

# ***Managing Foreign Materials and Physical Hazards Risk to Make Recalls More (Not Less) Foreign***

**Organized by:** The University of Wisconsin- River Falls

**Moderator:** Purnendu Vasavada, The University of Wisconsin- River Falls

Sponsored by the



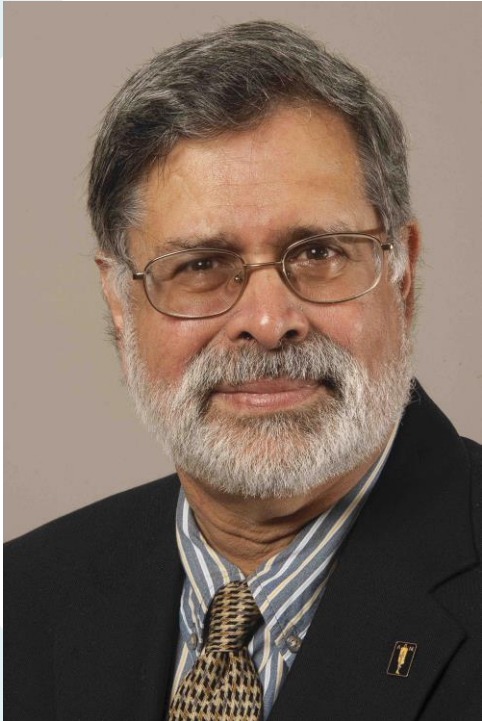
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This webinar is being recorded and will be available to IAFP members within one week.

# Webinar Housekeeping

- It is important to note that all opinions and statements are those of the individual making the presentation and not necessarily the opinion or view of IAFP.
- All attendees are muted. Questions should be submitted to the presenters during the presentation via the Questions section at the right of the screen. Questions will be answered at the end of the presentations.
- This webinar is being recorded and will be available for access by IAFP members at [www.foodprotection.org](http://www.foodprotection.org) within one week.

# Purnendu C. Vasavada



- Professor Emeritus, UW- River Falls
- Food Safety and Microbiology Specialist-UW Extension
- Milk Microbiology and Dairy Technology
- Emerging Pathogens and Rapid Methods and Automation in Food Microbiology
- FDA-ORISE Fellow
- Food Safety Preventive Controls Alliance (FSPCA)
- PCV & Associates, LLC.

# Shawn Stevens



- Shawn Stevens is the founding member of Food Industry Counsel LLC, the only law firm in the United States that represents the food industry exclusively.
- As a food industry consultant and lawyer, Mr. Stevens works with food industry clients (including the world's largest growers, processors, restaurant chains, distributors and grocers) helping them protect their brand by complying with FDA and USDA regulations, reducing risk, managing recalls, and defending high-profile foodborne illness claims.
- Mr. Stevens also speaks regularly to national and international audiences on a wide variety of emerging scientific, regulatory and food safety legal trends.
- Additional information about his practice can be found at [www.foodindustrycounsel.com](http://www.foodindustrycounsel.com)

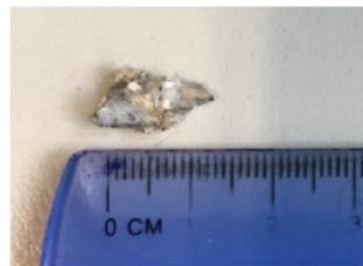


# Lee Reece



- Ph. D Microbiologist, joined the food industry by mistake around 20 years ago.
- Worked at Kraft Heinz for the last 16 years in Food Safety and Quality, and is SME for In Line Product Protection.
- Responsible for the roll out of X-Ray on every Kraft Heinz production line globally.
- Currently leads the International FSQ Technical Excellence team.

# Managing Foreign Materials and Physical hazards Risk to Make Recalls More (Not Less) Foreign



# Objectives

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- Significance of foreign material and physical hazard in context of food safety and quality.
- Foreign material risks and trends
- How to best respond when foreign material contamination is suspected
- Strategy and approaches for working closely with solution providers and developing technology that better suits the manufacturing environment for mitigating risk in a more efficient manner, and
- Discussing proven strategies for ensuring future success.

# Agenda

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- Introduction
  - Definitions
  - Recent Recalls
  - FSMA Human Food and Animal Food Regulations
- Increasing threat and consequences – Shawn Stevens
- Industry strategy and approach – Lee Reece
- Summary
- Q&A/Discussion

# What is in a name?

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- Foreign Material
- Foreign Bodies
- Extraneous matter
- Physical Hazards

Foreign- “Not characteristically present”..

Extraneous- “coming from without “

- It is not always possible to avoid Foreign material
- Many foreign objects may not be esthetically pleasing to customers but may not cause illness or injury are not Hazards

# What is in a name?

## DAL

DAL (Defect action levels) are limits set by the regulation to define the extent of contamination acceptable in food

## Adulterants

The action level represents the limit at or above which food becomes “adulterated”

21 CFR: 117 § 117.110

- Many foreign objects may not be esthetically pleasing to customers but may not cause illness or injury are not Hazards
- Some foreign material in food can constitute health and/or quality concerns. Depending on the size and shape of the object, it may cause choking, injury in the mouth, or other health effects, in which case it is deemed a **“Physical Food Safety Hazard”**

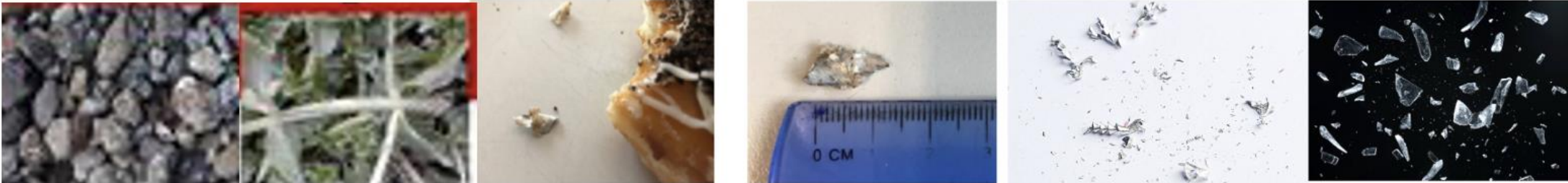


# Extraneous Foreign Material and Physical Hazards

- Mold
- Hair
- Insects
- Stems
- Sand
- Dirt

- Glass
- Wood
- Stones
- Metal
- Jewelry
- Insects

- Bone
- Plastic
- Insulation
- Personal effects
- Bullets/BB shot
- Needles



# Physical Hazards and Food Recalls

## Reported Foodborne Illness Outbreaks 2009–2013

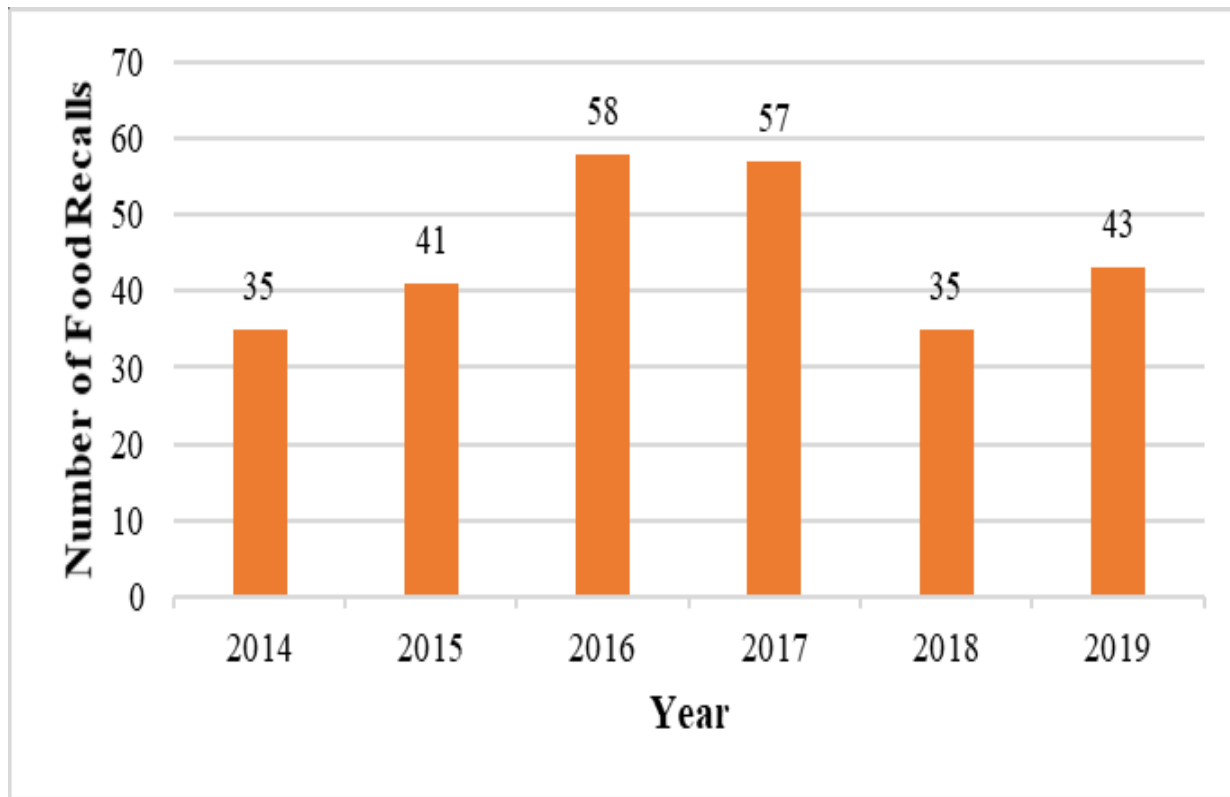
Hazard Type	Outbreaks	Illnesses	Hospitalizations	Deaths
Biological	2,545	52,750	3,552	99
Chemical	163	663	67	5
Physical	Not collected			
Unknown	1,204	13,770	286	3

Adapted from: CDC Surveillance for Foodborne Disease Outbreaks, United States Annual Reports, 2009-10, 2011, 2012, 2013



# Physical Hazards and Food Recalls Increasing

Number of foods recalls due to physical hazards  
2014 – 2019 CFIA

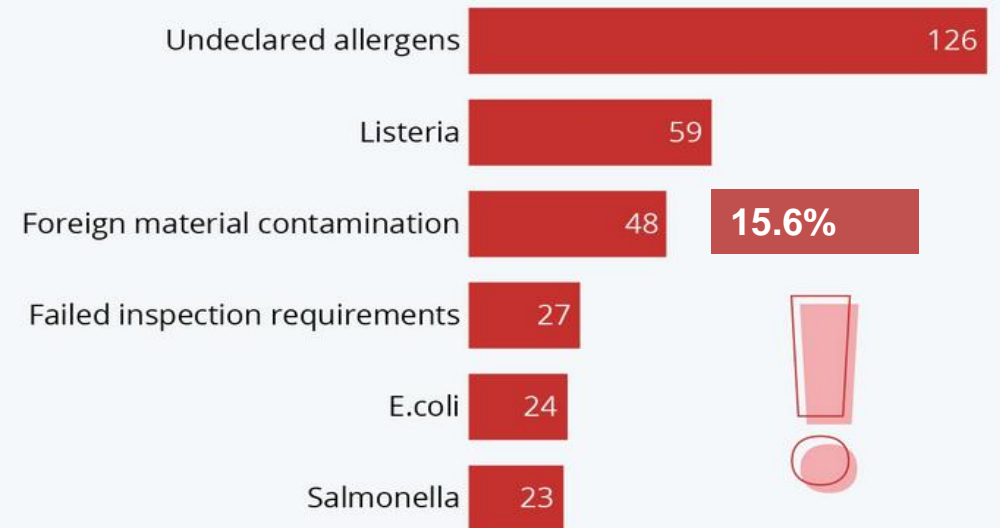


Food recalls due to physical hazards = 269

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## Why Foods Are Being Recalled

Most common causes for food recalls  
in the U.S. in 2019



Major recalls listed on USDA, FDA websites only  
Sources: USDA, FDA

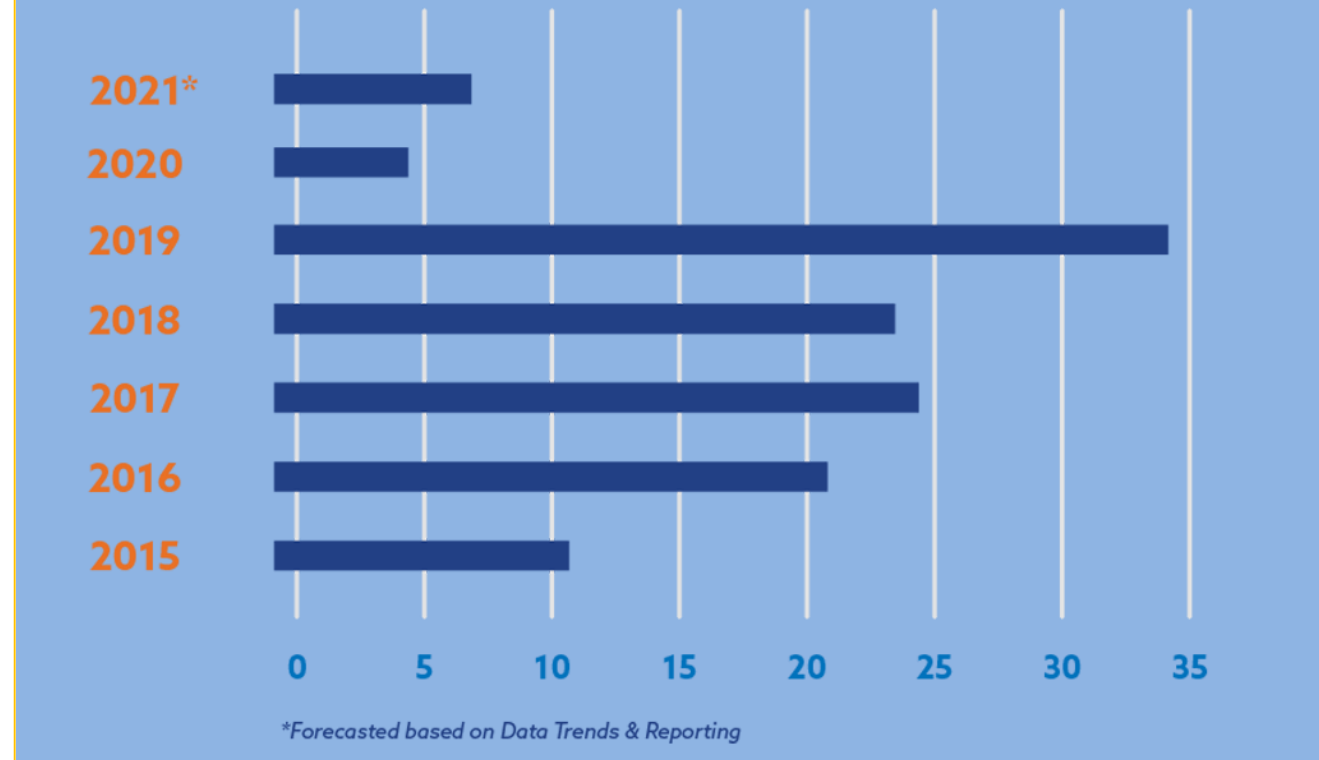


statista

Food recalls due to Foreign material  
contamination = 48/307 (15.6%)

# Physical Hazards and Food Recalls Increasing

## Recalls due to Foreign Material Contamination in the U.S.



Source: [www.Felxxray.com..com](http://www.Felxxray.com..com)

## FOREIGN MATERIAL FOOD RECALLS JAN.1-JULY 1, 2019

POUNDS RECALLED	TYPE OF FOOD PRODUCT	TYPE OF CONTAMINANT
832	FROZEN ANDOUILLE SAUSAGE PRODUCTS	METAL
1,719	RAW PORK SAUSAGE PRODUCTS	RUBBER
2,030	BEEF FRANK LINKS	METAL
2,686	READY-TO-EAT SAUSAGE PRODUCT	METAL
4,940	CORNEBEEF PRODUCTS	METAL
6,690	SOUP WITH CHICKEN PRODUCTS	PLASTIC
13,224	DELI HAM PRODUCTS	PLASTIC
20,373	READY-TO-EAT BEEF PATTIES	SOFT PLASTIC
30,260	GROUND BEEF	HARD PLASTIC, METAL
31,703	READY-TO-EAT CHICKEN PRODUCTS	BONE MATERIAL
35,870	BREADED CHICKEN	METAL
36,420	CHICKEN NUGGET PRODUCTS	RUBBER
43,292	GROUND BEEF	HARD PLASTIC
48,371	RAW GROUND PORK PATTY PRODUCTS	BLACK RUBBER
56,578	STUFFED SANDWICH PRODUCT	PLASTIC
58,020	BREADED CHICKEN PRODUCTS	RUBBER
68,244	CHICKEN NUGGET PRODUCTS	WOOD
69,093	FROZEN CHICKEN STRIPS	METAL
95,393	SMOKED SAUSAGE	HARD PLASTIC
173,376	FROZEN PORK PATTIES	GLASS, HARD PLASTIC
190,757	READY-TO-EAT CHICKEN FRITTERS	HARD PLASTIC
246,514	FROZEN BREAKFAST WRAP PRODUCTS	SMALL ROCKS
11,829,517	FROZEN CHICKEN STRIP PRODUCTS	METAL

**TOTAL AMOUNT OF FOOD RECALLED DUE TO POSSIBLE FOREIGN MATERIAL CONTAMINATION = 13,065,902**

# Foreign Material and Physical Hazards

Frozen hash browns recalled due to possible golf ball contamination

April 2017



Oregon Food Bank recalls chia seeds over rodent dropping concerns - March 2018

Udi's Classic Hamburger Buns recalled over plastic pieces. - September 2019





# Recent Recalls due to Physical Hazards

01/11/2022	<a href="#">Taste of Inspirations</a>	Cream Puffs	Possible presence of small metal fragments	Poppies International, Inc.
03/30/2022	<a href="#">Skippy</a>	Reduced Fat Creamy and Chunky Peanut Butter	May contain a small fragments (stainless steel)	Skippy Foods, LLC
07/12/2022	<a href="#">Enjoy Life</a>	Baked snacks	Product may contain hard plastic pieces	Enjoy Life Natural Brands, LLC
08/25/2022	<a href="#">Market Pantry</a>	White Fudge Animal Cookies	Foodborne Foreign Object	D. F. Stauffer Biscuit Co.
11/03/2022	<a href="#">NESTLÉ® TOLL HOUSE®</a>	Edible Chocolate Chip Cookie Dough	Potential for Soft Plastic Film	Nestle USA





# Recent Recalls due to Physical Hazards

10/17/2022	<a href="#">NESTLÉ® TOLL HOUSE®</a>	STUFFED Chocolate Chip Cookie Dough with Fudge Filling	Foreign Object	Nestle USA
03/18/2022	<a href="#">Kroger</a>	Buttermilk Pancake & Waffle Mix	Potential foreign material contamination	Continental Mills
04/29/2022	<a href="#">H-E-B Bakery</a>	Two-Bite Brownies	May contain metal fragments	H-E-B
04/28/2022	<a href="#">Gorton's</a>	Fish Sandwich	Presence of bone fragments	Gorton's Seafood
01/25/2023	<a href="#">Almondy</a>	Chocolate Cake with Daim	Foreign Object	Almondy



# Recent Recalls due to Physical Hazards



## Jumbo Stuffed Shells recalled after consumer complaints of foreign materials

By [News Desk](#) on September 15, 2021

Seviroli Foods Inc. of Bellmawr, NJ, is recalling H-E-B Jumbo Stuffed Shells because of the potential presence of metal in the product. The issue was discovered on Sept. 9 after H-E-B was notified of four ...



## Krispy Kreme fined after metal found in doughnut

By [News Desk](#) on September 13, 2022

Krispy Kreme has been fined more than £200,000 (\$234,000) in England after a sharp piece of metal was found in a doughnut.

The company pleaded guilty to three food hygiene and safety offenses earlier this...



*Photo illustration*

## Chocolates recalled over brush bristles in product

By [News Desk](#) on January 12, 2023

Sanders Candy LLC, doing business as Second Nature Brands, is recalling various chocolate products because of foreign material in the products, specifically pieces of cleaning brush bristles.

# Recent Recalls due to Physical Hazards



## Starbucks drinks recalled over glass in product

By [News Desk](#) on February 15, 2023

Pepsico Inc. is recalling 25,200 cases of Starbucks frappuccino Vanilla drinks because of glass in the product. Each case has a dozen bottles.



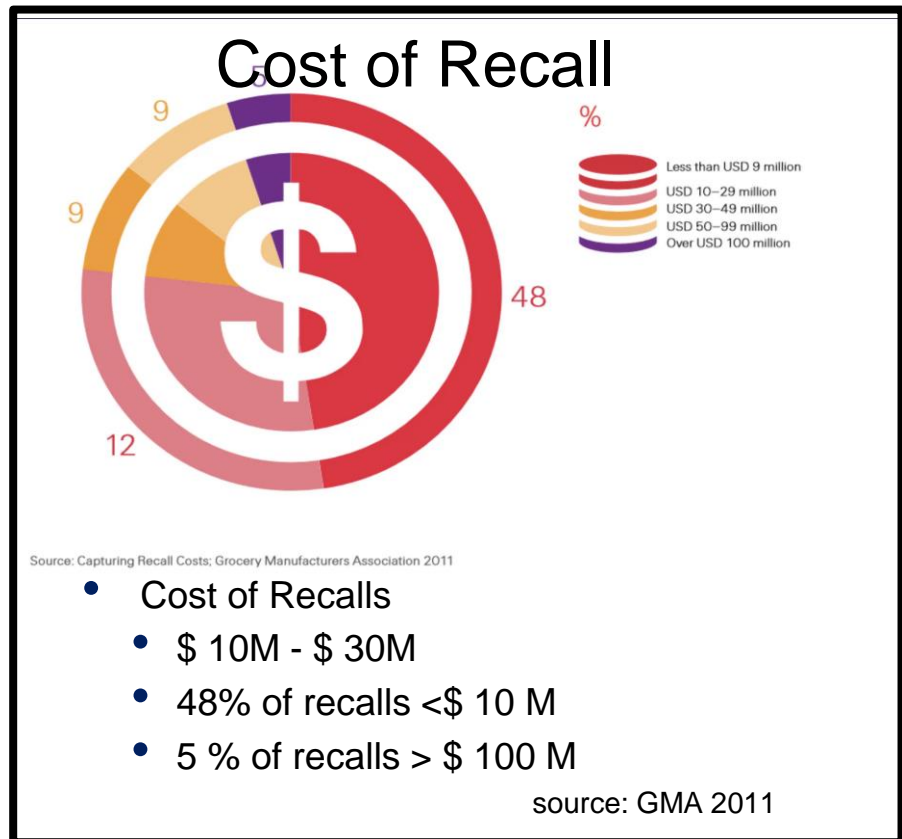
**PRODUCT RECALL**

## Louis Latour Pinot Noir recalled over glass in product

By [News Desk](#) on February 20, 2023

The Liquor Control Board of Ontario is recalling Louis Latour brand Pinot Noir because of the possible presence of glass in the product.

# Controlling Foreign Material and Physical Hazards



- Necessary for safety, aesthetics and quality
- Economic loss and Brand protection
- Most controlled by GMPs and Preprocessing operations
  - Incoming raw material
  - Equipment
  - Processing and packaging operations
- Detection and control devices
- Screening, Filtration, Magnets, metal detectors, x-ray devices
- GFSI schemes – SQF, BRC, FSSC 22000
- USDA FSIS and FSMA Regulations compliance

# Foreign Material, Physical Hazards and FSMA

- FSMA regulations require risk based hazard analysis
- PCHF and PCAF regulations require robust hazard analysis and preventive controls for mitigating identified hazards requiring preventive controls
- GMPs and Prerequisite programs
- Process Preventive Control - Metal detection
- Supply Chain Control







## Foreign Materials and Physical Hazards: Increasing threat and consequences Shawn Stevens



## REDUCING PHYSICAL HAZARDS BY GETTING THE BEST FROM TECHNOLOGY Lee Reece



# Foreign Materials and Physical Hazards: Increasing threat and consequences



**Shawn Stevens**

[stevens@foodindustrycounsel.com](mailto:stevens@foodindustrycounsel.com)

920.698.2561

**2000 - 2023**

**873**



**2000 - 2023**

**873**



## FOOD RECALL SEARCH

### FOOD RECALL REPORTER



#### RECALLS BY YEAR

2023	2015	2007
2022	2014	2006
2021	2013	2005
2020	2012	2004
2019	2011	2003
2018	2010	2002
2017	2009	2001
2016	2008	2000

Food Industry Counsel is proud to offer the **Food Recall Reporter**, the only searchable food recall database that allows users to conduct a food recall search for FDA and USDA food product recalls. Search food and beverage recalls, the types of food products, the reasons for the recalls, and the names of the companies recalling the products.

#### RECALL CLASS

- ☐ I 5,320
- ☐ II 3,333
- ☐ III 658
- ☐ Not Published 866

#### RECALL AGENCY

- ☐ FDA 8,341
- ☐ USDA 1,884



Limit search to: ☐ Company ☐ Brand ☐ Details ☐ Product

10,231 results found in 2ms

Items per page

25



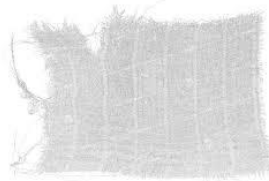
Date	Company	Brand	Details	Product
03/06/2023	Dahlia Imports, LLC	Western Exports	Inspection Issue, Produced without the Benefit of Inspection	Bone in Goat Cubed Pieces
03/04/2023	GH Foods NW, LLC	Trader Joe's	Wheat/Gluten	Lemon Chicken & Arugula Salads

[www.foodrecallreporter.com](http://www.foodrecallreporter.com)



2000 - 2023

873





12



11



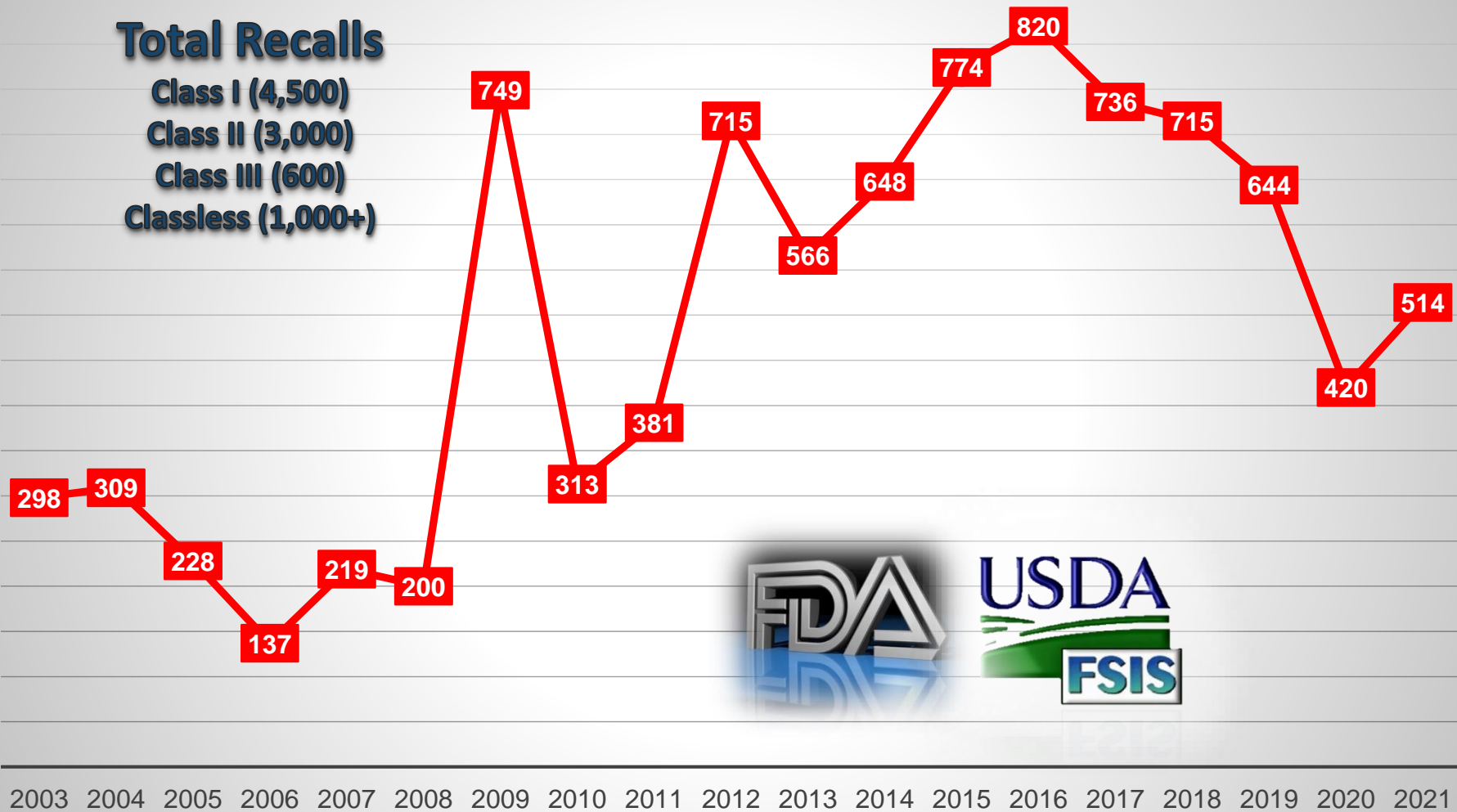
## Total Recalls

Class I (4,500)

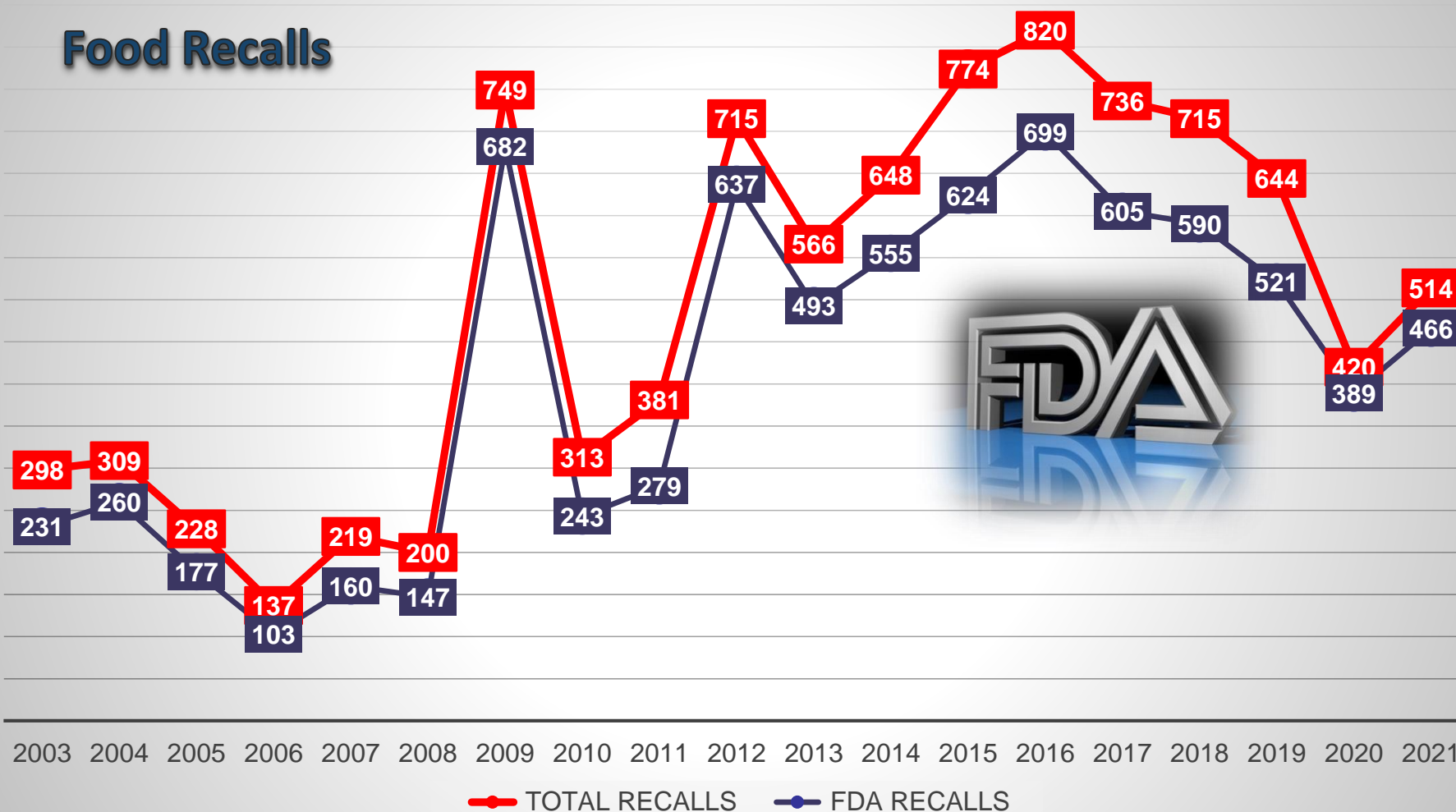
Class II (3,000)

Class III (600)

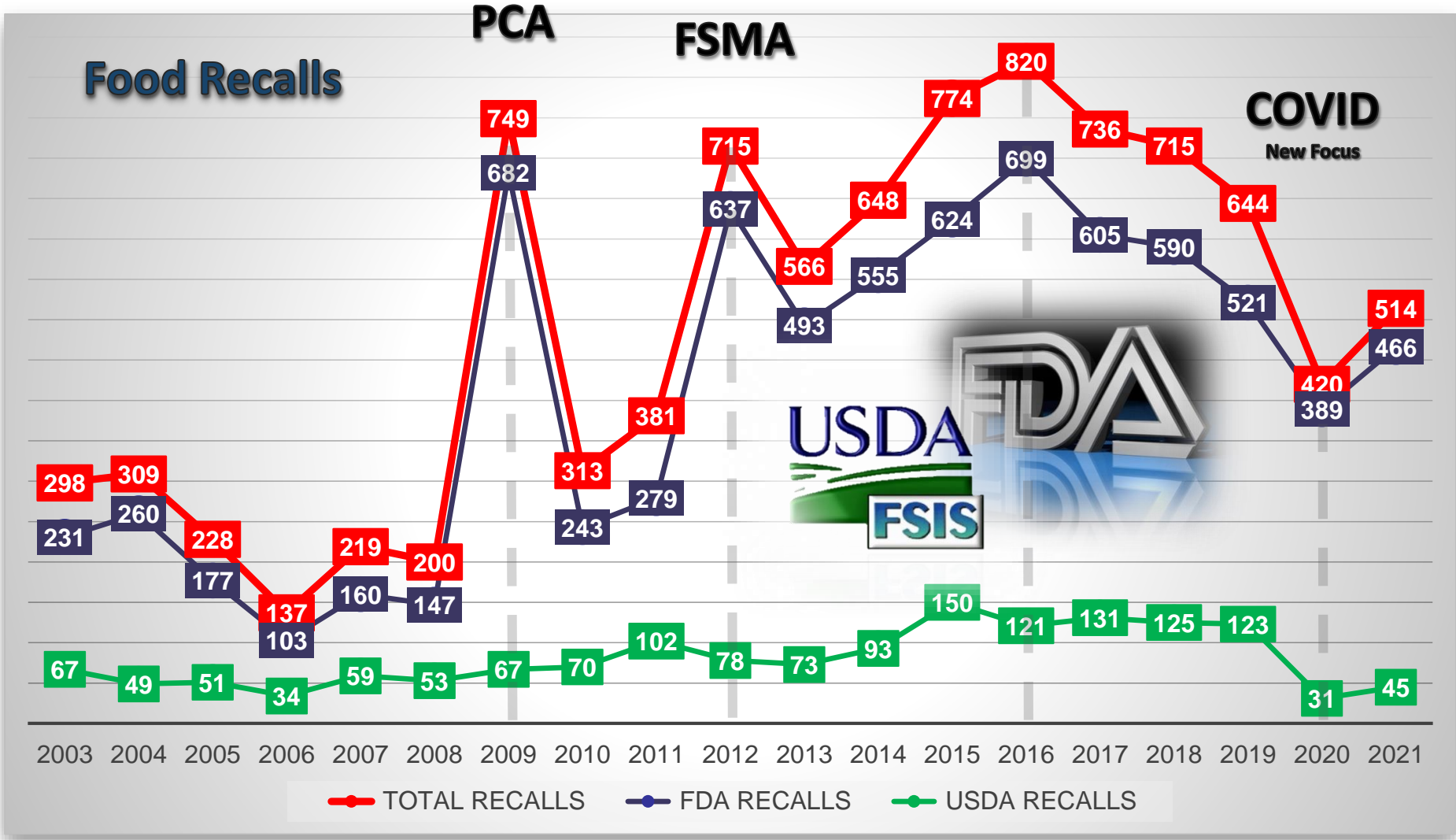
Classless (1,000+)



## Food Recalls

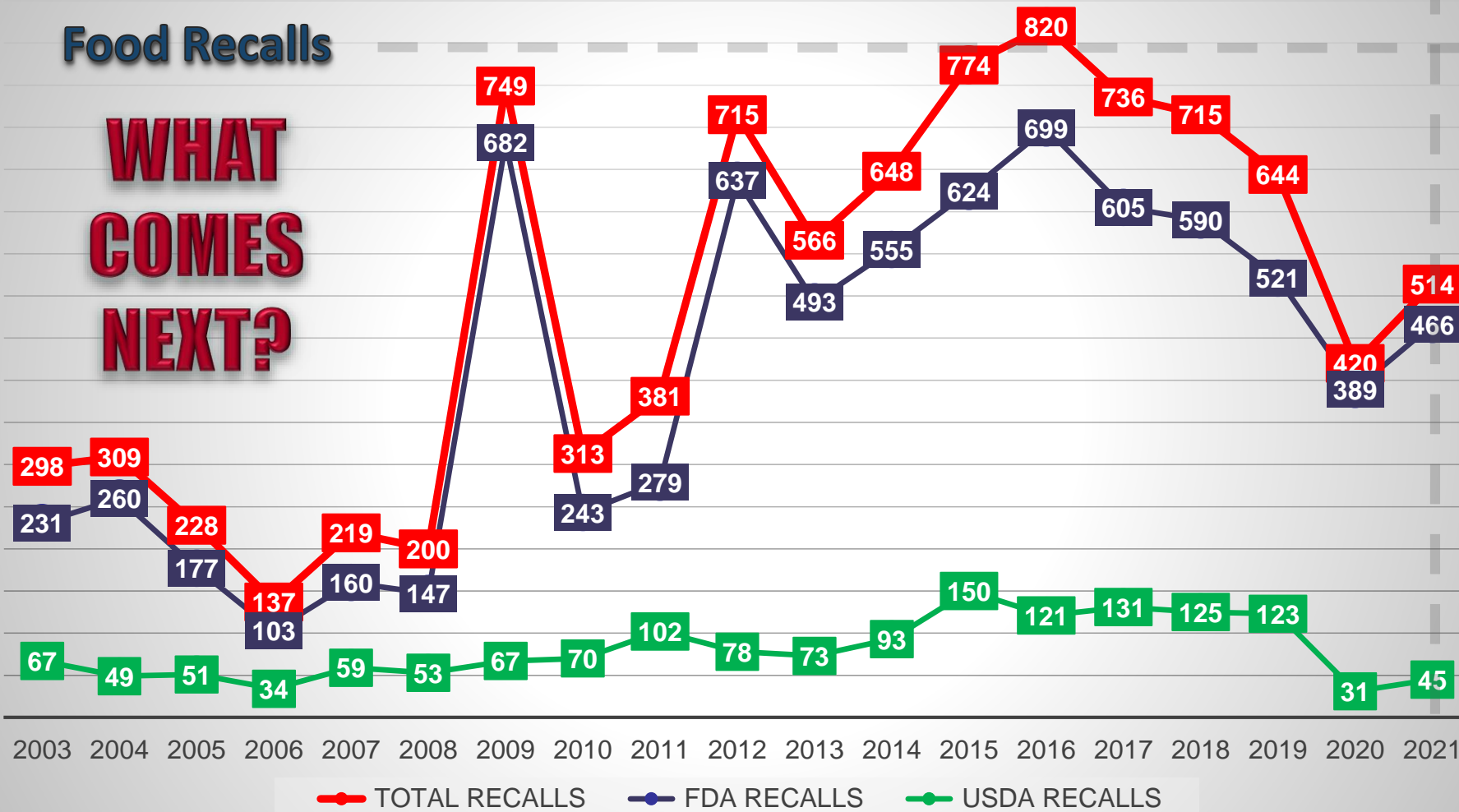


# SWAB-A-THONS



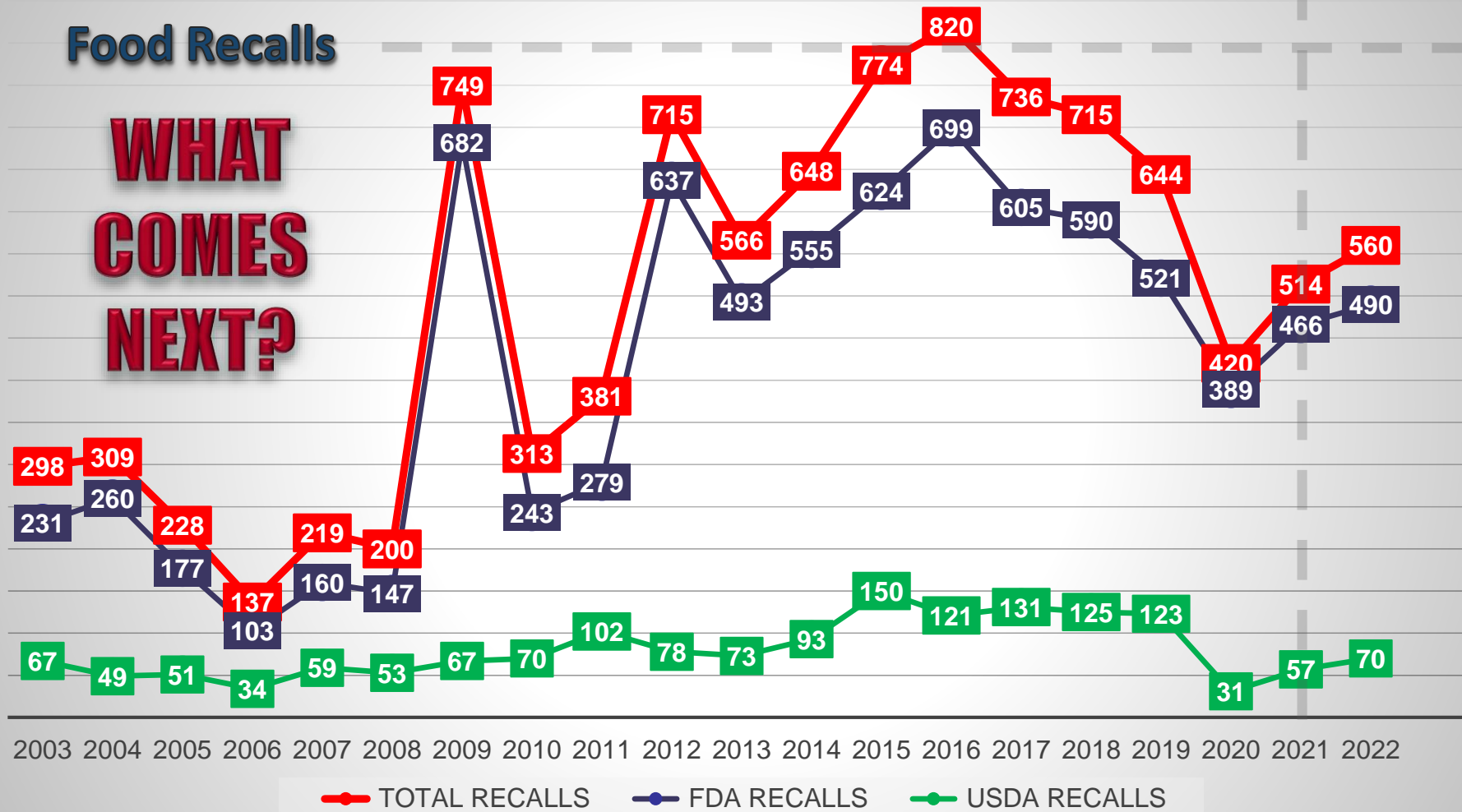
## Food Recalls

WHAT  
COMES  
NEXT?



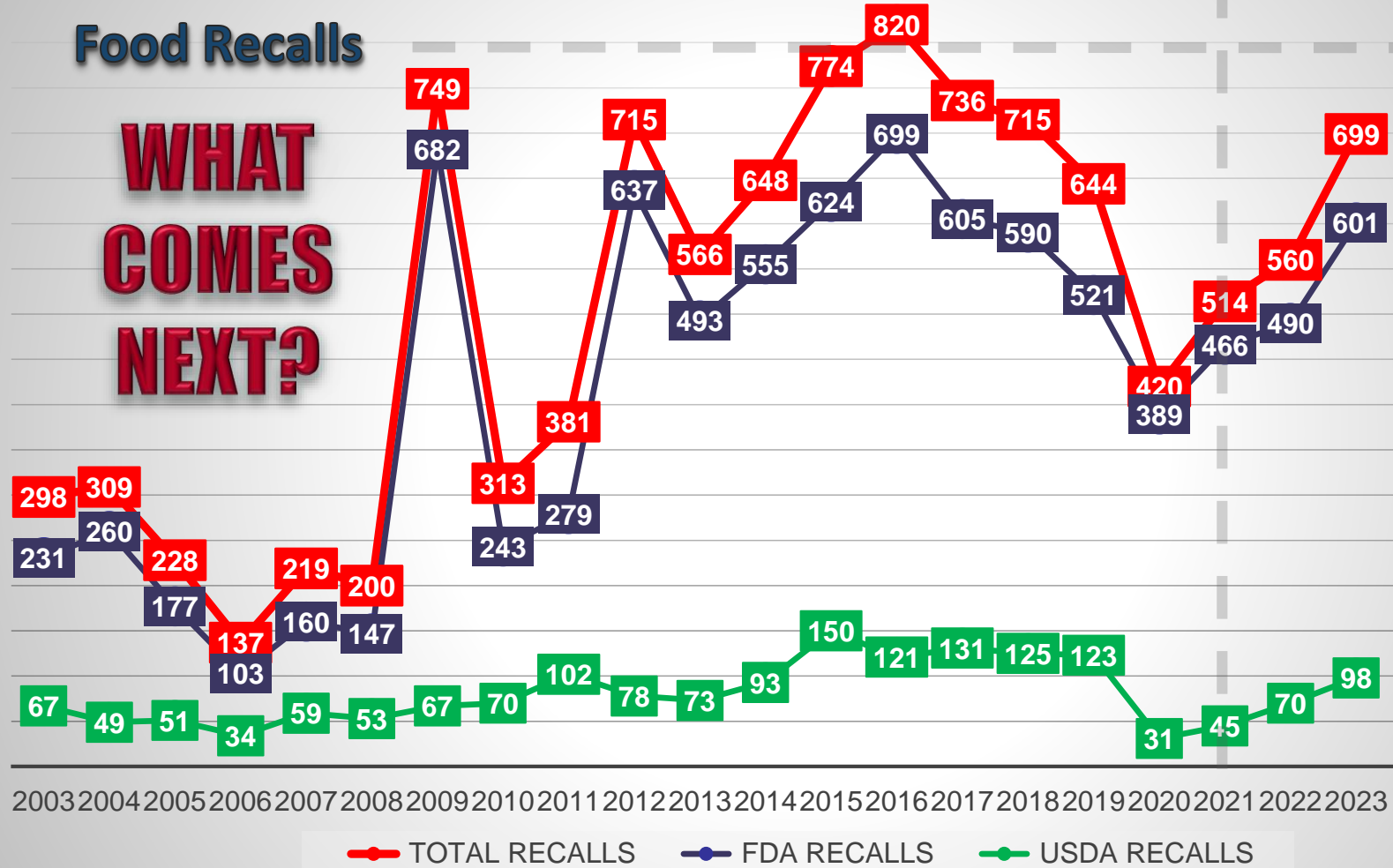
## Food Recalls

WHAT  
COMES  
NEXT?



## Food Recalls

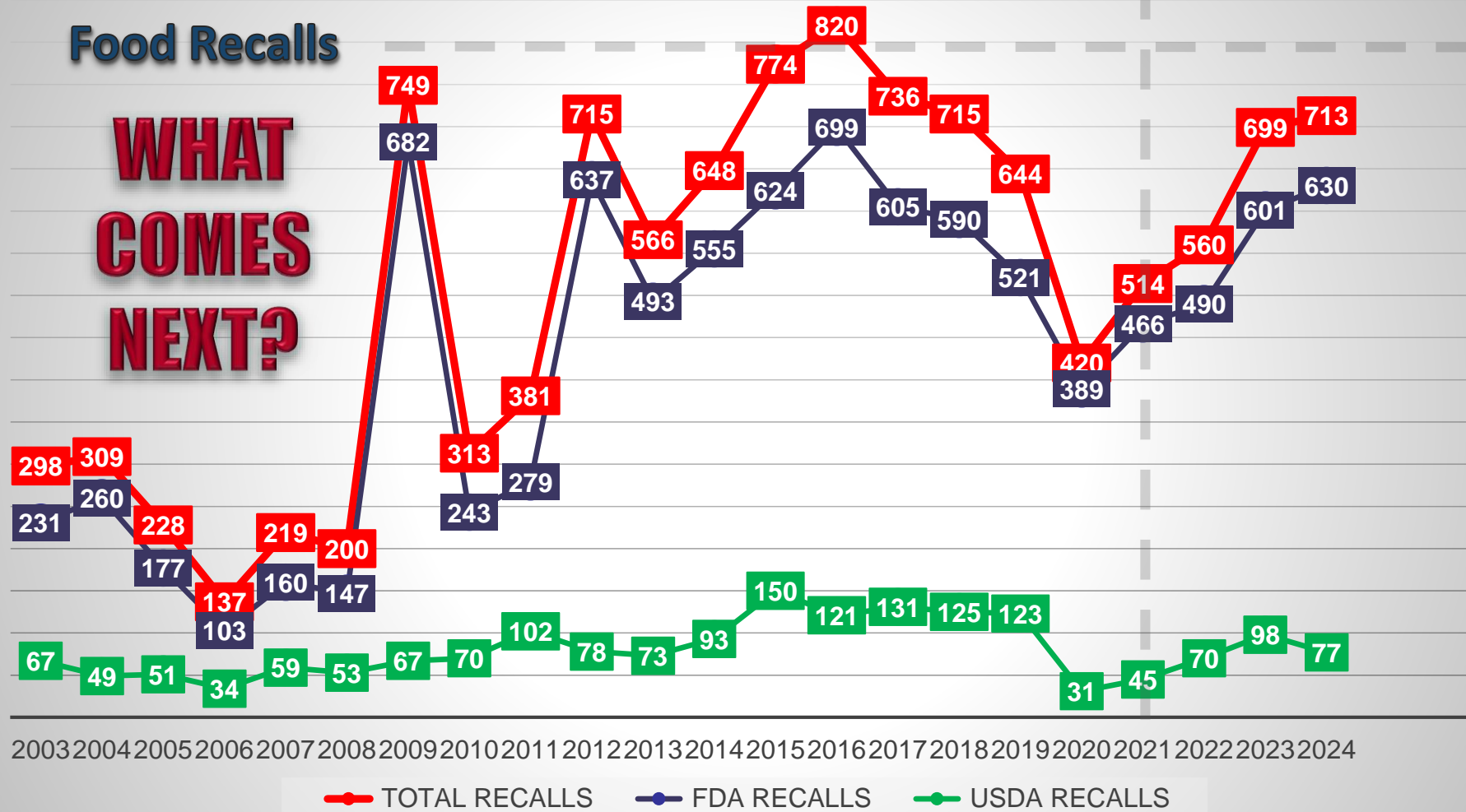
**WHAT  
COMES  
NEXT?**





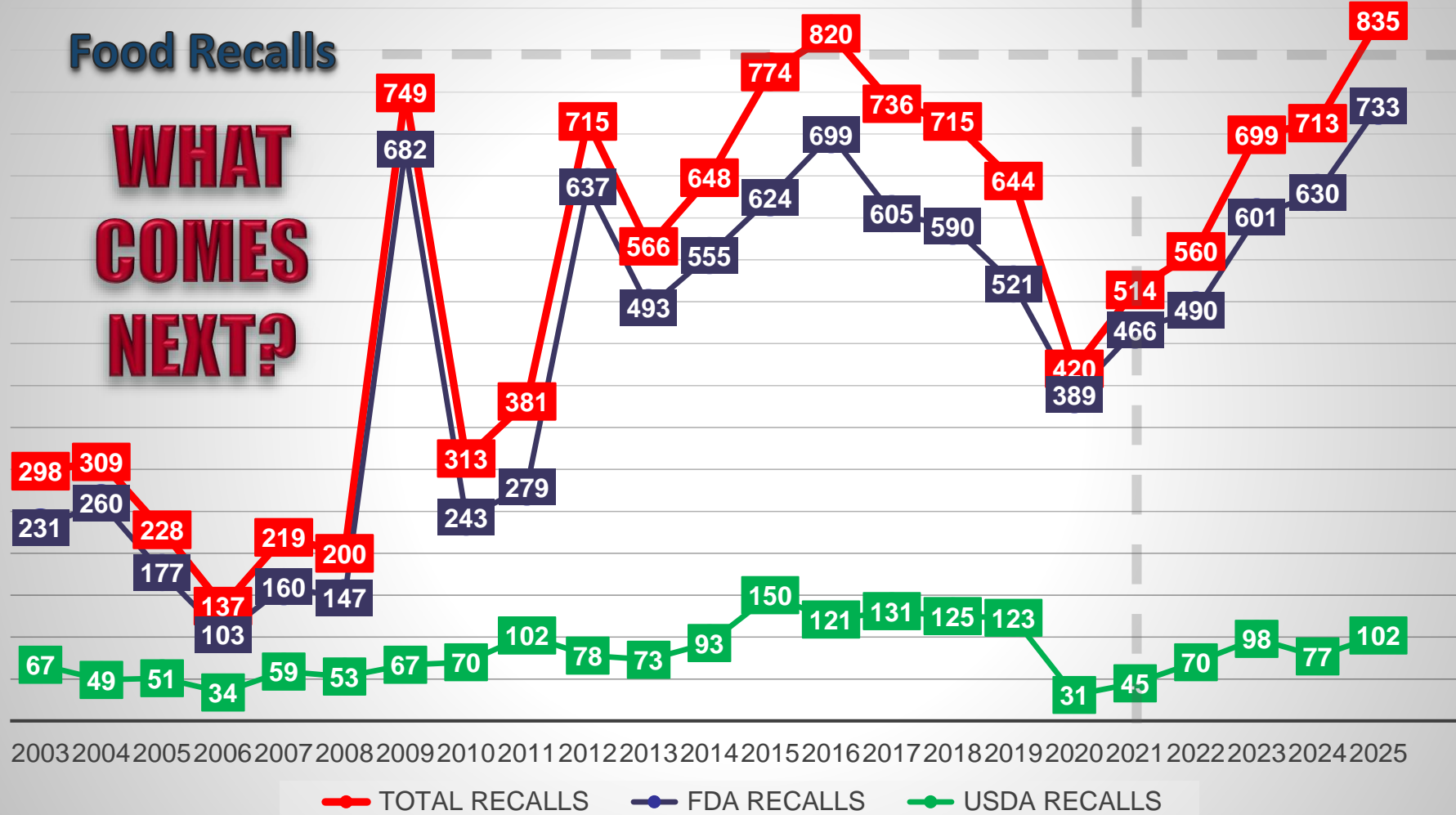
## Food Recalls

WHAT  
COMES  
NEXT?

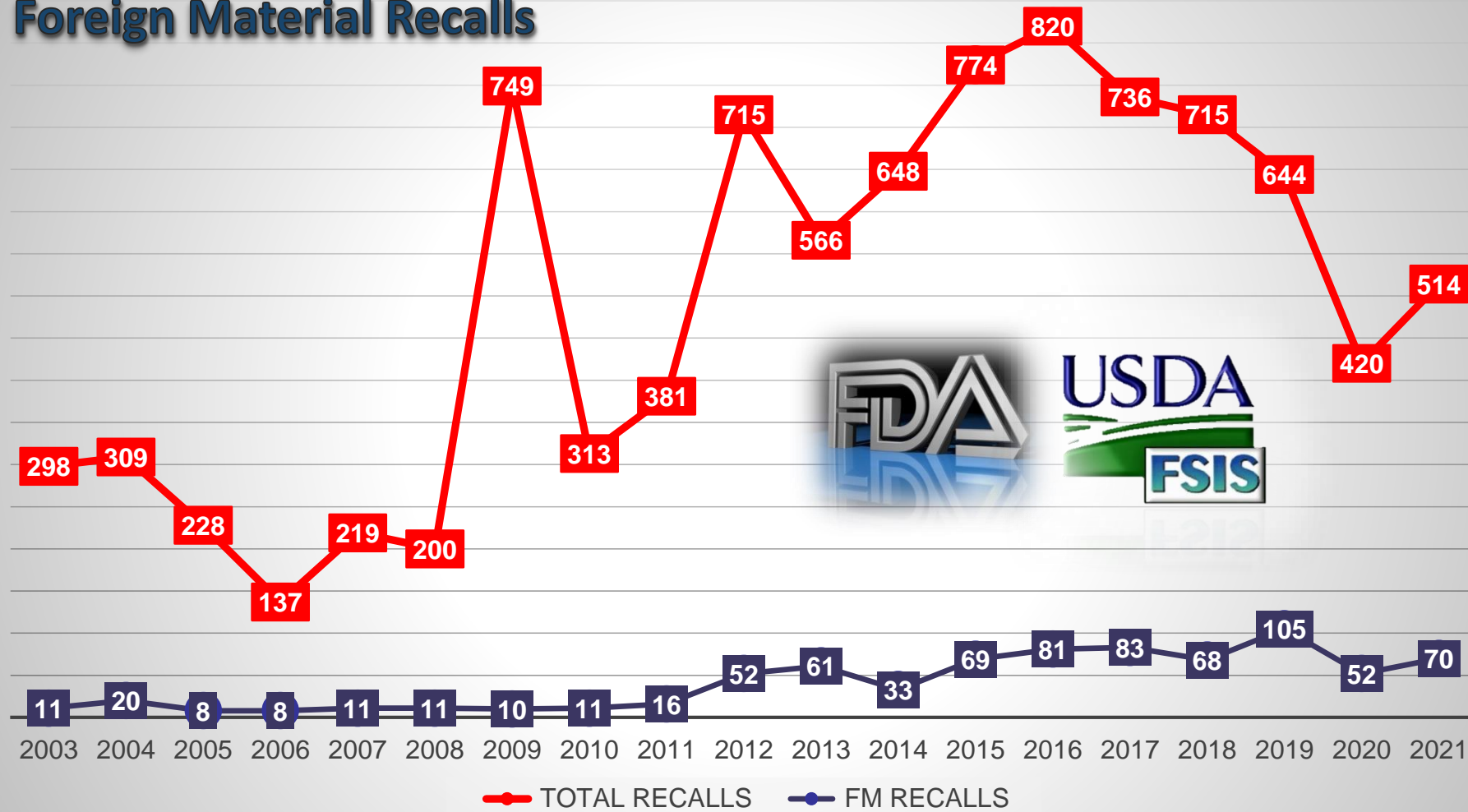


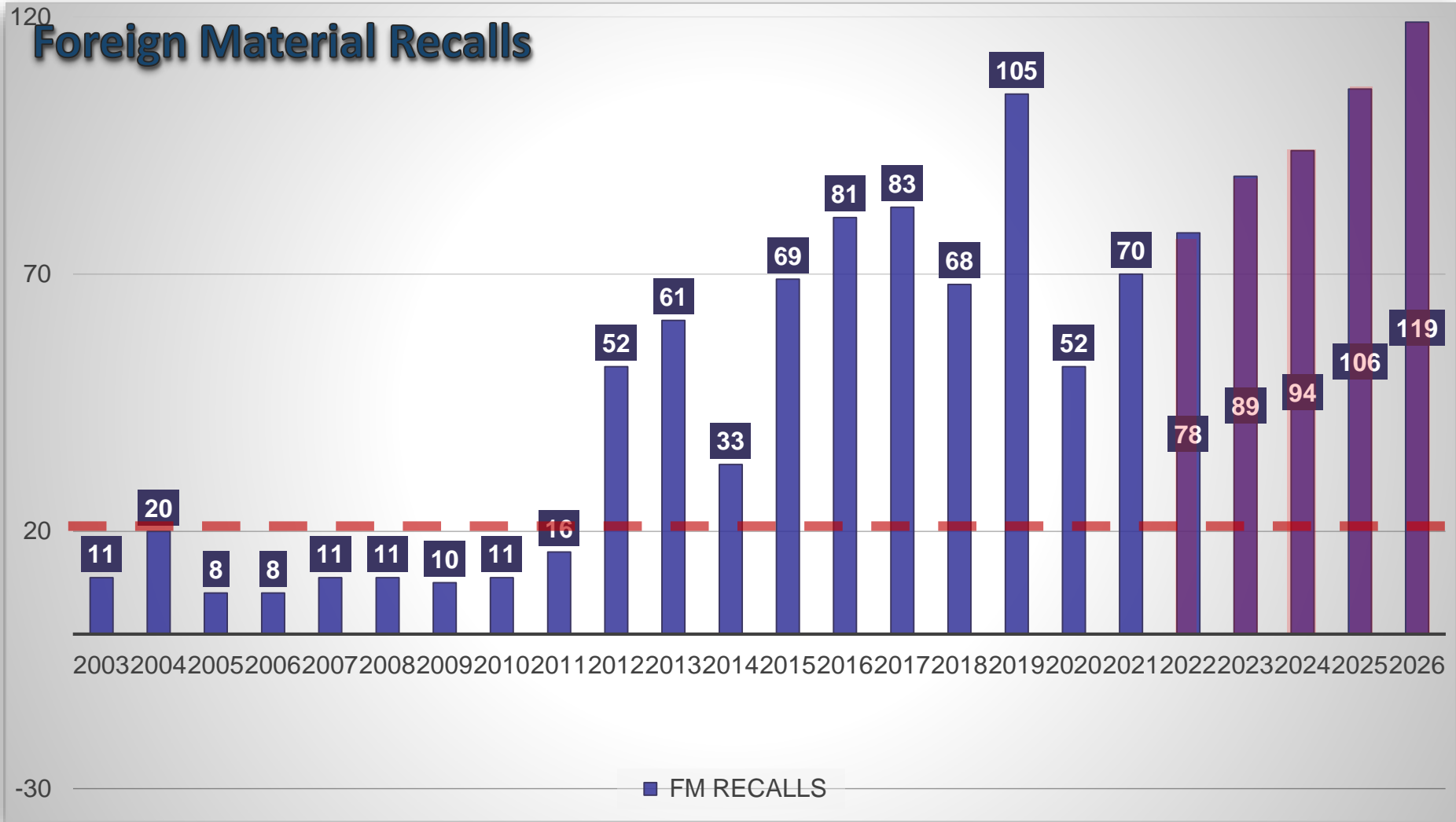
## Food Recalls

**WHAT  
COMES  
NEXT?**



## Foreign Material Recalls





# **BAD FOREIGN MATERIAL DAYS**

<b>2/14/05:</b>	<b>Hydraulic fluid – Ground beef</b>
<b>2/17/06:</b>	<b>Bird head – Can of pinto beans</b>
<b>5/18/07:</b>	<b>Diesel fuel – Seasoned turnips</b>
<b>4/01/15:</b>	<b>Fingertip – Potato scramble breakfast</b>
<b>6/30/15:</b>	<b>Extraneous pieces of golf balls – Hash browns</b>
<b>10/3/16:</b>	<b>Fingertip – Doughnuts and Cinnamon rolls</b>
<b>12/8/16:</b>	<b>Blood – Taffy</b>
<b>4/21/17:</b>	<b>Shredded golf balls – Shredded hash browns</b>
<b>3/10/19:</b>	<b>Bird foot – Chocolate cake</b>

# BAD FOREIGN MATERIAL DAYS



**Bird foot – Chocolate cake**



# CAUSES

**Lack of Training**  
**Employee Fear**  
**Lack of Preventive Maintenance**  
**Running to Failure**

## NEW IMAGING TECHNOLOGIES



**METAL  
DETECTION  
ONLY**

**X-RAY**



# WHAT SHOULD YOU DO???



**WHAT SHOULD YOU DO?**

**IS A RECALL EVEN REQUIRED?**

**AND, IF SO, HOW WILL IT BE CLASSIFIED?**



# YOU CAN



# INFLUENCE CFSAN'S RECALL CLASSIFICATION

# FOOD RECALL SEARCH

## FOOD RECALL REPORTER



Food Industry Counsel is proud to offer the **Food Recall Reporter**, the only searchable food recall database that allows users to conduct a food recall search for FDA and USDA food product recalls. Search food and beverage recalls, the types of food products, the reasons for the recalls, and the names of the companies recalling the products.



### RECALL CLASS

- ☐ I 4,587
- ☐ II 3,047
- ☐ III 620
- ☐ Not Published 1,386

### RECALL AGENCY

- ☐ FDA 7,859
- ☐ USDA 1,834

### FOOD TYPE

- ☐ Human 9,392
- ☐ Animal (pet) 308

Limit search to: ☐ Company ☐ Brand ☐ Product

9,696 results found in 1ms

Items per page

25

Date	Company	Brand	Details	Product
12/14/2021	Smithfield Packaged Meats Corp. dba Margherita Meats, Inc.	Margherita Meats	Quality Issue, Health/Injury Risk, Bacillus cereus	RTE Pepperoni Products
12/11/2021	Maryland & Virginia Milk Producers Cooperative Association dba MDVA	Howling Cow	Soy, Wheat/Gluten	Butter Almond Ice Cream



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### RECALL CLASS

☐ All 1



### RECALL AGENCY

☐ FDA 1



### FOOD TYPE

☐ Human 1



Limit search to: ☐ Company ☐ Brand ☐ Product

1 result found in 1ms

Items per page: 25

Date	Company	Brand	Details	Product
03/10/2019		<b>Bird Foot</b>		Chocolate Cake with Cream Cheese Icing, Red Velvet Cake with Cream Cheese Icing, Birthday Cake with Buttercream Icing

« < 1 > »

# RECALL DETAILS

## 3/10/2019 HORIZON FOOD GROUP

Recall Date	3/10/2019
Company	Horizon Food Group
Brand	Ne-Mo's
Product	Chocolate Cake with Cream Cheese Icing, Red Velvet Cake with Cream Cheese Icing, Birthday Cake with Buttercream Icing
Food Type	Human
Recall Reason	Foreign Materials
Recall Details	Bird Foot
Notes	Consumer Complaints of bird foot found in the product.
Pounds Recalled	45,366
Recalling Agency	FDA
Voluntary/Mandated	Voluntary
Class	II
Expanded Date	None
Recall Links	<a href="https://www.accessdata.fda.gov/scripts/i...">https://www.accessdata.fda.gov/scripts/i ...</a>

Product Details

Product Description:

Ne-Mo's Birthday Cake Square with Buttercream Icing, item 506-6; Net Wt. 3 oz. Case UPC: 2007606405066 8 Display pk 6 ea/pk UPC: 10076064050660 1 Individual unit UPC: 07606405066 4 Frozen product has a shelf life of 365 days from the date of production Refrigerated product has a shelf life of 30 days from the date it is removed from the freezer Ambient product has a shelf life of 7 days from the date it is removed from the freezer Horizon Food Group, San Diego, CA 92127 [less...](#)

Product Quantity:

760cs (27,360 cakes)

Code Information:

No expiration date is printed on product, however, at the store level, retailer will apply an expiration sticker onto each cake square. Lot coding is a 5 digit number, SYDDD, where S designates the shift (1,2, or 3), Y designates the year, and DDD designates the Julian day. Example 19038 where 1 = shift, 9 = year, 038 = Julian day Lot codes: 19036 29036 39036 [less...](#)

Reason for Recall:

Firm received a complaint of a bird foot found in the baked product.

Recall Number:

F-1179-2019

Classification:

Class II

Event Details

Event ID:

82404

Product Type:

Food

Status:

Terminated

Recalling Firm:

Horizon Food Group  
16875 W Bernardo Dr Ste 100  
San Diego, CA 92127-1675  
United States

Recall Initiation Date:

3/10/2019

Center Classification Date:

3/19/2019

Voluntary / Mandated:

Voluntary: Firm initiated

Initial Firm Notification of Consignee or Public:

E-Mail

Distribution Pattern:

AR, AZ, CA, FL, GA, HI, ID, IL, IN, KY, MD, MI, NC, NY, OK. OR, PA, SC, TN, TX.

#### RECALL CLASS

☐ II 6

☐ III 1

#### RECALL AGENCY

☐ FDA 5

☐ USDA 2

#### FOOD TYPE

☐ Human 7

#### BIG 8 ALLERGENS

Show more

#### OTHER ALLERGENS

Show more

#### PATHOGENS

Show less

pen

Limit search to: ☐ Company ☐ Brand ☐ Product

7 results found in 2ms

Items per page

25

Date	Company	Brand	Details	Product
10/06/2017	Champion Foods, LLC	Champion Foods, Little Caesar's	Plastic	Breadsticks
10/05/2017	Blue Line Food Service Distribution	Blue Line	Plastic	Pre-Mix Dough
07/15/2016	Faribault Foods, Inc.	Hy-Vee, La Preferida, Our Family, Sprouts, Mrs. Grimes, Kuner's, HEB	Metal, Plastic	No Salt Added Black Beans
07/19/2013	CSM Bakery Products NA	CSM	Plastic	Supreme Chocolate Layer Cake
02/26/2013	The Kroger Co.	QFC, Fred Meyer	Plastic	Breads
11/02/2012	Wayne Farms	Wayne Farms	Plastic	Fully Cooked Grill Marked White Meat Chicken Strips
07/13/2012	Morgan Foods, Inc.	Wegman's, Chef's Cupboard, America's Choice, Hill Country Fare	Plastic	Chicken Corn Chowder Chunky, Chunky Chicken Corn Chowder

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2021

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12/14/2021	Smithfield Packaged Meats Corp. dba Margherita Meats, Inc.	Margherita Meats	Quality Risk
12/11/2021	Maryland & Virginia Milk Producers Cooperative Association dba MDVA	Howling Cow	Soy,...

### FOREIGN MATERIALS

- ☐ Metal 29
- ☐ Plastic 24
- ☐ Unknown Foreign Material 6
- ☐ Glass 5
- ☐ Rubber 2
- ☐ Bone 1
- ☐ Insects 1
- ☐ Rock 1

Show less



# JUST “A LITTLE” PLASTIC

**Do small, malleable pieces of plastic = Adulteration?**



# JUST “A LITTLE” PLASTIC

**Do small, malleable pieces of plastic = Adulteration?**



# JUST “A LITTLE” METAL

Do small, malleable pieces of metal = Adulteration?



# Watch Out for Foreign Materials











Mini Gummi Butterflies  
actually contained  
“OLLY SLEEP SUPPLEMENTS”

...

WHICH  
“CAUSE DROWSINESS”





# What Would 12 Jurors Think?





# FoodIndustry

COUNSEL LLC

“GOING **ALL-IN** FOR FOOD AND **ALL-OUT** FOR THOSE WHO PRODUCE IT”

Shawn Stevens

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# REDUCING PHYSICAL HAZARDS BY GETTING THE BEST FROM TECHNOLOGY

**Dr Lee Reece, Kraft Heinz Company.  
FSQ Technical Excellence Lead.**



# A Global Food Powerhouse



**ONE OF THE  
LARGEST FOOD &  
BEVERAGE  
COMPANIES IN  
THE WORLD,  
PRESENT IN 40+  
COUNTRIES**



**OVER 36,000  
DEDICATED  
HEINZ  
EMPLOYEES**



**\$26BN  
IN NET SALES  
(2021)**



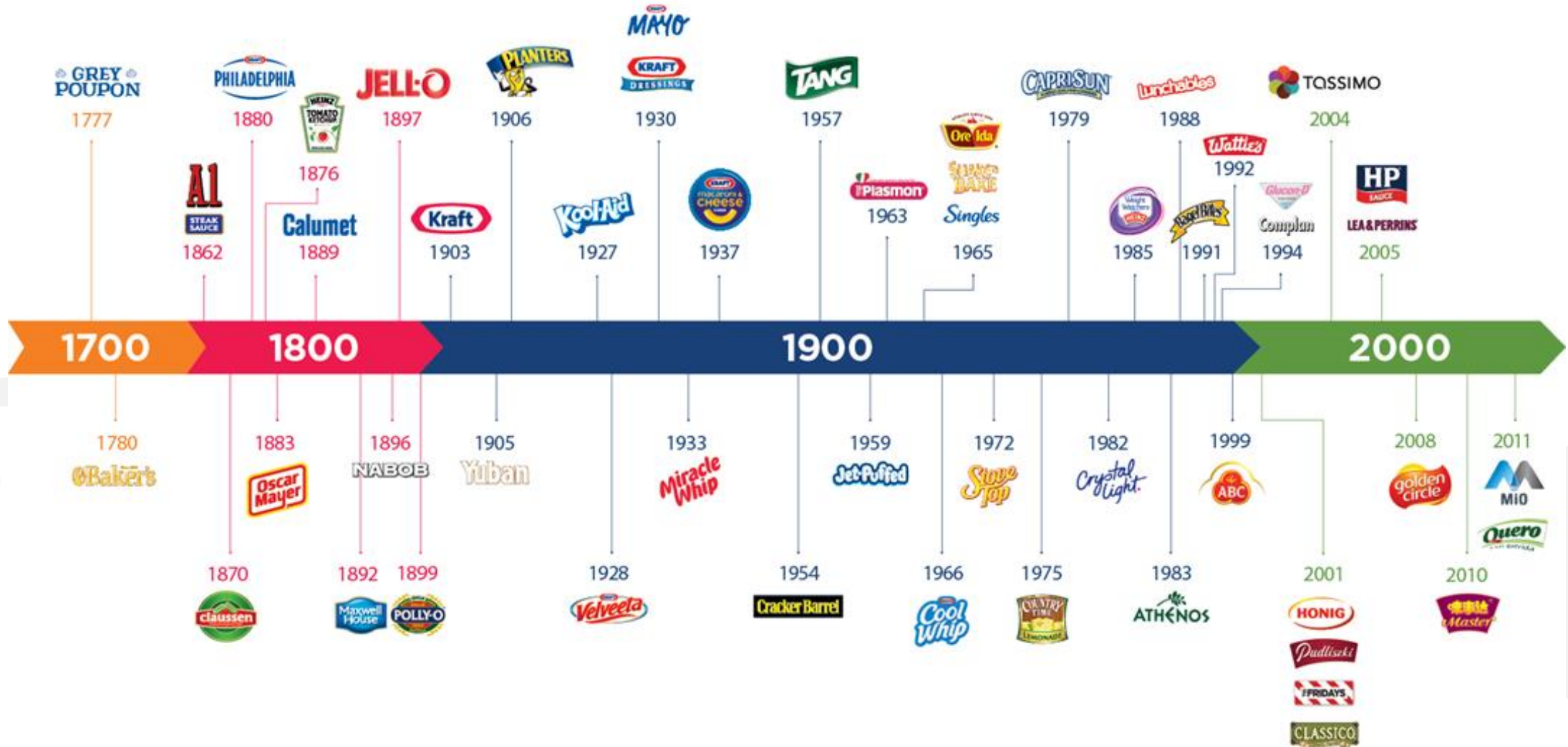
**ONE OF THE  
MOST FAMOUS  
BRANDS IN THE  
WORLD**



**440M  
MEALS DONATED TO  
COMBAT FOOD  
INSECURITY  
GLOBALLY WITH  
PARTNERS (2021)**

*Kraft Heinz*

# NEARLY 250 YEARS OF ICONIC BRANDS.



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# MANAGING RISK.

The food industry now has unique challenges:

- Consumers have almost pharmaceutical standard expectations.
- However, most of our ingredients are organic and have inherent risks.

Risks are managed by:

- Assurance of supplier.
- Quality control checks.
- Removal in process.

	Physical	Chemical	Microbial
Vegetables	Wood, woody veg, stone, glass	Pesticides	<i>Listeria, Botulism</i>
Fruits & Cereals	EVM, Insects	Pesticides, Mycotoxins	<i>Salmonella, Listeria</i>
Meats	Bone, Metal, Feathers	Hormones	<i>Salmonella, E. coli, Listeria</i>
Packaging	Glass	Migrants	Environmental contaminants

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# DOES A CONSUMER MEASURE THE HURTY BIT?

REGULATORY TOXICOLOGY AND PHARMACOLOGY **28**, 181–189 (1998)  
ARTICLE NO. RT981249

## Regulatory Action Criteria for Filth and Other Extraneous Materials

### I. Review of Hard or Sharp Foreign Objects as Physical Hazards in Food

Alan R. Olsen

*U.S. Food and Drug Administration, Microanalytical Branch, HFS-315, 200 C Street, S.W., Washington, DC 20204*

Received April 20, 1998

1. Hard or sharp objects that are 7 mm or longer, maximum dimension, represent a potential physical hazard in food.

2. Hard or sharp objects less than 7 mm, maximum dimension, represent a possible physical hazard in food, especially if a special-risk group is among the intended consumers of the product.

3. Very large objects, such as those that meet or exceed the CPSC safety standard for small parts in toys, are easily and readily detectable by a consumer prior to consuming a food product and do not normally represent a health hazard.

4. Intended use, processing steps that eliminate the hazard, guidance and requirements concerning unavoidable natural defects, and other factors are important considerations when determining the potential hazard from hard or sharp foreign objects in food.

Author: Alan R. Olsen, U.S. Food and Drug Administration  
Updated by Bob Price, University of California, Davis

## Potential Food Safety Hazard

Foods are considered adulterated if:

- The product contains a hard or sharp foreign object that measures 7 mm to 25 mm, in length, and
- The product is ready-to-eat, or according to instructions or other guidance or requirements, it requires only minimal preparation steps, e.g., heating, that would not eliminate, invalidate, or neutralize the hazard prior to consumption (FDA, 1999).

### Metal Inclusion

[Top](#)

- No metal fragments in finished product. (Note: FDA's Health Hazard Evaluation Board has supported regulatory action against product with metal fragments of 0.3" [7 mm] to 1.0" [25mm] in length. See also FDA Compliance Policy Guide #555.425.), or
- No broken or missing metal parts from equipment at the CCPs for "metal inclusion" (FDA, 2001a).

### Glass Inclusion

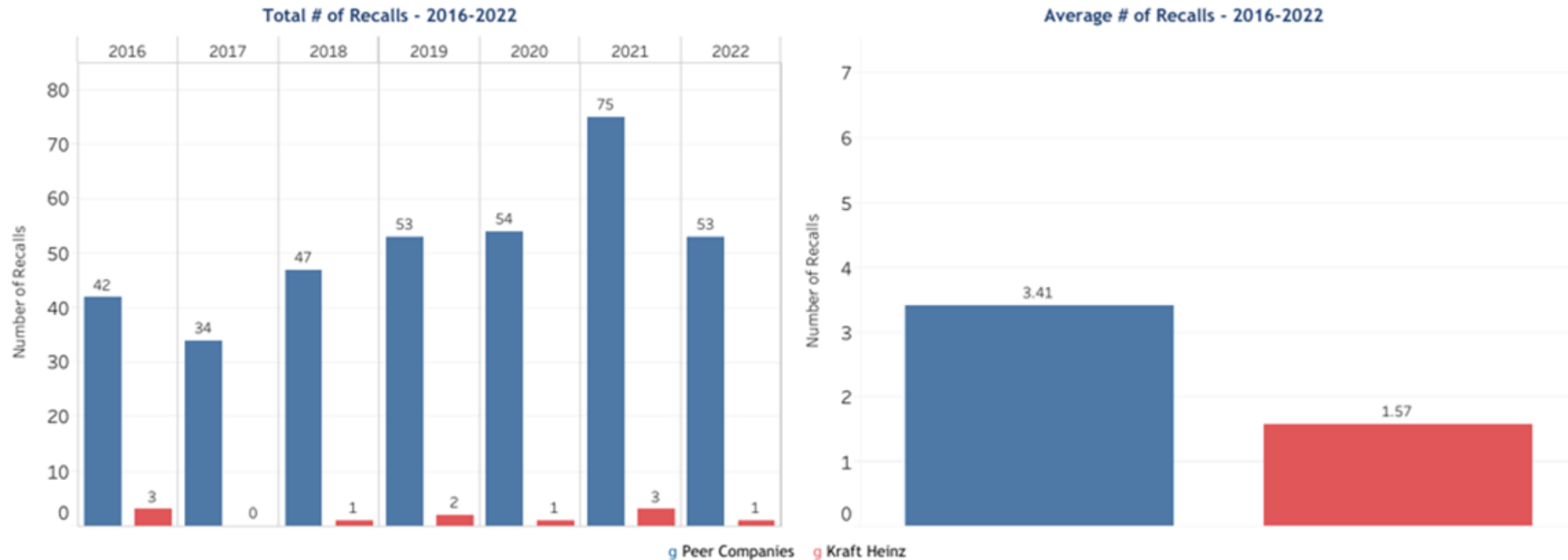
[Top](#)

- No glass fragments in finished product. (Note: FDA's Health Hazard Evaluation Board has supported regulatory action against products with glass fragments of 0.3" [7 mm] to 1.0" [25 mm] in length. See also FDA Compliance Policy Guide #555.425.)
- No broken glass at the CCPs for "glass inclusion" (FDA, 2001b).

# KHC and Peer Recalls 2016 to 2022

The red bars show the total number of Kraft Heinz recalls per year.

The blue bars show the total number of peer company recalls per year.



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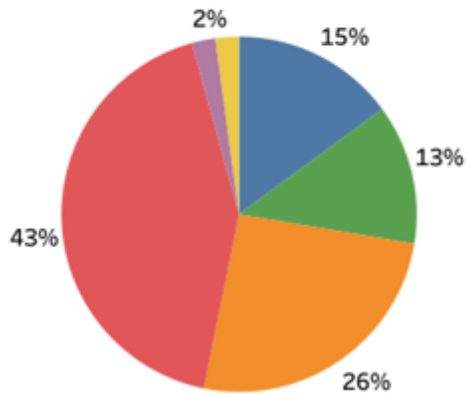
# Main Causes of Recall.

There are 4 main root causes for recall:

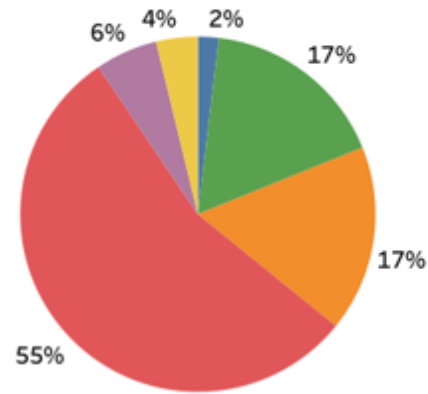
- Chemical.
- Foreign Matter.
- Allergen/Mislabelling.
- Microbiological.

Foreign Matter is an area technology can help us combat the threat

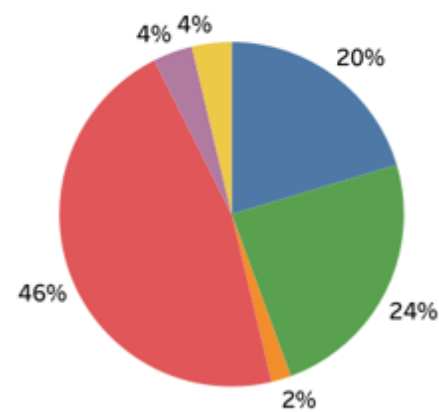
2018



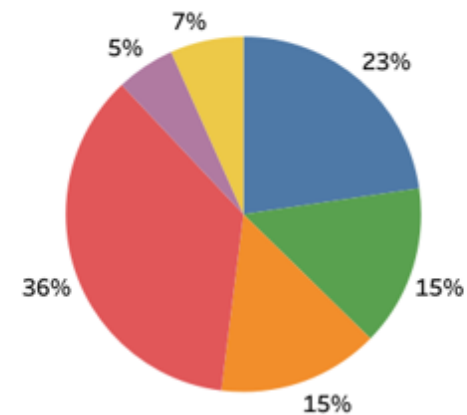
2019



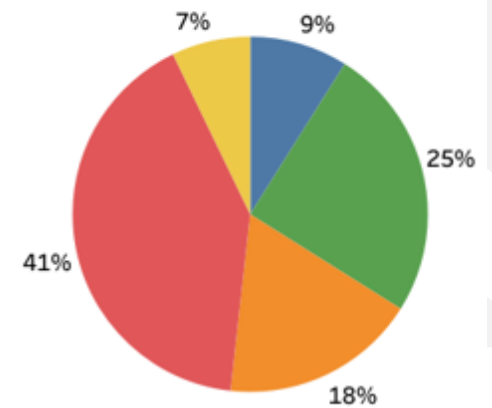
2020



2021



2022



■ Chemical Contamination ■ Foreign Matter ■ Mislabeling ■ Microbiological ■ Processing Error ■ Other

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**WHAT IS THE QUICKEST WAY TO  
DESTROY NEARLY 250 YEARS OF TRUST  
???**



Kraft



# Mum's glass in baby food ordeal

By JENNA RICHARDS

jrichards@heraldexpress.co.uk

A TERRIFIED mum rushed her disabled son to hospital after finding glass in the baby food she was feeding him.

An investigation has now been launched by Heinz the baby food manufacturers.

Julia Melliush was feeding one of her 17-month-old twins, Harrison, who is blind and suffers from cerebral palsy, when she spotted glass inside the jar of Heinz baby food.

Julia, of Green Park Road, Paignton, said: "This is every mother's worst nightmare.

"How he didn't cut his mouth is a miracle."

Julia spotted shards of glass on Harrison's feeding spoon after he'd already eaten three quarters of the jar.

She said: "I immediately winded him vigorously to bring up anything he may have digested.

"Then I got a muslin cloth and wiped around the inside of his cheeks and his tongue."

Julia phoned her doctor and was advised to take her son straight to hospital.

## Problems

Julia added: "It was tricky because the doctors didn't want to x-ray such a young

Julia reported the incident to Heinz who expressed their sincere apologies and have arranged to collect the broken jar for investigation.

Nigel Dickie, director of corporate and government affairs for Heinz UK, said: "We were concerned to hear from Julia Melliush about her experience with one of our products and are relieved to know no harm was done.

"Great care and attention is given to every aspect of preparing and making our baby foods, from sorting and screening of ingredients to the stringent precautions and exacting standards adhered to during manufacture.

"We are keen to carry out a full investigation concerning this isolated complaint and have arranged a visit to collect the product.

"The quality and purity of our baby foods remains our utmost priority."

Mum Julia is still concerned: "The jar was broken on the inside, that's why I didn't spot it.

"Do I have to stop and check the inside of a jar each time I open one?"

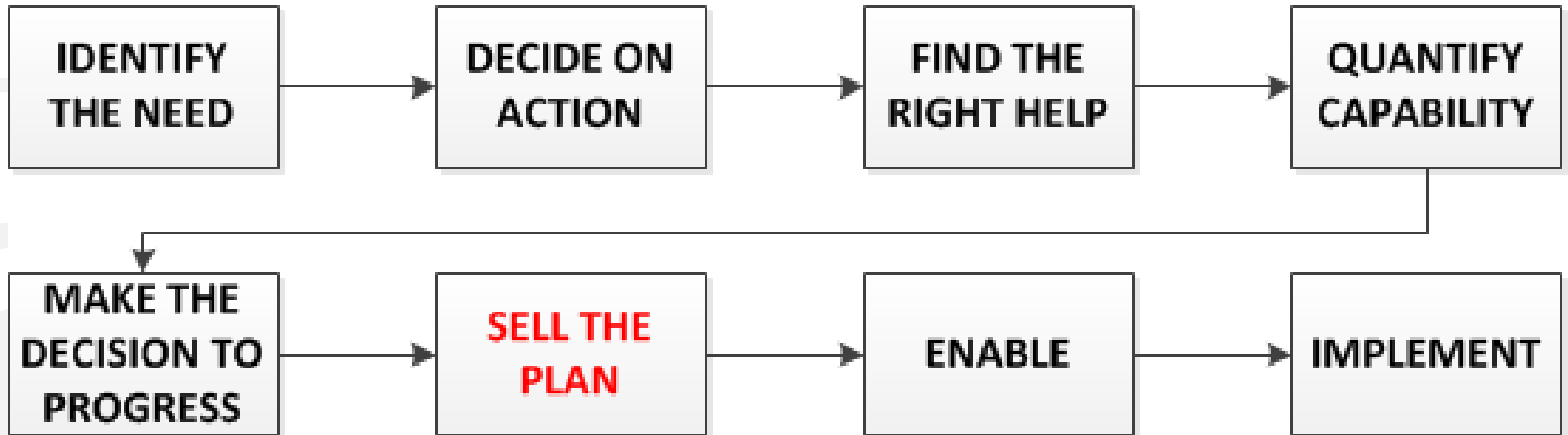


## WHERE WE STARTED

- We identified a need to attack the issue of physical contamination in our products.
- Traditional Product Protection systems were not doing a good enough job:
  - Sieves.
  - Magnets.
  - Metal Detectors



# THE ROUTEMAP



## FINDING THE RIGHT HELP.

- What we wanted to see:
  - Technical capability (hard to judge from a position of ignorance).
  - Willingness to cooperate (often stated, often not followed through).
  - Willingness to listen.
  - No “Hard Sell”.
  - Long term commitment, with no promises from our end.
  - Patience.....





## QUANTIFY CAPABILITY.

- We embarked on a round of testing:
  - Different suppliers.
  - Different systems.
  - Different products and formats.
- Initially to build understanding of technology and capability.
- Later to qualify performance.
- This went on for some time....



# QUANTIFY CAPABILITY.

- Building confidence and knowledge.
  - Could the new tech do what we needed?
  - What were the limitations?
  - Would it help in real life?
- Improving both sides knowledge.
  - Real life running requirements.
  - Hygienic design.
  - Maintenance.
  - User interface.
- Showing what we need, what we want, and when to tell the difference.



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# QUANTIFY CAPABILITY.

- Need for consistent approach.
- Difficulty in comparing testing across a wide range of suppliers with different product.
  - Machine set up.
  - Real life accuracy.
  - False rejects.
  - Trust
  - Challenge testing.
  - Test piece consistency.
- Again, patience and understanding was required, by both parties...

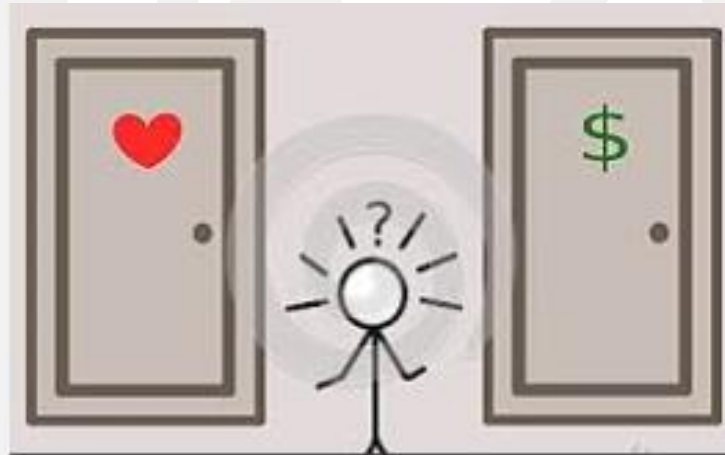


## THE DECISION TO PROGRESS.

- This was the easy part!



- Commit the business to getting it done, not so much!



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## SELL THE PLAN.

- Getting buy in at high level:
  - Relatively simple.
  - Consequence of inaction.
  - Brand Protection.
- Getting buy in at lower level:
  - More resistance.
  - Not a high local priority.
  - Too many drawbacks.
  - Limited perceived benefits.



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## SELL THE PLAN.

- Roadblocks/fears/assumptions and concerns:
  - Installations resources.
  - Hidden costs.
  - Downtime.
  - OEE impact.
- Changing minds & winning hearts was vital.
- The hardest part, takes time.



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## ENABLE.

- Setting the ground so when it went in, it worked:
  - Good FAT system, involving plant.
  - Full expert technical support through commissioning, validation, start up and beyond.
- Systems.
  - KHC Quality systems provide strong back up, guidance and set out clear expectations.
  - Practical help was always on hand.
  - Back up.
  - Guidance documentation.
  - Integration into existing quality systems.
  - Became part of “The Language”



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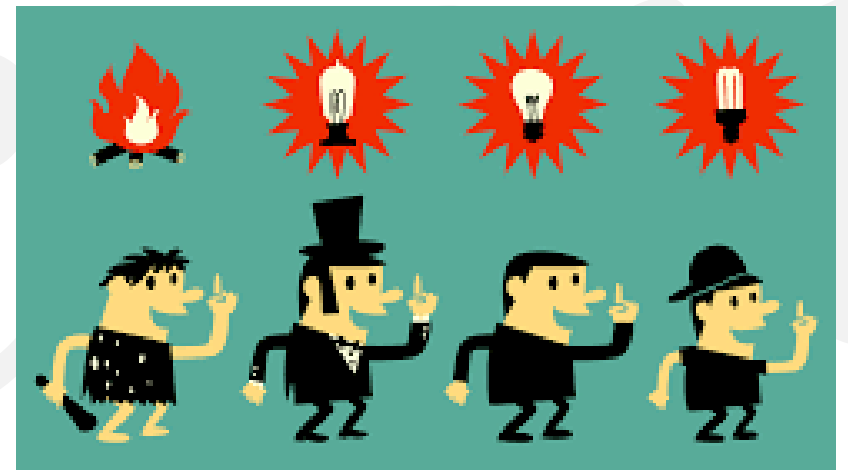
# IMPLEMENT.

- Started slow:
  - Test sites.
  - Installed in friendly, sites that saw the advantages.
- Built early confidence:
  - Sceptical plants could discuss with other sites, rather than taking my word for it....
- Then all hell breaks loose...



## MAINTAIN AND IMPROVE.

- Continue to monitor performance:
  - Re-Validation.
  - Customer Complaint analysis.
- Familiarity between plants and suppliers:
  - Long working relationship maintains trust.
- Continue close work with suppliers:
  - New developments.
  - Improved processes.
  - Be prepared to adapt as technology progresses.



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Thank You!



# Summary

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- Foreign material are extraneous matter the can be present in food and constitute quality concerns
- Extraneous foreign material in food may not be esthetically pleasing to customers but may not cause illness or injury are not considered hazards
- Depending on the size and shape of the object, foreign material can cause choking, injury in the mouth, or other health effects and is deemed a “Physical Food Safety Hazard”

# Summary

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- Government regulations and Industry quality programs ( GFSI- SQF, BRC etc.) have Standards and documented policies, procedures, and handling requirements for the control of foreign material contamination
- Recalls of food products contaminated with foreign material and physical hazards are increasing
- Food industry needs to have dedicated programs and strategies including partnership with technology companies to managing foreign materials and physical hazards and make recalls more (not less) foreign.





# Contact Information

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Thank  
You  
So  
Much



# Upcoming Webinars

- March 21, 2023** Produce Safety Risks and an Update on Two Ongoing Research Projects –  
Risks imposed by wild bird sand risks associated with EHEC during post harvest leafy greens
- March 28, 2023** Food Toxicology Webinar-Food Chemical Safety and Current Tools and Methods
- May 8, 2023** Is it a *Listeria sensu stricto* or *sensu lato* species? Why understanding the difference is important
- June 14, 2023** Dry Cleaning: Is Water Friend or Foe in Food Safety and Sanitation?

<https://www.foodprotection.org/events-meetings/webinars/>

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