiring another company to list a chemical used in treating poultry.

School lunch officials said they ultimately agreed to use the treated meat because it shaved about 3 cents off the cost of making a pound of ground beef. “Several packers have unofficially raised concern regarding the use of the product since the perception of quality is inferior,” the 2002 memo said. “But will use product to obtain lower bid.”

In 2004, lunch officials increased the amount of Beef Products meat allowed in its hamburgers to 15 percent, from 10 percent, to increase savings. In a taste test at the time, some school children favored burgers with higher amounts of processed beef.

Beef Products does not disclose its earnings, but its reported production of seven million pounds a week would generate about $440 million in annual revenue, according to industry records.

Dr. Theno, the food safety consultant, applauds Mr. Roth for figuring out how to convert high-fat trimmings “with no functional value.” “There were some issues with that,” Dr. Theno said. “But he, and God bless him, amassed a tidy fortune for it.” As sales took off, Mr. Roth started offering a buy-back guarantee: If any of the most virulent E. coli was found in ground beef containing Beef Products meat, the company would buy the tainted meat.

This was based on Mr. Roth’s initial prediction that his treated beef could kill E. coli in any meat it was mixed with. The company acknowledges that its subsequent study found no evidence to back that up, although it says it is now trying with an enhanced treatment. The guarantee remains on the company Web site: “Contact a B.P.I. sales representative today to take the challenge!”

Odor and Alkalinity

As suppliers of national restaurant chains and government-financed programs were buying Beef Product meat to use in ground beef, complaints about its pungent odor began to emerge. In early 2003, officials in Georgia returned nearly 7,000 pounds to Beef Products after cooks who were making meatloaf for state prisoners detected a “very strong odor of ammonia” in 60-pound blocks of the trimmings, state records show.

“It was frozen, but you could still smell ammonia,” said Dr. Charles Tant, a Georgia agriculture department official. “I’ve never seen anything like it.”

Unaware that the meat was treated with ammonia — since it was not on the label — Georgia officials assumed it was accidentally contaminated and alerted the agriculture department. In their complaint, the officials noted that the level of ammonia in the beef was similar to levels found in contamination incidents involving chicken and milk that had sickened schoolchildren.

Beef Products said the ammonia did not pose a danger and would be diluted when its beef was mixed with other meat. The U.S.D.A. accepted Beef Product’s conclusion, but other customers had also complained about the smell.

Untreated beef naturally contains ammonia and is typically about 6 on the pH scale, near that of rain water and milk. The Beef Products’ study that won U.S.D.A. approval used an ammonia treatment that raised the pH of the meat to as high as 10, an alkalinity well beyond the range of most foods. The company’s 2003 study cited the “potential issues surrounding the palatability of a pH-9.5 product.”

Soon after getting initial approval from the agriculture department, the company devised a plan to make a less alkaline version of the beef, internal company documents show. Beef Products acknowledged in an e-mail exchange that it was making a lower pH version, but did not specify the level or when it began selling it.

In 2008, after the school lunch program temporarily suspended a Beef Products plant for salmonella contamination, the company wrote in a letter that its effort to combat ammonia “aroma” might have reduced the alkalinity below the initial target levels. It said it was taking steps to ensure that the alkalinity remained elevated.

Samples of the treated beef obtained by The Times this month showed a pH as low as 7.75, according to an analysis by two laboratories. Dr. Michael P. Doyle, a food industry consultant and director of the Center for Food Safety at the University of Georgia, said one point on the exponential pH scale was a considerable difference, and “could have a significant effect on the antimicrobial effectiveness of the ammonia.”

This month, Beef Products provided The Times with new research that the company said showed that E. coli and salmonella were undetectable at a pH level of 8.5. The agriculture department said it did not learn that Beef Products was using lower levels until October, after inquiries by The Times, and that it was studying the company’s research.

McDonald’s, whose hamburgers have contained Beef Products meat since 2004, declined to say if it monitored it for pH. But Danya Proud, a chain spokeswoman, said, “We expect the pH level to meet the specifications that are approved by the U.S.D.A.”

Contamination and Notification

At 6:36 a.m. on Aug. 10, the Beef Products plant in South Sioux City, Neb., started up its production line for the school lunch program. In 60 minutes, the plant produced a batch of 26,880 pounds of processed beef that tested positive for E. coli.

Six days later at the same plant, another 26,880-pound lot was found to have salmonella, government records and interviews show.

Within hours of confirming the contamination, the school lunch division of the Agriculture Department in Washington began investigating.

Just down the hall at department headquarters, the division that oversees meat for the general public did not conduct its own inquiry for another month and half, after receiving questions from The Times.

The problems in South Sioux City came shortly after school lunch officials had suspended a Beef Products plant in Holcomb, Kan., for excessive salmonella. The main U.S.D.A. was not notified of the suspension by school lunch officials, and the plant continued to supply other customers.

Agriculture Secretary Tom Vilsack has since directed school lunch officials to share information about their suspensions with the department's meat safety division.

In addressing the latest contamination cases in Nebraska, Beef Products said it suspected a glitch in its treatment operations, referring to ammonia gas by its chemical name, NH3, according to an e-mail message to school lunch officials.

"The system was stopped for two minutes in order to install a new valve," the company said. "When the system was restarted, there was product flow for approximately one minute without NH3 flow."

After the school lunch officials replied that the glitch might explain only one of the two episodes, Beef Products shifted focus to its suppliers, saying it would more closely scrutinize them for contamination.

Under the U.S.D.A.'s new policy for Beef Products, the company itself is also likely to get more scrutiny. **(Question: Scrutiny for how long?)**

Cargill, one of the nation's largest hamburger makers, is a big buyer of Beef Products' ammoniated trimmings for its patties. Company records show that Beef Products, like other suppliers, has periodically exceeded Cargill's limits on acceptable bacteria levels. That led Cargill to stop buying meat from two Beef Products plants for several months in 2006 after company tests showed excessive levels of salmonella.

But the following year, when Cargill faced an E. coli outbreak, it ruled out Beef Products as a possible culprit, citing the U.S.D.A.'s view that the ammonia treatment provided a "lethality step" for the pathogen. In addition, Cargill officials said recently, they suspect that another supplier, not Beef Products, was the problem. As a result, Beef Products did not face as wide a recall as other Cargill suppliers.

Recently, another E. coli outbreak was traced to a hamburger maker in upstate New York that also used multiple suppliers, including Beef Products. This time, the agriculture department said Beef Products was being recalled with other suppliers, although a source of the contamination had not been identified.

"This will continue to be our approach going forward," the department said.

Griff Palmer contributed reporting.

1996 Journal of Food Science Report on "Finely Textured Lean Beef as an Ingredient for Processed Meats":
http://www.exnet.iastate.edu/Pages/ansci/beefreports/asl-1361.pdf

ACS Symposium Series
"Amino Acid Racemization in Alkali-Treated Food Proteins—Chemistry, Toxicology, and Nutritional Consequences" Chemical Deterioration of Proteins

Editor(s): John R. Whitaker1, Masao Fujimaki2 - Volume 123 - Publication Date (Print): May 28, 1980

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Abstract: "…Food proteins are commonly treated with heat and occasionally with alkali during commercial and home processing. These treatments are intended to alter flavor and texture, destroy microorganisms, enzymes, toxins, or proteolytic enzyme inhibitors, and prepare protein concentrates. Undesirable changes also occur in the amino acid composition of proteins under such processing conditions. Amino acid crosslinking, degradation, amino acid-sugar complex formation, and racemization have been reported. Treated proteins have reduced digestibility, can produce symptoms of protein deficiency when fed to laboratory animals, and have been implicated in the etiology of rat kidney lesions.

Heat and alkaline treatments have been known since the early part of the century to racemize amino acid residues in proteins (1,2,). Dakin and Dudley (3) also studied digestibility of casein in vitro and in vivo after hydroxide treatment. Heating casein with 0.5 N NaOH at 37° for about 30 days completely prevented enzymatic hydrolysis and intestinal absorption…"

The Daily Video on Pink Slime - March 5, 2012:
http://www.thedaily.com/page/2012/03/05/030512-news-pink-slime-2-3/

Partners in ‘Slime’

Feds keep buying ammonia-treated ground beef for school lunches

By David Knowles Monday, March 5, 2012

- **PHOTO: infinite.unknown**

  A look inside the Beef Products Inc. plant in South Sioux City, Neb., where “pink slime” is made.

- **PHOTO: Greg Zabilski/ABC**

  Celebrity chef Jamie Oliver demonstrates the ammonia-treated beef process.

The U.S. Department of Agriculture's continued purchase of so-called pink slime for school lunches makes no sense, according to two former microbiologists at the Food Safety Inspection Service.

"I have a 2-year-old son," microbiologist Gerald Zirnstein told The Daily. "And you better believe I don't want him eating pink slime when he starts going to school."

It was Zirnstein who first coined the term "pink slime" after touring a Beef Products Inc. production facility in 2002 as part of an investigation into salmonella contamination in packaged ground beef. In an email to his colleagues shortly after the visit, Zirnstein said he did not "consider the stuff to be ground beef."

Made by grinding together connective tissue and beef scraps normally destined for dog food and rendering, BPI's Lean Beef Trimmings are then treated with ammonia hydroxide, a process that kills pathogens such as salmonella and E. coli.

The resulting pinkish substance is later blended into traditional ground beef and hamburger patties.

For retired microbiologist Carl Custer, a 35-year veteran of the Food Safety Inspection Service, the idea of mixing in BPI's Lean Beef Trimmings into more nutritious, pure ground beef was itself problematic.

"We originally called it soylent pink," Custer told The Daily. "We looked at the product and we objected to it because it used connective tissues instead of muscle. It was simply not nutritionally equivalent [to ground beef]. My main objection was that it was not meat."

Custer said he first encountered the product — which gained fame recently as "pink slime" in part due to the efforts of celebrity chef Jamie Oliver — back in the late 1990s. Despite voicing his concerns to other officials at the food inspection service, however, the USDA ruled that Lean Beef Trimmings were safe. "The word in the office was that undersecretary JoAnn Smith pushed it through, and that was that," Custer said.

Appointed by President George H.W. Bush in 1989, Smith had deep ties with the beef industry, serving as president of both the Florida Cattlemen's Association and the of the National Cattlemen's Association.

"Scientists in D.C. were pressured to approve this stuff with minimal safety approval," Zirnstein said.

A baseline study conducted by Zirstein and Custer classified the trimmings as a "high risk product." Zirnstein says the food inspection service ignored their findings, and commissioned a separate study to assess the safety of BPI's meat.

The USDA, which plans to buy 7 million pounds of Lean Beef Trimmings from BPI in the coming months for the national school lunch program, said in a statement that all of its ground beef purchases "meet the highest standard for food safety." USDA officials also noted that the sole role of the food inspection service is to determine the overall safety of the nation's food supply, not to make judgments on a product's relative merits.

But Zirnstein and Custer say that the USDA now finds itself in the odd position of purchasing a product that has recently been dropped by fast-food giants McDonald's, Burger King and Taco Bell.

"My objection with having it in the schools is that it's not meat," Custer said.

In 2005, the USDA limited the amount of ammonia-treated Lean Beef Trimmings in a serving of ground beef to 15 percent, but lax labeling requirements mean that it is virtually impossible as a consumer — and for parents of children at a schools where "pink slime" is a part of lunch — to know whether a given package of ground beef or hamburger patty contains it.

“The USDA-AMS [Agricultural Marketing Service] does allow for the inclusion of BPI Boneless Lean Beef in the ground beef they procure for all their federal food programs and, according to federal labeling requirements, it is not a raw material that is uniquely labeled,” Amy Bell, spokeswoman for the California Department of Education Food Distribution Program, told The Daily in an email. “Accordingly, there is no way to tell from simply looking at a package of finished product if BPI Boneless Lean Beef is in the product mix.”

Last year, the USDA said that 6.5 percent of the beef it purchased for the national school lunch program came from BPI.

In part, it’s the lack of clear labeling that rankles both Zirnstein and Custer.

“It’s more like Jell-O than hamburger, plus it’s treated with ammonia, an additive that is not declared anywhere,” Custer said.

“They’ve taken a processed product, without labeling it, and added it to raw ground beef,” Zirnstein said. “Science is the truth, and pink slime at this point in time is a fraudulent lie.”

Neither BPI, nor Smith, who now serves on the board of directors at Tyson Foods, responded to The Daily’s request for comment on this story.

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