



Low Water-Activity Foods Safety Series: Part 4 of 4 – Grain Based Foods and Ingredients

Moderator: Joshua Gurtler, USDA-ARS, United States

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Today's Moderator



Joshua Gurtler

USDA-ARS, United States

Joshua Gurtler is a Research Scientist at the USDA/ARS in Wyndmoor, PA, where he has worked for 14 years. Dr. Gurtler's current work involves interventions for the inactivation of foodborne pathogens in fresh produce, soil, water, compost, and dried foods.

Joshua has published numerous peer-reviewed scientific manuscripts, 9 book chapters, is an editor of three books and author of one patent and one patent that is pending. He has served as a member or chair on several IAFP committees. Dr. Gurtler is a co-scientific editor for the Journal of Food Protection. He has delivered numerous scientific research presentations, including invited presentations, in the U.S., Canada, China and Korea.

He resides with his wife and three children in Phoenixville, PA.

Today's Panelists



Deann Akins-Lewenthal
Conagra Brands Food Company

Deann Akins-Lewenthal, Ph.D. is the Senior Director of Food Safety and Enterprise Laboratory Services for Conagra Brands in Omaha, NE. Her responsibilities include Food Safety, Regulatory Affairs, Policies and Procedures, and Customer Facing Quality for the company. Deann interfaces with internal departments and functions across Quality, Consumer Affairs, Legal, Supply Chain, Risk Management and Environmental Health and Safety to ensure Food Safety and Lab services provide optimal ROI to the business. Deann has been with Conagra Brands for over 12 years in various roles. Deann attended the University of Georgia and received her B.S.A in Biological Sciences and M.S. and Ph.D. in Food Science.



Scott Hood
Antifragile Food Safety Consulting, United States

Scott has worked in the food industry for more than 30 years with a focus on food safety. He is currently doing food safety consulting after retiring from General Mills in 2020. Scott was active in several industry scientific and trade organizations including The International Association of Food Protection, the Consumer Brands Association, and the University of Georgia Center for Food Safety. He served on the National Advisory Committee for Microbiological Criteria in Food and the CDC FSAM Surveillance Working Group. Scott has a BS in Food Science from the University of Wisconsin and a MS and PhD in Food Science from the University of Minnesota.

DRIED READY-TO-EAT CEREAL PRODUCTS

Scott Hood
Antifragile Food Safety Consulting
June 9, 2021



AGENDA

- History of Outbreaks and Events
- Basics of RTE Cereal and Snack Bar Production
- Microbiological Risks
- Control Programs

DRIED RTE PRODUCTS

Historically considered low risk
for pathogens

Some findings of Salmonella in
dried products such as
powdered milk

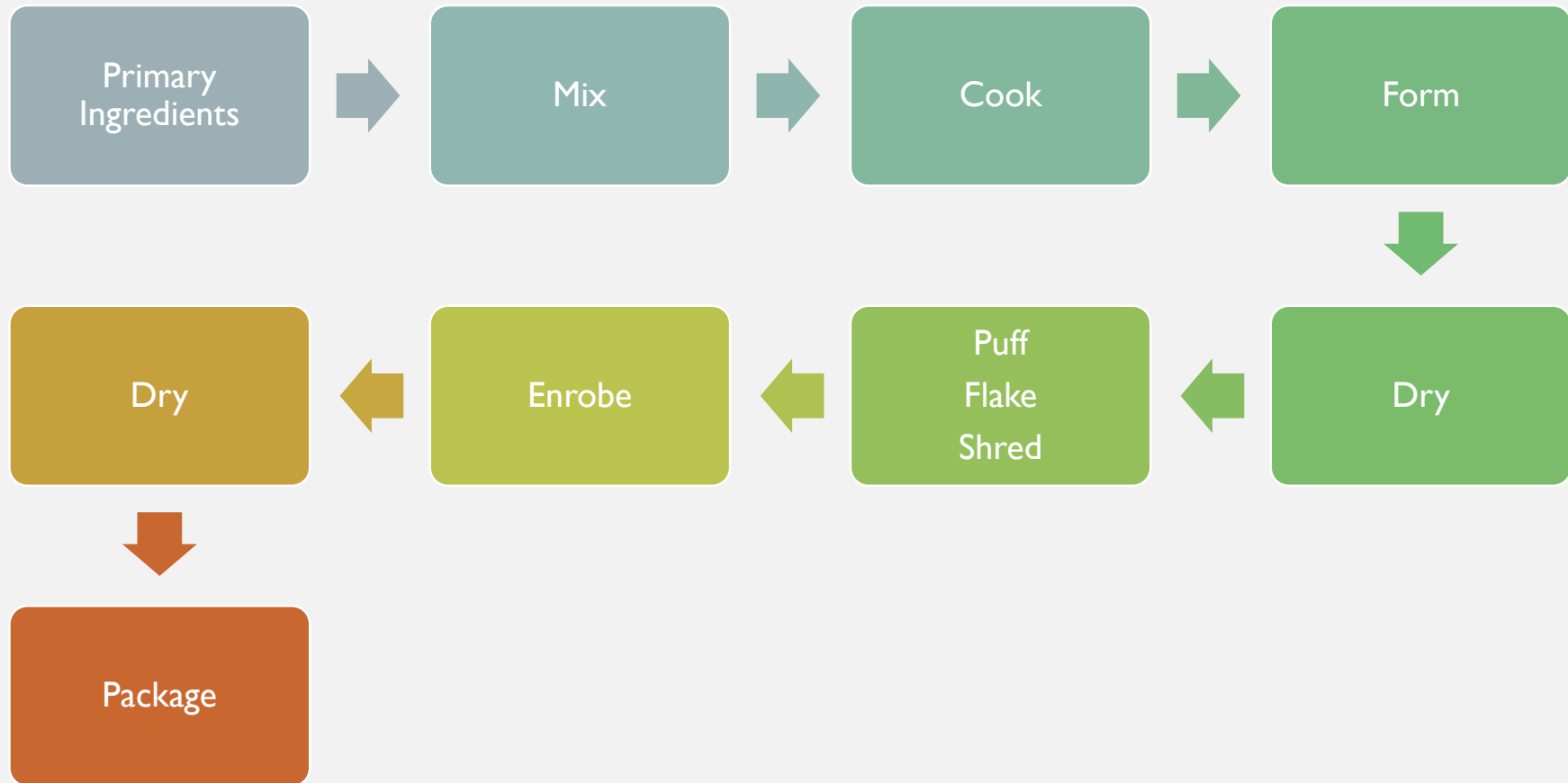


1996

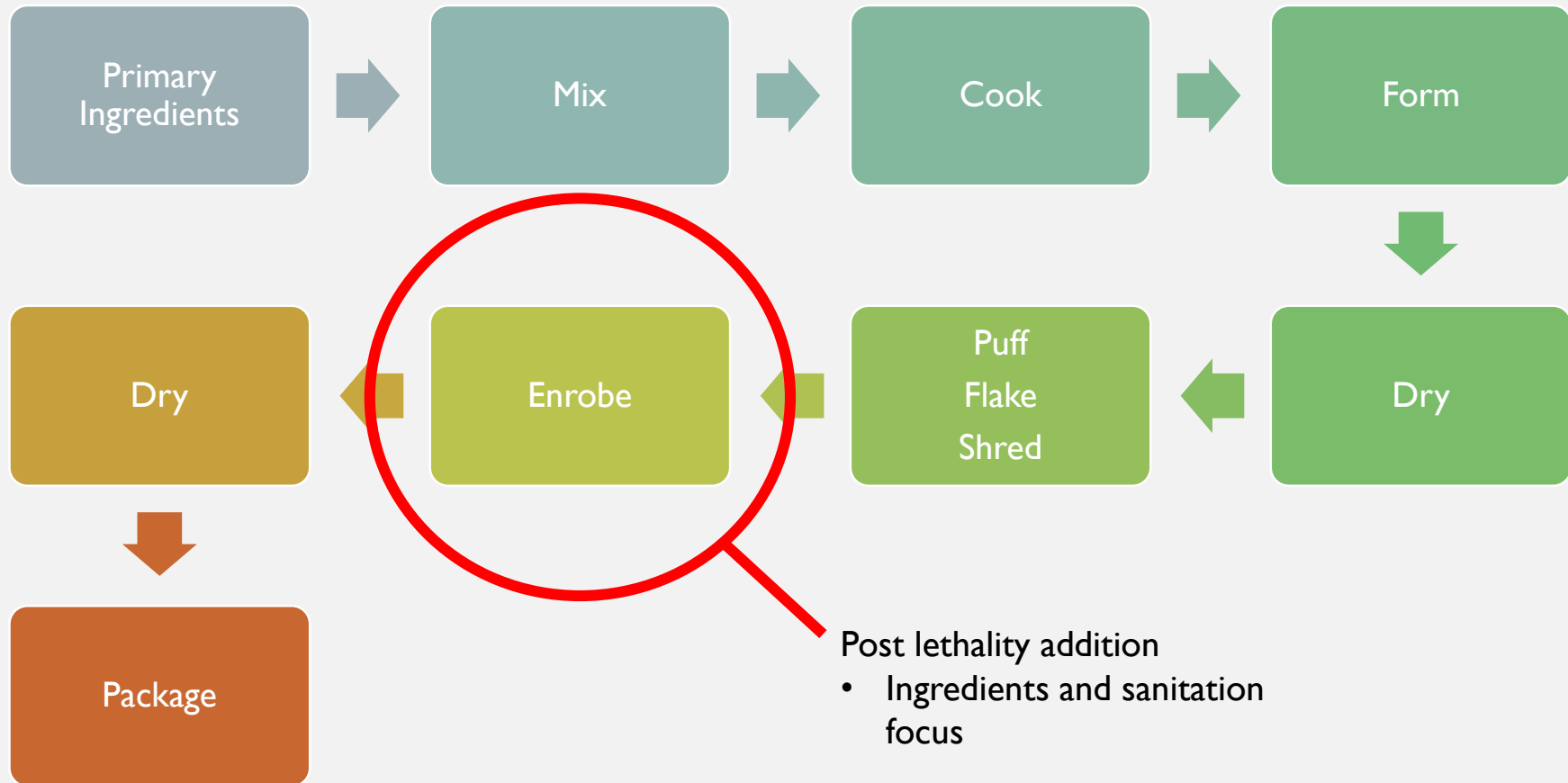
OUTBREAKS AND EVENTS

- 1998 – RTE Cereal – *Salmonella* Agona
- 2008 – RTE Cereal – *Salmonella* Agona
- 2016 – Snack Bars - *Listeria monocytogenes*
- 2018 – RTE Cereal – *Salmonella* Mbandaka

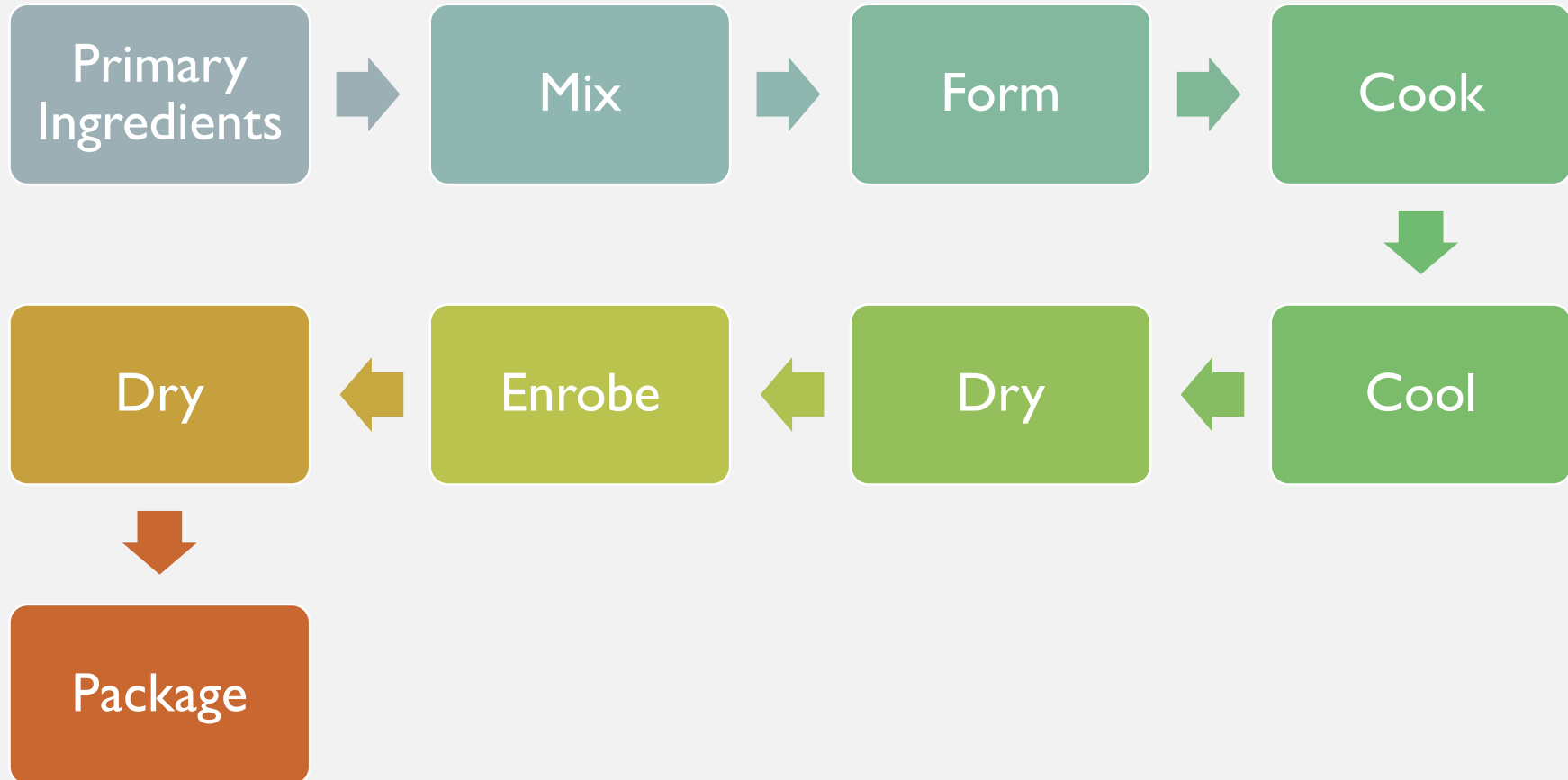
BASICS OF CEREAL PRODUCTION



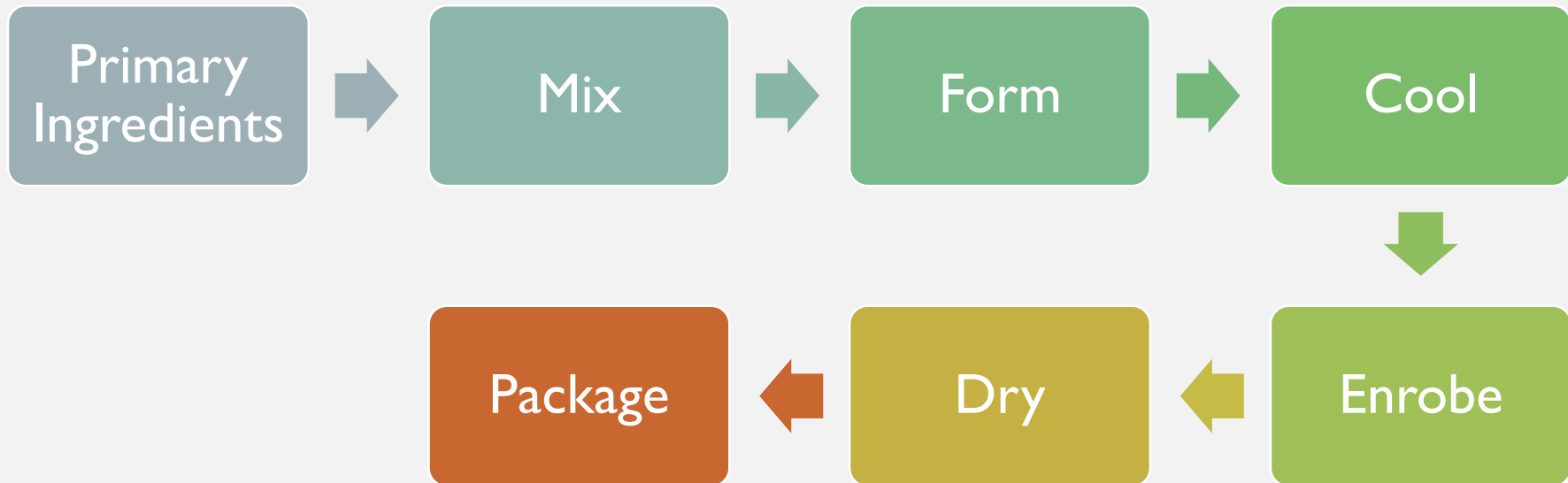
BASICS OF CEREAL PRODUCTION



BASICS OF BAKED SNACK BAR PRODUCTION



BASICS OF COLD FORMED SNACK BAR PRODUCTION



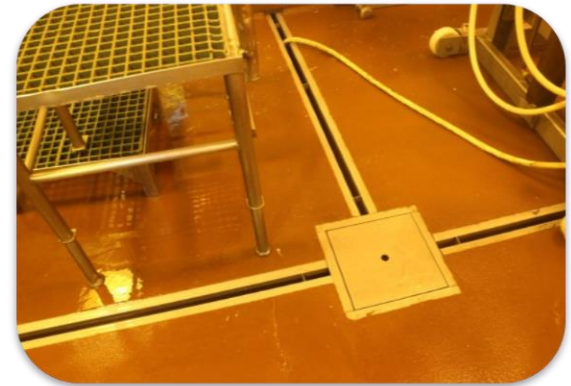
MICROBIOLOGICAL RISKS



Ingredients



Processing



Environment

MICROBIOLOGICAL RISKS

Salmonella

Listeria monocytogenes

Mycotoxins

Should other pathogens be considered?

CONSIDER LISTERIA

- Low probability of causing illness
- Potential regulatory risk
- Indication of sanitation practices

Facilities making dry products may have locations that get wet
Focus on areas that are frequently wet when doing environmental monitoring.

CONTROLS FOR SALMONELLA

Prevent Ingress

Enhance Hygiene

Hygienic Design

Prevent or minimize growth

Establish raw material program

Validate control measures

Establish procedures for verification

Source:

Scott et. al. 2009. Control of Salmonella in low moisture foods.
Food Protection Trends 29(6):342-353

Environmental Monitoring and Actions

CONTROLS FOR SALMONELLA

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Enhance Hygiene

Hygienic Design

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Source:
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foods. Food Protection Trends 29(6):342-353

ROLE OF TESTING

Old
Thinking

Testing is not
control

Can never test
enough to make
it meaningful

New
Thinking

Testing is
verification

Testing may not
find small issues,
but should find
big issues

ROLE OF TESTING

**Reasons not
to do testing**

Old
Thinking

Testing is not
control

Can never test
enough to make
it meaningful

New
Thinking

Testing is
verification

Testing may not
find small issues,
but should find
big issues

**Reasons to
do testing**

Testing can uncover issues and provide data that may help
if epi-based investigations implicate a facility

THE FUTURE

1996



1998



First Major
Outbreak

2019



What will we find?



THANK YOU

Scott Hood

Antifragile Food Safety Consulting

scottkhoo@protonmail.com



Questions?

Questions should be submitted to the presenters via the **Questions section** at the right of the screen.



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