




**Food Safety and Inspection Service**  
U.S. DEPARTMENT OF AGRICULTURE



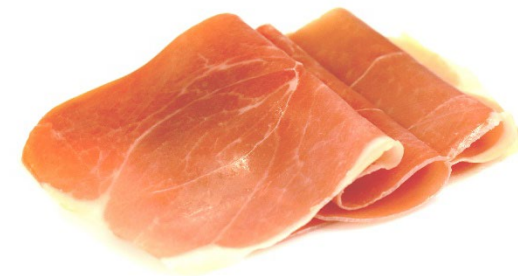
# FSIS Response to NACMPI 2020 Recommendations for Validation of Ready- to-Eat (RTE) Shelf-Stable Multi-Hurdle Lethality Treatments

**Meryl Silverman, Ph.D.**  
**September 27, 2021**  
**NACMPI 2021 Meeting**

# Outline

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- Overview & NACMPI 2020 Charge
- FSIS Responses
- Next Steps





# Overview

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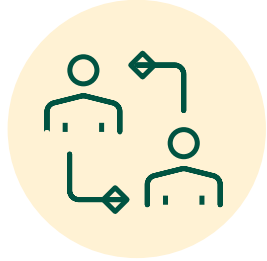
- There is an increasing interest in producing artisanal/niche shelf-stable RTE fermented, salt-cured or dried products that rely on multiple hurdles (i.e., salt, nitrite, reduced pH and reduced water activity, rather than heat) for lethality.
- FSIS recognizes that there is little scientific support available for establishments to use to support lethality for some of these products and is seeking input on the best way to fill this scientific gap.
- Guidance is in development, but the lack of scientific support may raise enforcement questions that FSIS is going to need to address.

# **National Advisory Committee on Meat and Poultry Inspection (NACMPI) September 2020 Charge**

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- To review and advise about the steps FSIS should take to better support the production of artisanal, shelf-stable, ready-to-eat (RTE) fermented, salt-cured or dried products that rely on multiple hurdles for lethality.
- Provide input on the lack of scientific support and control of hazards for producing these multi-hurdle lethality products that may raise enforcement questions.

# Overview of NACMPI Recommendations



Short Term



Long Term

Update the list of State HACCP Contacts and Coordinators so they may assist small and very small processors.

Pre-publication of the list of peer reviewed journal articles that will be included in the guideline now.

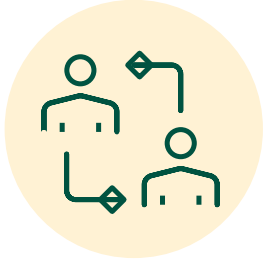
Recommend research into filling the scientific gaps in support are made a research priority.

Establish a working group (scientists working in the RTE niche artisanal fermented, salt-cured and dried processes area) to look at the data that is currently available to identify gaps and establish which critical parameters would need to be met for potential safe harbors for a product and process and include this in the guidance document.

Make the guidance publication a high priority at the conclusion of the working group's activities.

- (1) Combine the best possible combination of available scientific support documents that may not exactly match.
- (2) Use scientific support that demonstrates a less than 5.0-log reduction.

# Progress Update – HACCP Coordinators



Update the  
list of State  
HACCP  
Contacts and  
Coordinators  
so they may  
assist small  
and very  
small  
processors.



- HACCP Coordinators are affiliated with Universities.
- FSIS sent over 100 emails to current and former coordinators and other points of contact to update the list. The validation webpage was updated with the current coordinators on September 24, 2021.
- For states where we were not able to identify a coordinator, we included the contact information for the State Extension service on the webpage.

# Progress Update – Peer-reviewed Journal Articles



Pre-publication of the list of peer reviewed journal articles that will be included in the guideline now.



FSIS updated the validation webpage with journal article references for fermented, salt-cured, and dried products on September 24, 2021.

FSIS also included links to open access sources and PDFs of government authored publications.

# Progress Update – Research



Recommend research into filling the scientific gaps in support are made a research priority.

**FSIS has identified the following data gaps on its website:**

- 1) Estimate drying times needed for different diameter dry and semi-dry fermented sausages (2020).
- 2) Develop or identify approaches to control human pathogens in dried and fermented products (2014).
- 3) Develop or identify approaches to control human pathogens in dry cured ham (2014).



# Progress Update – Research



Recommend research into filling the scientific gaps in support are made a research priority.

**FSIS presented a poster at the 2021 International Association of Food Protection (IAFP) Annual Meeting to highlight these gaps.**



## Agricultural Research Service Studies Addressing FSIS Research Needs

### Conclusions & Outstanding Research Needs

FSIS laboratories and FSIS guidance incorporate ARS' scientific research outputs. Research is still needed:

- Approaches to control pathogens in dried and fermented products and dry-cured ham.
- Drying times for different diameter dry and semi-dry fermented sausages when research is only conducted with one size sausage diameter.



The complete list of FSIS Research Priorities are at :

<https://www.fsis.usda.gov/science-data/research-priorities>

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# Next Steps



Establish a working group (scientists working in the RTE niche artisanal fermented, salt-cured and dried processes area) to look at the data that is currently available to identify gaps and establish which critical parameters would need to be met for potential safe harbors for a product and process and include this in the guidance document.

Working group members have been identified and FSIS will contact them to begin scheduling a virtual meeting for discussion.

# Next Steps



Addressing these recommendations will depend on working group recommendations

Make the guidance publication a high priority at the conclusion of the working group's activities.

(1) Combine the best possible combination of available scientific support documents that may not exactly match.

(2) Use scientific support that demonstrates a less than 5.0-log reduction.



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