

Food Safety in Flour Milling

IAOM JOINT DISTRICT MEETING

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The Acheson Group

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Food is national security.
Food is economy. It is
employment, energy,
history. Food is everything.

- Chef José Andrés

AGENDA

- Introductions
- Scenario
- Importance of Food Safety
- Suppliers and Vendors
- You (Internal)
- Customers
- Closing Remarks



MEET THE TAG TEAM



The Acheson Group

Who We Are

TAG is a global food safety and public health group that supports clients with practical food safety and public health solutions focused on mitigating operational, regulatory, and reputational risk. We support the industry through our own deep industry expertise and varied global and international expertise to "meet people where they are".



Sr. Manager, Food Safety

Lily Yang, PhD

B.S., Food Science and Technology,
UC Davis

M.S. & Ph.D., Food Science and
Technology, Virginia Tech

Food safety in multiple categories

Food retail

Cooperative Extension programs

Food safety culture

Crisis situations & communications

Multi -lingual food safety educator

PARTICIPATION



Who here has their *crisis management* and/or *recall plans* and/or *contingency plans* figured out?

When was the last time your system was put to the test?

A SHORT SCENARIO



Yesterday, you read a short news article discussing how kids were becoming sick after eating donuts in Ohio and West Virginia. The cause of the illness was said to be under investigation by FDA and CDC.

As you're reading this, you're alerted through your email, from a CUSTOMER (a big food manufacturing company) asking for details on flour it received from one of your facilities.



YOUR CUSTOMER is checking in with their suppliers because something abnormal seems to be occurring; they've received numerous complaints of "reactions" shortly after consuming the products:

i. There are multiple complaints. Additionally, some complaints center around the potential deaths of one adult and one child. Additionally, there was a severe hospitalization event of one other child.

ii. Other complaints involve accounts of highlighter yellow urine.

and there's more...

THE EMAIL HAS QUESTIONS

1. Which of your vendors or suppliers send [RAW INGREDIENT] to your facilities via rail cars or other modes of carry?
2. Are cars specifically dedicated to [RAW INGREDIENT]?
3. What are the containers' sanitation protocols?
4. In your supplier reanalysis for the Customer, your facilities are peanut - and tree nut -free facilities. But, are there allergens in your facility?
5. What are the dosing protocols used for flour enrichment?
 - a. How is this validated?
6. What do you test for in finished product?



What do you do? What are some questions you are asking yourself (internally)?

THE SITUATION UNFOLDS

It's been leaked online that YOUR CUSTOMER determined there were traces of peanut protein in the flour they received from YOU and peanut allergenic proteins identified by the CUSTOMER (who works within an allergen -free facility, beyond wheat flour).

Later in the day, you're contacted by ANOTHER CUSTOMER who says during random testing of their retain samples, they found the presence of peanut proteins from product with YOUR ingredient.

What would you do now?

What are some questions you might be asking?



CAN THERE BE MORE?

Just as you thought the day couldn't get any worse, HR sends you an email in the evening that there've been rumblings of discontent at your facilities.

Resulting from information being sent around, it appears you're headed to a Class 1 Recall on your product. The FDA has identified YOU as the source of the outbreak.

And as you shut down your laptop for the day, a booming explosion shudders through the entire facility and you look up to a portion of the plant on fire.



What's happened?

WHAT HAPPENED?

Allergenic
reaction

Not cleaned
rail car

Carried
*through
production into
product*

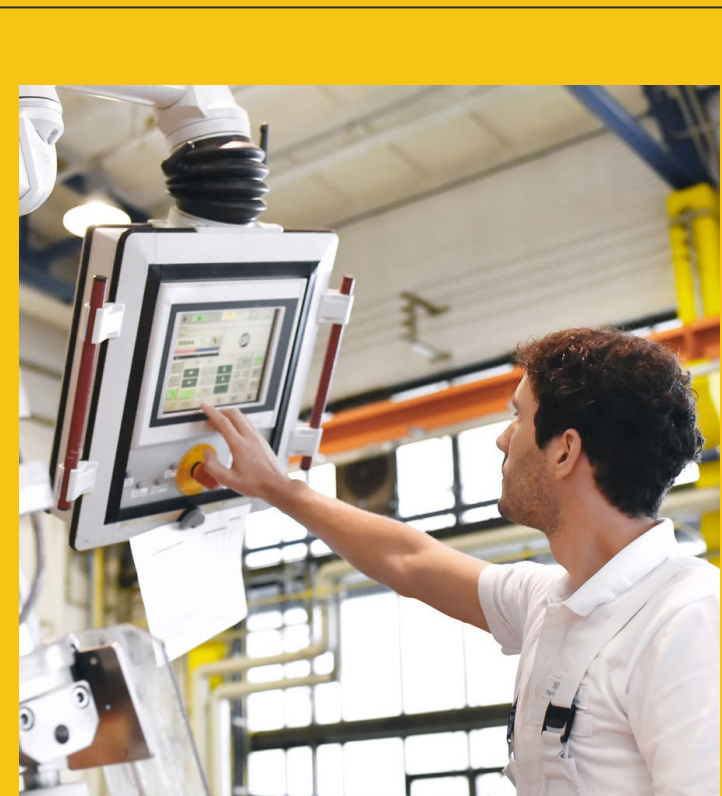


Riboflavin (B2)
excess

Adulteration
*intentional?
accidental?*

Media
messaging

Communication
*What to say and
how?*



THE IMPORTANCE OF FOOD SAFETY SYSTEMS



Suppliers & Vendors

- Points of potential contamination (in the field, during transportation)
- Impacts of weather (on pests, on toxins, etc.)
- Transportation & safety
- “Trust but verify”
- What is your “relationship” with your suppliers/vendors? How open is it?

You Dimensions

- Paperwork and records
- Safety re: enrichments
- Intentional adulteration (IA)
- Unintentional cross -contact (allergens)
- Understanding equipment PMs
- Human safety: explosion risk, air quality, noise exposure
- Pest control
- Dry v Wet Cleaning/Sanitation
- Food safety culture

Exploring Customers

- Storage risks
- Ready-to-eat (RTE) vnRTE considerations
- Nutritional mislabeling
- Safe handling instructions
- Shelf stability

Overarching Considerations

- IA Rule
- Record keeping
- Understanding hazards
- Transportation
- Open communication

SUPPLIERS & VENDORS

*WHO ARE
YOUR
Backups?*

Acknowledge Field Contamination & Hazards

Hazards from the field and/or potential contamination in the field can happen at various points. Some are easily controlled while others require awareness.

- What is being grown in neighboring fields? Potential allergenic cross - contact from other fields?
- Wildlife, livestock, or pest intrusions?
- Other chemical hazards? Drift? Residues? Radiological?
- Weather events in the last year?
- Increased pest activities?
- Water sources & irrigation solutions
- Traceability challenges
- Economically motivated adulteration
- Sustainability versus Hazards

Understand Weather Patterns

Shifting weather patterns + extreme weather events impacts the production, growth, and sustainability of grains. Understanding where grain is sourced and identifying backups will prevent a crunch:

- Mycotoxin and other undesired toxin & mold formation
- Plants' innate ability to ward off hazards is diminished
- Decreased yields due to stunted growth
- Potential accommodations can lead to other negative impacts
- Increased pest pressure
- Worker safety: excessive heat, pest exposure

Delineate Transportation of Goods

In this industry, transportation of goods and RACs can be done through a variety of methods including rail cars, freights, trains, etc.

- What is the frequency of clean -outs?
- Is there any documentation that is required?
- Do you know what there was previously? What will come after?
- Who controls and is in charge of the process?

REFLECTING ON YOURSELF

What are you asking for?

Whether you are receiving products or handling product in -house, it is always important to reflect when producing:

- Record keeping
- Facility access; who is responsible for what functions?
- Have you considered if your product may be treated as a “ready -to-eat” (RTE) product? If so, what protections are you putting in place for the customer?
- When is the last time you “tested the system”?
- When did you last clean out your bins and silos? Was it documented?
- Do you ask for further information from your vendors (i.e., clean out tickets for trailers)?
- How are you addressing traceability and its hazards?

Intrinsic Hazards

There are hazards which we’ve all taken steps to prevent that naturally occurs in the milling, processing, and storage process. These can both impact food safety and human safety:

- Dust accumulation, ignition, and potential explosion
- Thermal hazards
- Pest control, infestation, and contamination
- Don’t just flush the silos when asked



Extrinsic Hazards

Extrinsic hazards can happen both upon transportation, receiving, during storage, during production, and post -production before the product goes to the customer. Some worth mentioning and exploring further include:

- Intentional adulteration
- Biological contamination (pathogens, pests, and mold)
- Chemical contamination from cleaning/sanitation activities (dry v wet); fumes from transportation; cross - contact; mycotoxin; enrichment addition
- Cooling & drying parameters
- Impacts of enrichment process*
- In-process metal contamination (some may be too small to be picked up)

CUSTOMERS

RTE vs nRTE

Are your product(s) considered ready -to-eat (RTE) or are they **not** ready-to-eat. Maybe they're both?

- Intended audience versus reality?
- 2019 *E. coli* in flour outbreak?
- 2023 *Salmonella* in flour outbreak?
- What are *you* doing to address potential microbial hazards?
- What is the cost -benefit analysis?
- What is (or will) your customer doing with your product?
- How shelf -stable is your product?
- How will consumers respond to your product?

**WE ARE
ALL
Customers & Consumers**

Labels

Labels and what is on them is very important. Both FDA and FTC review labels. If anything is mislabeled or misrepresented, the FDA/FTC has the right to ask you to “desist” and/or recall your product for incorrect labeling.

- Safe Handling Instructions?
- Allergen labeling
- Nutrition labeling - is it validated and verified?



The Product and more...

As we know, the final product can also be impacted. While some aspects are related to food QUALITY, some quality aspects will ultimately impact food SAFETY and/or are impacted by regulation.

- Traceability of products from raw to shelf
- Oxidation and degradation of flour components can negatively impact biological hazards
- If making any claims, ensure it is validated and verified
- How is the product addressing other dietary needs?
- How will you handle consumers when a crisis occurs?

OVERARCHING SYSTEMS

Hazard Awareness

Record Keeping

Communication



Hazard Awareness

- Intentional Adulteration
- Food Defense
- Food Safety
- Utilizing 3rd party assessments

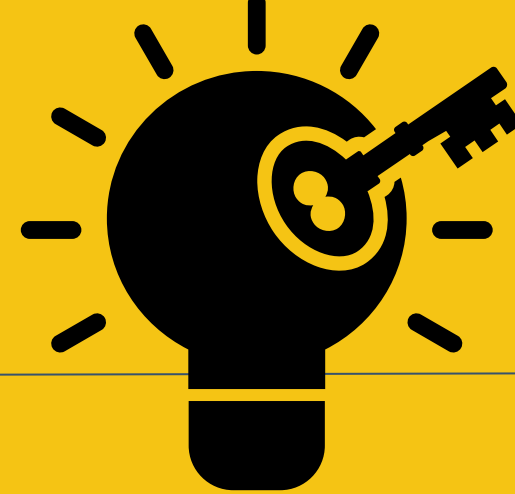
Record -Keeping

- Traceability
- Document all food safety activities
- Simulations

Communication

- Open communication between all parties
- Understanding internal versus external communications
- Food safety culture

KEY TAKEAWAYS



Know

Suppliers & Vendors

- What is the communication like?
- Understand the past and current history of what you're receiving
- Understand points of contamination

Check-in on

Yourself

- How do you maintain traceability?
- How are you keeping your records? Will they last?
- Are you addressing intrinsic issues?
- Are you addressing extrinsic issues?

Think about

Customers

- Who is the “intended audience” and what can they do?
- Does your label make sense?
- Is traceability applicable?
- If something happens, can you handle it internally?

Embody

Food safety behaviors

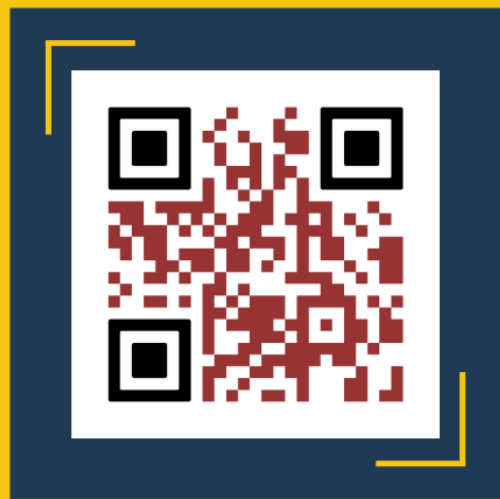
- Be aware of biological, chemical, radiological, and physical hazards.
- FDA has begun conducting inspections based on Food Defense premise.
- Intentional Adulteration
- Communication channels
- Are you able to have a traceable product?
- How do you assess food safety and food safety culture?

TRUST
BUT
Verify

Thank you!



SCAN ME



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