Food Safety – E. coli O157:H7 Event Management Statement

Animal Protein
North America

Beef, Beef By-Products

Cargill Protein continues to enhance its food safety programs. However, when higher than normal presumptive positive E. coli O157:H7 test results occur in the same production day, additional actions must be taken to ensure control of all products. The program that Cargill completes is referred to as the “Event Program”, in which the establishment will hold and evaluate previously tested negative like-kind products. During this evaluation, a determination is made on whether or not products that previously tested negative are associated with the presumptive positive product. This evaluation is based on the concepts of “time and space”. An evaluation is completed comparing those combos or boxes of product with presumptive positive results (positive product) with combos or boxes of product with negative results (negative product) that may contain product produced from similar portions of the carcass (space: documented by product/trim type) and the same carcasses (time: documented by start and end fill times). If a negative product is from the same “time and space”, that product is declared to be “associated” with a positive product and will also be removed for cooking, rendering or landfill. Most often during an event period, multiple negative combos will be associated to a single positive.

The Event Program has evolved from focusing largely on components intended for use in grind to now include additional actions on related sub-primals. In our Beef Harvest facilities, sub-primals are produced in higher volume than ground beef components and any food safety concerns related to these products may result in significant business impacts for both Cargill and our customers in an “event” scenario. When any Cargill Beef Harvest facility (including mature cattle harvest facilities) has an event associated with beef trim, we will consider the sub-primals in Cargill’s food safety decision making processes for associated products. Cargill does everything possible to ensure it makes the best food safety decisions for our valued customers regarding both beef trim and boxed beef sub-primals.

There are several fundamentals Cargill employs in its verification program which serve as the foundation for our decision-making process. They include:

- All combos are identified with start and end fill times to more accurately reflect the time and source of trim placed in the combos.
- Where feasible, trim from the primary primals (chuck, loin, rib and round) are segregated and placed in separate combos which allows for greater feedback to the harvest process when presumptive positives occur.
- A robust N=60, or equivalent, surface excision sample program is used for combo and boxed trim and other whole muscle meats in combos sampled for E. coli O157:H7. A minimum of 60 samples are taken per lot, whether the lot is 1 combo or the maximum of 5 combos. Each combo sample is individually enriched and wet composited within the lot for analysis.
- Additionally, a robust N=60 sponge, cloth or excision sampling program is utilized for approved variety meats.
- N=60 samplers are observed on a routine basis for competency and sampling accuracy against Cargill’s written protocol.
- All sampling programs and techniques are evaluated annually by a 3rd party and documented on the N=60 audit addendum.
- BioControl Assurance GDS, a PCR based test method, is utilized for *E. coli* O157:H7 testing. No cultural confirmation is completed. Disposition is determined on a presumptive positive test result.
- The integrity of all tested beef lots is maintained and tracked to ensure lotted product utilized in raw non-intact products will not be sent to different customers.
- All lots with presumptive positive results are removed from the raw material stream and are either sent for cooking by an approved cooker, sent to rendering, or to landfill.
- Cargill has a verification program for our *E. coli* O157:H7 sampling program. Under this program, raw ground beef components are ground, sampled and analyzed to verify the effectiveness of sampling technique. The verification program is conducted at a minimum of once quarterly with an increased frequency during high prevalence months (April through September).

On rare occasions, events occur that show a “series” of presumptive positive trim combos or boxes. Since 2010, Cargill has actively reviewed the potential for sub-primals to be contaminated when there is a high incidence rate of positive trim combos. In Cargill facilities, this review has shown that when the incidence rate of presumptive positive combos is clustered within a certain period of time, and representative of the same portion of a carcass, sub-primals from that period of time and portion of the carcass may also be contaminated. For example, if 80% of the combos of chuck trim (65%, 80%, etc.) are presumptive positive within the 18:00 hour of production, all chuck sub-primals and other non-trim cuts from the 18:00 hour are suspect for contamination. In this example, all associated chuck sub-primal and other non-trim cuts from that production hour are removed from commerce (held or if shipped, then retrieved) and either sent for cooking, sent to rendering or landfill, or N=60 tested to determine if the products are actually contaminated.

Using these fundamentals and supporting historical evidence, all presumptive positive *E. coli* O157:H7 results are thoroughly investigated (not just those within event windows). A thorough investigation will be conducted by Cargill plant management teams with assistance from Cargill’s Corporate Food Safety, Quality and Regulatory team. If a higher than normal incidence percentage is observed, Cargill will analyze the data from the entire product day to assess the associated trim and sub-primals, which may need to be retained pending further investigation.

All specific analyses need to be conducted on an event-by-event basis as each is unique and present vastly different characteristics. Cargill has not determined specific trigger points because of the uniqueness of the events, although each event is thoroughly vetted with the plant management and corporate team before a final decision is determined.

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