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# **S.T.O.P. - Safe Tables Our Priority**

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RE: Docket No. 98-004N

Thank you for soliciting the comments of S.T.O.P. -- Safe Tables Our Priority on the "Ground Beef Processors Guidance Material." S.T.O.P. is a nonprofit, grassroots organization consisting of victims of foodborne illness, family, friends and concerned individuals who recognize the threat pathogens pose in the U.S. food supply. S.T.O.P.'s mission is to prevent unnecessary illness and loss of life from pathogenic foodborne illness.

## **I. E. COLI O157:H7 PREVALENCE IN BEEF**

According to the CDC, 27% of the 139 E. coli O157:H7 outbreaks reported to the agency between 1982 and 1996 were linked to ground beef. This was by far the largest proportion of food product linked to E. coli O157:H7 illness. A 1996 Food Net study of 200 sporadic E. coli O157:H7 illnesses found that 68% of those made ill ate hamburger five days before illness. Of sporadic E. coli O157:H7 cases studied from 1990-1992, 83% of those made ill ate hamburger seven days before onset of illness. The CDC estimates that hamburger causes 20-30% of E. coli O157:H7 outbreaks and 10-20% of sporadic E. coli O157:H7 cases.<sup>1</sup>

An estimated 94% of Americans consume red meat, and the average American consumes 125.5 pounds each year.<sup>2</sup> Ground beef is one of the most frequently consumed foods in the U.S. Approximately half of the beef consumed in the U.S. is in the form of ground beef.<sup>3</sup> Fast food hamburgers comprised 47% of fast food sales in 1992.<sup>4</sup> The prevalence of E. coli O157:H7 in ground beef combined with the popularity of ground beef in the U.S. and the large volume of ground beef produced by plants and distributed to numerous retailers, make careful control of ground beef processing vital.

<sup>1</sup> Dr. Fred Angulo, presentation at the USDA's Technical Meeting to Solicit Input for a Survey on Browning in Hamburger in Washington, DC on August 20, 1997.

<sup>2</sup> American Meat Institute fact sheet "Meat Consumption in the U.S." posted on the AMI website May 6, 1998.

<sup>3</sup> USDA, FSIS, Science and Technology Microbiology Division, "Nationwide Federal Plant Raw Ground Beef Microbiological Survey: August 1993 - March 1994," April 1996, page 1.

<sup>4</sup> USDA:APHIS:VS, Centers for Epidemiology and Animal Health, "Escherichia coli O157:H7: Issues and Ramifications, Executive Summary," March 1994, page 5.

## II. GUIDELINES VS. REGULATION

In order to reduce foodborne illness, steps that reduce illness should be adopted consistently by all food producers. While some members of industry voluntarily meet guidelines, many do not. Consumer groups applaud voluntary industry efforts that encourage safer food production, but we know that product which doesn't meet the high standards of a few supplier contracts will be diverted to another segment of the human food market. The attached IBP memorandum obtained by an anonymous source documents the purposeful diversion of risky product from name brand products. In the memo, the foodborne risk associated with temperature abused carcasses is acknowledged. The company recommends that carcass which are not placed into the cooler within two hours "be designated for outside (non-IBP) carcass sale." Even product that doesn't comply with the food safety advice USDA gives to consumers (don't allow food to go un-refrigerated for two hours) can be stamped "USDA Approved." A minimum standard of safety that would not allow practices such as this is needed to ensure a safer food supply for **all** consumers, not just those who perform extraordinary research to avoid risky products. Guidelines do not have the force of law.

The public does not substantially benefit from the issuance of guidelines. Suggesting good practices does nothing to foster consumer safety or choice. Good practices that aren't incorporated into regulation are not enforceable. However, consumers do benefit from higher standards. If the agency has identified industry practices that can improve public health, these practices should be expected rather than suggested. The agency has the power to demand higher standards from industry, and it should.

Current performance standards are not consistent with public health objectives and therefore do not substantially reduce foodborne illness. Only one pathogen, Salmonella, has been incorporated in the HACCP regulation. While USDA has declared E. coli O157:H7 an adulterant in ground beef and occasionally tests product for this pathogen, tests for this pathogen are not instituted in the HACCP rule.

To substantially decrease the incidence of foodborne illness, FSIS should require a public health based microbial standard. Public health based microbial loads would be defined as at least one microbe below the infectious dose for the most susceptible consumer populations. S.T.O.P. strongly supports the stance that FSIS has taken in declaring E. coli O157:H7 an adulterant. We applaud the agency's implementation of the E. coli O157:H7 random sampling program to enforce the adulteration classification of E. coli O157:H7 in ground beef. However, we have concern that there is no mechanism to catch those who detect E. coli O157:H7 and are obligated to report positive results, but do not do so.

In the guide text, FSIS maintains that heating, fermentation, or pH are approved kill steps, yet evidence shows that these kill steps are difficult to obtain or are insufficient. Heating ground beef to 160 degrees F throughout is usually left to the consumer, and it is difficult to achieve the proper temperature with certainty.

Consumers have long been advised the color is an indicator of thoroughly cooked ground hamburger, but evidence shows that ground beef may prematurely brown or persistently retain pink coloring. S.T.O.P. applauds FSIS' decision to change its food handler recommendation to cook ground beef to an internal temperature of 160 degrees F and to use a thermometer. We are concerned, however, that "brown beef equals safe beef" messages continue to proliferate. The Georgia Department of Human Resources, Division of Public Health issued to the media a press release dated May 1, 1998 that instructed the public to avoid E. coli O157:H7 illness by cooking ground beef thoroughly and "mak[ing] sure the cooked meat is brown throughout (not pink), and juices run clear."

New evidence suggests that standard fermentation or pH steps may not be sufficient to kill *E. coli* O157. FSIS currently recommends that ready to eat fermented products reach a five log<sub>10</sub> CFU/g reduction of *E. coli* O157:H7 populations. Yet researchers from the National Food Centre in Ireland and USDA Eastern Regional Research Center found that standard commercial formulations (2.5% salt, 100ppm sodium nitrate, pH 4.8) were not sufficient to reach the FSIS recommendation.<sup>1</sup> A study by Pennsylvania State University scientists revealed that bologna product fermented to reach a pH level of 5.2 or 4.7 reduced pathogen populations by less than two log units.<sup>2</sup> Research conducted by the University of Georgia's Center for Food Safety and Quality Enhancement indicates that synergistic effects of the combination of acid and salt traditionally used by the food industry to control pathogens occasionally *promotes* the survival of *E. coli* O157:H7. "...the inducible acid resistance mechanisms provided cross protection to allow the greater survival of *E. coli* O157:H7 in the presence of sodium lactate. In the presence of sodium chloride, some strains exhibited greater survival compared to previous studies."<sup>3</sup>

In light of the fact that *E. coli* O157:H7 illnesses are severe, that illnesses are strongly linked to ground beef, that the method of production (grinding) actually increases the risk posed to consumers by spreading the pathogen throughout product, that it is difficult for the average consumer to ascertain whether ground beef has been heated to 160 degrees F throughout, and that the standard kill step formulations for fermentation and pH are not meeting recommended *E. coli* O157:H7 log reduction levels; we encourage FSIS to require *all* ground beef processors to adopt HACCP immediately. A victim of foodborne illness will not be consoled if he or she learns that the source of the illness was a small business rather than a large one.

In the absence of immediately enrolling all ground beef processors into HACCP, we ask that FSIS reevaluate its recommendations for fermented products.

### III. RISK PRIORITIES

S.T.O.P. recognizes the importance of diverting riskier product to fully cooked products. However we question the basis of the risk characterizations made in the guidelines, and we ask that additional risk factors be considered. They are:

#### A. Product density and content

In the proposed guidelines, FSIS declares "[s]mall, mass products such as raw beef patties...` high risk' because they are thin..." and "[l]arge mass products such as meat loaf or chili...` low risk' because they are more dense and are cooked evenly for a longer time." S.T.O.P. questions the basis for this risk characterization. Research from a 1994 Nebraska nursing home *E. coli* O157:H7 outbreak indicates that thin ground beef patties are less risky than dense patties. Those who survived a cookout in which contaminated hamburger was served recalled that illness victims preferred thick patties.<sup>4</sup>

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<sup>1</sup> Alice Gordenker, "E.coli O157:H7 Can Survive During Processing of Fermented Meat Products, Researchers Report," Food Chemical News, March 30, 1998, pages 26 and 27.

<sup>2</sup> Alice Gordenker, "E.coli O157:H7 Can Survive During Processing of Fermented Meat Products, Researchers Report," Food Chemical News, March 30, 1998, page 27

<sup>3</sup> Alice Gordenker, "E.coli O157:H7 Can Survive During Processing of Fermented Meat Products, Researchers Report," Food Chemical News, March 30, 1998, page 27

<sup>4</sup> Nichols Fox, "Spoiled: The Dangerous Truth About a Food Chain Gone Haywire," Basic Books, New York, NY, page 235.

In addition, it is unclear to S.T.O.P. whether large mass products would be diverted for small mass use. For instance, a chub of ground beef sent to a grocery store could be processed into thick or thin hamburger patties by the meat department or by the consumer who bought packaged ground hamburger. It has also been documented that grocery stores re-package meat products. Sometimes stores open meat packages, pick off spoiled looking product, and grind decent looking product with ground beef on hand. These practices prevent processors from determining the intended use of product sold to grocery stores.

## B. Animal and Supplier Variable

Pooled products pose a higher risk than products made from a single source. It is common knowledge that under the current methods of producing hamburger, meat and fat culled from numerous animals is mixed together in ground beef. The larger the pool of animals used in a ground beef production lot, the greater the chance that product from a contaminated animal has been added to the mixture. It is estimated that one infected animal could contaminate 16 tons of ground beef.<sup>5</sup> According to a paper written by members of USDA's Epidemiology and Emergency Response Program, "Methods currently used to produce ground beef make it possible for meat from dozens or even hundreds of cattle to go into any given hamburger patty."<sup>6</sup>

Although the presence of *E. coli* O157:H7 may be very low in individual animals, its presence in the food supply is amplified through production practices that mix contaminated with uncontaminated product, thereby spreading the problem.

According to an article authored by USDA staff, "To produce ground beef, large commercial meat packers may purchase raw meat from several different sources, both domestic and foreign. ...several lots were produced each day. Into each of these lots, which ranged in size from 2 tons (1.8 metric tons) to almost 30 tons (27.2 metric tons), went boneless boxed beef from two to 11 different sources located in two to four different states. Some of these sources were purveyors, who had in turn purchased carcasses from several different slaughterhouses."<sup>7</sup>

For instance, meat included in the lot of Jack in the Box hamburgers that caused over 700 illnesses was traced to three suppliers who had received meat from Canada, New Zealand, and the U.S. Trace back to one of these three suppliers led to five slaughter houses and 443 individual cattle.<sup>8</sup> Product recalled in the Hudson Foods outbreak of 1997 was linked to at least ten potential suppliers.<sup>9</sup>

Product composed of raw materials from a large number of suppliers is riskier than product composed of raw material from a single supplier. Suppliers pose different risks by virtue

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<sup>5</sup> Nichols Fox, "Spoiled: The Dangerous Truth About a Food Chain Gone Haywire," Basic Books, New York, NY, page 262.

<sup>6</sup> Gregory L. Armstrong, Jill Hollingsworth, and J. Glenn Morris, "Emerging Foodborne Pathogens: *Escherichia coli* O157:H7 as a Model of Entry of a New Pathogen into the Food Supply of the Developed World," *Epidemiologic Reviews*, Vol. 18, No. 1, 1996, page 44.

<sup>7</sup> Gregory L. Armstrong, Jill Hollingsworth, and J. Glenn Morris, "Emerging Foodborne Pathogens: *Escherichia coli* O157:H7 as a Model of Entry of a New Pathogen into the Food Supply of the Developed World," *Epidemiologic Reviews*, Vol. 18, No. 1, 1996, page 44.

<sup>8</sup> Gregory L. Armstrong, Jill Hollingsworth, and J. Glenn Morris, "Emerging Foodborne Pathogens: *Escherichia coli* O157:H7 as a Model of Entry of a New Pathogen into the Food Supply of the Developed World," *Epidemiologic Reviews*, Vol. 18, No. 1, 1996, page 45.

<sup>9</sup> Jake Thompson, "Hudson Recall Reflects System's Cracks: Record-Keeping, Rework Under Question," *Omaha World Herald*, December 16, 1997, page 11.

of their handling methods. Raw material received from a supplier is likely to have received consistent treatment. Pooling it with product that may or may not have been temperature abused, processed on a dirty conveyor belt, cut with unwashed knives, etc. will increase the risk. The larger the pool of raw material added -- the larger the pool of risk variables to be controlled-- the greater the risk and the greater the possibility that the source of contamination will not be identified.

S.T.O.P. recommends that lots or batches be limited to raw material from a single slaughterhouse supplier. This would not only minimize risk by reducing the number of risk variables per lot, but it would also facilitate trace back at least to the slaughterhouse -- where mistakes lead to fecal contamination of carcasses.

Other top foodborne illness causing pathogens are regularly found in beef. The following chart includes information gathered from USDA baseline studies. The chart demonstrates that pathogen levels generally increase when products are ground.

	Campylobacter	Salmonella	Listeria	Staphylococcus	Clostridium	E. coli
Steers & Heifers <sup>10</sup>	4%	1%	4.1%	4.2%	2.6%	.2%
Cows & Bulls <sup>11</sup>	1.1%	2.7%	11.3%	8.4%	8.3%	0
Ground Beef <sup>12</sup>	.002%	7.5%	11.7%	30%	53.3%	0

### C. Distributor Variable

According to USDA, "Ground beef intended for both retail and HRI can pass through various channels which may include a number of different steps."<sup>13</sup> Every step in the food safety chain is a point of potential temperature abuse and elevation of microbial levels. The more links in the chain, the more likely it is that handling mistakes will occur. Product handled by numerous distributors is riskier than product handled by a single distributor.

USDA should encourage grinders to sell their products directly to retail outlets as often as possible. In cases where direct sales are impossible, grinders should be encouraged to direct their product through the lowest number of distributors.

### D. Volume and number of consumers

A large volume of product intended for distribution to a large number of consumers, is riskier than a small volume of product intended for distribution to a small number of consumers. A large volume of contaminated product distributed to a large number of consumers has greater potential to cause widespread illness.

<sup>10</sup> USDA, FSIS, Science and Technology Microbiology Division, "Nationwide Beef Microbiological Baseline Data Collection Program: Steers and Heifers, October 1992 - September 1993," January 1994, page 1.

<sup>11</sup> USDA, FSIS, Science and Technology Microbiology Division, "Nationwide Beef Microbiological Baseline Data Collection Program: Cows and Bulls, December 1993 - November 1994," February 1996, page 1.

<sup>12</sup> USDA, FSIS, Science and Technology Microbiology Division, "Nationwide Federal Plant Raw Ground Beef Microbiological Survey: August 1993 - March 1994," April 1996, page 1.

<sup>13</sup> USDA:APHIS:VS, Centers for Epidemiology and Animal Health, "Escherichia coli O157:H7: Issues and Ramifications, Executive Summary," March 1994, page 6.

All lotting and batching conducted by companies should be clearly defined and available to federal inspectors. Small lots and batches and cleaning between lots should be encouraged because contamination will be better contained. Product processed between cleanings should be clearly defined and this information should also be available to federal inspectors. This information is vital to perform recalls quickly and accurately.

It is very difficult to gauge the intended use of product sold to grocery stores, particularly because stores are allowed to further process product without inspection oversight. The store can form the ground beef into patties and send it to several other stores; package it, un-package it near the sell by date, grind it with new product, and package it again; or sell it in a bulk form to consumers who can form it into patties, meat loaf, taco mix, etc. A hundred pounds of product sold to grocery stores can be re-packaged and sold in two pound increments to 50 people or re-packaged and sold in 1/2 pound increments to 200 people. In a real life example of the ground beef food chain written by USDA staff, grocery stores receive 80 pound packages of course ground beef that are reground "along with 'table trimmings' (usually fat trimmed from more expensive cuts) and with meat cuts that had been on their shelves for more than 2 days."<sup>14</sup>

Because increased processing increases the risk of contamination and microbial growth, S.T.O.P. supports efforts to track and to monitor further processing of raw meat and poultry at the retail level. Consumers should not be purchasing food that has been processed, handled and packaged numerous times, thereby increasing the risk of the product, without being clearly notified through package labeling.

It is vital that further processing be conducted properly and that it be limited. We are disappointed that U.S. District Court for the District of Columbia has ruled in favor of the plaintiff in The Original Honeybaked Ham Co. of Georgia Inc. vs. USDA. Consumers deserve the same level of inspection protection whether purchasing a single processed package of ground beef or one that has been endured multiple processing. Consistent inspection methods should be employed at each point of processing. We encourage USDA to require that all suppliers and distributors be listed on the package so consumers can judge whether they wish to purchase a product that has been handled numerous times.

#### IV. REWORK

Use of rework increases risk by adding the risk variables of a previous production to the risk variables of the current production period. However, if plants produce in smaller lots as we suggest, the risk of using rework will be greatly decreased.

Rework should be tracked carefully. The date, batch and/or lot number, and suppliers from which rework originated should be recorded with the product. If companies choose to use rework, it should be confined to a small amount of product produced at the end of a shift. This way, there is a clear break in the process and subsequent product will not be mixed with rework. USDA noted the importance of processing breaks in a 1996 paper, "Complicating the matter was that all of the lots from any given day had been produced sequentially in the same meat grinder without cleaning the machinery between lots. Such a continuous throughput process makes it impossible to identify the discreet start and ends

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<sup>14</sup> Gregory L. Armstrong, Jill Hollingsworth, and J. Glenn Morris, "Emerging Foodborne Pathogens: Escherichia coli O157:H7 as a Model of Entry of a New Pathogen into the Food Supply of the Developed World," *Epidemiologic Reviews*, Vol. 18, No. 1, 1996, page 45.

points of production lots, thereby making it possible for meat or contaminants from one lot to be mixed with those of another.”<sup>15</sup>

Rework records should be added to those of the batch or lot in which the rework is incorporated. We agree that product incorporating rework should be diverted to processing appropriate for high risk product, such as cooking.

## V. TRACE BACK AND LABELING

USDA notes that “the complexity of production and distribution channels for ground beef tends to make the determination of individual animal contributions to any given pound of product a difficult process.”<sup>16</sup> This shouldn’t be the case.

Product origin labeling provides accountability, which facilitates precaution throughout the food chain -- from rancher to grocer. The attached IBP memorandum confirms that companies divert risky product from items that will bear their brand name. Product that doesn’t meet company set standards or supplier contract standards can be diverted to other buyers who won’t place a brand name or other origination information on the product. Clearly, the current practice of allowing unlabeled meat on the market does nothing to instill one of the main objectives of HACCP regulation: placing the responsibility of food safety on the industry. Without accountability, the industry can easily evade responsibility for food products served to millions of Americans.

Origin labeling pinpoints where problems arise so that foodborne illness incidents can be better contained and fewer people will suffer. It will save money spent searching for the source of outbreaks by providing needed information up front. And it would help the industry by implicating the culprit rather than an entire class of products.

This concept is not new. The 1997 Food Code urges retailers to observe similar labels on molluscan shellfish. The identification of the harvester, date of harvest, and location of harvest are required.<sup>17</sup>

USDA requires processing plant identification numbers on meat and poultry products, which facilitates trace back to that level of production. S.T.O.P. encourages FSIS to take the current identification requirement a little farther by requiring identification for the farm of origin, slaughter house, and subsequent processors on the consumer package. This would facilitate maintenance of trace back records through all members of the food production chain.

The ground beef responsible for the Jack in the Box outbreak that killed four children, hospitalized 195 people, and caused over 700 illnesses was never traced to the slaughter house. E. coli O157:H7 contaminated Hudson Foods ground beef patties were not traced to the slaughter house. There were at least ten possible sources of contaminated meat.<sup>18</sup> If

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<sup>15</sup> Gregory L. Armstrong, Jill Hollingsworth, and J. Glenn Morris, “Emerging Foodborne Pathogens: *Escherichia coli* O157:H7 as a Model of Entry of a New Pathogen into the Food Supply of the Developed World,” *Epidemiologic Reviews*, Vol. 18, No. 1, 1996, page 44.

<sup>16</sup> USDA:APHIS:VS, Centers for Epidemiology and Animal Health, “*Escherichia coli* O157:H7: Issues and Ramifications, Executive Summary,” March 1994, page 7.

<sup>17</sup> FDA, “1997 Food Code,” sections 3-202.17, 3-202.18, and 3-602.11.

<sup>18</sup> Jake Thompson, “Hudson Recall Reflects System’s Cracks: Record-Keeping, Rework Under Question,” *Omaha World Herald*, December 16, 1997, page 11.



the contamination cannot be traced, no one is held accountable and the free market fails consumers. The market forces that would reward those who follow good manufacturing processes and punish those that don't, do not come into play when consumers cannot determine the source of the products they purchase.

Foodborne illness isn't simply a ground beef problem. Whole cuts of beef, pork, or chicken can also cause illness that doesn't get traced to the source of contamination at the slaughter or ranch level.

Between 1982 and 1996, 139 outbreaks linked to ground beef were reported to CDC. For fourteen years, there were an average of approximately 10 ground beef outbreaks per year. Only one outbreak has ever been linked to the farm or ranch.<sup>19</sup> The chance that contaminated product would be linked to the farm or ranch is 1 in 901,000.<sup>20</sup> There are approximately 1,900 ground beef processing plants and 100,000 ground beef grinders at the retail level in the U.S.<sup>21</sup> Assuming that one outbreak is traced to each processing level each year, the chance that contaminated product would be linked to a specific ground beef processing plant is 1 in 1,900 and is 1 in 100,000 at the retail grinding level. The odds are stacked against consumers.

Without accountability, companies that sell tainted product have little incentive to invest in improving the safety of their products. Ranchers or farmers who aren't producing name brand products have little incentive to invest in products that reduce pathogenic contamination in live animals, such as PREEMPT. And unless there is an illness linked to the processor, slaughter house, ranch, or farm, violations of supplier contracts or food safety laws may never come to light. No one would know whether a farmer cut corners and lied about using PREEMPT or whether a processing plant lied to a supplier and used "downers" in a lot. Odwalla says it didn't know that an orchard violated its supplier contract until a contaminated juice lot killed one child and caused at least 70 illnesses.

## VI. MICROBIAL TESTING

S.T.O.P. acknowledges that testing for E. coli O157:H7 will not "guarantee the absolute absence of the pathogen." However, frequent testing will guarantee that more E. coli O157:H7 will be found and that more dangerous product will be diverted from consumers. We strongly object to the "don't test, don't find" philosophy.

E. coli O157:H7 is very hazardous pathogen. The illnesses it causes are severe and deadly. As the purveyor of a public health inspection program, FSIS should encourage through its producer guidelines frequent testing for this killer pathogen. Based on evidence provided by one large retail company, we can say with certainty that frequent testing and high standards **will** greatly reduce the presence of this pathogen in the food supply.

In 1993, this company found approximately one E. coli O157:H7 positive sample per 200 samples. Four years after this company initially strengthened the demands of its supplier

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<sup>19</sup> Gregory L. Armstrong, Jill Hollingsworth, and J. Glenn Morris, "Emerging Foodborne Pathogens: Escherichia coli O157:H7 as a Model of Entry of a New Pathogen into the Food Supply of the Developed World," *Epidemiologic Reviews*, Vol. 18, No. 1, 1996, page 37.

<sup>20</sup> The number of farmers and ranchers raising beef cattle is from the National Cattlemen's Beef Association, "Cattle and Beef Handbook," posted on the NCBA website under "Beef Economics," page 1 of 15 pages printed from website.

<sup>21</sup> Figures are based on estimates provided by Barbara O'Brien, Constituent Affairs Specialist, FSIS Public Outreach Department in a telephone conversation on May 11, 1998.



contracts, it finds approximately one positive sample per 10,000 samples. Total plate counts per gram dropped from an average of 100,000 - 200,000 per gram to less than 5,000 per gram.

Performance standards for ground beef should be implemented as soon as possible. The company mentioned above uses the following sampling frequency and has experienced substantial microbial load reductions:

One E. coli O157:H7 test every 5,000 pounds and a composite E. coli O157:H7 sample every 20,000 pounds. A composite test made of four samples taken every 20,000 pounds to reflect a total of 80,000 pounds of product. This composite test is analyzed for total coliforms, generic E. coli, total plate counts, Salmonella, Listeria, Staphylococcus, and E. coli O157:H7.

In the interim, the agency should add this sampling program to its ground beef guidelines.

We support FSIS' recommendation that processors hold product until test results are confirmed, and we suggest that this recommendation be extended to slaughterers and retailers. The recent development of faster E. coli O157:H7 tests will facilitate this practice.<sup>22</sup>

S.T.O.P. strongly recommends that FSIS consider E. coli O157 found on any meat product adulteration. This would prevent raw meat suppliers from knowingly shipping contaminated meat to grinders.

## VII. FOOD HANDLER EDUCATION

Under principle H, the guidance document encourages companies "to provide information and education aimed at minimizing the potential for foodborne illness at the level of the ultimate consumer." Consumer education is important, but it is no less important than food handler education. In fact, we find it odd that food handler education is not stressed in guidelines prepared for the meat grinder industry by the government agency responsible for inspecting the safety of this particular food product. Perhaps it shouldn't be necessary to explicitly state that food industry workers should receive food safety education in their native language, but comments heard about real food handler experience have emphasized the need for this type of training.

S.T.O.P. takes issue with the government's assertion that food safety "information and education can help to assure consumers that product found to have E. coli O157:H7 can be made safe by thorough cooking." First, there are no methods of eliminating food safety risks, and neither the government nor industry should be promoting methods of reducing risk as pathogen free guarantees.

Second, the risk of contracting E. coli O157:H7 is not limited to the cooking step, and it is wrong for the agency responsible for ensuring the wholesomeness of the food supply to promote the idea that the ultimate responsibility for ground beef safety is restricted to cooking and is borne by the consumer. E. coli O157:H7 contaminated ground beef poses a threat in and of itself, whether it is dripping juice onto other food products on a grocery

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<sup>22</sup> Professors at Springfield College in Massachusetts have developed The Motility Channel Pathogen Detector test which identifies E. coli O157:H7 in eight to 24 hours. It is expected to be inexpensive and available in 1998.

store conveyor belt or contaminating the sink, faucet, door handle, bowl, sponge, counter top, refrigerator shelf, utensils, or anything else that comes into contact with it.

*E. coli* O157:H7 is a highly toxic substance that causes illness in very low doses. In the United Kingdom, *E. coli* O157:H7 is classified as a level three biohazard. In the laboratory, extreme measures are taken to contain the risk of infection. It is absurd to expect consumers to maintain similar control measures in their kitchens. Stating that cooking will solve the *E. coli* O157:H7 problem is as ridiculous as stating that the risk of mercury poisoning will be eliminated if consumers throw away broken thermometers without removing escaped mercury from the area.

## VIII. TRANSPORT

The primary risks for food contamination at the transportation level are putting food in a contaminated carrier and subjecting food to temperature abuse. The guidelines make recommendations about detecting problems in the transport of raw materials received by the grinder, but do not include recommendations for shipping product to distributors. In addition, the guidelines for raw materials received do not specifically address carrier sanitation.

In 1994, approximately 224,000 people contracted *Salmonella enteritidis* from contaminated Schwann's ice cream. Schwann's processing was not at fault. The truck that hauled the contaminated ice cream mix had carried *Salmonella* tainted eggs and was not sanitized before the ice cream mixture was loaded. Government investigators discovered that the trucking firm used trucks with cracked liners and had ignored written instructions to sanitize trucks after egg deliveries.<sup>23</sup>

S.T.O.P. urges FSIS to address carrier sanitation and truck maintenance in the guidelines. Back hauling and cracked truck liners should not be allowed for raw material delivery or product distribution. Any truck hauling food products should be sanitized between deliveries and tested for safety by using microbial swab tests on any potential food contact area. Establishments should be encouraged to regularly audit both supplier and transportation contracts.

S.T.O.P. understands that the vast majority of FSIS' resources are currently directed on implementing HACCP regulations, and that the agency hasn't been able to follow through on a November 1996 ANPR regarding transportation food safety issues. Although the agency doesn't have the necessary resources to develop regulations and regularly inspect at the transportation level, we believe that this area of the food chain can be safer by requiring HACCP. It is our understanding that the agency currently includes transportation of incoming materials under HACCP. We recommend that HACCP's reach be extended to include transport of final products to retail establishments.

Currently, transport of high risk perishable products to retail is subject to little to no oversight. Large purchasers can demand safe transportation measures carried out under supplier contracts and some states and localities monitor perishable under transport regulations, but there is no comprehensive effort to monitor transportation of food to retail markets. This is a weak link in the food safety chain that needs to be strengthened.

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<sup>23</sup> Nichols Fox, "Spoiled: The Dangerous Truth About a Food Chain Gone Haywire," Basic Books, New York, NY, page 176.

Fortunately, devices that automatically detect and record temperature abuse have been developed. There are devices that record the ambient temperature throughout a delivery that can be placed within the food containment area and there are also devices that turn color if they reach a specific temperature. Temperature maintenance can be determined from final processor to retail outlet to consumer by using these devices on consumer packages. The use of these devices would clearly identify accountability for temperature abuse and avoid putting abused, risky products on the market. S.T.O.P. encourages FSIS to require establishments to monitor the transportation to retail market CCP and to accept use of temperature abuse detectors on all perishable meat or poultry packages for transport HACCP record keeping verification. At the very least, use of these devices should be urged in the guidelines. Reusable electronic ambient temperature logging devices in trucks are affordable at a cost between \$100 to \$275 per unit. Three window color tags cost approximately \$0.48 each if purchased in quantities of 400. The cost per tag would be significantly reduced for establishments purchasing larger quantities.<sup>24</sup>

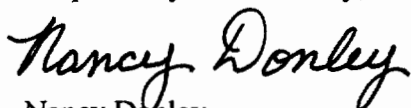
## IX. CONCLUSION

The measures S.T.O.P. recommends are not impossible to employ. What is impossible is justifying lack of prevention with laziness and greed. To meet the goal of improving the safety of the food supply, the status quo must be changed. Pathogens have found a favorable niche in the current meat production system. Since E. coli O157:H7 was discovered in 1982, it has prospered. The CDC estimates that this relative newcomer sickens 20,000 Americans and kills 500 each year.

Current practices cannot stand and result in a reduction of pathogens. The recently implemented HACCP system is not sufficient to address the risk. The program risks haven't been defined broadly enough to address the risks outlined in section VI of these comments, and the record keeping requirements have not been defined broadly enough to facilitate trace back.

A stronger prevention effort is needed. Our members, who have suffered illness and death, agree that any exertion which results in reduced illness and death is a worthwhile endeavor. S.T.O.P. strongly encourages FSIS to adopt the recommendations detailed in these comments. Thank you for considering our views.

Respectfully submitted by,



Nancy Donley  
President and mother of Alex (1987 - 1993)



Heather Klinkhamer  
Program Director

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<sup>24</sup> Based on estimates provided by Precision Temperature Instruments and Sensitech in telephone conversations on May 19, 1998.

To: Leo Lang  
 From: Dean Danilson  
 Re: Outrail Cattle

05/19/01

Sent 5/21

We have been informed that carcasses in your plant are occasionally being delayed for extended periods of time on the USDA outrail for final disposition (up to 6 hours). We must take into account that carcasses left on the kill floor for extended lengths of time are more likely to be afflicted with undesirable microbiological conditions because of delayed washing and chilling.

Delayed interventions allow bacteria to become attached more firmly on the carcass surface and within crevices between the fat and lean and are thus more difficult to kill or reduce in the carcass wash, steam cabinet, and subsequent hot box chilling process. Such residual bacteria can have a detrimental effect on subsequent product quality, not only from the obvious pathogenic bacteria threat, but there are also certain H<sub>2</sub>S gas forming bacteria within the enterbacteriaceae family that have been shown to affect our ground beef shelflife.

This delayed carcass disposition is of concern and is cause for extraordinary actions regarding such affected carcasses. Communication and problem solving between the USDA and plant management are key to managing the excessive or abusive use of the outrail. Efforts must be made to expedite movement of cattle from the slaughter floor into the cooler. This includes management of unnecessary carcass placements onto the outrail (both company and USDA).

The actions/procedures described below should be implemented on carcasses that are delayed on the outrail pending USDA final disposition. This applies to either the USDA and company outrail(s) as well.

- After 30 minutes:
- Verbally notify USDA Vet that outrail carcasses need attention.
  - Investigate cause for cattle accumulation on the outrail. If there is a company related cause take necessary preventive action(s).
- After 60 minutes:
- Verbally re-notify USDA Vet that outrail carcasses need attention.
  - Carcasses which hang on the out rail for longer than 60 minutes are to be treated with a 3% acetic acid spray, after USDA final disposition, and prior to passing through the 1st carcass wash.
- After 2 hours:
- Verbally re-notify USDA Vet that outrail carcasses need attention. (Note: delayed carcasses are to be treated with acetic acid - see above).
  - Affected carcasses are to be QC Retained. Such carcasses are to be designated for outside (non-IBP) carcass sale.
  - Documentation of each incident is to be made and records are to be maintained by the plant HACCP Coordinator.
  - The plant HACCP Coordinator shall make written notification to the USDA IIC and the Plant Manager of each incident.
  - Multiple incidents of 2 hour or more delays within a weekly work period should be brought to the attention of corporate Technical Services.
- After 4 hours:
- All activities for a 2 hour delay above are to be followed.
  - Corporate Technical Services should be notified immediately.

copy to: David Fisher, Mark Sarratt, Roger Irwin, Chris Borgren, DAD File, Keith Tingichoff, Jim Lochner, Rick Retziuff, Reddy Kunduru, QCP Manual, KEVIN MUNN, P