Conference for Food Protection
2018 Issue Form

Issue: 2018 I-029

Council Recommendation:	Accepted as Submitted	_____	Accepted as Amended	_____	No Action	_____
Delegate Action:	Accepted	_____	Rejected	_____		

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Issue History:

This is a brand new Issue.

Title:

Amend Food Code FSIS Chicken Liver Compliance Guide in Annex

Issue you would like the Conference to consider:

The USDA Food Safety and Inspection Service (FSIS) is submitting an issue to reference the recently published "FSIS Food Safety Lessons Learned from Outbreaks Associated with Chicken Livers for Official Establishments Retail Food and Food Service Entities Mini-Compliance Guide" as a resource in the Annex of the Food Code. Investigations identified that inadequate cooking contributed to recent outbreaks associated with chicken livers. Including a reference to this guidance in the Food Code will provide managers with additional information as to why searing or lightly cooking chicken livers can result in human illness. While thorough cooking is the only method to eliminate pathogens, some foodservice preparers and consumers prefer undercooked chicken liver dishes. While undercooking is not recommended, the guidance also provides other recommendations to minimize (but not eliminate) pathogen contamination associated with undercooked chicken liver dishes. This information also can be used to develop training materials and by Food Safety Managers to reference in their Active Managerial Control Program.

Public Health Significance:

The FDA Food Code (§3-401.11(A) (3)) recommends that poultry be cooked to an internal temperature of 165°F for 15 seconds (adequate to destroy pathogens). If chicken livers are inadequately cooked, outbreaks may occur. A recent review of data shows that outbreaks from chicken livers have become increasingly more common in the last few years (Lanier, et. al., 2017). From 2000 through 2015, 22 chicken liver- associated campylobacteriosis and salmonellosis outbreaks were identified in the United States. Over half of these outbreaks occurred during 2014 and 2015 and accounted for over 25% of the outbreaks associated with chicken products. Common chicken liver outbreak characteristics included: 1) reported consumption of a blended chicken liver dish (e.g., pâté); 2) reported undercooking; and/or 3) consumption occurred outside the home (e.g., in a restaurant). These common outbreak characteristics indicate potential target areas for prevention and

indicate the need for restaurant-level outreach beyond the cooking times and temperatures in the Food Code.

These outbreaks may, in part, be explained by the interplay of two important factors: undercooking and pathogen contamination. Similar to other raw poultry products, chicken livers can be contaminated with pathogens such as *Campylobacter* and *Salmonella*. Surface contamination can result from insanitary dressing and contamination from the processing environment.

In addition to surface contamination, chicken livers can also be internally contaminated with pathogens, even when chickens are dressed in a sanitary manner. Studies have demonstrated the internal presence of *Campylobacter* in the chicken livers after the external surface was sanitized, with prevalence ranging between 10% and 90% of tested chicken livers (Boukraa et al., 1991; Barot et al., 1983; Baumgartner et al., 1995; Firlieyanti et al., 2016; Whyte et al., 2006). Additionally, researchers have detected *Campylobacter* and *Salmonella* in the livers of chickens previously free of these pathogens after experimental oral inoculation (Chaloner et al., 2014; Knudsen et al., 2006; Sanyal et al., 1984; Borsoi et al., 2009; Gast et al., 2013; He et al., 2010). Pathogens are thought to spread from the intestine to the internal liver tissue via the biliary, lymphatic, or vascular systems, although the exact mechanism and why this happens is unclear.

Many chicken liver recipes, such as pâté, instruct the preparer to only partially cook the livers used in the recipe. Chefs may assume that cooking the outside of the liver kills the pathogens. In multiple outbreaks (2013 and 2015 MMWR reports, NORS), the chicken liver was intentionally prepared raw for consumer preference. However, in the most recent outbreak (2017 MMWR) report, the chef used appearance of the livers alone to determine whether they were fully cooked. The inspector verified the temperature of the chicken liver to be 130°F (not 165°F, as recommended by the Food Code). Partial cooking may kill pathogens on the external surface of chicken livers, but will likely not kill all pathogens in the internal tissue of the livers.

FSIS' Compliance Guideline on Food Safety Lessons Learned from Outbreaks Associated with Chicken Livers provides additional guidance (beyond the information in the Food Code) for all establishments, hotels, restaurants, and institutions that produce raw chicken livers or products made from raw chicken livers. The guidance document explains why searing the outside of the liver will not eliminate pathogens and emphasizes appropriate cooking to an internal temperature of 165°F to avoid illnesses. In the event the consumer requests an undercooked liver dish, the guidance document provides additional methods to reduce the level of pathogen contamination to include acid washes, freezing, and use of high-pressure processing or irradiation. By following the information in the guideline, retailers can reduce or eliminate pathogens, thereby decreasing the likelihood of foodborne illness outbreaks from the product.

References:

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Recommended Solution: The Conference recommends...:

that a letter be sent to the FDA requesting the most current edition of the Food Code be amended by:

1. adding a link to the FSIS "Food Safety Lessons learned from Outbreaks Associated with Chicken Livers for Official Establishments Retail Food and Food Service Entities Mini-Compliance Guide" guideline and

2. adding a subsection to the Annex on Chicken Livers with phrasing similar to:

From 2000-2015, chicken livers were associated with 22 outbreaks, most commonly due to undercooking. USDA FSIS' Compliance Guideline on Food Safety Lessons Learned from Outbreaks Associated with Chicken Livers for Establishments Retail Food and Food Service Entities (provide link when available) provides additional guidance (beyond the time/temperature recommendations in the Food Code) that retailers and others can use to reduce or eliminate pathogens, thereby decreasing the likelihood of foodborne illness outbreaks from this product. The guidance document explains why searing the outside of the liver is not adequate for pathogen elimination in chicken livers and emphasizes appropriate cooking to an internal temperature of 165°F to avoid illnesses. Thorough cooking is the only method to eliminate pathogens. However, although it is not recommended from a food safety standpoint, some foodservice preparers and consumers prefer undercooked chicken liver dishes. The guidance also provides other recommendations to minimize (but not eliminate) pathogen contamination associated with undercooked chicken liver dishes.

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