CSPI CENTER FOR SCIENCE IN THE PUBLIC INTEREST
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U.S. Department of Agriculture
Food Safety and Inspection Service
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Washington, D.C. 20250-3700

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00-022N-11
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Re: Compliance with the HACCP System Regulations, *E. coli* O157:H7 Contamination of Beef Products
Docket No. 00-022N, 67 Fed. Reg. 62,325 (Oct. 7, 2002)

The Center for Science in the Public Interest (CSPI) and fellow members of the Safe Food Coalition – Consumer Federation of America, National Consumers League, and Safe Tables Our Priority – appreciate the opportunity to comment on efforts by the Food Safety and Inspection Service (FSIS) to strengthen current policies relating to *Escherichia coli* (*E. coli*) O157:H7 in raw beef products. CSPI is a non-profit consumer advocacy and education organization that focuses primarily on food safety and nutrition issues and is supported principally by almost 800,000 subscribers to its *Nutrition Action Healthletter*.

A central element of the Hazard Analysis and Critical Control Point (HACCP) program is the hazard analysis – identifying those hazards that are "reasonably likely to occur" in meat or poultry production – so that interventions can be applied at critical points where the potential hazard can be controlled, minimized or eliminated. Despite the implementation of HACCP over

six years ago, the beef industry generally has not identified *E. coli* O157:H7 as a hazard reasonably likely to occur in the production of raw beef in their HACCP plans.[1] As a result, beef slaughterhouses, fabricators, and grinders have not addressed *E. coli* O157:H7 through their HACCP plans, but rather have attempted to address the microbiological quality of their products through their Sanitation Standard Operating Procedures (SSOPs) and other pre-requisite programs. Recent illness outbreaks and recalls related to *E. coli* O157:H7-contaminated ground beef demonstrate that current industry approaches clearly have not worked to protect raw beef products from contamination by this pathogen.

Recognizing this failure, FSIS now is requiring manufacturers of beef products to reassess their HACCP plans to determine whether *E. coli* O157:H7 contamination is a food safety hazard reasonably likely to occur in the establishment's production process and, if it determines there is a hazard, to incorporate one or more control points to prevent contamination. While the new guidance and other documents issued by FSIS indicate a strengthened approach to controlling *E. coli* O157:H7, additional steps are necessary to protect the public health.

I. HACCP PLAN REASSESSMENT

Based on FSIS sampling and testing and the Elder and Smith studies demonstrating that *E. coli* O157:H7 is more prevalent in live animals than previously thought, FSIS has stated that "establishments should strongly consider the possibility that *E. coli* O157:H7 contamination is a hazard reasonably likely to occur in their production of beef products" in reassessing their HACCP plans.[2] While the testing and prevalence data certainly warrant HACCP-plan

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[1] *See* National Cattlemen's Beef Association, Fact Sheet, *E. Coli O157:H7* (Jan. 2002), at *http:www.gabeef.org/bb/foodsafety/ecoli.htm*>.

[2] 67 Fed. Reg. 62,325, 62,329 (Oct. 7, 2002).

reassessment, establishments should also take a wider range of information – in particular illness and outbreak data – into account in determining whether *E. coli* O157:H7 is a hazard reasonably likely to occur in their beef production.

A. *As Long As There Are Any Illnesses And Outbreaks Associated With E. coli O157:H7- Contaminated Beef, It Is A Hazard Reasonably Likely To Occur In Beef Production*

A hazard that is reasonably likely to occur is one that presents an identifiable and significant food safety risk that a responsible establishment would act to reduce, prevent or eliminate by establishing and carrying out control measures for that hazard at critical control points identified in the HACCP plan. Illness and outbreak data demonstrate that *E. coli* O157:H7 is a hazard likely to occur in the production of raw beef products and therefore should provide an additional criteria for establishments to assess in determining whether this pathogen is a hazard that must be addressed in their HACCP plans.[3]

Centers for Disease Control and Prevention (CDC) surveillance data for calendar year 2000 identified 16 outbreaks, with 225 illnesses, caused by Shiga toxin-producing *Escherichia coli* where hamburger or ground beef was identified as the vehicle. Of these 63 people were hospitalized, and 5 were treated for hemolytic uremic syndrome or thrombotic thrombocytopenic purpura.[4] Recent data, published by CSPI in its *Outbreak Alert!* report, show that between 1990 and January 2002, there were a total of 166 outbreaks of *E. coli* O157:H7 infection with a known

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[3] While FSIS has noted that the Centers for Disease Control and Prevention have presented information concerning increased estimates for illnesses associated with *E. coli* O157:H7 as well as data showing that *E. coli* O157:H7 has not decreased, FSIS has not explicitly stated that this is an additional criteria to be considered by establishments in their plan reassessments. 67 Fed. Reg. at 62,326.

[4] HHS, Public Health Service, CDC, Memorandum from Director, Division of Bacterial and Mycotic Diseases to State and Territorial Epidemiologists, *Subject: Outbreaks caused by Shiga toxin-producing Escherichia coli, Summary of 2000 Surveillance Data* (Aug. 12, 2001). These data are based on reports by health officials in only 26 out of 50 states.

food vehicle. According to this data, 59% of the outbreaks (98/166) and 64% of the cases (3016/4705) were linked to consumption of beef products.[5]

In July, 2002, the Colorado Department of Public Health and Environment identified an outbreak of *E. coli* O157:H7 among Colorado residents. The CDC linked 28 illnesses in Colorado and six other states to contaminated ground beef products recalled by ConAgra Beef Company on June 30, 2002.[6] The CDC also reported that seven patients had been hospitalized, with five developing hemolytic-uremic syndrome. Ultimately 38 people in 10 states were found to have been sickened as a result of the contaminated ground beef. More recently, *E. coli* O157:H7-contaminated ground beef from a Cargill (Emmpak) facility in Milwaukee, Wisconsin, has been linked to 52 illnesses in six states. Based on this outbreak and illness data, it appears that every beef establishment should be addressing *E. coli* O157:H7 in its HACCP plan.

B. *FSIS Sampling Showing An Increased Number Of Positives Demonstrates That E. coli O157:H7 Is A Hazard In Raw Beef Production Which Current Systems Are Not Working To Control*

Results of FSIS's own sampling data showing an increased number of positives for *E. coli* O157:H7 is another factor demonstrating that beef establishments should reassess their HACCP plans.[7] Indeed, so far in 2002, there have been 54 positive samples – representing

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[5] Caroline Smith DeWaal, et al., *Outbreak Alert! Closing the Gaps in Our Federal Food-Safety Net*, Center for Science in the Public Interest, (Updated and Revised, Sept. 2002).

[6] Centers for Disease Control and Prevention, *Multistate Outbreak of Escherichia coli O157:H7 Infections Associated with Eating Ground Beef – United States, June–July 2002*, 51 Morbidity and Mortality Weekly Report 637-639 (July 26, 2002).

[7] In the past, industry has claimed that the increased number of positives is due to more sensitive testing methods – not an increase in prevalence of the pathogen in ground beef. As FSIS points out, the data "suggests that the low rate of positive findings in the past may have had more to do with the sensitivity of the method and size of the sample being used rather than with the rarity of the pathogen." 67 Fed. Reg. at 62,327.

almost 24% of all positives reported since 1994.[8] Thirteen of these positives were in September and October alone.

The number of positives not only is evidence that *E. coli* O157:H7 is a hazard reasonably likely to occur in the production of raw beef, it also is also evidence that the industry's current methods of controlling *E. coli* O157:H7 through Sanitation Standard Operating Procedures (SSOPs) and prerequisite programs are not working. Controlling hazards under more strictly enforced HACCP plans should provide a greater level of public health protection due to the fact that critical control points (CCPs) must be identified in the HACCP plan, and validation and verification activities must be carried out for critical control points.

C. *FSIS Should Impose A High Standard For Demonstrating That E. coli O157:H7 Is Not A Hazard Reasonably Likely To Occur*

Under FSIS's revised views on HACCP compliance, establishments that produce raw beef products must reassess their HACCP plans unless they have already reassessed them based on the *E. coli* O157:H7 data suggesting that the pathogen may be more prevalent that previously thought. According to FSIS, it "intends to scrutinize very closely the hazard analyses and HACCP plans of those slaughter or deboning establishments that conduct, or have conducted, a reassessment and decide that an intervention for *E. coli* O157:H7 is not necessary."[9]

At a minimum, a slaughterhouse that determines that *E. coli* O157:H7 is not a hazard in its production of raw beef products should demonstrate that it regularly tests the soil in the holding pens at the establishment for *E. coli* O157:H7, that it has systems in place to prevent

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[8] FSIS, Electronic Reading Room, *Microbiological Results of Raw Ground Beef Products Analyzed for Escherichia coli O157:H7, Calendar Year 2002* (Updated Nov. 26, 2002).

[9] 67 Fed. Reg. at 62,329.

infected cattle from entering slaughterhouses, and that it prevents soiled cattle from entering slaughterhouses, for example, by having the supplier of incoming cattle guarantee that they have been washed. Slaughterhouses and deboning establishments who do not identify *E. coli* O157:H7 as a hazard in their production of beef products should also be prepared to demonstrate, through carcasses and trim testing of an established frequency, that they have had no positives over a period of time and be required to provide FSIS with the results of their microbial testing on carcasses and trim on a regular basis.

D. *Grinder Critical Control Points*

In the Federal Register notice, FSIS stated its belief that establishments that receive product for grinding also should address *E. coli* O157:H7 in their HACCP plans.[10] From the hazard assessment standpoint, every grinder should recognize *E. coli* O157:H7 as a potential hazard since this pathogen is considered an adulterant in ground beef. Moreover, grinder HACCP plans that do not identify *E. coli* O157:H7 as a potential hazard in the production of ground beef should receive increased FSIS scrutiny.

FSIS has identified the establishment of purchase specifications for suppliers of raw product as one way in which grinders can address *E. coli* O157:H7. To assure that such purchase specifications are met, the FSIS guidance should recommend that grinders adopt verification procedures that include regular auditing of the supplier to guarantee that the supplier is following the provisions of the purchase specifications. In addition, product testing of a determined frequency also should be encouraged as a means to verify that suppliers have adhered to purchase specifications.

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[10] 67 Fed. Reg. at 62,329.

According to FSIS, grinders that ensure that purchase specifications are met may determine that no additional steps to address *E. coli* O157:H7 are necessary in their production process for ground beef.[11] Although FSIS recommends that grinders think seriously about establishing their own critical control points even if they have purchase specifications for their suppliers, this recommendation should be strengthened, particularly since there is a danger of cross-contamination during product handling. A grinder may not be able to obtain a certification from all of its suppliers. Thus, if a grinder receives raw product from several sources -- some certifying their interventions, others not – a risk of cross-contamination still exists. Therefore, at a minimum the guidance should advise that grinders who have multiple suppliers, including those that do not provide a certification, should establish their own critical control points, such as not mixing meat from different sources and regular cleaning of the grinder, to reduce the risk of cross-contamination.

II. TESTING

A. Industry Verification Testing

Under the HACCP regulations, all establishments are required to conduct on-going verification activities to assure that their HACCP plans are effectively implemented.[12] In its notice, FSIS has recommended that establishments' verification activities should include testing for *E. coli* O157:H7.[13] Although this guidance represents a step in the right direction, we are concerned that FSIS has sent mixed signals on this.

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[11] 67 Fed. Reg. at 62,329-330.

[12] 9 C.F.R. § 417.4(a)(2).

[13] 67 Fed. Reg. at 62,331.

In a recent speech to the North American Meat Processors Association on September 26, 2002, Under Secretary Murano stated that she believes that "HACCP hasn't achieved its full potential to control *E. coli* O157:H7 . . . because too much emphasis has been placed on microbial testing. Testing is not the be-all, end-all to food safety that some want to believe . . . testing by itself does not eliminate risk."[14]

We agree that testing alone will not eliminate the risk of *E. coli* O157:H7 in raw beef. However, testing is a crucial element in verifying that process controls and interventions are working properly to reduce the risk of the pathogen. Positives – particularly repeat positives – are a clear warning of process failure. They signal that process controls and interventions need to be re-examined and re-validated – before consumers become ill or industry faces another expensive recall.

While industry pathogen testing is an important tool for verifying that process controls are working on a daily basis to reduce or eliminate the pathogen, negative results do not guarantee a pathogen-free product. For that reason, we strongly recommend that FSIS deny the request by Excel in its June 10, 2002 letter for a pathogen-free label based on negative test results. While positives indicate process breakdown, as FSIS has stated in its guidance documents, "a negative test is not an assurance that the pathogens are absent."[15]

Excel's request also is inconsistent with the industry's position that no policy can

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[14] FSIS, USDA, Speeches, Opening Remarks by Dr. Elsa Murano before the 60th Annual Convention of the North American Meat Processors Association (Sept. 26, 2002), Charleston, S.C.

[15] FSIS, Guidance for Minimizing the Risk of *Escherichia coli* O157:H7 and *Salmonella* in Beef Slaughter Operations, (Sept. 2002) [hereinafter *Beef Slaughter Guidance*], at p. 26; FSIS, Guidance for Beef Grinders and Suppliers of Boneless Beef and Trim Products (Sept. 2002) [hereinafter *Beef Grinder Guidance*], Appendix 3, at p. 25.

guarantee that *E. coli* O157:H7 is eliminated from ground beef in every instance.[16] Finally, labeling meat in the manner suggesting by Excel could lead to consumer confusion with respect to safe meat handling, particularly among more vulnerable consumers.

HACCP has not achieved its full potential because industry has been reluctant to implement HACCP-based controls for *E. coli* O157:H7. Testing does not assure that meat and poultry is pathogen free. It does, however, serve the important purpose of identifying where controls are not working properly. Indeed, data collected by the American Meat Institute Foundation in 2000 at 12 packing plants has demonstrated that "testing for process control verification would be more effective if the testing were done before carcass fabrication and distribution."[17]

In addition to recommending verification testing for *E. coli* O157:H7, FSIS should identify a testing frequency to assure that the control measures are *consistently* controlling the pathogen. Frequency of testing should be governed by, among other things, production volume, the facility's own experience, whether the facility has had positives in the past, and the season of the year, since prevalence appears to have some seasonal variations.[18]

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[16] See Dan Murphy, *UDSA [sic] Eyeing Tougher Regs on E. coli O157:H7 Interventions*, at <*http://www.meatingplace.com/meatingplace/DailyNews/News.asp?ID=9841*> (9/25/02) (quoting J. Patrick Boyle, president of the American Meat Institute).

[17] American Meat Institute Foundation, News Release, *AMIF survey shows pathogen interventions in beef plants are effective against E. coli O157:H7*, (Feb. 29, 2000), <*http://www.amif.orglpr_Ecolisurvey_22900.html*>.

[18] FSIS has recommended that establishments may need to conduct more frequent and more rigorous verification activities, as well as more rigorous interventions, during the high prevalence seasons of April through September. 67 Fed. Reg. at 62,332. But the agency should identify a minimal testing frequency that it would consider acceptable during the *E. coli* O157:H7 high-prevalence months.

B. FSIS's E. coli O157:H7 Random Sampling Program

a. FSIS should increase the frequency of its testing.

Under FSIS Directive 10,010.1, some establishments that conducted activities addressing *E. coli* O157:H7 have been exempted from FSIS's random sampling and testing program for raw ground beef. FSIS now intends to eliminate the current exemptions from the government's microbiological testing program and test product from all grinding establishments. This is clearly a step in the right direction. Government testing at all grinding facilities will help assure that contaminated beef is caught before it ends up at the grocery store and millions of pounds of product must be recalled.

However, while testing will now be more widespread and performed at more establishments, FSIS has indicated that it does not intend to increase the number of tests being performed annually by FSIS personnel. We recognize that the agency may be confronted with resource limitations and that adequate funding is necessary to increase the frequency of the testing program. Therefore, we encourage FSIS to assess whether it should redirect some of its current resources to expand the testing program. In addition, the agency should seek funds for increased laboratory capacity and inspectors in its annual budget request. Finally, we object to any effort to use contract laboratories to perform government testing.

FSIS also is removing from the Directive the provision requiring 15 consecutive O157:H7-negative test results following an FSIS *E. coli* O157:H7-positive test result. The agency has stated that it will exercise its discretion in determining the appropriate number of follow-up samples to collect and test, and that it will make this determination based on the suspected cause of the *E. coli* O157:H7 contamination and the establishment's corrective action.

In exercising its discretion to determine the frequency of follow-up testing following a

positive sample, FSIS should also consider whether the facility has addressed *E. coli* O157:H7 as a hazard in its HACCP plan and whether it has adequate critical control points to address *E. coli* O157:H7, particularly during the high prevalence season of the year. A plant that has failed to identify *E. coli* O157:H7 as a likely hazard in its operations and, accordingly, has not established critical control points, should be subject to more rigorous testing and review.

b. FSIS should adopt a trim and carcass testing program.

FSIS has stated that to help verify that establishment process controls are working properly it is considering testing (1) raw beef trimmings and other intact materials used in non-intact product, and (2) beef carcasses and parts that will be processed into non-intact product.[19] As set forth above, microbial testing at this earlier stage of production is a critical aspect of process control verification (one that is completely lacking now). It provides a safety check before intact cuts are ground into hamburger and contaminate a larger volume of product. Accordingly, we urge FSIS to adopt such a testing regime.[20]

In addition, FSIS has announced its intention to begin HACCP- and SSOP-verification testing at establishments that may be responsible for supplying *E. coli* O157:H7-positive intact product to grinders. Although FSIS does not identify the precise trigger for government trim and carcass testing, a single positive for *E. coli* O157:H7 should be sufficient to warrant government testing of trim and carcasses at the slaughterhouse or fabricator supplying the ground meat.

III. GUIDANCE MATERIALS

As part of its notice, FSIS also has issued several guidance documents providing

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[19] 67 Fed. Reg. at 62,332.

[20] As part of this notice, FSIS also is seeking comment on CSPI's petition calling for government testing of beef carcasses and trim. 67 Fed. Reg. at 62,332. FSIS should grant the petition and not wait until it finds more positives, resulting in more illnesses and recalls, to implement a program of carcass and trim testing.

recommendations for slaughterhouses, fabricators, and grinders to reduce the occurrence of *E. coli* O157:H7 and *Salmonella* in their ground beef, boneless beef, and trim products.

A. *Guidance For Minimizing Risk In Beef Slaughter Operations*

In the guidance to beef slaughter operations, FSIS recommends that establishments "should consider" innovative intervention approaches such as trimming, hot water and acid washes, steam vacuuming and steam pasteurization to ensure there is no fecal contamination of carcasses. The guidance should emphasize, however, that if *E. coli* O157:H7 is identified in an establishments' HACCP plan as a hazard then the identification of preventative measures and interventions is not optional.

In addition, the guidance states that a food safety hazard that is reasonably likely to occur is one "for which a prudent establishment would establish controls because it historically has occurred, or because there is a reasonable possibility that it will occur in the particular type of product being processed, in the absence of those controls."[21] As noted above, the guidance should explicitly advise beef slaughter operations that illness and outbreak data related to *E. coli* O157:H7-contaminated beef provide an additional basis for concluding that *E. coli* O157:H7 is a hazard reasonably likely to occur in their operations, whether or not products from their particular facility have been identified as a source of illnesses or outbreaks.

Finally, one of the principles stated in this guidance is that slaughter plants should incorporate into their operating procedures transportation and handling practices in order to minimize the risk of *E. coli* O157:H7 and *Salmonella* growth and contamination after the products leave the slaughter plant.[22] Any pathogens present at low levels in raw meat when it

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[21] *Beef Slaughter Guidance*, at p. 24.

[22] *Beef Slaughter Guidance*, at p. 4.

leaves the processing plant can proliferate to dangerous levels during storage or transportation if they are handled improperly or not kept cool enough. In addition, there is the risk of cross-contamination.

In 1996, FSIS, with the Food and Drug Administration, issued an advanced notice of proposed rulemaking, in part, to implement the Sanitary Food Transportation Act of 1990.[23] Since that time, however, no further action has been taken to adopt regulations to implement the Act. As a result there is no comprehensive regulatory program covering the handling of meat and poultry products outside official establishments. Accordingly,
FSIS should go beyond merely recommending that slaughter plants address the problem and work with DOT and FDA to propose and finalize regulations requiring HACCP systems relating to the transportation of meat and poultry.

B. *Guidance For Beef Grinders And Suppliers of Boneless Beef And Trim Products*

The guidance for beef grinders and suppliers of boneless beef and trim includes general considerations that play a major role in preventing the cross contamination of products with pathogens, such as *E. coli* O157:H7 and *Salmonella,* during trimming and grinding. Among other things, the guidance recommends that suppliers and grinders should be aware of increasing evidence showing a higher prevalence of *E. coli* O157:H7 in cattle during the summer months and the greater number of positives detected in raw meat in those months. In assessing the hazards related to grinding beef, suppliers and grinders also should be aware of reported cases of illness and outbreaks and the severity of those illnesses associated with this pathogen.

The guidance further notes that beef grinders and suppliers of boneless beef and trim

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[23] 61 Fed. Reg. 59,372 (Nov. 22, 1996).

products should develop a system of records that is necessary to identify, trace, and retrieve from commerce any ground beef products that may pose a threat to the public health. The experience of this past summer's recall of ground beef associated with ConAgra's Greeley, Colorado facility demonstrates the importance of maintaining appropriate records to facilitate trace-back and trace-forward in the event that a food-safety hazard is identified and a recall is necessary.

The guidance recommends that facilities develop in-house recall plans, including means of notifying their distributors, wholesalers, retailers and customers. However, it fails to state agency expectations concerning what constitutes timely notification both back to the supplier and forward through the distribution chain to the retailer where the grinder detects a positive and there is potentially contaminated product. This is critical to ensure that product recalls occur quickly before product is consumed.

In addition, the guidance recommends that grinders and their suppliers should develop and implement handling and distribution procedures, including time and temperature controls, to assure that the safety of their products is not compromised once those products leave their establishments.[24] These procedures also should include evaluation of trucks, containers, and carriers of raw materials upon receipt to ensure that the conditions meet plant requirements for transporting meat. As set forth above, we urge FSIS to coordinate with other relevant federal agencies to take final action adopting a transportation HACCP program. A mandatory transportation HACCP program would require all industry participants in the food transportation and storage chain to accept responsibility for food safety and assure control of hazards inherent in the transportation and storage process.

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[24] *Beef Grinder Guidance*, at pp. 5, 11.

C. *Guidance On Risk Reduction During Animal Production*

Since cattle are a known reservoir for *E. coli* O157:H7, preventative strategies at the farm level are a critical element in potentially reducing the incidence of this pathogen. The 1999-2000 National Animal Health Monitoring System of feedlot cattle concluded that *E. coli* O157 that produce shiga-like toxin appears to be widely distributed in cattle populations at feedlots.[25] It found that 100% of feedlots had one or more *E. coli* O157-positive fecal samples, with 11% of all samples testing positive.[26]

While the guidance for animal production is an important first step in developing an on-farm strategy to reduce pathogen levels in beef cattle, FSIS should work more closely with the USDA's Animal and Plant Health Inspection Service (APHIS) to assure that primary production is managed in ways that reduce the likelihood of introduction of microbial hazards into the food supply. Potential efforts could include:

- Issuance of national guidance on pre-harvest hygiene and herd management practices for primary producers based on HACCP principles and good agricultural practices already adopted by some national agricultural organizations;[27]
- Development of national written protocols for feed mixing, medication and antibiotic use, including requiring written records on feeds and medications;
- Implementation of pre-harvest food safety education programs for producers, farm

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[25] USDA, APHIS, Veterinary Services, Info Sheet, *Escherichia coli O157 in United States Feedlots* (Oct. 2001), at p. 2 [hereinafter APHIS, *Escherichia coli O157 in United States Feedlots* (Oct. 2001)].

[26] APHIS, *Escherichia coli O157 in United States Feedlots* (Oct. 2001).

[27] While there has been an industry-driven effort to adopt on-farm quality assurance and certifications programs for livestock and poultry production, these programs are limited in scope, often more focused more on producing herds and products of known quality, and not targeted to on-farm reduction of potential pathogens, physical hazards, and chemical residues.

laborers, and veterinarians; and

- Requiring cattlemen to test herds for the presence of *E. coli* O157:H7 and forego selling positive animals to packers.

Other on-farm management practices, in particular biosecurity measures, should be identified that can work to reduce *E. coli* O157:H7. For instance, because *E. coli* O157:H7 can persist in water trough sediments, an additional recommended practice should be frequent cleaning of water troughs and treatment of water with chlorine.[28]

CONCLUSION

Outbreak and illness data, scientific reports showing higher prevalence in cattle, testing data, experience and other information all demonstrate that *E. coli* O157:H7 is a hazard that is reasonably likely to occur in the production of raw beef. CSPI, Consumer Federation of America, National Consumers League, and Safe Tables Our Priority support FSIS's efforts to hold producers of intact beef that is to be used for non-intact products and ground beef more accountable for contamination of their products with this dangerous pathogen. The notice and accompanying guidance represent a positive step in FSIS's recognition that it is a public health agency responsible for the protection of American consumers.

[28] *See* Temple Grandin's From the Corral, Cleaning up Cattle, Meat & Poultry Magazine (Oct. 2002), at p. 80.

Respectfully submitted,

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ON BEHALF OF:

AMERICAN PUBLIC HEALTH ASSOCIATION

CONSUMER FEDERATION OF AMERICA

NATIONAL CONSUMERS LEAGUE