



Food Safety Communication: Navigating the Divide Between Perceptions and Scientific Consensus

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A NEWSWEEK GUIDE

How Safe Is Your Food?







Food Safety in Perspective

Food safety priorities of FDA and WHO

1. Microbiological contamination
2. Nutritional imbalance
3. Environmental contaminants
4. Naturally-occurring toxins
5. Pesticide residues
6. Food additives



FOODBORNE ILLNESS RATES – U.S. ESTIMATES (CDC)

- 48 million cases annually
- 128,000 hospitalizations
- 3,000 deaths



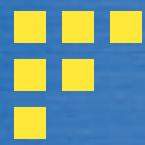
FOODBORNE ILLNESS RATES – U.S. ESTIMATES (CDC)

- 48 million cases annually
 - 128,000 hospitalizations
 - 3,000 deaths
-
- 130,000 cases per day!



PESTICIDE RESIDUES

- Only a handful of cases of food poisoning from pesticide residues worldwide over the past few decades
- Typical exposures of US consumers to pesticide residues often more than one million times lower than levels causing no effects in long-term animal toxicity studies
- Evidence of violations, particularly with imported foods, but not of health significance



CONSUMER CONCERNS

**What type of hazard is posed by
pesticide residues in foods?**

- 79% Serious health hazard
- 17% Something of a hazard
- 2% Not a hazard at all
- 2% Unsure

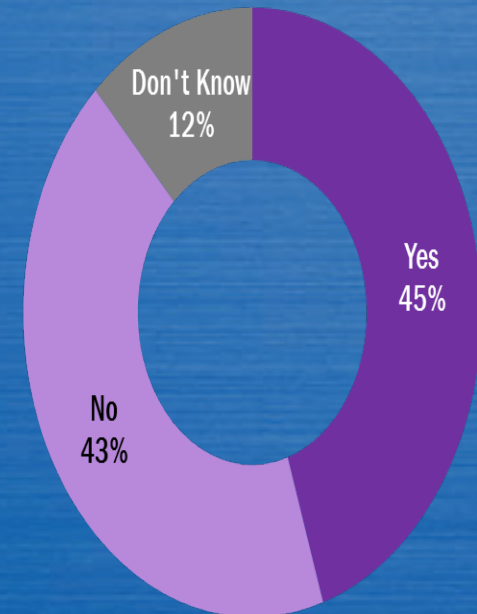
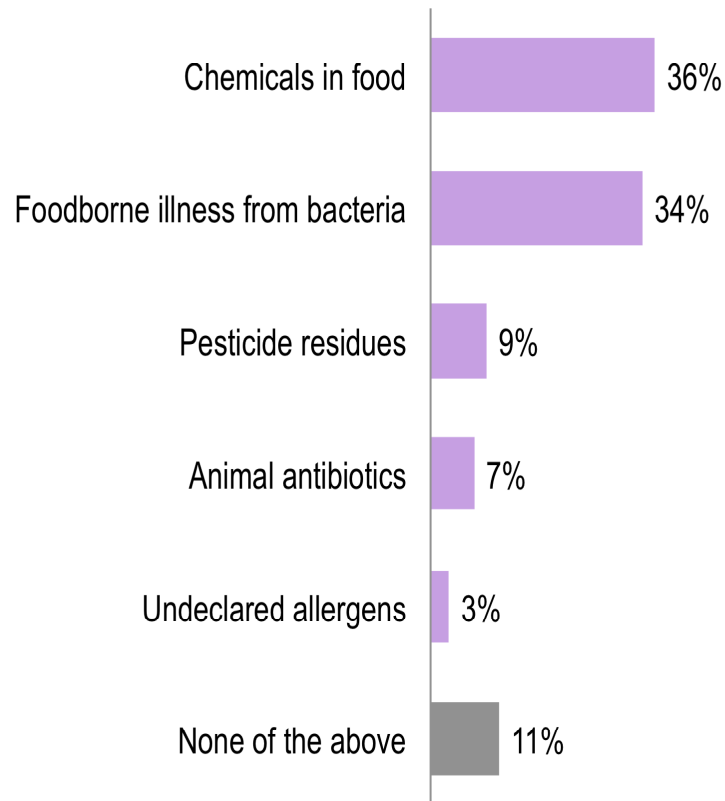
- Source: Food Marketing Institute



International Food Information Council Foundation Food and Health Survey, 2015

In your opinion, what is the most important food safety issue for you and your family today? (*Select one.*)

Have you made changes to your food purchases because of recent information about chemicals in food/pesticide residues/animal antibiotics?



Pew Research Center, 2015

Opinion Differences Between Public and Scientists

% of U.S. adults and AAAS scientists saying each of the following

Biomedical sciences

Safe to eat genetically modified foods

U.S. adults

37%

AAAS scientists

51 point gap

88%

Favor use of animals in research

47

42

89

Safe to eat foods grown with pesticides

28

40

68

Humans have evolved over time

65

33

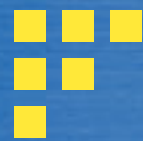
98

Childhood vaccines such as MMR should be required

68

18

86



EFFECTIVE RISK COMMUNICATION

- Draw attention to major risks that might benefit from greater oversight and public education
- Draw attention away from much lower risks that generate disproportionate attention

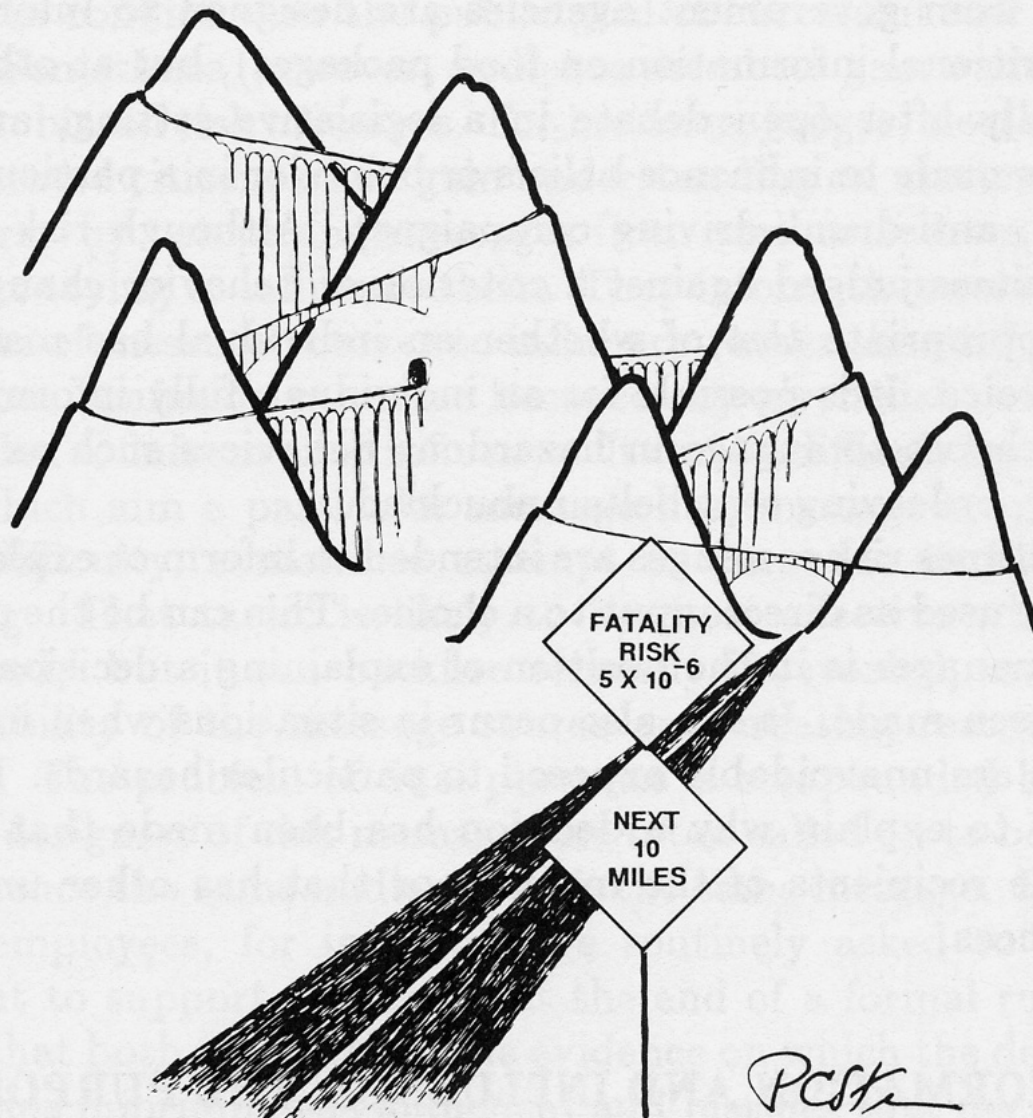


FIGURE 4.1 For personal action to reduce risks, a simple warning sign (e.g., “Hills and Curves Next 10 Miles”) may be sufficient; a report of a formal risk analysis could be counterproductive. SOURCE: Courtesy of Paul Stern.

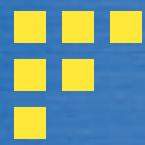


Different Risks are Perceived Differently

- The type of risk is important
- The population facing the risk is important
- The calculated probability of risk is often of much less concern

Example – driving ability





Consumer Acceptance and Perception

SANDMAN equation

$$\text{RISK} = \text{HAZARD} + \text{OUTRAGE}$$

- Scientists pay little or no attention to outrage factors
- The public has difficulty understanding the concept of **hazard** and places more value on non-scientific factors



Qualitative Factors Affecting Risk Perception and Evaluation (Outrage Factors)

Factor	Conditions Associated with Increased Public Concern	Conditions Associated with Decreased Public Concern
Voluntariness of exposure	Involuntary	Voluntary
Fairness	Inequitable distribution of risks and benefits	Equitable distribution of risks and benefits
Origin	Caused by human actions or failures	Caused by acts of nature
Memorability	Memorable	Not memorable
Effects manifestation	Delayed effects	Immediate effects
Familiarity	Unfamiliar	Familiar
Trust in institutions	Lack of trust in responsible institutions	Trust in responsible institutions

Primary Smoking





Example: Primary Smoking Hazard? Outrage?

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Secondary Smoking





Example: Secondary Smoking Hazard? Outrage?

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Microbial Foodborne Illness





Example: Microbial Foodborne Illness Hazard? Outrage?

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Memorability - Chipotle Timeline

- July 2015: Seattle - E. coli 0157:H7, **five** sick
- August 2015: Simi Valley, CA – Norovirus, **234** sick, source was sick employee
- Aug/Sep 2015: Minnesota – Salmonella newport, **64** sick
- Oct 2015-Feb 2016: 9 States – E. coli O26, **55** sick
- Dec 2015: Boston – Norovirus, **151** sick

Economic Impact – foodborne illness

Chipotle Mexican Grill Inc (NYSE:CMG)

[Add to Watch List](#)[Set Alert](#)

470.97

Delayed Data
As of 4:00pm ET

↑ **+4.82 / +1.03%**

Today's Change

399 14

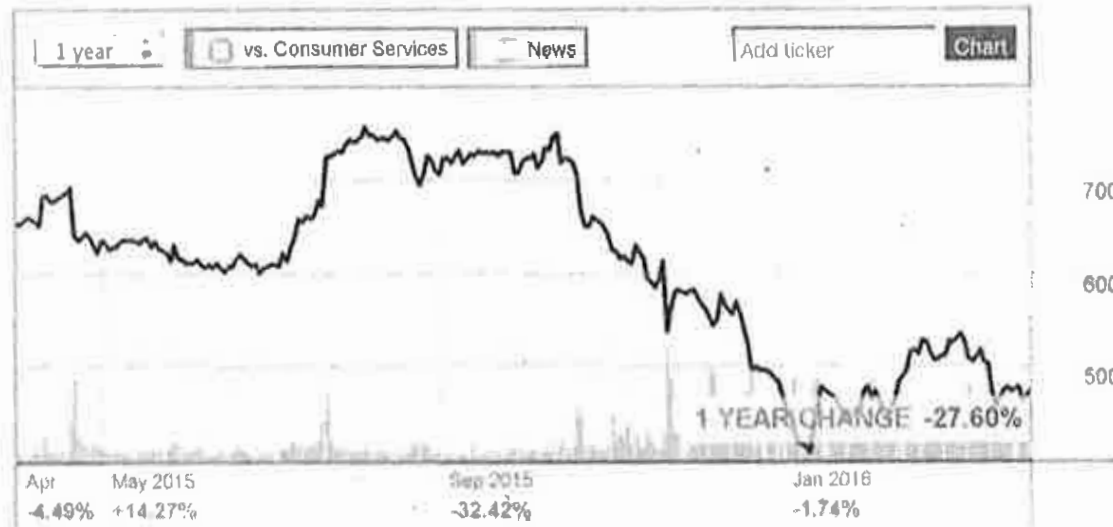


52 Week Range

758.61

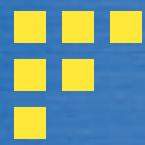
-1.85%

Year to Date

[Quote](#)[Profile](#)[News](#)[Charts](#)[Forecasts](#)[Financials](#)[Shareholders](#)[Competitors](#)

Pesticides in food





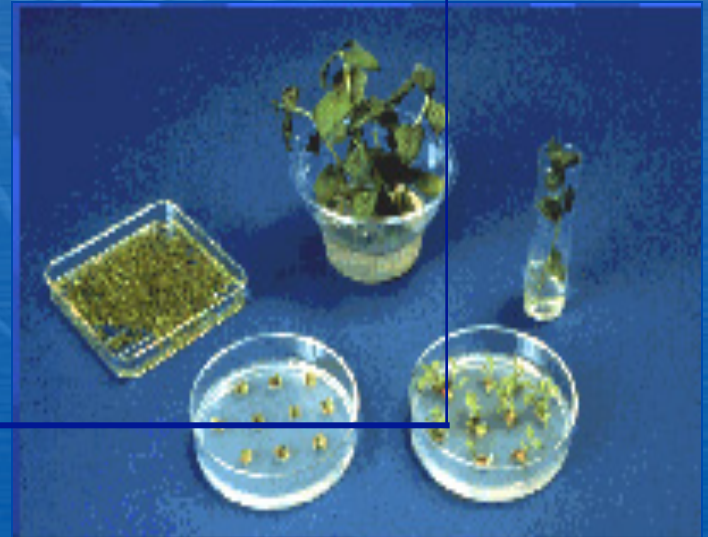
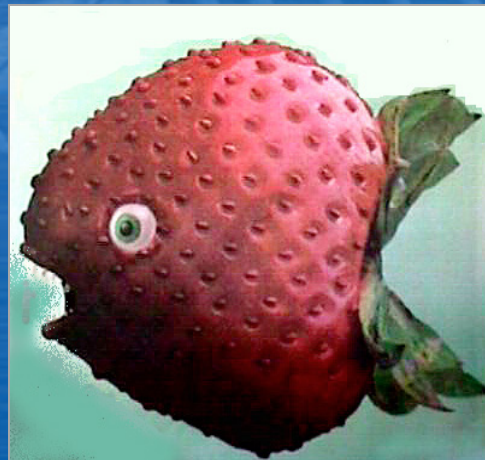
Example: Pesticides in food

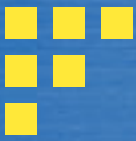
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GMOs in food





Example: GMOs in food

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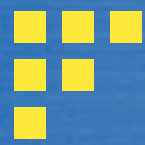
And now, some good news....





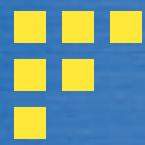
Improving Risk Communication Effectiveness: Increasing Familiarity and Trust

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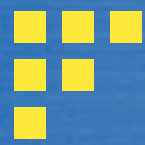
Concluding Thoughts

- Consumers make their decisions based upon scientific and non-scientific factors



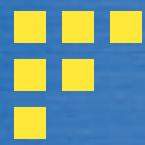
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- Increasing trust in institutions (through action) and increasing consumer familiarity with specific food safety issues may minimize concerns



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- Consumers make their decisions based upon scientific and non-scientific factors
- Scientists need to understand this and to humanize/ personalize messages
- Increasing trust in institutions (through action) and increasing consumer familiarity with specific food safety issues may minimize concerns
- We must have realistic expectations about what constitutes success

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