

MICROBIAL SAFETY EVALUATION OF SPROUTED SEEDS

March 25, 1999

The Produce Subcommittee
NACMCF

Safe Tables Our Priority 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. We count among our members victims of E. coli O157:H7 contaminated meat, lettuce and apple juice; hepatitis A contaminated strawberries; Vibrio vulnificus in oysters; Salmonella contaminated poultry and eggs; and Campylobacter contaminated poultry.

We are writing today to briefly address issues raised in the NACMCF's Draft on "Microbiological Safety Evaluations and Recommendations on Sprouted Seeds". We have a few substantive comments and a handful of corrections.

SUBSTANTIVE COMMENTS

* We believe that the NACMCF does not have enough data to warrant the conclusion that contamination in alfalfa sprouts is at low levels or intermittent. Contamination could be high but UNEVEN within a batch and initial samples could be sampling from areas of lower concentration. Or, alternatively, testing mechanisms for isolating pathogens may not be using enrichment broths and more specialized, selective media. Dr. Beuchat, in his presentation at the September meetings specifically indicated that when his lab thought they had obtained an elimination of organisms, they subsequently found after using enrichment broths that, in fact, organisms still survived. Accurately identifying the full magnitude of pathogen load is critical in order to ultimately define successful pathogen elimination criteria.

* In Recommendation #2, the NACMCF advises, "The use of manure or domestic animal grazing on fields destined for seed production should be in accordance with good agricultural practices." As of this point in time, the U.S. has no standards for restrictions on the application of manure or lagoon slurries; "good agricultural practices" to which the NACMCF refers are insufficient to prevent pathogenic contamination of alfalfa seed and make this advice ineffective. Fertilizer and manure runoff were specifically implicated in at least two outbreaks. Studies by Dr. Andrew Maule of the CAMR (Center for Applied Microbiology and Research) in Porton Down, England have shown survival of E. coli O157:H7 for up to 130 days in rooted soil. Our public comments on manure standards, located at our website at www.stop-usa.org/news/priorcom/nopcom.html have a great deal more data pertinent to this very important issue. Once the seed is contaminated, industry is left with no other choice but to attempt to decontaminate. Given the current state of technologies (all presently approved technologies show reduction, not elimination), it is imperative that the NACMCF put a significant emphasis on preventing contamination in the first place.

* In Finding #4, Seed Treatment, the document states "While none [treatments] have been totally effective for eliminating pathogenic microorganisms, their use is likely to reduce the risk that sprouted seeds would be the vehicle for foodborne disease." This is untrue. It may reduce the magnitude of contamination. To the extent that some organisms require higher doses to make people ill, it may reduce the number of illnesses. However, sprouts will continue to be a vehicle for foodborne disease until all pathogens are eliminated, either by preventing the contamination in the first place or with appropriate control points and killsteps. The amplification step ensures that as long as small quantities of pathogens exist, they will grow unless an effective killstep is found for the growth process itself. With some of the pathogens having extremely low infectious dosages, severe illness and death remains a possibility even after pathogen reduction interventions.

* In Recommendation #5, Sprout Production, the NACMCF recommends "encouraging sprout producers to establish HACCP programs." We would like to understand why the NACMCF does not recommend REQUIRING HACCP. Repeated contamination and outbreaks indicate that it is critical to restrict organisms from entering the system at any point.

* The NACMCF should recommend that sprouts carry warning labels cautioning at-risk populations of potentially lifethreatening contamination and that all sprouts be labeled with safe handling information. Just in the time that the Fresh Product Subcommittee has been preparing this draft, alfalfa sprouts have caused ANOTHER outbreak (2/16/99, S. Mbandaka). Consumers can only take appropriate safety precautions to protect themselves when the magnitude of the situation is described to them. S.T.O.P. is hoping that the NACMCF and FDA will recognize the need for urgency in mandating warning labels; lives are literally at stake.

EDITORIAL COMMENTS

On Page 2, there is a sentence that reads "These conditions also promote the growth of bacteria that may be on the seed surface." This should be clarified, as later in the document, you indicate that bacteria can frequently be found under the casing of the seed and inside cracks if the seed casing has been broken AND pathogens can be taken up by the growing sprout. The subsequent sentence should then read "If foodborne pathogens are present on OR IN seeds used for sprouting..."

**** On page 2, last sentence of the second paragraph, "Since 1995, sprouts have been increasingly implicated in foodborne outbreaks," we would ask that the NACMCF add "and recalls." On September 5, 1998, a multistate recall was conducted for *Listeria monocytogenes* in multiple types of sprouts. We have attached the AP article describing this recall below. We believe that this recall should be documented in subsequent sections, including under the section on *Listeria* on page 18.

On page 11, the NACMCF states "Most alfalfa seed, as well as the seed used for other types of sprouts, is not grown for human consumption." We believe this may require some clarification. Broccoli seed may not be harvested for consumption as broccoli sprouts; however, broccoli IS grown for human consumption. The same may be true for radish sprouts. Also, while the NACMCF does not address issues of pesticide contamination, we would ask that the NACMCF advise that FDA needs to further

investigate the use of an input product (seed) harvested under non-human consumption growing conditions being sold as a food product.

At the bottom of page 11, the NACMCF concludes "Frequent failures to isolate pathogens from implicated seeds suggests that seed contamination may be intermittent and/or at a low level." Please refer to our comment above on initial pathogen loads.

At the top of page 14, the document indicates, "Pathogenic bacteria could potentially be introduced via the seeds, the water used to irrigate the seeds during germination and sprouting, from unsanitary production practices, or mishandling by the consumer." S.T.O.P. finds the consumer reference in this sentence to be highly objectionable. The NACMCF is discussing the source of many, extensive outbreaks caused by alfalfa sprouts contaminated prior to their arrival at the consumer. Many sprouts are sold to consumers without any handling information. None are presently sold with warnings. Any secondary infections passed on by consumers to others are therefore the direct result of consumers having already been victims of contamination from another source and not being given enough information to protect themselves and others from cross-contamination. The very size and quantity of these outbreaks indicates that IF there were ANY consumer mishandling (which was not indicated by the epidemiological descriptions given), it has not played a significant role in these outbreaks. Far more possible is that sprouts served at restaurants or delis will be cross-contaminated by infected workers. The document should reflect that role.

In the section on Salmonella on page 18, the document suggests that "Reported outbreaks of salmonellosis associated with sprouted seeds suggest an initial low level contamination of seeds, followed by growth during sprouting." See comments above regarding initial pathogen loads.

In the section under Eterohemorrhagic Escherichia coli on page 18, the organism's low infectious dose should be mentioned. It might also be worthwhile to include in this section a second reference to the ability of O157:H7 to be absorbed into the sprout.

In the section under Listeria monocytogenes on page 18, the high fatality rate of the disease should be mentioned.

IN CLOSING

Thank you for your careful consideration of these important issues.

Sincerely,

Laurie Girard
Advisory Board Member
S.T.O.P. -- Safe Tables Our Priority