

**Conference for Food Protection
2018 Issue Form**

Issue: 2018 III-017

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

Delegate Action: Accepted _____ Rejected _____

All information above the line is for conference use only.

Issue History:

This is a brand new Issue.

Title:

Amend Food Code – Endpoint Temperature for Non-Ready-to-Eat Frozen Foods

Issue you would like the Conference to consider:

A recommendation is being made to require a final cook temperature for frozen food products that are not considered ready-to-eat by the manufacturer.

Public Health Significance:

According to the website of the Centers for Disease Control and Prevention, frozen food products have been the source of multiple outbreaks in recent years, including an outbreak of *Listeria monocytogenes* linked to frozen vegetables that killed four people between 2013-2016, and a 2016 outbreak of Hepatitis A virus linked to frozen strawberries that sickened 143 people.

Since 2008, the FDA draft Compliance Policy Guide (CPG) has allowed ready-to-eat food products that do not support the growth of *Listeria monocytogenes* to contain up to 100 CFU/g of the organism. Products that fall within this tolerance level are intended by the manufacturer to be thoroughly heated before consuming¹. However, there has been an increase in the inclusion of frozen foods, such as berries and kale, in food products that are not heated. Currently, there is no regulatory requirement for these products to reach any temperature for lethality before service. Specifically, there was an outbreak of Hepatitis A virus in 2016 in Virginia linked to frozen strawberries, which was investigated by the FDA and Center for Disease Control and Prevention. The outbreak was responsible for 143 illnesses in 9 states and was linked to consumption of smoothies, where the frozen berries did not undergo any heat treatment before consumption.

Research has confirmed that *Listeria* spp. will grow in thawed, frozen food without long lag phases. For example, lag phase duration was 48 hours for foods stored at 4°F, and freezing does not cause an increase in lag phase as had been previously hypothesized². During the allowable 7 days holding for foods such as peas and corn, there is potential for a 3-log growth in *Listeria monocytogenes*, according to Kataoka et al². This growth, with no required lethality step, could lead to illness.

An endpoint temperature of 165°F is being recommended, both to provide lethality for *Listeria monocytogenes* and inactivation of viral hepatitis. Deboosere et al (2010) studied various temperatures for thermal inactivation of viral hepatitis in acidified berries, and found inactivation to occur between 65°C and 75°F (149°F to 167°F)³. Therefore, an endpoint temperature of 165°F on frozen, non-ready-to-eat products would be sufficient to provide risk reduction equivalent to other endpoint cooking temperatures referenced in the FDA Food Code.

References (indicated by superscript numeral):

1. Compliance Policy Guide, CFSAN, ORA, February 2008
2. Kataoka et al, *Journal of Food Protection*, Vol. 80, No. 3 (2017) 447-453
3. Deboosere et al, *Food Microbiology*, Vol. 27 (2010) 962-967

Recommended Solution: The Conference recommends...:

that a letter be sent to the FDA requesting that Section 3-401.13 of the most current edition of the Food Code be amended to include the requirement for plant foods purchased in frozen form, which contain cooking instructions and/or are not considered ready-to-eat by the manufacturer, to be cooked to 165°F.

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Supporting Attachments:

- "Compliance Policy Guide"
- "Growth of Lm in Thawed Frozen Foods"
- "A predictive microbiology approach for thermal inactivation of Hepatitis A"

It is the policy of the Conference for Food Protection to not accept Issues that would endorse a brand name or a commercial proprietary process.