



International Food Information Council (IFIC) Foundation  
**2009 FOOD & HEALTH SURVEY**  
Consumer Attitudes toward Food, Nutrition & Health

*A Trended Survey*



Welcome!

Please dial in to the audio portion:

**(800) 658-3095**

**Access Code: 964856914#**



INTERNATIONAL  
FOOD INFORMATION  
COUNCIL FOUNDATION



# Today's Speakers

- Jennifer Schleman, APR  
*Director, Public Outreach and Online Communications  
International Food Information Council Foundation*
- Tony Flood  
*Director, Food Safety Communications International  
Food Information Council Foundation*
- Robert "Bob" Gravani, PhD  
*Professor of Food Science, Cornell University*
- Diane Van  
*Manager, USDA Meat and Poultry Hotline*

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# Agenda

- Brief Background
- Presentation of Findings
- Pathogens that Cause Foodborne Illness
- Practical Tips for Consumers
- Questions and Answers
  - Submit your questions via email to [foodandhealth@ific.org](mailto:foodandhealth@ific.org)
- Twitter hashtag: #foodsafety

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# International Food Information Council Foundation

## Mission:

*To effectively communicate science-based information on health, nutrition, and food safety for the public good.*

Primarily supported by the broad-based food, beverage and agricultural industries.

<http://www.ific.org>

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# The Foundation *Food & Health Survey*

<http://www.ific.org>

International Food Information Council (IFIC) Foundation  
**FOOD & HEALTH SURVEY**  
Consumer Attitudes toward Food, Nutrition & Health



International Food Information Council (IFIC) Foundation  
**2007 FOOD & HEALTH SURVEY**  
Consumer Attitudes toward Food, Nutrition & Health  
A Trended Survey



International Food Information Council (IFIC) Foundation  
**2008 FOOD & HEALTH SURVEY**  
Consumer Attitudes toward Food, Nutrition & Health

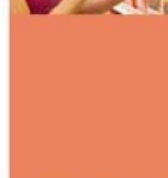


2007



2008

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**2009 FOOD & HEALTH SURVEY**  
Consumer Attitudes toward Food, Nutrition & Health  
A Trended Survey



2009

*2009 Food & Health Survey*



2006



# Methodology

<b>Methodology</b>	Web Survey
<b>Population</b>	Representative Sample of Americans Aged 18+
<b>Data Collection Period</b>	February 19-March 11, 2009
<b>Sample Size (Error)</b>	n=1,064 ( <u>±</u> 3.0 for 2009) ( <u>±</u> 4.4 among 2009, 2008, 2007, 2006)
<b>Data Weighting*</b>	Data Weighted on Age, Gender, Income, Education and Race

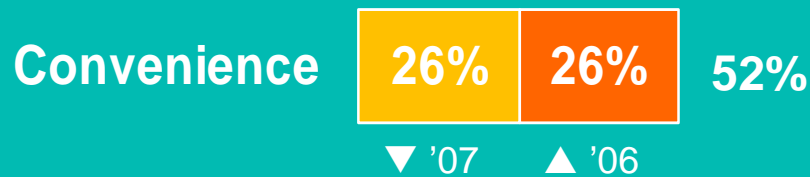
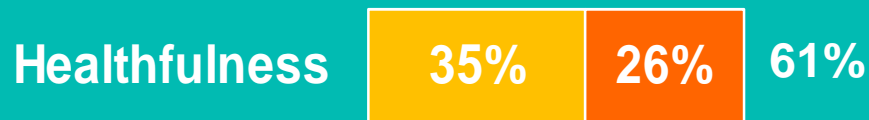
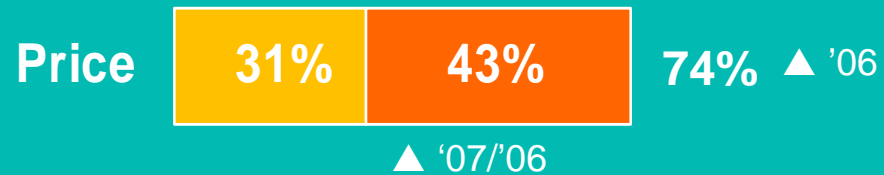
\*Weighting is a widely accepted statistical technique that is used to ensure that the distribution of the sample reflects that of the population on key demographics. With any data collection method, even when the outgoing sample is balanced to the Census, some populations are more likely than others to respond.

▲ / ▼ Significant increase/decrease from year indicated

2009 Food & Health Survey



# Taste Still the Number One Factor Influencing Purchases; Price Increases to an All-Time High



■ **Some Impact** ■ **Great Impact**

How much of an impact do the following have on your decision to buy foods and beverages?  
(n=1064)

▲ / ▼ Significant increase/decrease from year indicated

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# Sources of Information Guiding Food Safety and Health Practices

Food label	61%
Friends/family	42%
Health professional	33%
Grocery store, drug store, or specialty store	28%
Magazine article	28%
Internet article	27%
TV news program	24%
Product or manufacturer communications	13%
Newspaper	13%
Health association	9%
Dietitian	8%
Government official/agency	5%
Radio news program	3%
Blog or social networking site	1%
Other	4%

What three sources of information do you use most often to guide your food, nutrition, and food safety practices? *Select three.* (n=1064)

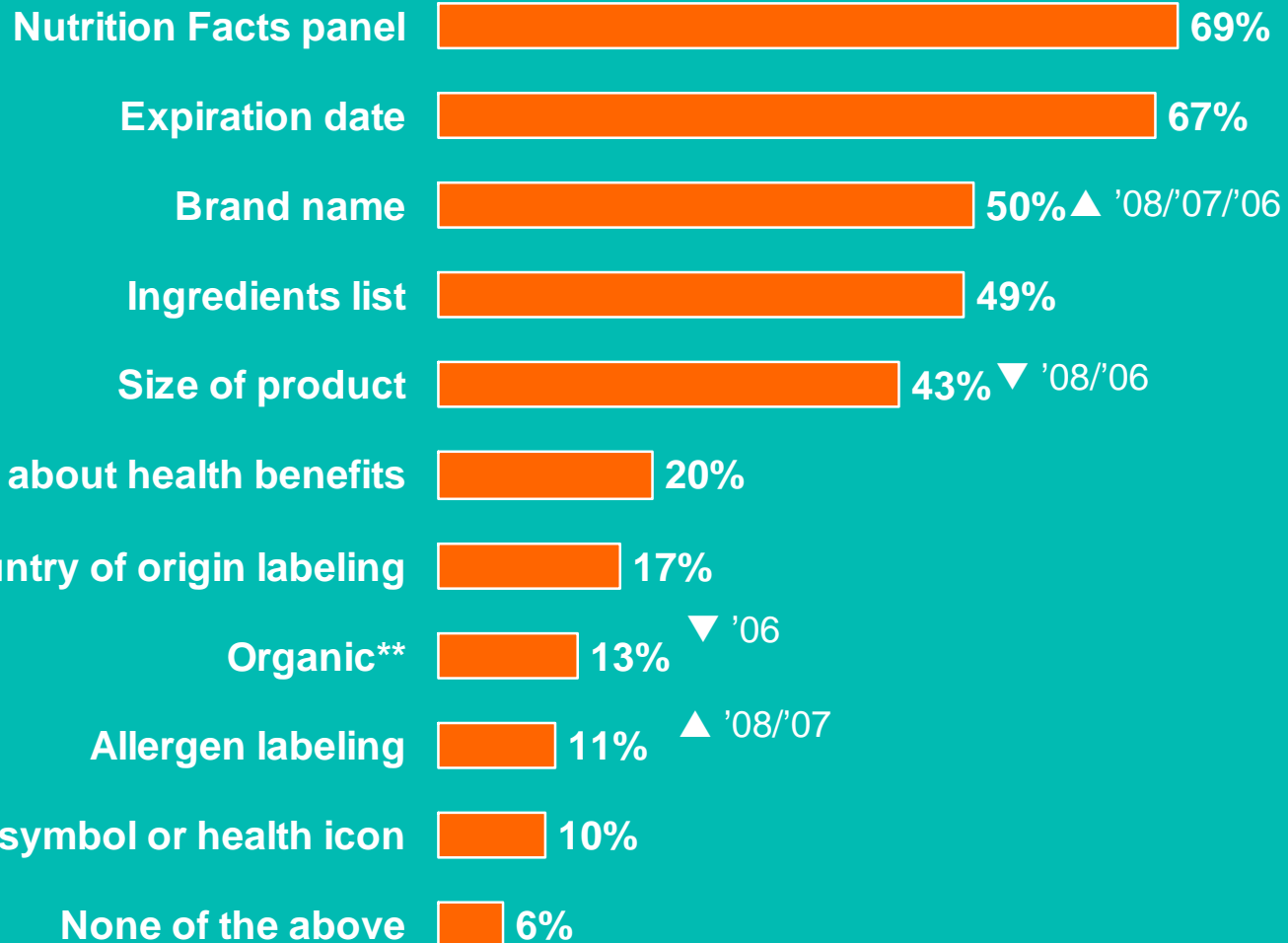
▲ / ▼ Significant increase/decrease from year indicated

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# Information Used on the Food and Beverage Package



Statements about health benefits

Country of origin labeling

Organic\*\*

Allergen labeling

Health symbol or health icon

None of the above

What information do you look for on the food or beverage package when deciding to purchase or eat a food or beverage? *Select all that apply.* (n=1064)

▲ / ▼ Significant increase/decrease from year indicated

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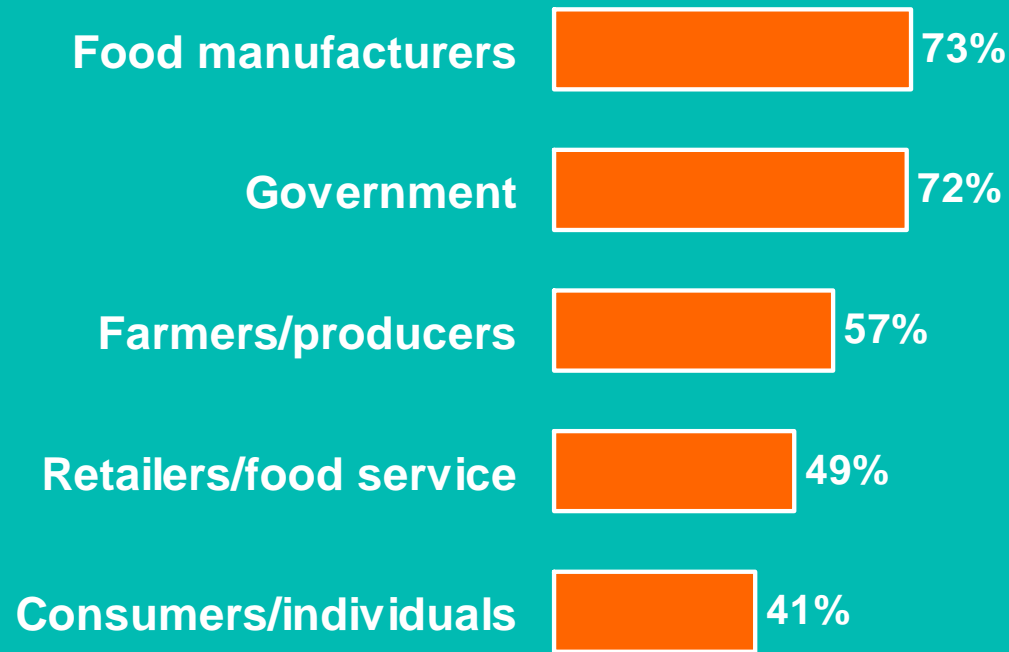
# FOOD SAFETY

## Confidence in the Safety of the U.S. Food Supply Safe Food Preparation

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# Perceived Responsibility for the Safety of the U.S. Food Supply



In general, who do you believe is responsible for food safety in the U.S.? *Select all that apply.*  
(n=1064)

NOTE: "Other" response (one percent) not shown



▲ / ▼ Significant increase/decrease from year indicated

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# Person-on-the-Mall Speaks....

“Everyone has to do their part to make sure that the process from plant to consumer is a good one and a safe one”





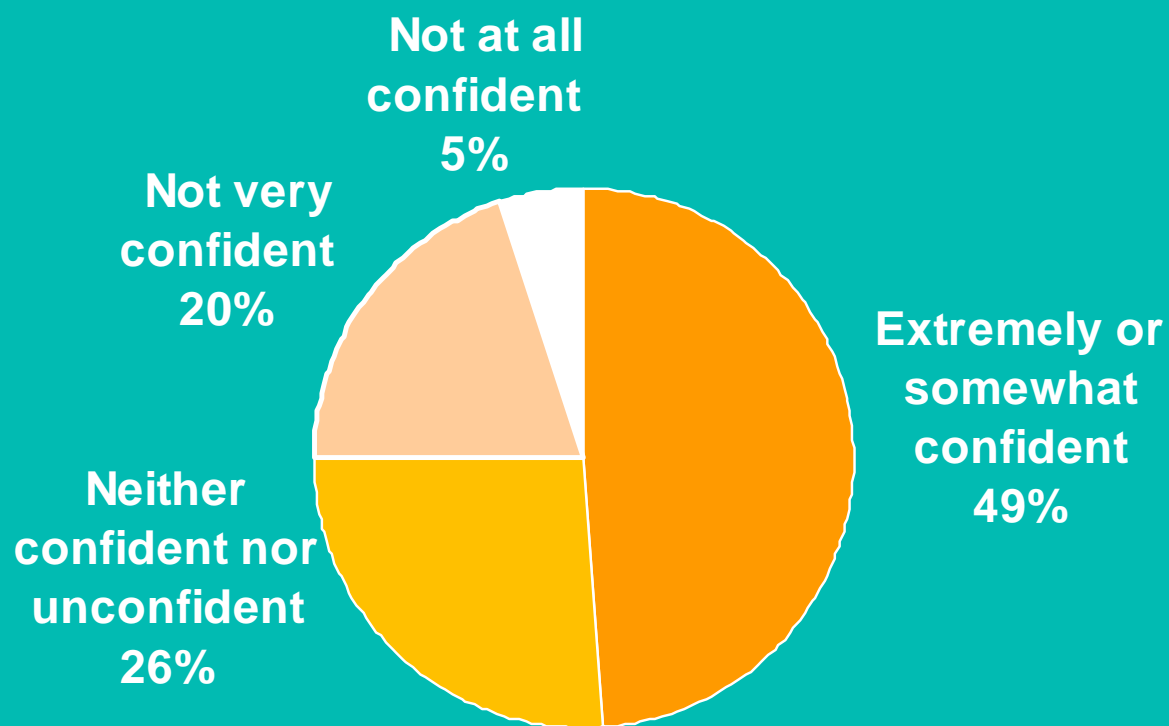
# Confidence in the Safety of the U.S. Food Supply

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# Nearly Half of Consumers are Confident in the Safety of the U.S. Food Supply.



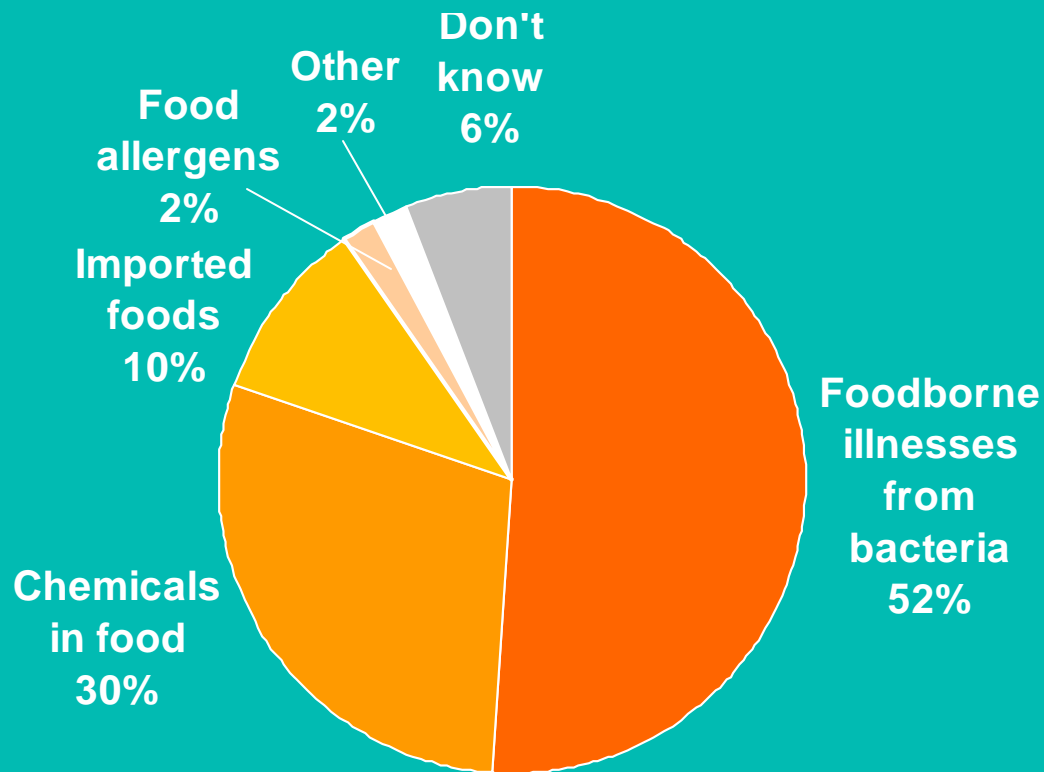
To what extent, if at all, are you confident in the safety of the U.S. food supply? (n=1064)

▲ / ▼ Significant increase/decrease from year indicated

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# Foodborne Illness is Perceived as the Most Important Food Safety Issue.



What, in your opinion, is the most important food safety issue today? *Select one.* (n=1064)\*

\*Total does not add to 100% due to rounding

▲ / ▼ Significant increase/decrease from year indicated

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# Safe Food Preparation

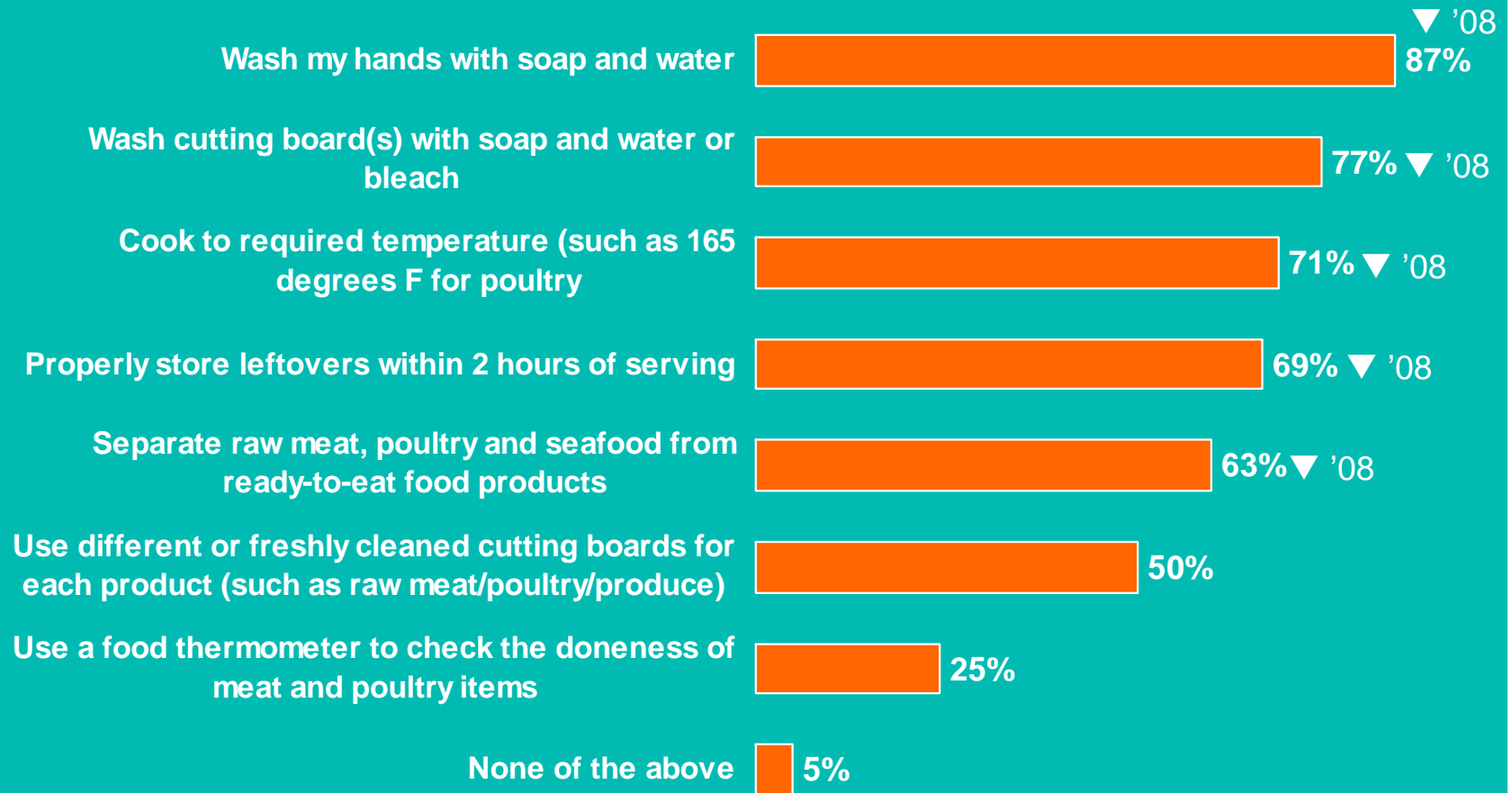
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# Fewer Americans are Taking Food Safety Precautions to Reduce Their Risk

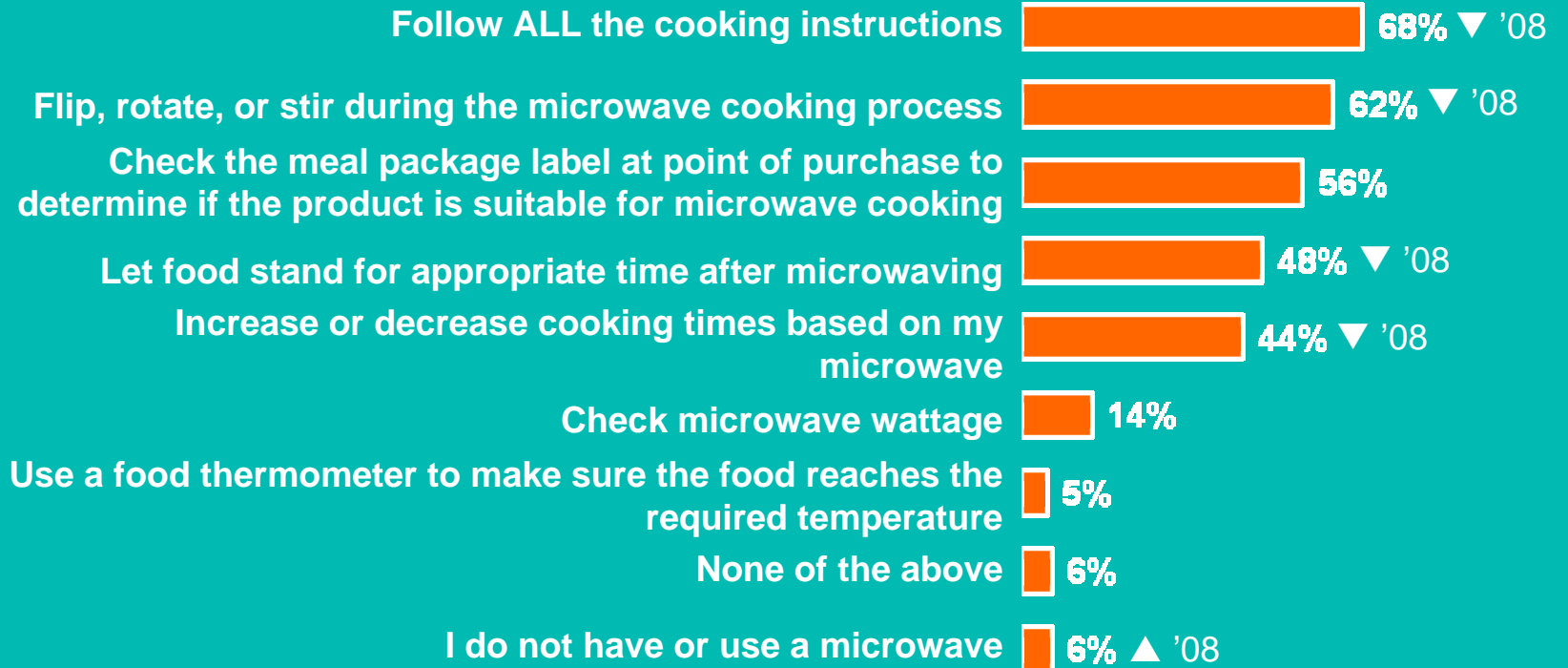


Which of the following actions do you perform regularly when cooking, preparing, and consuming food products? *Select all that apply.* (n=1064)

▲ / ▼ Significant increase/decrease from year indicated

2009 Food & Health Survey

# Fewer Consumers Adhering to Some Safe Microwave Cooking Practices



Which of the following actions do you perform regularly when preparing microwavable meals (e.g., frozen meals, pre-packaged meals that contain cooking instructions) at home? *Select all that apply.* (n=1064)

# The Majority of Americans do not Perceive Any Obstacles to Handling Food Safely.

Lack of information 19%

Not enough time 17%

I do not have the proper equipment available 11%

Lack of interest 9%

Not concerned about food safety 5%

I do not face any obstacles when handling food safely 58%

What obstacles, if any, do you face when handling food safely? *Select all that apply.* (n=1064)

NOTE: "Other" response (one percent) not shown

▲ / ▼ Significant increase/decrease from year indicated

2009 Food & Health Survey



# A Call to Action

- Increase awareness about general food safety practices
  - Re-introduce the food safety basics
  - Understand and communicate the risks of foodborne illness
- Identify target audiences to receive food safety education
- Work in concert with all stakeholders to communicate about food safety risks
  - Consumers
  - Industry
  - Government
  - Academics
  - Retailers

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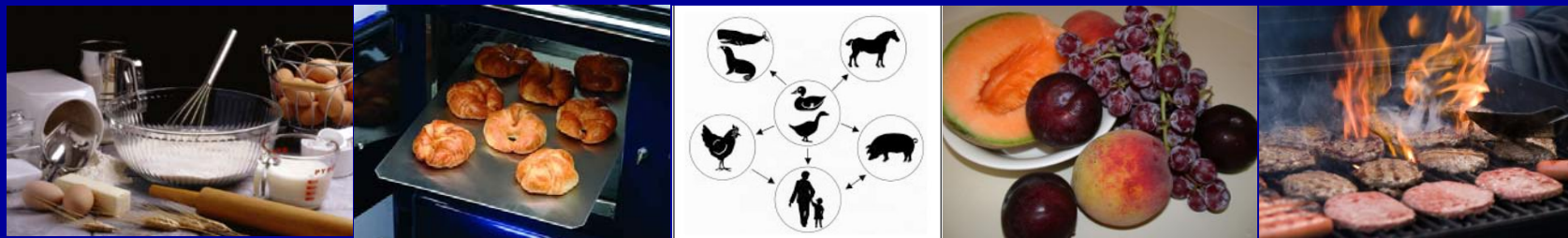




# Risks of Foodborne Illness

By

**Robert B. Gravani, Ph.D.**  
**Department of Food Science**  
**Cornell University**





**Today's consumers  
are more concerned  
about food quality  
and safety than ever  
before !**



# **Foodborne Illness in the U.S.**

**Every year foodborne illnesses result in an estimated:**

- 76 Million cases of illness**
- 325,000 people hospitalized**
- 5,000 needless deaths each year**
- Economic losses ~ \$10 - \$83 Billion**

**Sources: CDC & Food Code**



# **Foodborne Illness in the U.S.**

**What do these numbers really mean?**

- **1 in 4 Americans will develop foodborne illness**
- **1 in 1000 people will be hospitalized due to the symptoms of foodborne illnesses**

# Foodborne Outbreaks, 2007

<b>Confirmed Etiology</b>	<b>No. Outbreaks</b>	<b>No. Cases</b>
<b>Bacterial</b>	<b>257</b>	<b>6,410</b>
<b>Chemical</b>	<b>34</b>	<b>141</b>
<b>Parasitic</b>	<b>5</b>	<b>65</b>
<b>Viral</b>	<b>199</b>	<b>6,120</b>

# Foodborne Outbreaks, 2007

All Etiologies	No. Outbreaks	No. Cases
<b>Total Confirmed</b>	<b>507</b>	<b>13,138</b>
<b>Total Suspected</b>	<b>226</b>	<b>2,944</b>
<b>Unknown</b>	<b>362</b>	<b>5,079</b>
<b>Grand Total</b>	<b>1097</b>	<b>21,183</b>

# Bacterial Pathogens of concern

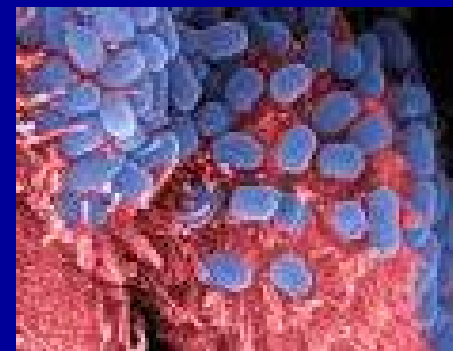
\* *Salmonella*



\* *Listeria*

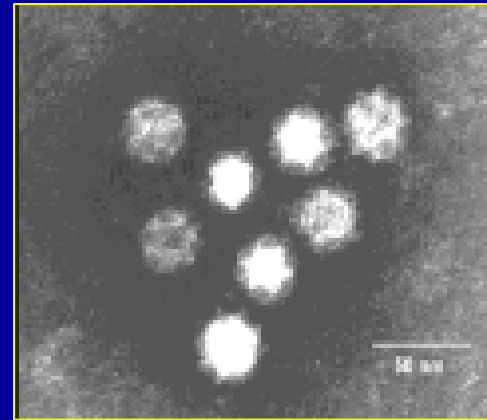


\* *E. coli* O157:H7



# Viral Foodborne Pathogens

\* *Norovirus*



\* *Hepatitis A*

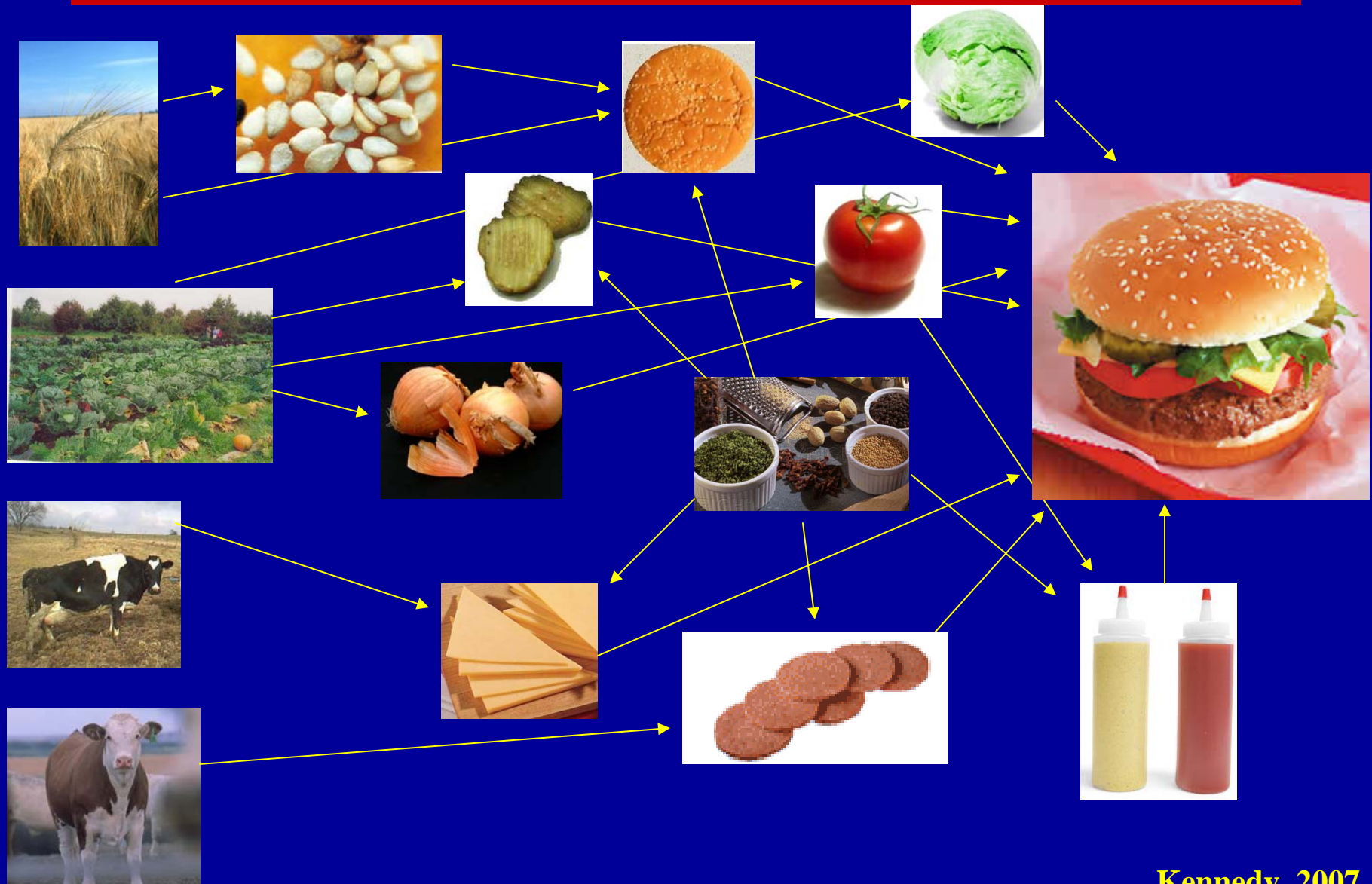


# Factors Affecting the Number of Foodborne Illnesses

- **Increases in elderly and chronically ill persons**
- **Changes in consumer practices: awareness of hazards, risks and hygiene**
- **Changes in eating habits**
- **International travel**
- **Globalization of the food industry**



# Supply Chain Complexity



# Cheeseburger Supply Chain



bleached wheat flour  
malted barley flour  
thiamine  
riboflavin  
Niacin  
folic acid  
reduced iron  
Water  
corn syrup  
sesame seeds  
soybean oil  
Yeast  
Salt  
calcium sulfate  
calcium carbonate  
calcium silicate  
soy flour



lettuce



dehydrated onions

baking soda  
wheat gluten  
calcium propionate  
enzymes  
mono- and diglycerides  
diacetyl tartaric acid esters  
ethanol  
sorbitol  
polysorbate 20  
potassium propionate  
sodium stearoyl lactylate  
corn starch  
ammonium chloride  
ammonium sulfate  
calcium peroxide  
ascorbic acid  
azodicarbonamide



## Grill Seasonings

Salt  
Pepper  
cottonseed oil  
soybean oil



## Special Sauce

Soybean oil  
distilled vinegar  
egg yolks  
sugar  
corn syrup  
spice extractives  
xanthan gum  
prop. glycol alginate  
potassium sorbate  
garlic powder  
caramel color  
Turmeric  
EDTA



Milk  
Water  
sodium citrate  
sodium phosphate  
artificial color  
acetic acid  
Enzymes

milkfat  
cream  
salt  
sorbic acid  
cheese culture  
soy lecithin  
starch



USDA inspected beef



pickles  
water  
HF corn syrup  
onion powder  
spice  
salt  
mustard flour  
sodium benzoate  
mustard bran  
hydrolyzed proteins  
paprika  
calcium disodium

Cucumbers  
water  
Vinegar  
Salt  
calcium chloride  
Alum  
Natura lflavorings  
polysorbate 80  
turmeric



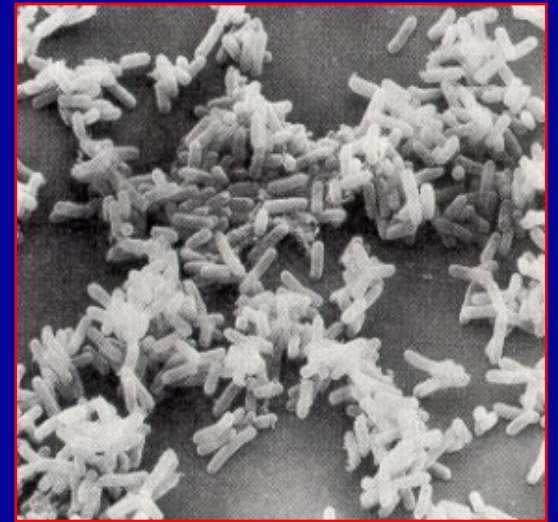
# Factors Affecting the Number of Foodborne Illnesses

- **Changes in food processing technologies**
- **Improved diagnostics and medical advances**
- **Increases in food prepared outside the home: multiple handling of food**
- **Changes in microorganisms:  
Microbial Evolution**



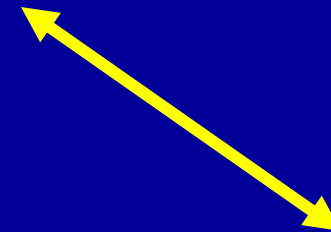
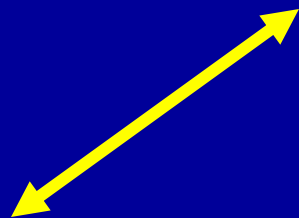
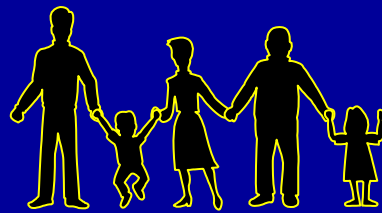
# Changes in Microorganisms

- Fewer cells needed to cause illness & some of the illness are more severe
- Severe complications can result
- Adaptation to environmental conditions

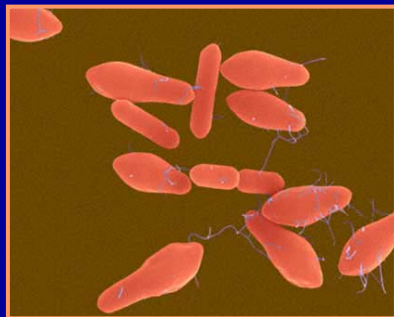


# The Cycle of Infection

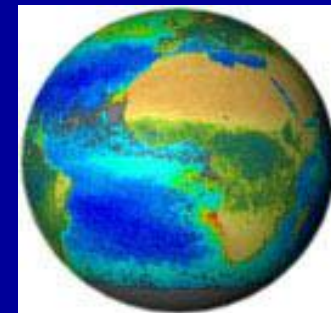
**HOSTS**



**PATHOGENS**



**ENVIRONMENT**

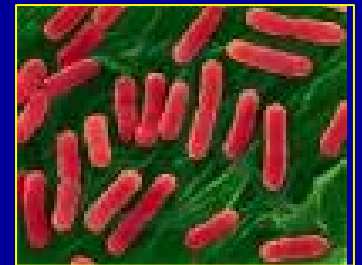


# **Factors Increasing the Risk of Foodborne Infection or the Severity of Illness**

- ✓ **Microbial**
- ✓ **Host**
- ✓ **Environmental**

# Microbial Factors

- **Type and strain of pathogen ingested**
  - \* **Some pathogens & strains are more virulent than others**
- **Quantity of pathogens ingested**
  - \* **High numbers ingested may increase severity of illness &/or shorten onset time**



# Host Factors

- **Age less than 5 years**
  - \* **Lack of developed immune system**
  - \* **Smaller infective dose-by-weight required**
- **Age greater than 50 or 60 years**  
**(depending on pathogen)**
  - \* **Immune systems failing;**  
**weakened by chronic illnesses**



CAST, 1994

# Host Factors

- **Pregnancy**

- \* **Altered immunity during pregnancy**



- **Hospitalized persons**

- \* **Individuals already debilitated by illness**

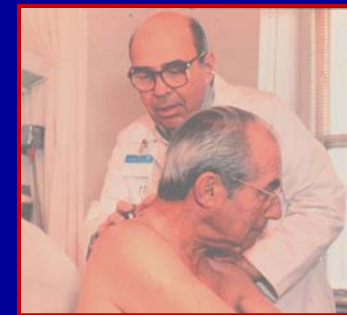
- **Concomitant Infections**



CAST, 1994

# Host Factors

- **Immuno-compromised individuals... including those on chemotherapy or radiation therapy; recipients of organ transplants taking immuno-compromising drugs; persons with leukemia, AIDS, or other illnesses**



CAST, 1994

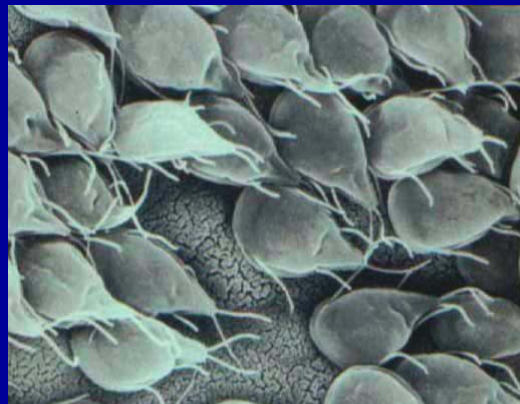
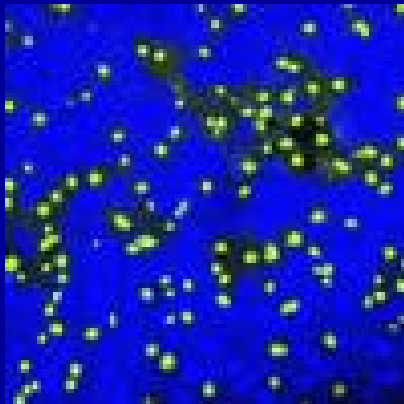


# Persons with AIDS and Late-Stage HIV

- **Salmonellosis**
  - \* **20 times higher risk**
  - \* **6 times more likely to develop life-threatening blood disease**
- **Listeriosis**
  - \* **200-300 times higher risk**
  - \* **25% of cases end in death**

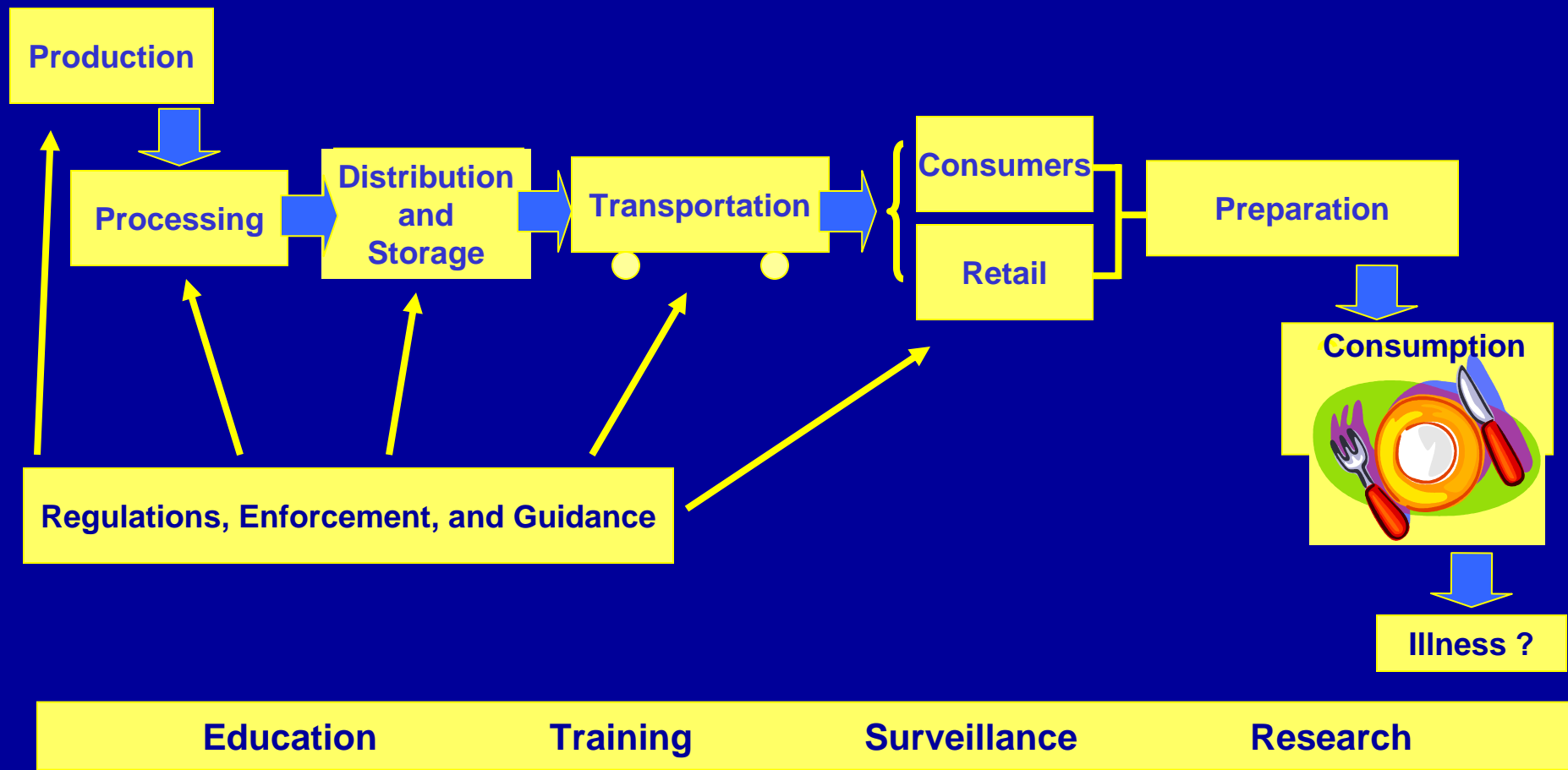
# Environmental Factors

- **Geographic location**
  - \* **Exposure to virulent strains of pathogens**
  - \* **Varied distribution of organisms in water, food & soil**

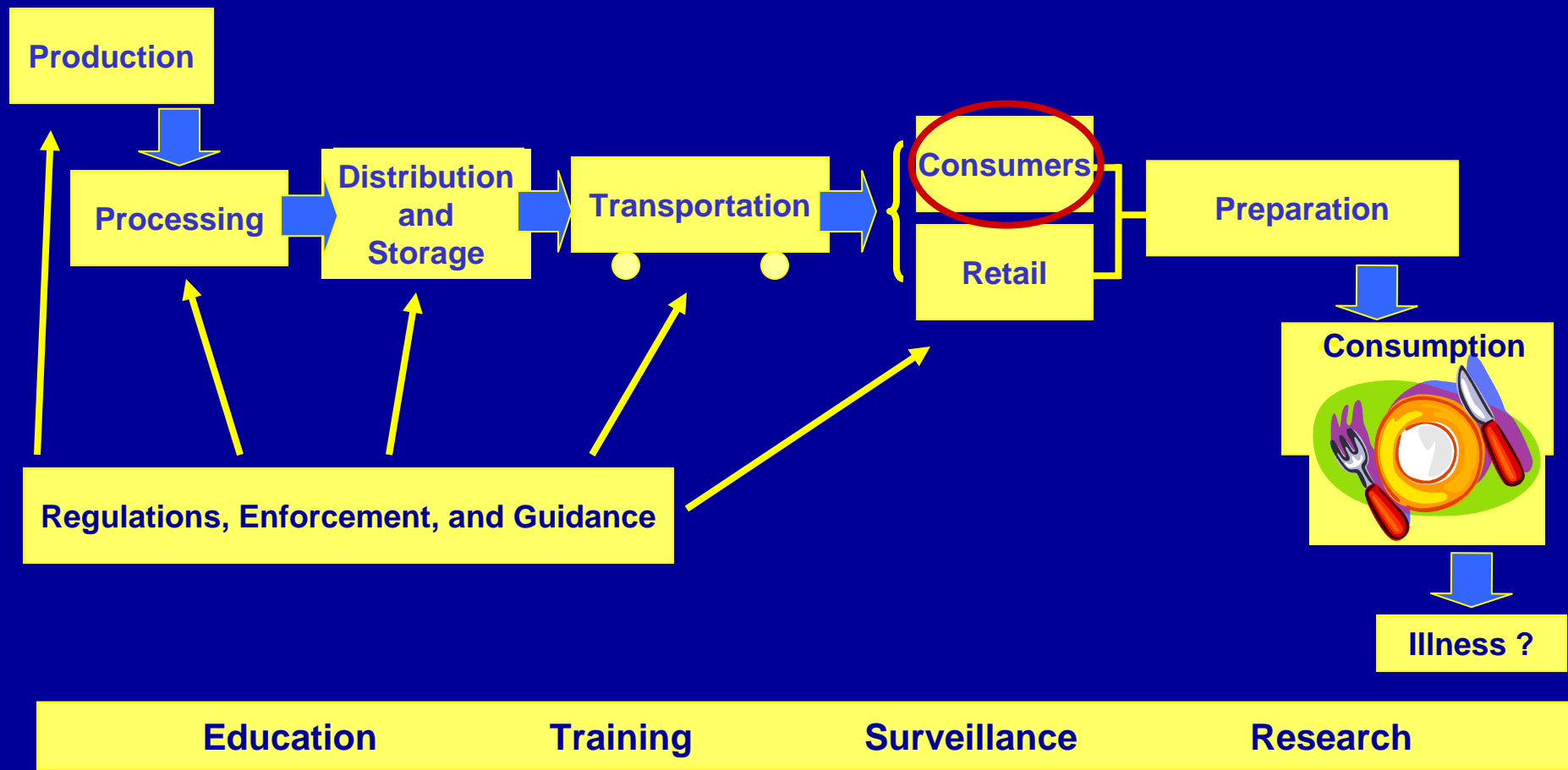


CAST, 1994

# Reducing Foodborne Illness through Prevention



# Reducing Foodborne Illness through Prevention

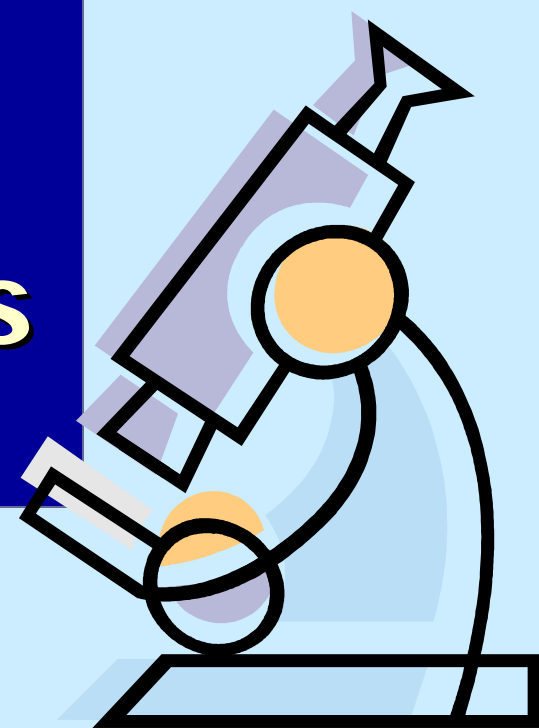




**The End**

# Food Safety Thrives When You Focus on

5

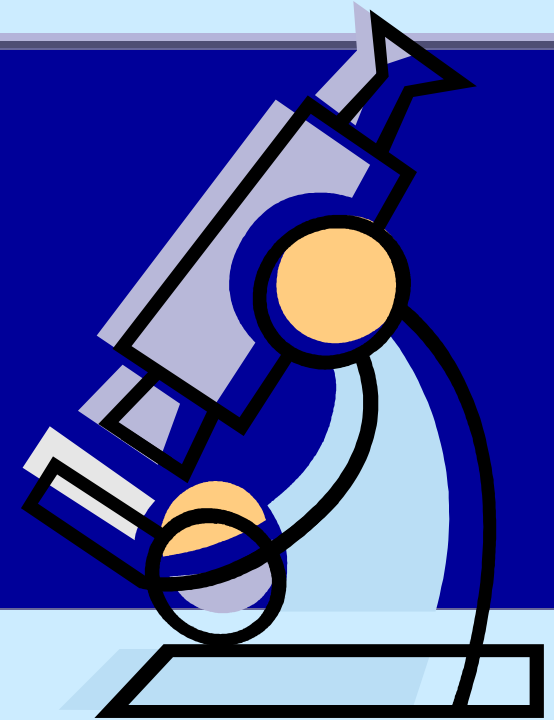


Diane Van, Manager  
USDA Meat and Poultry  
Hotline

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Three major causes of foodborne illness in the United States are

- Not cooking food to a safe temperature.
- Holding food at an unsafe temperature.
- Lack of hand washing.



**The mission of USDA's Food Safety and Inspection Service (FSIS) is to protect the health of Americans and prevent foodborne illness.**

**Food Safety Thrives When You Focus on Five**

# 1. Purchasing

# 2. Cooking

# 3. Holding

# 4. Separating

# 5. Cleaning

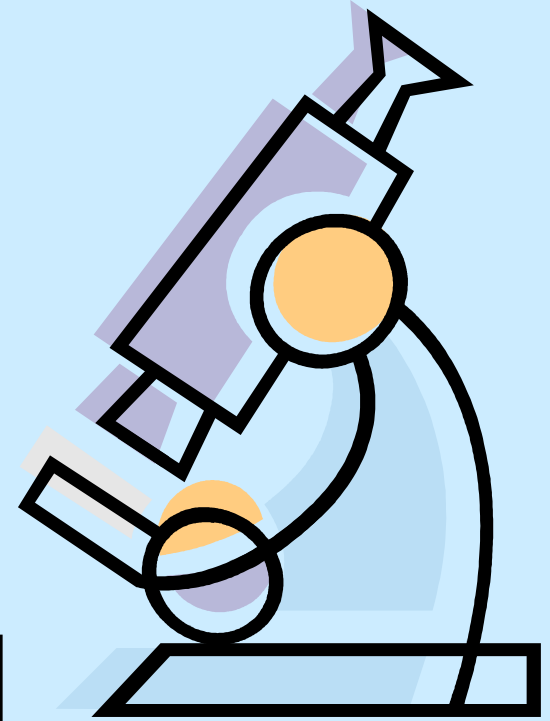


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1

# Purchasing

1

Food Safety Thrives When You Focus on Five

# Buy Refrigerated Perishables

Make sure meat, poultry and seafood products -- whether raw, pre-packaged, or from the deli -- are refrigerated when purchased.

Purchase meat, poultry, seafood and other perishable products last. Keep packages of raw meat, poultry and seafood separate from other foods, particularly foods that will be eaten without further cooking.



1

Food Safety Thrives When You Focus on Five

# No Dents

Canned goods should be free of dents, cracks or bulging lids.



1

Food Safety Thrives When You Focus on Five

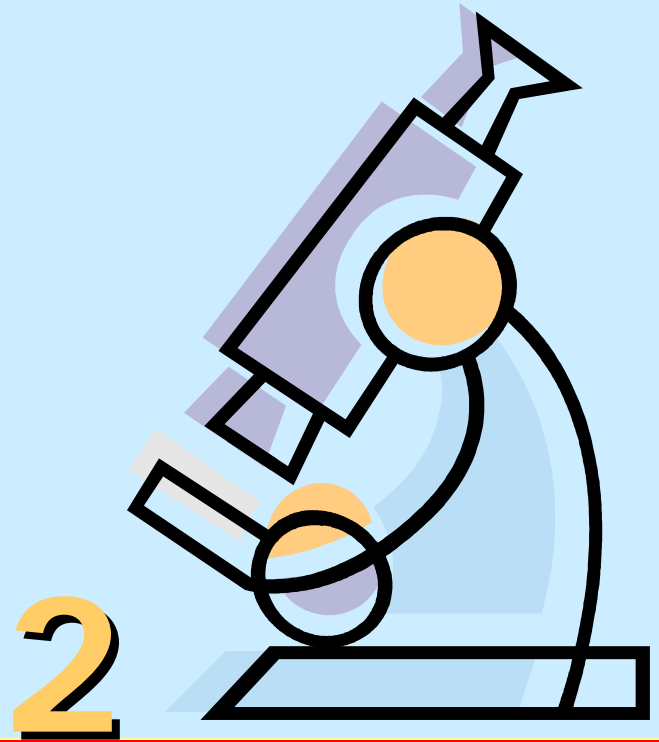
# Go Directly Home

Plan to drive directly home from the grocery store. You may want to take a cooler with ice for perishables. Always refrigerate perishable food within 2 hours. Refrigerate within 1 hour when the temperature is above 90 °F.



1

Food Safety Thrives When You Focus on Five



# Cooking

2

Food Safety Thrives When You Focus on Five

# S.M.I.T.

Always cook to

**“Safe Minimum Internal Temperatures.”**

If harmful bacteria are present, only thorough cooking will destroy them.

Freezing or rinsing the foods in cold water is not sufficient to destroy bacteria.

2

Food Safety Thrives When You Focus on Five

# Use a Food Thermometer

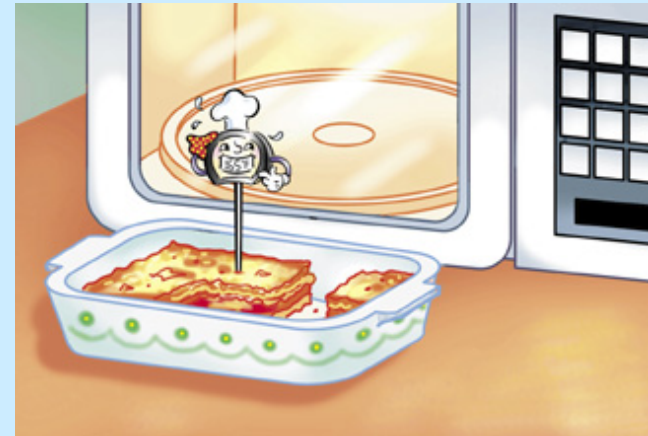
to determine if your meat, poultry or casserole has reached a safe minimum internal temperature. Check the product in several spots to assure that a safe temperature has been reached.

Color is not a reliable indicator of safely cooked foods.

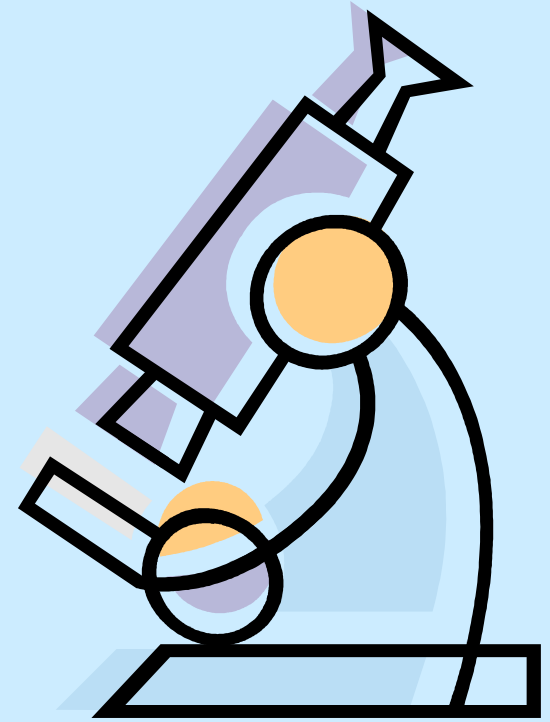


# When Microwaving Foods

- Carefully follow manufacturers instructions.
- Know your microwave wattage. Wattage makes a difference in the amount of time needed to cook food to a safe internal temperature.
- Use microwave-safe containers, cover, rotate, and allow for the standing time, which contributes to thorough cooking.







3

# 3 Holding

Food Safety Thrives

3

When You Focus on Five

# Holding

Hold hot foods at or above  
140 °F and cold foods 40 °F  
or below.

Keep hot food hot with  
chafing dishes, slow cookers,  
and warming trays.



# Keep Food Cold

- Nest dishes in beds of ice.
- Or use a series of small serving trays and replace them often. Replace empty platters — don't refill them.
- Discard food that has been sitting out and may have been handled by many people.



3

# Don't Leave Food Out



Never leave foods, raw or cooked, at room temperature longer than 2 hours.

On a hot day with temperatures above **90 °F**, this decreases to 1 hour.

3

Food Safety Thrives

When You Focus on Five

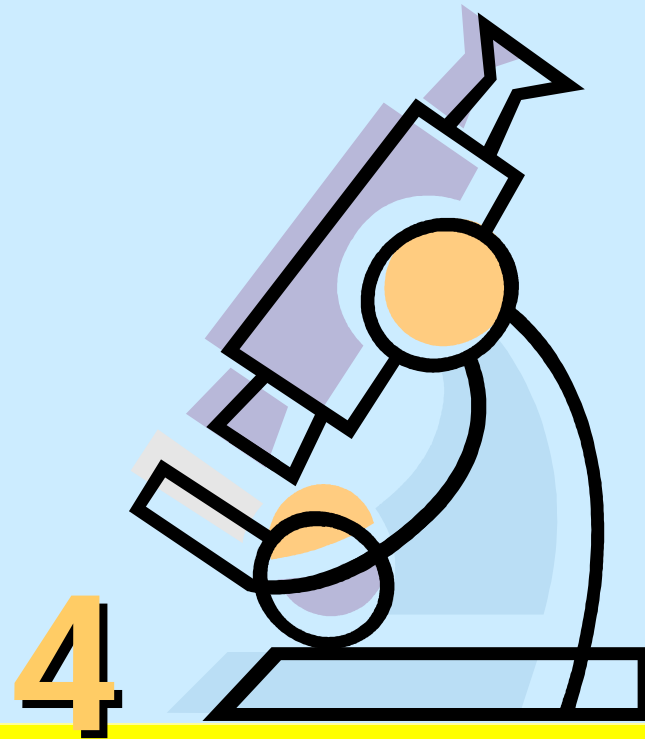
# Reheat to 165 °F

Do not use chafing dishes, slow cookers, and warming trays for reheating. They're just for maintaining the reheated temperature.

Make sure to reheat foods to at least 165 °F.

Bring soups, sauces and gravies to a rolling boil.





# Separating

4

Food Safety Thrives When You

Focus on Five

# Cross-contamination

Cross-contamination is the transfer of harmful bacteria to a food from other foods, cutting boards, utensils, surfaces, or hands. Prevent it by keeping food separated and by keeping hands, utensils, and food handling surfaces clean.



# Cross-contamination



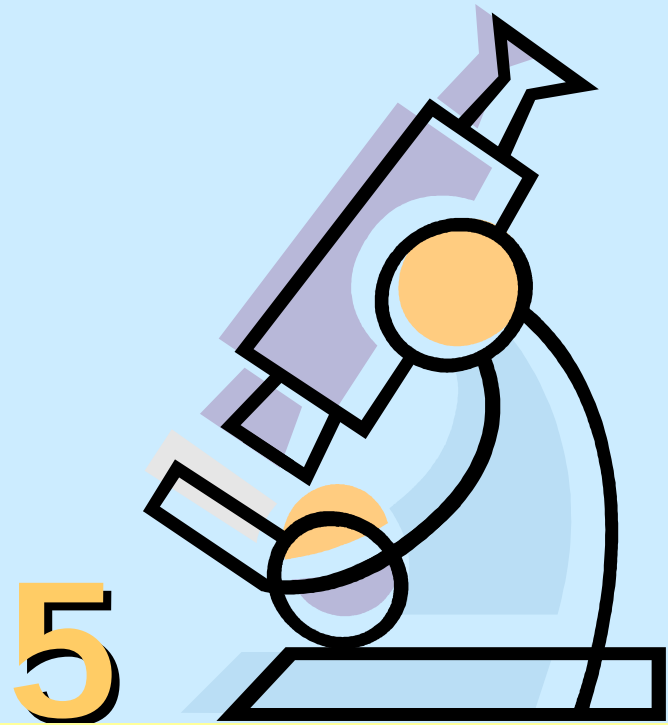
Use one cutting board for fresh produce — and a separate one for raw meat, poultry, and seafood.



# Separate

Separate foods in your grocery cart. Keep raw meat, poultry, seafood, and their juices away from other food to further prevent the possibility of cross-contamination.





# Cleaning

5

# Cleaning



Always wash hands with soap and warm water for 20 seconds

- Before beginning food preparation,
- After handling food, and
- After using the bathroom, changing diapers, or touching pets.

*Not washing hands is a major cause of foodborne illness.*

# Wash

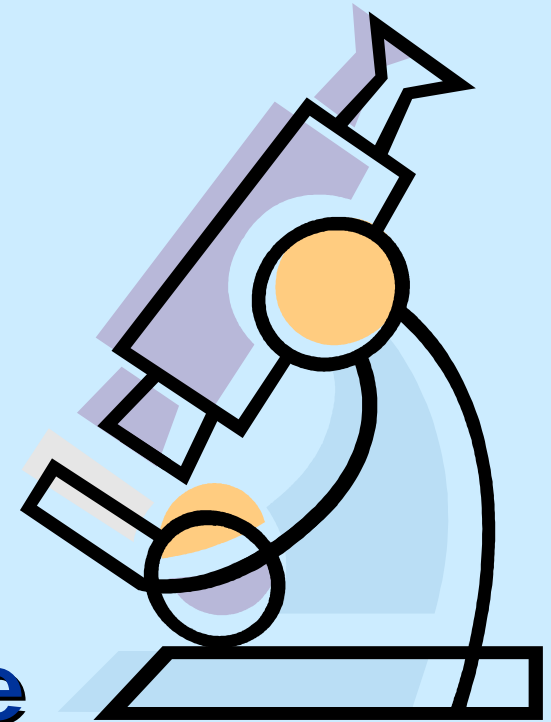
- Wash counters, equipment, utensils, and cutting boards with soap and hot water immediately after use.
- Sanitize with a chlorine solution of 1 tablespoon of unscented, liquid chlorine bleach in 1 gallon of water.
- Let the solution stand on the board after washing, or follow the instructions on sanitizing products.



# Protect Your Family

- PURCHASE
- COOK
- CHILL
- SEPARATE
- CLEAN

**Food Safety Thrives  
When You Focus on Five**



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3

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# Call the USDA Meat & Poultry Hotline



If you have a question about meat, poultry, or egg products, call the USDA Meat and Poultry Hotline toll free at

**1-888-MPHotline  
(1-888-674-6854)**

The Hotline is open year-round Monday through Friday from 10 a.m. to 4 p.m. ET (English or Spanish).

Recorded food safety messages are available 24 hours a day. Check out the FSIS Web site at

**[www.fsis.usda.gov](http://www.fsis.usda.gov)**

Send E-mail questions to **[MPHotline.fsis@usda.gov](mailto:MPHotline.fsis@usda.gov)**.

# Ask Karen!

FSIS' automated response system can provide food safety information 24/7.

**Also, live "chat" now available.**

Look for the Spanish version of "Ask Karen" in 2010.

**Diane Van, Manager  
USDA Meat and Poultry Hotline**



**AskKaren.gov**



# Questions and Answers

Please submit your questions via email to  
[foodandhealth@ific.org](mailto:foodandhealth@ific.org)







## *Upcoming Web Casts:*

**November: *Food & Health Survey Series*  
*Part 4: “Americans’ Approach to Dieting  
and Weight Management Strategies”***



# *Food & Health Survey Report Available on IFIC.org and Foundation Publications Store!*

The Executive Summary is available at  
<http://www.ific.org/research/foodandhealthsurvey.cfm>

Full Report is available for purchase at  
<http://www.ificpubs.org/servlet/Detail?no=47>

Data Tables and Comparative Topline are available  
for purchase at  
<http://www.ificpubs.org/servlet/Detail?no=48>

Twitter hashtag: #foodsafety

*2009 Food & Health Survey*



# CPE Credit

- Registered Dietitians can download a Certificate of Completion for ONE CPE credit at:

<http://www.ific.org/adacpe/2009fandhsurveycpe.cfm>





International Food Information Council (IFIC) Foundation  
**2009 FOOD & HEALTH SURVEY**  
Consumer Attitudes toward Food, Nutrition & Health

*A Trended Survey*



**For more information:**

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**For inquiries: [foodandhealth@ific.org](mailto:foodandhealth@ific.org)**



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