



FRESH PRODUCTS BRANCH

March 2007

Alfalfa Sprouts

Apple Cider

Cantaloups

Green Onions

Leaf Lettuce

Raspberries

Bagged Spinach

Tomatoes





In 1996, the Strawberry industry lost an est. \$50 mil after mistakenly being identified as the source of pathogens in an outbreak.

Odwalla, Inc (mfg of apple juice) shareholder value dropped approximately 41% (\$12.4 million) in six months after an outbreak.

Food Safety

Food Defense





Food Defense Awareness Objectives

Threats to Food Supply

Vulnerabilities

What is being done

Incident Review



Food Safety vs. Food Defense

➤ **Food Safety**

Protection against *unintentional contamination*

GAP-GHP, PIQ, HACCP

➤ **Food Defense**

Protection against *intentional adulteration*

Bio, Chemical, Physical or Radiological agents

Why Food Supply?

Economic

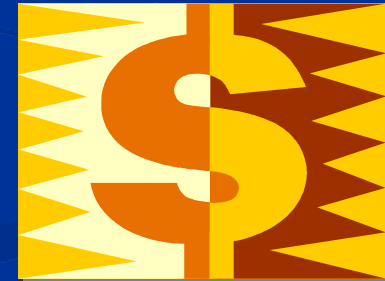
Health

Societal

Psychological

Political

Significance



Food Supply Threats

Potential agents include:

- ▶ Physical
- ▶ Biological
- ▶ Chemical - Toxins
- ▶ Radiological



Adulteration

Mixed

Soaked

Ground

Emulsified



Castor Beans

Hot Water

Acetone

Blender





Fruit & Vegetable Industry

\$34+ billion dollars

5,000+ US produce establishments

**In '05, AMS purchased \$375+ mil
of fruits & veggies**

Actual Incidents





Intentional

2003 Ground Beef

1996 Doughnuts

1984 Salmonella Salad Bar





Unintentional

2003 Hepatitis A - Green Onions

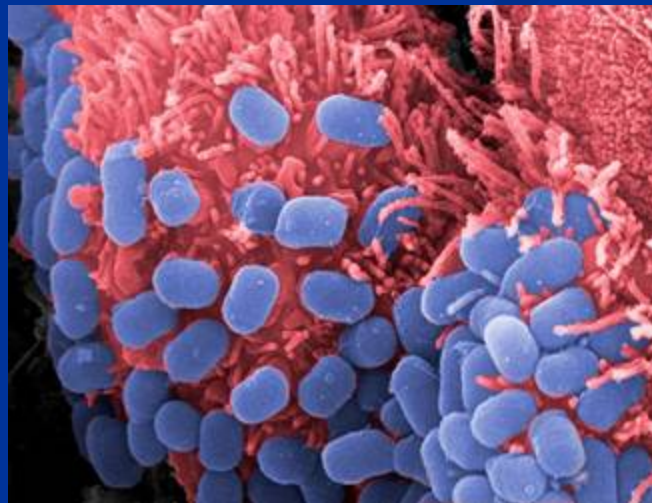
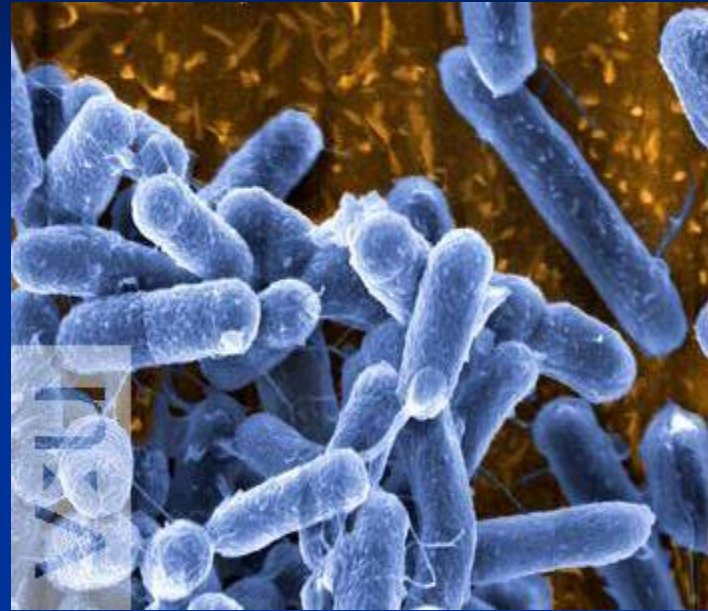
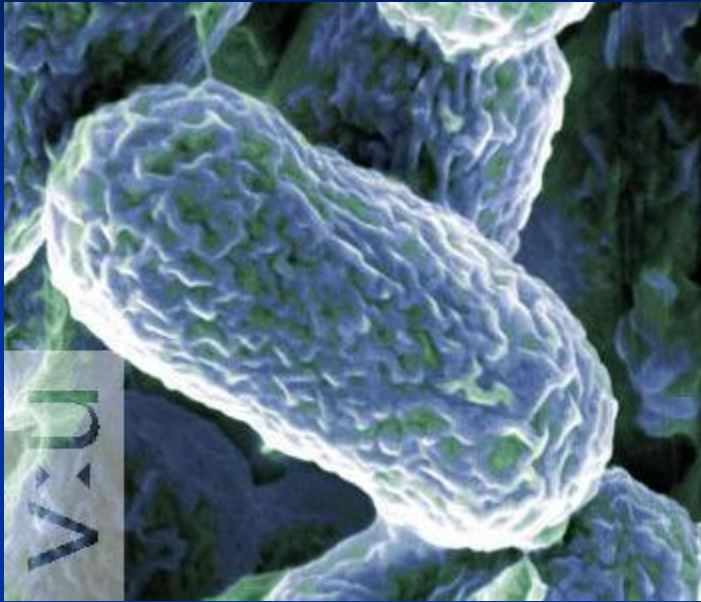
2005 E. coli 0157:H7 - Bagged Salad

2005 Carbamate Pesticide – Cassava Rt

2006 E. coli - Green Onions

2006 E. coli - Spinach

E. coli O157:H7





Threats as a Weapon

1989 Imported Chilean Grapes
\$200 million Hoax





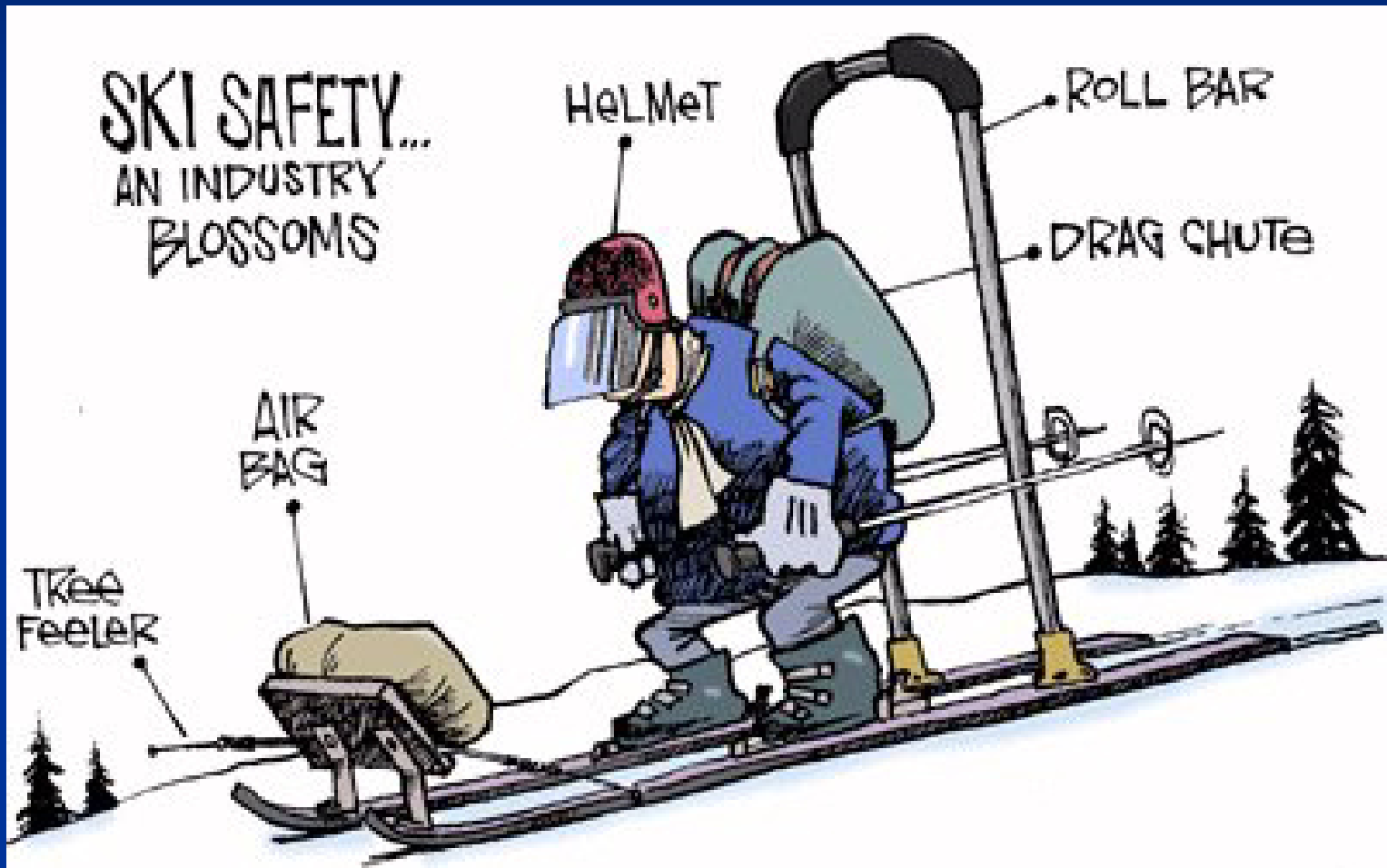
Report Suspicious Activity



Report Any Suspicious Substance



PREVENTION





Be Alert

Tampering

Unusual activity

Exposed product

Unusual color-odor

Water





Vulnerabilities & Prevention





7.27.2002 08:51







 **The New York Times**

“It’s a significant outbreak and it’s a serious disease,” the Middlesex County Director of Health David Papi said on Sunday. “From a public health standpoint, we’re very concerned about this.”

Those sickened ranged from one year old to 23, but most are children, according to the *Star-Ledger*, which reported the two-week-long outbreak on Sunday.

Although the specific source of the outbreak has not been identified, in September the [Food and Drug Administration](#) issued a warning saying that E. coli contamination of fresh produce might be the cause of illness in multiple states.

Five were in the hospital Monday, officials said, including two in serious or critical condition with hemolytic uremic syndrome, which can permanently damage the kidneys.

ingtonpost

DAILY NEWS
The Front Page

Five were in the hospital Monday, including a 10-year-old boy and a 5-year-old girl who were diagnosed with hemolytic uremic syndrome, which can permanently damage the kidneys, officials said. The boy was in serious

BREAKING NEWS



MSNBC Ho
WNBC | L
WNBC-TV



E. Coli Outbreak Linked To Taco Bell Bacteria Outbreak That Has

SOUTH PLAINFIELD, N.J. - An outbreak of E. coli bacteria has sickened more than a dozen people on Long Island, including several who

Summary

Food Supply Threats

Vulnerabilities

Incidents

Prevention & Your Role



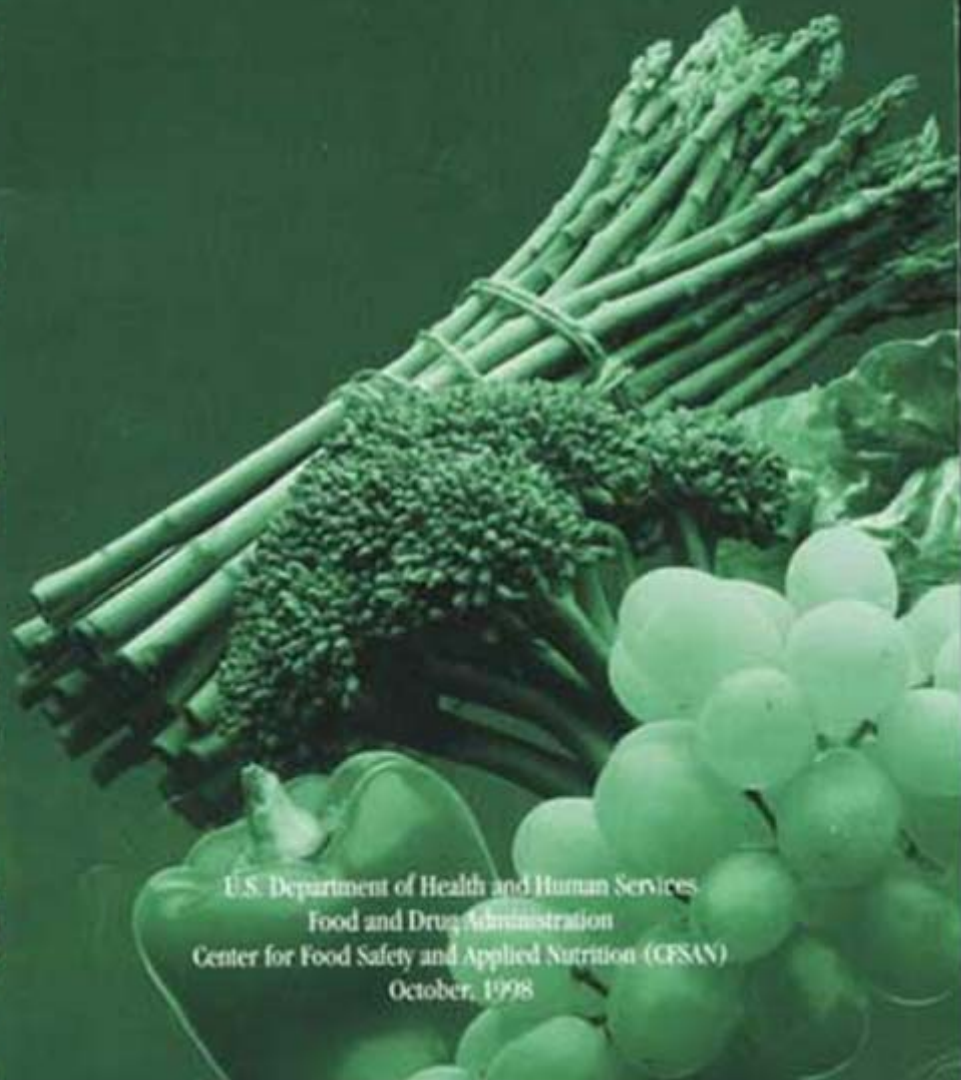
GAP/GHP Audit Program

**U.S. Department of Agriculture
&
Federal-State Inspection Service**



GUIDANCE FOR INDUSTRY

Guide to Minimize Microbial
Food Safety Hazards for
Fresh Fruits and Vegetables



U.S. Department of Health and Human Services
Food and Drug Administration
Center for Food Safety and Applied Nutrition (CFSAN)
October, 1998

The Guide



Topics of *The Guide*

- **Water**
- **Manure & Municipal Bio-Solids**
- **Worker Health & Hygiene**
- **Field Sanitation**
- **Packing Facility**
- **Transportation**
- **Traceback**



Purpose

To provide assurances that company established documented procedures are being followed





Audit Frequency

ONCE Annually



GENERAL QUESTIONS

GAP-GHP AUDIT

Part 1 - Farm Review

Part 2 - Field Harvest & Packing Activities

Part 3 - Packing House

Part 4 - Storage & Transportation

Part 5 - Traceback

Part 6 - Whsl Distribution Ctr - Terminal Whse

Part 6a - Traceback (Part 6)

Part 7 – Preventative Food Security Procedures



General

Quality Manual Review

GAP/GHP Employee Training

Restrooms

Smoking/Eating Areas

**Requirements for Sick/Injured
Employees**

#1 Farm Review

Water Sources

Water Distribution

**Contamination
Potential**

Sewage Treatment

Animals & Manure

Municipal Bio-solids

Land Use History



#2 Field Harvest - Field Pack

Worker Sanitation & Hygiene

Water

Sanitary Facilities

Harvesting & Transportation

Trucks, tractors, trailers

Water Use in Harvest Pack





Practice & Teach Proper Handwashing



**PREVENTION is the Key to
Reducing Microbial Contamination
of Fresh Fruits & Veggies**



Record Keeping

Document worker training programs

Keep water test results

Record irrigation methods, rates, & dates

Record manure applications, dates, locations, and rates

Record cooler temps





Harvest Sanitation

Exclude all animals from the farm



Clean & sanitize storage areas prior to harvest

Avoid standing in harvest bins

Clean harvest bins daily



Vehicle Sanitation





Common Sense

Audit Implementation

Observation of...

- Premises, Processes, Equip, Personnel

Review of ...

- Documentation
- Records

Interviews...





QUESTIONS ?



#3 Packing House

Food Safety, Practices/Prevention

Receiving

Wash - Pack Lines

Worker Health - Hygiene

Gen. Housekeeping



#4a Storage

Containers - Pallets

Pest Control

Ice

Coolers -

Refrig. Units



#4b Transportation

DOCKS

Worker
Sanitation

Visitor
Sanitation

Lift Trucks

Conveyances

TRAILER PRE-LOADING CHECK LIST

If there is **NO** wall, floor or chute damage, the trailer clean & odor free, pre-cooled & load locks are available
NOTE: OK

Problem	Notification	Remedy
Wall Damage	Not necessary	None: Continue loading
Floor Damage	Not necessary	None: Continue loading
Chute Damage	Not necessary	None: Continue loading
Dusty Floor	Shipping office / Driver	Sweep & re-load
Odors	Shipping office / Driver	Coffee or loading
Hot Trailer	Shipping office / Driver	Pre-cool & re-load
No Load locks available	Shipping office	Trace if possible

THERE IS NO NEED TO MAKE A NOTE ON A REPAIRED HOLE.

#5 Traceback

PLI

Other System ? *Farm - Fork*

Bar Coding

Sequential Numbering

“RECALL”



#6 Wholesale Distribution Center Terminal Warehouse

Receiving

Storage Temp

Pest Control

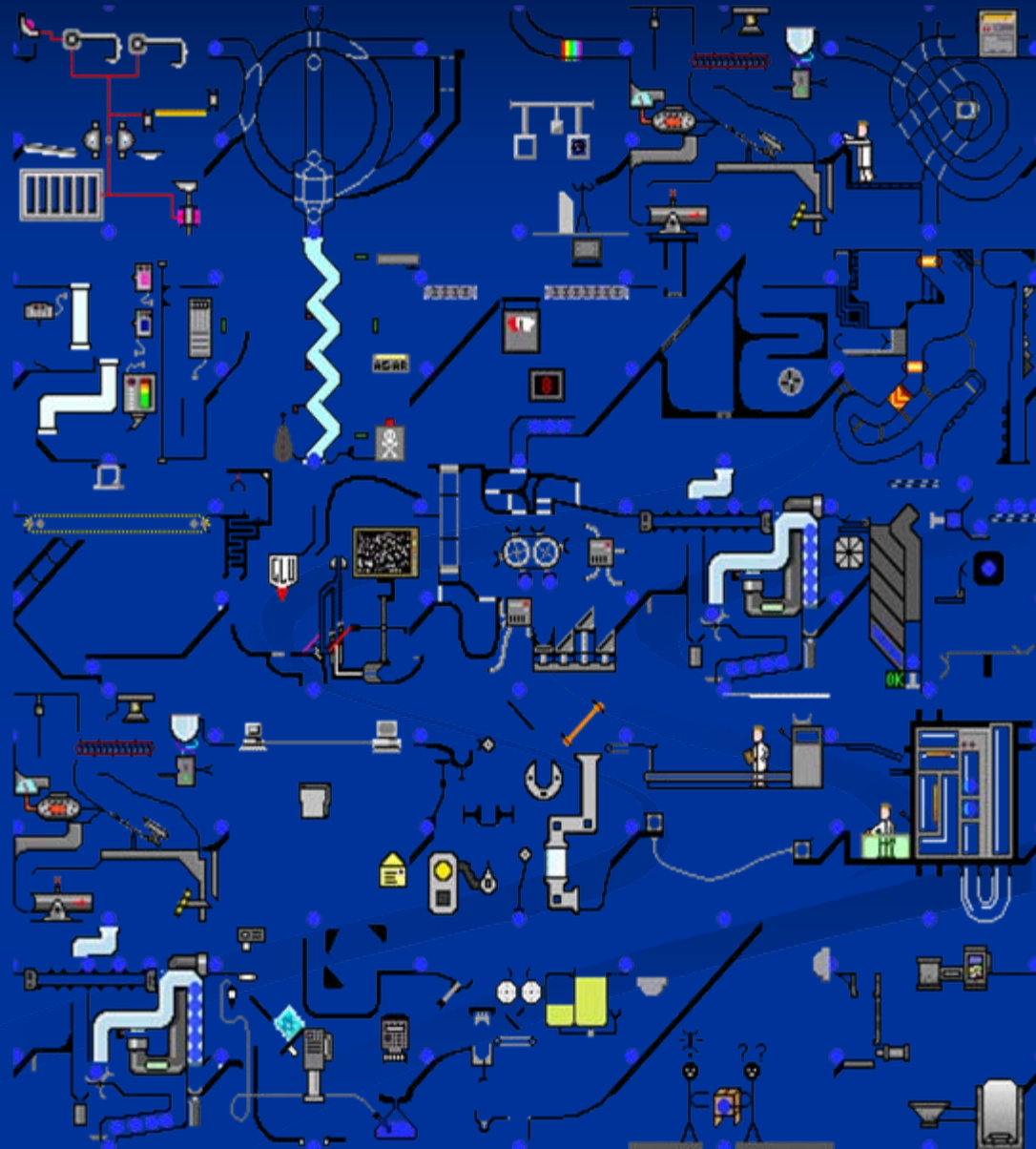
Repacking -
Reconditioning

Shipping - Transport



#6a Traceback

Traceable to:
Suppliers
Shipping Facility
"Recall"





#7 Preventative Food Security Procedures

Perimeter

Parking

Building

