



## Beyond Food Safety Management

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# Creating a Food Safety Culture

# Lifetime in Food Safety







A black and white scanning electron micrograph (SEM) showing numerous rod-shaped bacteria, likely E. coli, against a black background. The bacteria are of various sizes and orientations, some appearing in clusters and others individually. The text is overlaid on this background.

**Are we WINNING  
the battle against  
foodborne disease?**

# Foodborne Pathogens 1900 - 1939

- Amoebiasis
- Botulism
- Brucellosis
- Cholera
- Hepatitis
- Salmonellosis
- Scarlet fever (strep)
- Staphylococcal food poisoning
- Tapeworms
- Trichinosis
- Tuberculosis, bovine
- Typhoid fever



# In the News

**Nearly 600 with Salmonella, 225 hospitalized and 15 deaths linked to Cantaloupe**



**These parents didn't know why their children had lead poisoning. An applesauce recall offered clues.**

**Onions are likely source of E. coli outbreak linked to McDonald's, federal agencies say; 15 additional cases reported**




# Food Recalls



General Interest

## An Analysis of Food Recalls in the United States, 2002-2023

John DeBeer <sup>a</sup> , Erika Rene Blickem <sup>b</sup>, [Yadwinder Singh Rana <sup>c</sup>](#),  
[Deborah Mona Baumgartel <sup>d</sup>](#), [Jon W. Bell <sup>e</sup>](#)

- 35,548 Total Recalls
- Number 1 reason – Listeria (7, 844)
- Equivalent to 5 Recalls per Day

# Trust in Government Assurance of Food Safety Hits Record Low

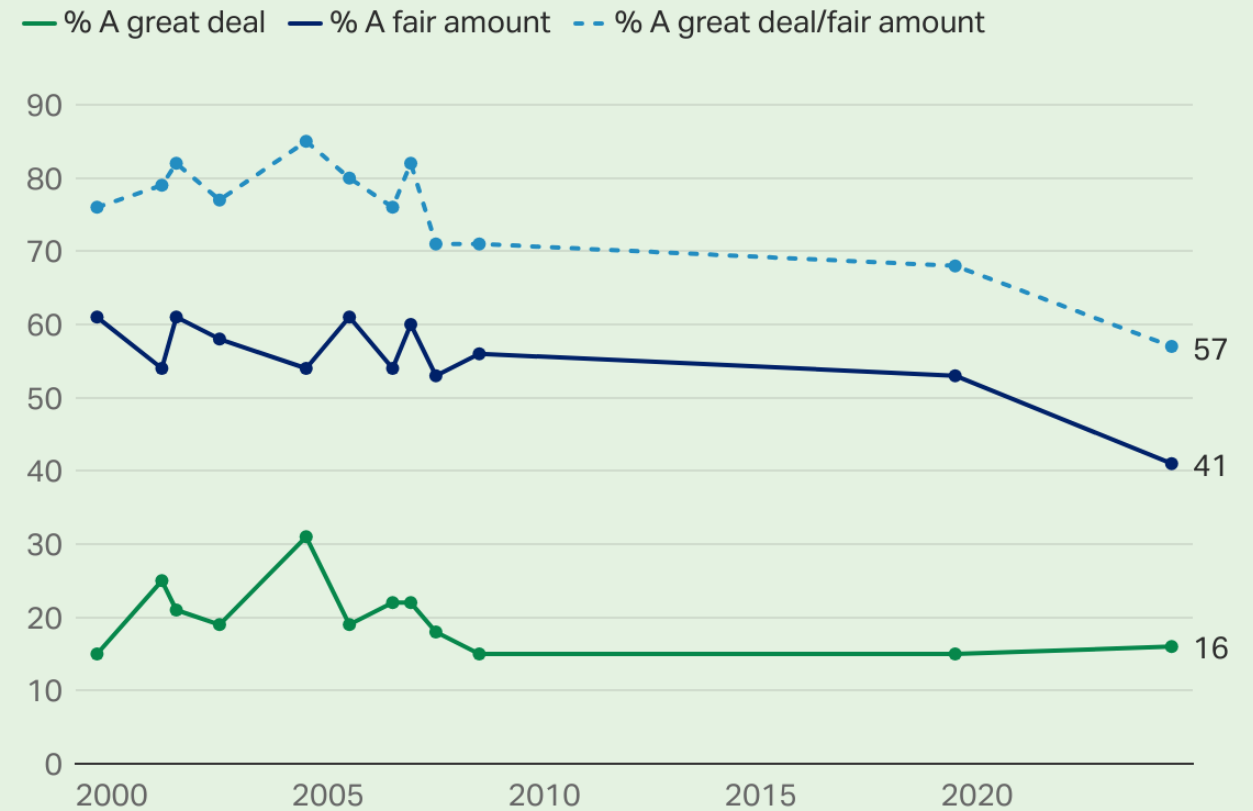
Americans' faith in the safety of food at grocery stores also declines



©Frank Yiannas

## Americans' Confidence in Government to Ensure Safety of U.S. Food Supply

How much confidence do you have in the federal government to ensure the safety of the food supply in the U.S. -- would you say you have a great deal, a fair amount, not much or none at all?



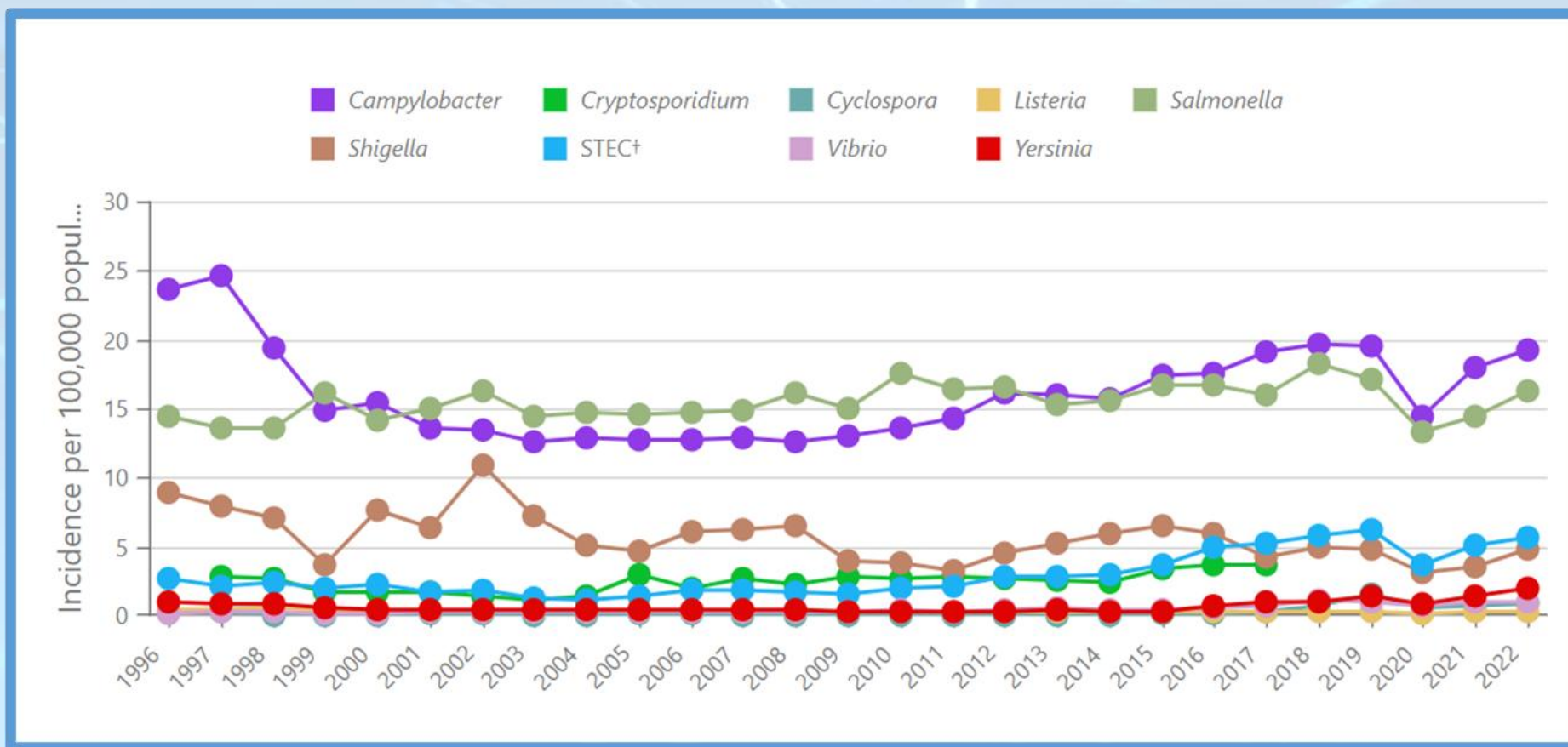
Response categories "not much" and "none at all" are not shown.

Source: GALLUP®  
2024



# Incidence of Foodborne Illness in the United States

The Past Two Decades  
1996 to 2022



Source: CDC FoodNet

<https://www.cdc.gov/foodnet/foodnet-fast.html>

# Making the Invisible Visible



**COVER STORY: ANATOMY OF AN OUTBREAK: How salmonella sleuths solved a deadly mystery**

**Credit cards led investigators to source of E. coli outbreak**



**Online tools may have warned of listeriosis outbreak: study**



# The Race



**Prevention**

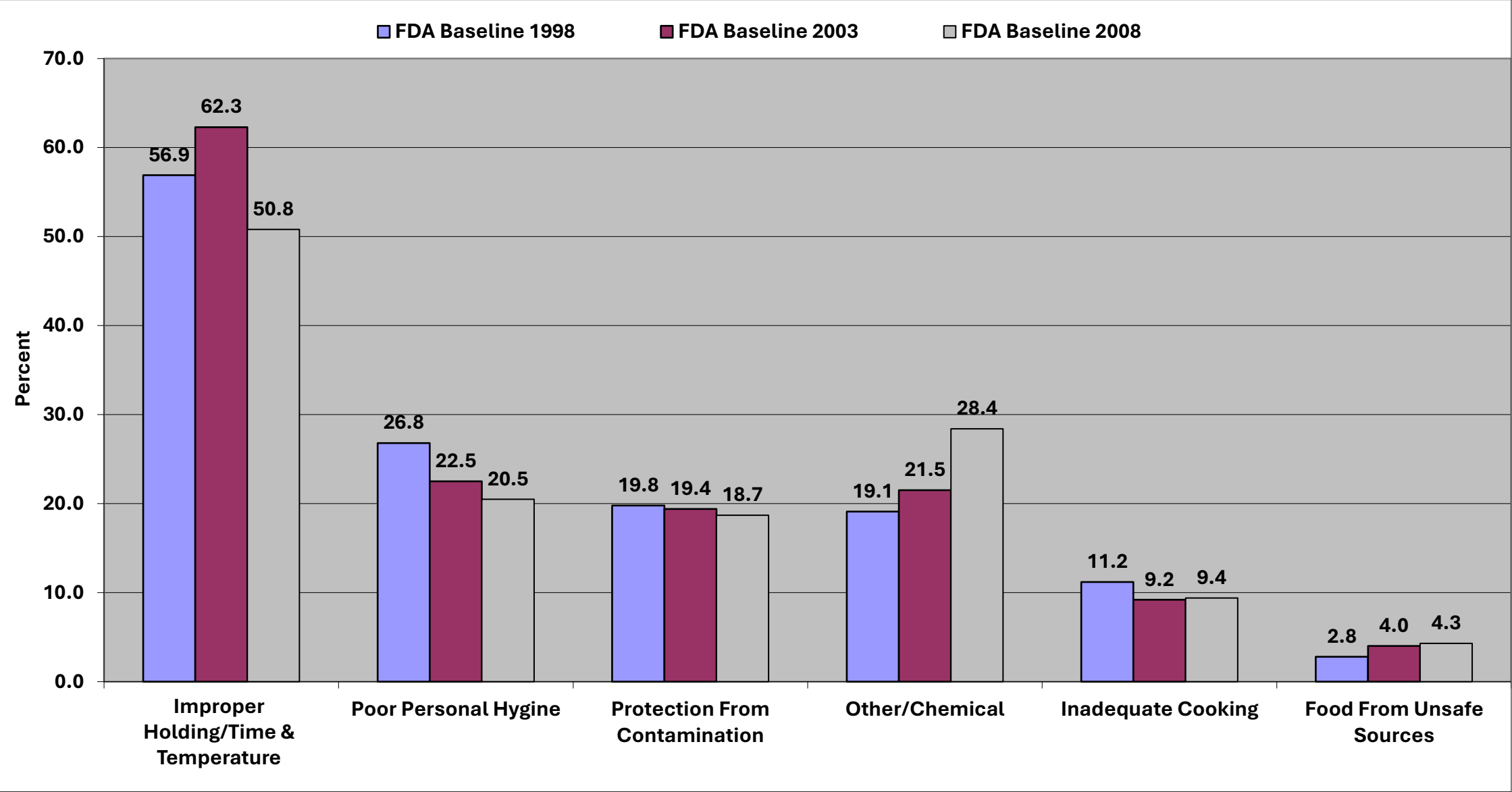


**Detection**



# Retail Food Deli Departments

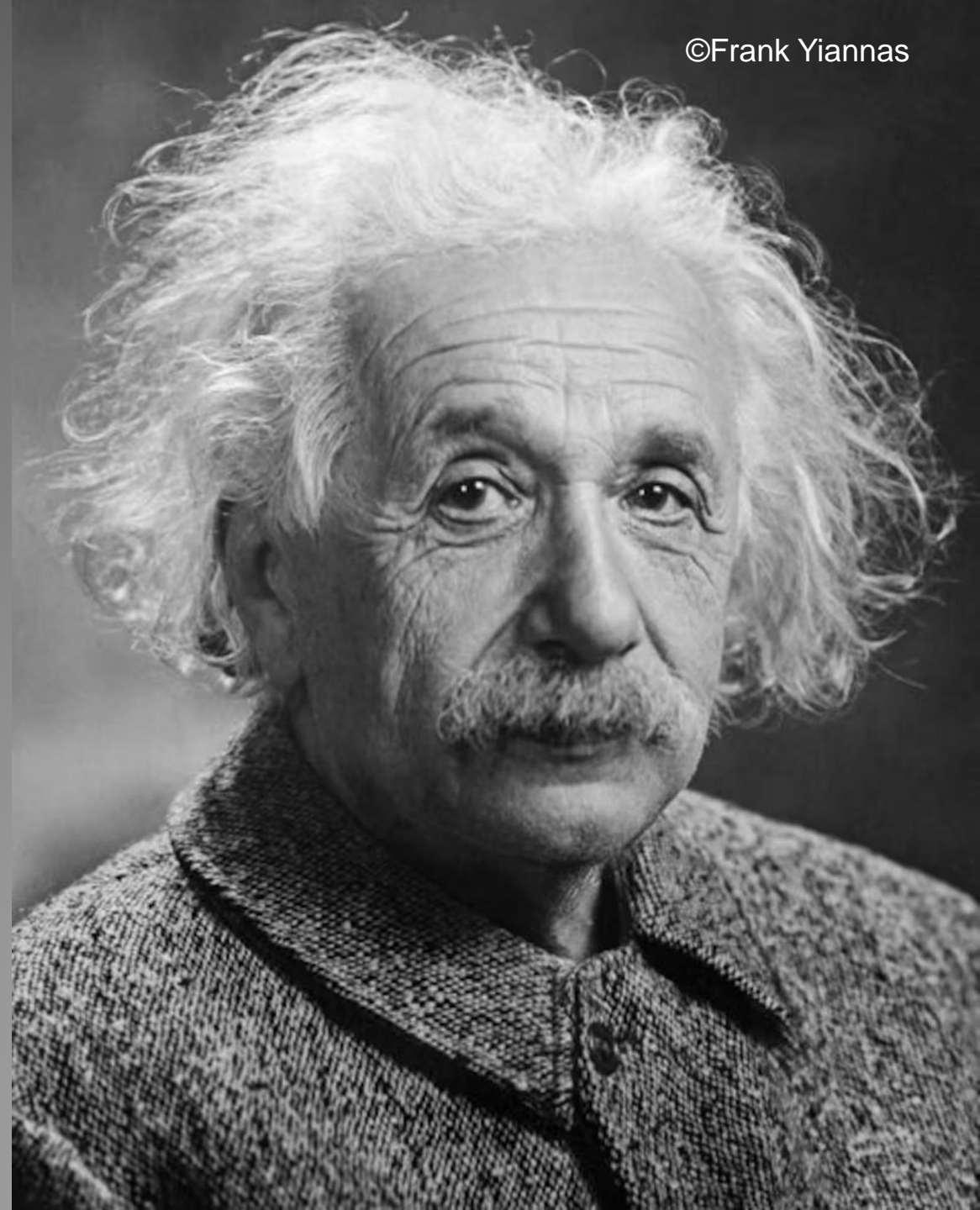
## Percent Observations Out-of-Compliance



We Need  
to ReThink  
Food Safety

**“Insanity is doing the same thing over and over and expecting different results.”**

**- Albert Einstein**





# Improved Food Safety

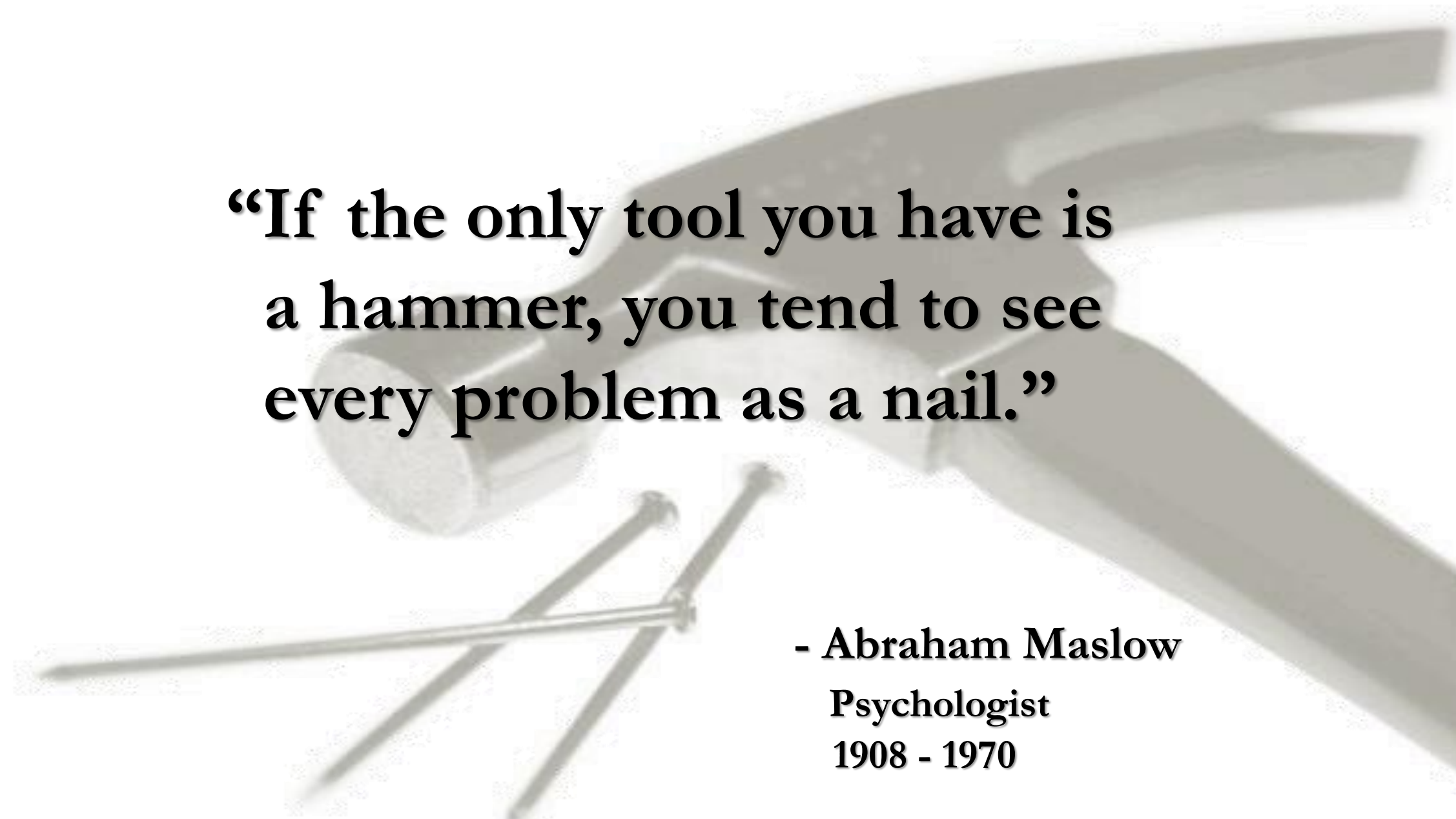
©Frank Yiannas



# Traditional Food Safety Strategies

- Training
- Inspections
- Micro Testing





**“If the only tool you have is  
a hammer, you tend to see  
every problem as a nail.”**

**- Abraham Maslow  
Psychologist  
1908 - 1970**





# Food Safety = Behavior





~~Food Safety Culture~~



# Overview

1. What is culture?

2. Why the focus on culture?

3. Who creates culture?

4. How is a safety culture created?



# What is a Food Safety Culture?

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# What is a Food Safety Culture?

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**Culture is shared patterns of thought and behavior that characterize a social group, which are learned through socialization processes and persist through time.**

**- Social & Behavioral  
Foundations of Public Health**

# Overview

1. What is culture?

2. Why the focus on culture?





# Why the focus on culture?

**In major safety incident investigations, an underlying root cause is**

- a) faulty design**
- b) operator error**
- c) improper training**
- d) organizational culture**



*“In our view, the NASA organizational culture had as much to do with this accident as the foam.”*

- Columbia Accident Investigation Board (2003)

# Why the focus on culture?

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US oil spill inquiry chief slams BP's  
'culture of complacency'



GM Recall Probe to Blame Cultural Failings

Columbia Report Faults NASA Culture,  
Government Oversight





# Food Safety Culture





# Overview

1. What is culture?

2. Why the focus on culture?

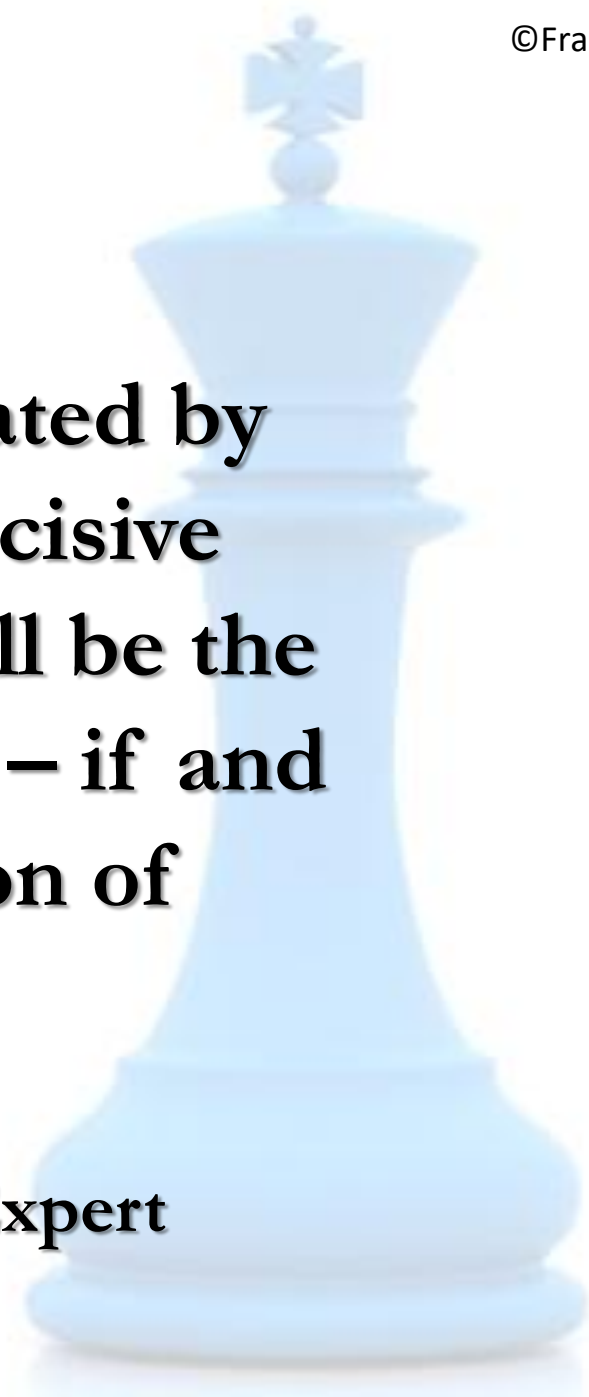
3. Who creates culture?



# Who Creates Culture?

**“Organizational cultures are created by leaders, and one of the most decisive functions of leadership may well be the creation, the management, and – if and when necessary – the destruction of culture.”**

**- Edgar Schein  
Organizational Expert**



# Overview

1. What is culture?

2. Why the focus on culture?

3. Who creates culture?

4. How is a safety culture created?





**“Food safety culture  
is a choice.”**

**- Frank Yiannas  
Food Safety Culture, 2009**



# Food Science + Behavioral Science

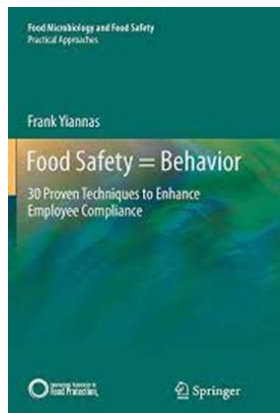
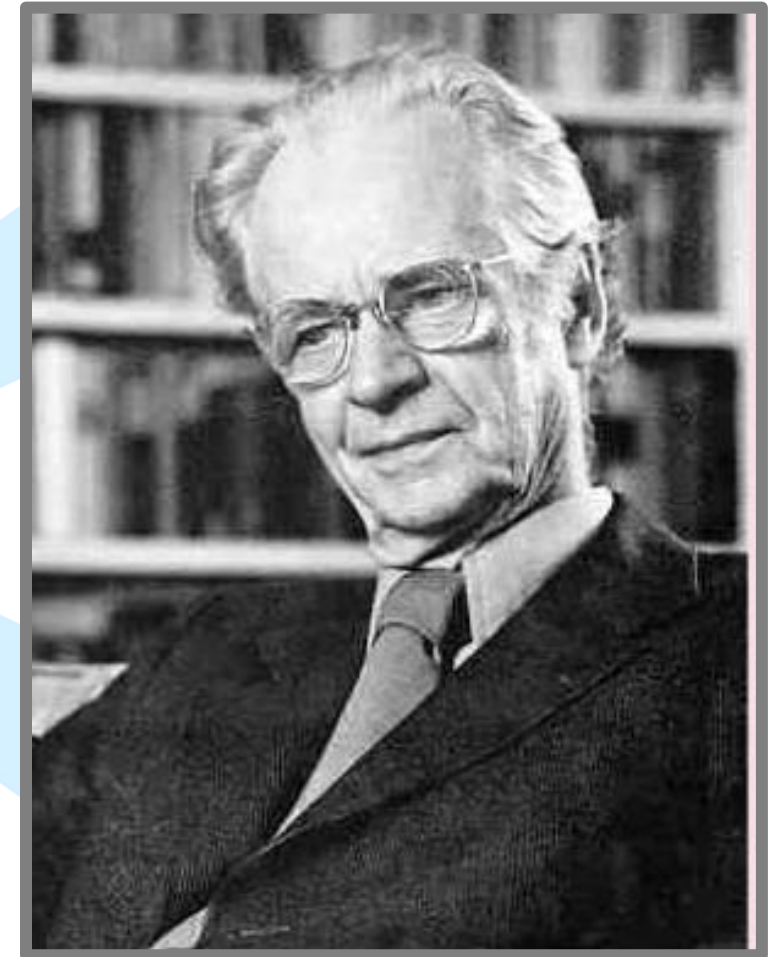
Traditional Food Safety Management	Behavior-Based Food Safety Management
<ul style="list-style-type: none"> <li>• Focuses on processes.</li> </ul>	<ul style="list-style-type: none"> <li>• Focuses on processes and people.</li> </ul>
<ul style="list-style-type: none"> <li>• Primarily based on Food Science.</li> </ul>	<ul style="list-style-type: none"> <li>• Based on Food Science, Behavioral Science, and Organizational Culture.</li> </ul>
<ul style="list-style-type: none"> <li>• Simplistic view of behavior change.</li> </ul>	<ul style="list-style-type: none"> <li>• Behavior change is complex.</li> </ul>
<ul style="list-style-type: none"> <li>• Linear cause and effect thinking.</li> </ul>	<ul style="list-style-type: none"> <li>• Systems thinking.</li> </ul>
<ul style="list-style-type: none"> <li>• Creates a food safety program.</li> </ul>	<ul style="list-style-type: none"> <li>• Creates a food safety culture.</li> </ul>

Source: Yiannas, Food Safety Culture



**“Behavior change  
is complex.”**

**- B.F. Skinner**





# Attributes of a Food Safety Culture

- 1. Create Food Safety Expectations**
- 2. Educate & Train All Associates**
- 3. Communicate Food Safety Frequently**
- 4. Establish Food Safety Goals & Measurements**
- 5. Consequences for Food Safety Behaviors**



# 1. Create Food Safety Expectations

*"High expectations are the key to everything."*

- Sam Walton



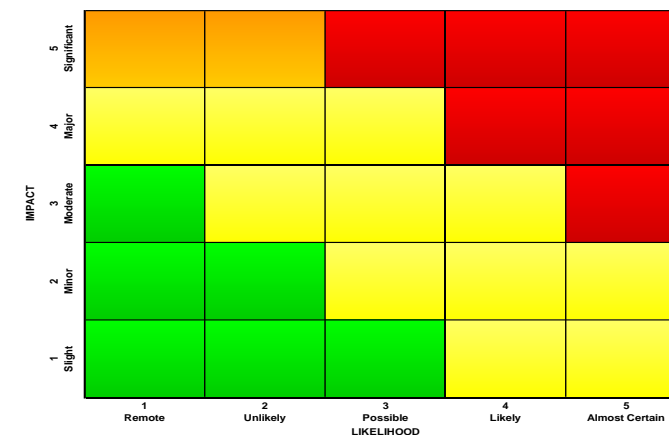
## Food Safety High Five

Know the High Five, and follow them while working with food.

- 1 Be Clean, Be Healthy**
  - Wash hands when necessary
  - Do not work with food while you are ill
  - Never touch ready-to-eat food with bare hands
- 2 Keep It Cold, Keep It Hot**
  - Keep cold foods at 41°F or below
  - Keep hot foods at 140°F or above
- 3 Don't Cross Contaminate**
  - Do not store raw foods over cooked or ready-to-eat foods
- 4 Wash, Rinse, & Sanitize**
  - Properly wash, rinse and sanitize all food contact surfaces and equipment
- 5 Cook It & Chill It**
  - Cook food until it reaches a proper internal temperature
  - Rapidly cool food to 41°F or below

Neighborhood Market by Walmart Walmart Say it. Save money. Live better.

## Risk Assessment

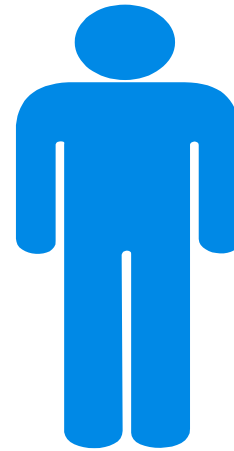


## 2. Educate & Train Associates on Food Safety

*I cannot teach anybody anything; I can only make them think.*

- Socrates

**Education vs Training**



**Real Risks**



**Behaviors**





# Food Safety Training & Education Concepts

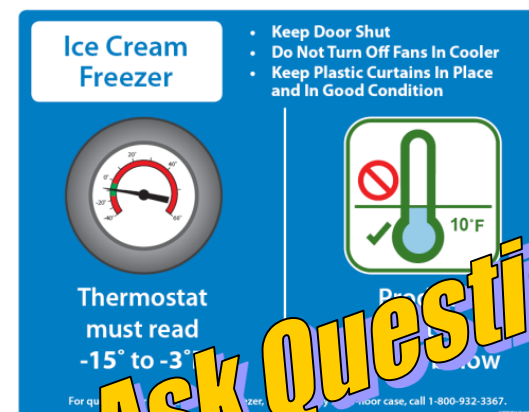
1. Education verses Training
2. Focus on Changing Behavior
3. Real Risk & Real Consequences
4. Stories instead of Statistics
5. At Home & At Work Food Safety
6. Completion vs. Commitment
7. Make it Visual, Simple, & the Social Norm
8. Learn from the Wrong Way & the Right Way

### 3. Communicate Food Safety Frequently

*When dealing with people, remember you are not dealing with creatures of logic, but creatures of emotion.* - Dale Carnegie



WIRE/Event Calendar/Leadership  
Weekly/Food Safety Message



**Ask Questions**

# 4. Establish Food Safety Goals & Measurements

*“Set high goals, encourage competition, and then keep score.”*

- Sam Walton

## High Five Quick Check

Store # \_\_\_\_\_ Date \_\_\_\_\_

**Walmart Food Safety High Five Quick Check**

**High Five No. 1 - Be Clean, Be Healthy**

- Are associates using gloves or utensils to prevent barehand contact with ready-to-eat foods?
- Are handwashing stations stocked, accessible and used?

**High Five No. 2 - Keep it Cold, Keep it Hot**

- Are refrigerated cases stocked so that airflow is not restricted?
- Are cold held products at 41°F or less?
- Are hot foods in the service deli/cafe held 140°F or higher?

**High Five No. 3 - Don't Cross Contaminate**

- Is raw food stored below and away from ready-to-eat foods?

**High Five No. 4 - Wash, Rinse, & Sanitize**

- Is sanitizer being dispensed at correct concentration?
- Is the three compartment sink set up correctly?
- Are test strips available?

**High Five No. 5 - Cook it & Chill it**

- Are foods being cooked to a minimum internal temperature of 165°F?

Notes/Corrective Actions \_\_\_\_\_

Please contact the Food Safety Team if you have any questions 479-275-8054  
See reverse for further directions

## Store Self Checks

**Cafe Daily Food Safety Review** Date: / / 20

**Cook Temperatures**

Item	Time	Temp	Initial	Time	Temp	Initial	Time	Temp	Initial	Time	Temp	Initial
1. Chicken				2. Pork			3. Beef			4. Turkey		
5. Fish				6. Eggs			7. Pasta			8. Rice		

**Hot Holding Temperatures**

Item	Time	Temp	Initial	Time	Temp	Initial	Time	Temp	Initial
1. Chicken				2. Pork			3. Beef		
4. Turkey				5. Fish			6. Eggs		

**Manager Verification**

Time	Temp	Initial	Time	Temp	Initial
1. Chicken			2. Pork		
3. Beef			4. Turkey		

**DAILY OBSERVE TO ANSWER ALL QUESTIONS**

Question	Manager	Initial	Manager	Initial
1. Be Clean, Be Healthy				
2. Keep it Cold, Keep it Hot				
3. Don't Cross Contaminate				
4. Wash, Rinse, & Sanitize				
5. Cook it & Chill it				

Corrective Actions \_\_\_\_\_

Closing Manager: \_\_\_\_\_  
Department and all Equipment Clean: Y/N \_\_\_\_\_  
Signature: \_\_\_\_\_

*Leading Indicators*

## Walmart Food Safety Scorecard

### Total Company

Category	December FY 10	January FY 10	Comp	Target	Rating
Food Safety Audit	93%	95%	2%	90%	↑
Category	YTD FY 09	YTD FY 10	Comp	Target	Rating
Regulatory	0.64	0.59	-0.05	< .60	↑

## Food Safety Audits

Account: USG0000 Johnson/Cheney Kerry Thompson  
Location Name: Santa Club #0000 Date: 1-4-2009  
Address: 400 Burrill Dr Time In: 15:02  
Store Club Manager: GAREY RUSSELL Time Out: 16:35

**Overall Rating:** Current Month: Green Previous Month: Green  
7-6-2009

**Attention: Club Manager Requires Immediate Attention**  
The Following Exception(s) were found

Follow Steps Outlined Below When Filling Out Your Action Plan:

1. The Plan of Action needs to include:  
A. What were the Action Plans taken?  
B. What were the Preventive Actions taken?

The Plan of Action can be accessed via the link you receive in your email notification from Johnson/Cheney.

**Be Clean, be healthy**

No exceptions found

**Keep it cold, keep it hot**

No exceptions found

**Wash, Rinse & Sanitize**

No exceptions found

## Handheld Technology



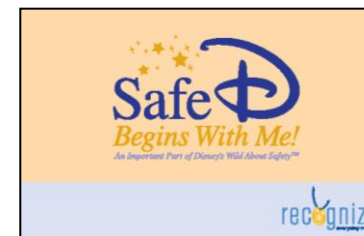
*Lagging Indicators*

# Digitize!

## 5. Consequences for Food Safety Behaviors

*The consequence of an act affects the probability of it occurring again.*

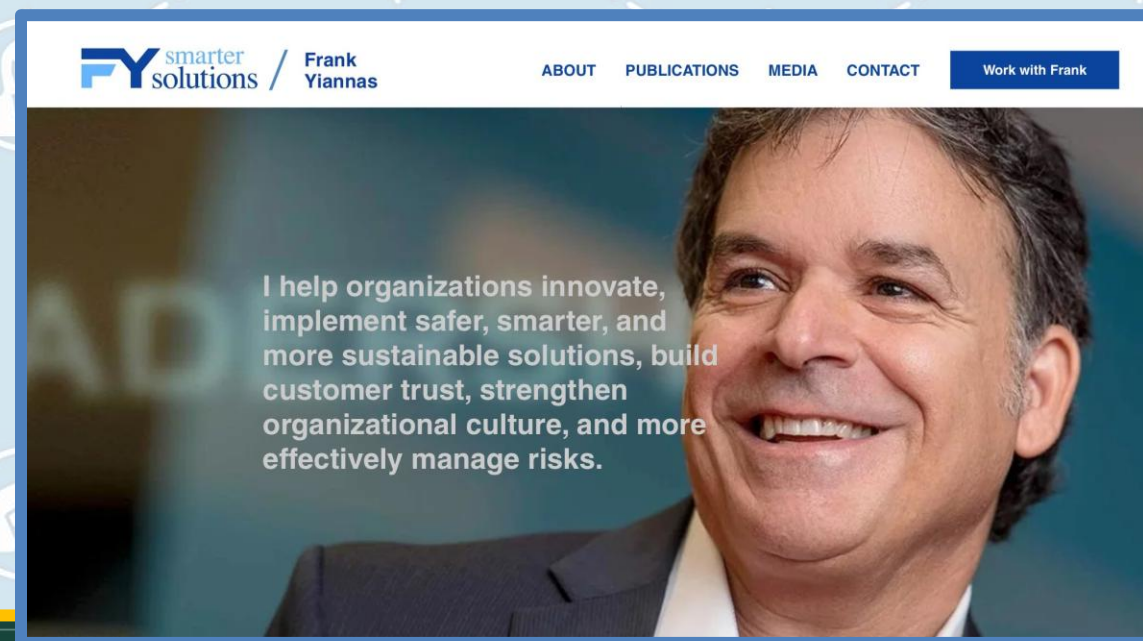
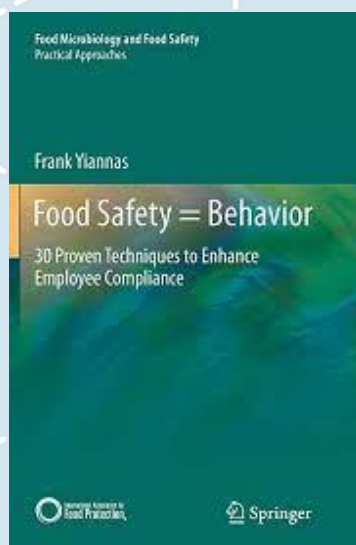
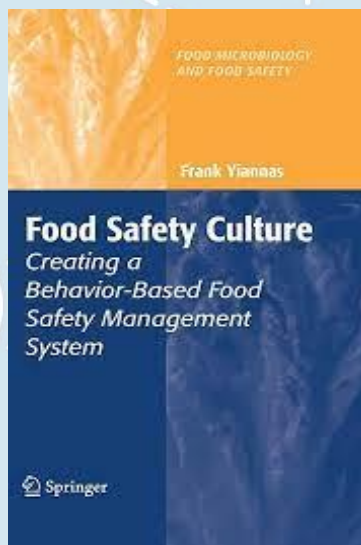
- B.F. Skinner



**Disciplinary  
Guidelines**



# Let's Stay Connected



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





**“Alone, we can do so little;  
Together, we can do so much.”**