Fresh Produce Safety Before and After The Food Safety Modernization Act (FSMA).

Eduardo Gutierrez Rodriguez, PhD
Assistant Professor and Extension Specialist Fresh Produce Safety, Department of Food Bioprocessing and Nutrition Sciences, NCSU. egutier2@ncsu.edu

NC State University
A&T State University
COOPERATIVE EXTENSION
Empowering People · Providing Solutions

NORTH CAROLINA FRESH PRODUCE SAFETY TASK FORCE
www.ncfreshproducesafety.org

FOOD SCIENCE · FOOD BIOPROCESSING AND NUTRITION SCIENCES

Outline

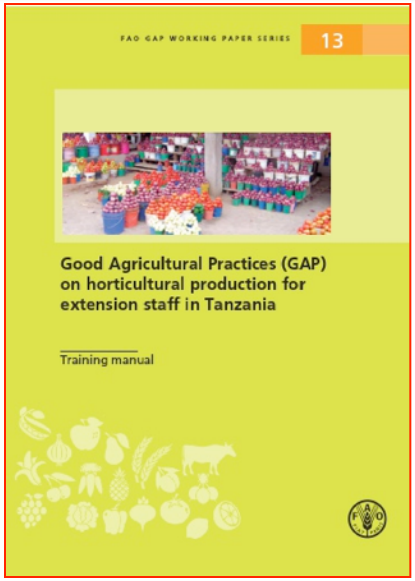
- History of Fresh Produce Safety.
- GAPs and FSMA.
- Impact on health.
- Economic impact of FSMA.
- Role of consumers.

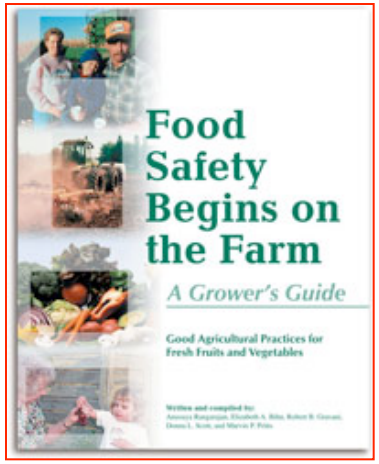
Evolution of Fresh Produce Safety

- 1998, FDA Guide to Minimize Microbial Food Safety Hazards in Fresh Fruits and Vegetables.
- Between 1999-2000 buyers begin to request farmers to follow this guidelines.
- Fresh Produce Safety practices became industry driven.
- Main issues: inconsistent, broad-limited, unclear, no premium for implementation.

Early GAPs

- USDA GAPs
- Walmart GAPs
- Global GAPs
- FAO GAPs
- Davis Fresh GAPs





77 Produce Outbreaks 1999-2011 Attribution by Commodity

Lettuce/Romaine	19
Spinach	3
Cabbage	1
Tomatoes	15
Cantaloupe	7
Melons	3
Honeydew	2
Squash	1
Cucumber	1
Raspberries/berries	7
Sprouts	42

Basil or mesclun	3
Cilantro	2
Celery	1
Parsley	1
Green onions	2
Mango	2
Green grapes	3
Jalapeno/Serrano	1
Snow peas	1
Snap peas	1
Unknown	3

Evolution of Fresh Produce Safety

- 2007 LGMA and ALGMA became a reality.
- Following 2006 spinach outbreak.
- Mechanism for verifying through mandatory government audits that farmers follow accepted food safety practices.

Current GAPs

- USDA GAPs
- Harmonized GAPs
- Global GAPs
- Buyer Specific…

- Not all are created equal
- Emphasis may vary between type chosen and/or assigned.
- Microbial vs Environmental focus.
- One flavor should be able to meet most requirements (except buyer specific)
- Scoring varies between them

Foodborne Illness Economic Impact on Health

- CDC Estimates that 48million American's acquire some kind of foodborne illness.
- Resulting in 128,000 hospitalizations
- 3,000 deaths
- US annual cost of foodborne illnesses $89 billion, attributed to loss of productivity, medical expenses.
- Average litigation costs for a grower linked to one outbreak $100,000 (negligence).

Evolution of Fresh Produce Safety

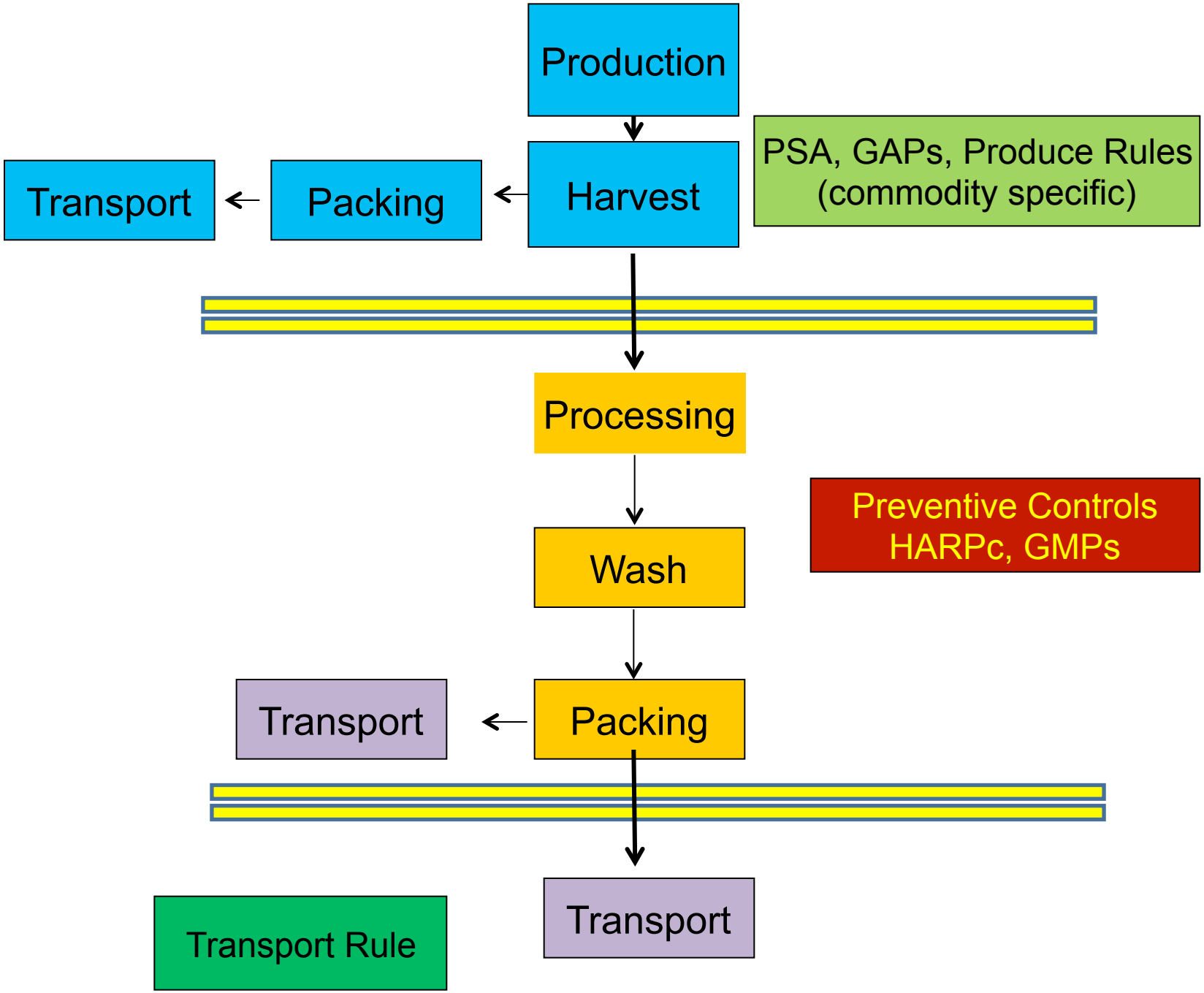
- 2009 FDA announces a new plan to try to reduce foodborne illnesses.
- Main reasons:
  - Voluntary compliance was not working.
  - Outbreaks related to produce were increasing.
- 2011, the Food Safety Modernization Act was sign into Law.
- 3 year face implementation begins!!

FDA FOOD SAFETY
MODERNIZATION ACT

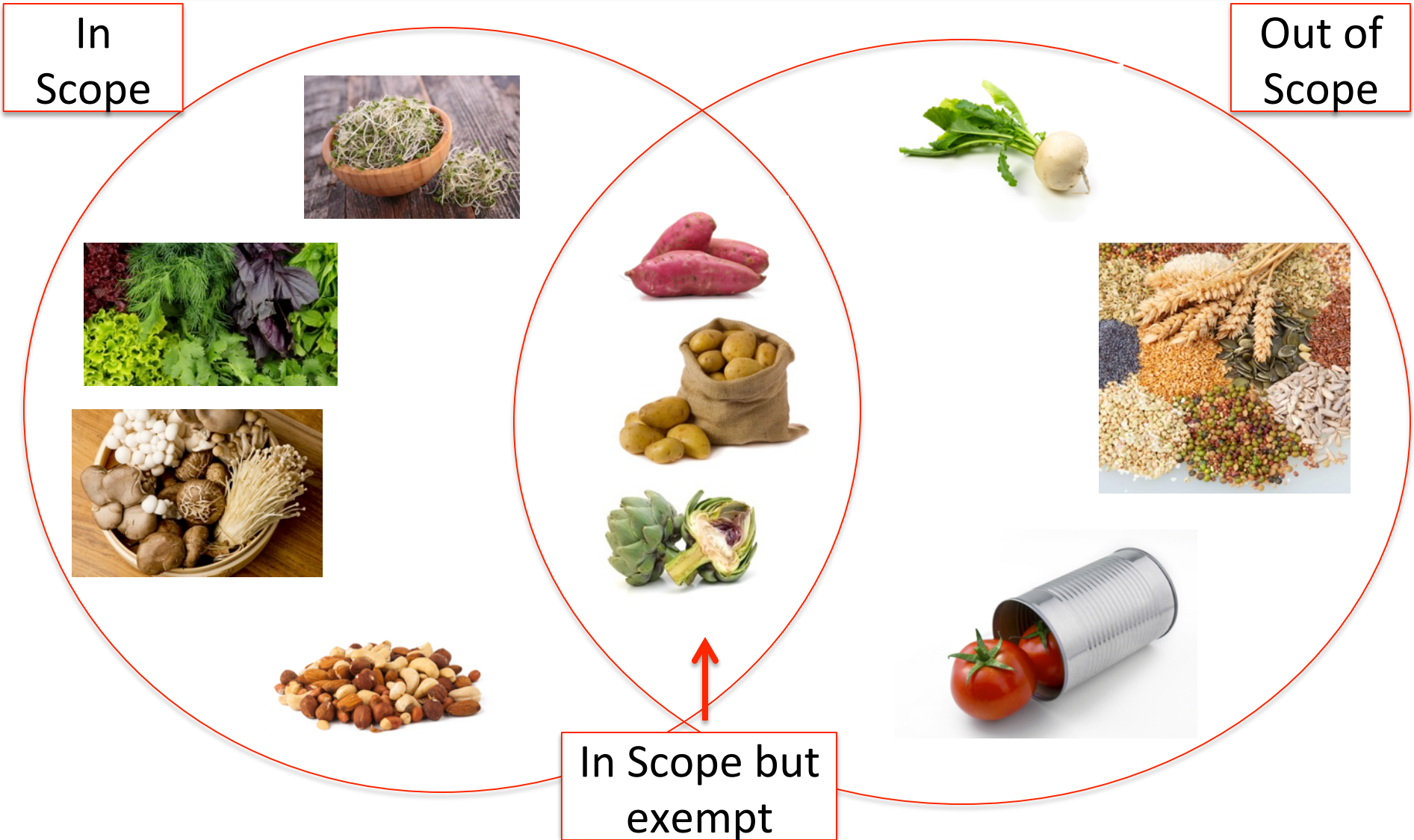
Food Safety Modernization Act

- Focus on Prevention instead of Reaction.
- 12 new regulations
- Six major rules
  - Preventive controls for human Food.
  - Preventive controls for animal feed.
  - Foreign supplier verification.
  - Produce rules.
  - Third party auditor accreditation.
  - Sanitary transport of human and animal food.

FDA FOOD SAFETY
MODERNIZATION ACT


Production
Harvest
Packing
Transport
PSA, GAPs, Produce Rules
(commodity specific)
Processing
Wash
Packing
Transport
Preventive Controls
HARPc, GMPs
Transport
Transport Rule

Fresh Produce Safety Rule



Economic Impact of the FSMA on Farmers

FDA calculates that the average cost burden of implementing the regulations will be:

- For a “very small farm” ($25,000-$250,000 in annual sales): **$4,477 per year**;

- For a “small farm” ($250,001-$500,000 in annual sales): **$12,384 per year**;

- For a “large farm” (over $500,000 in annual sales): **$29,545 per year**.

Challenges in Agricultural Food Safety

Animal production

Wild life-Parks-Conservation Areas-Corridors

Water sources and water usage

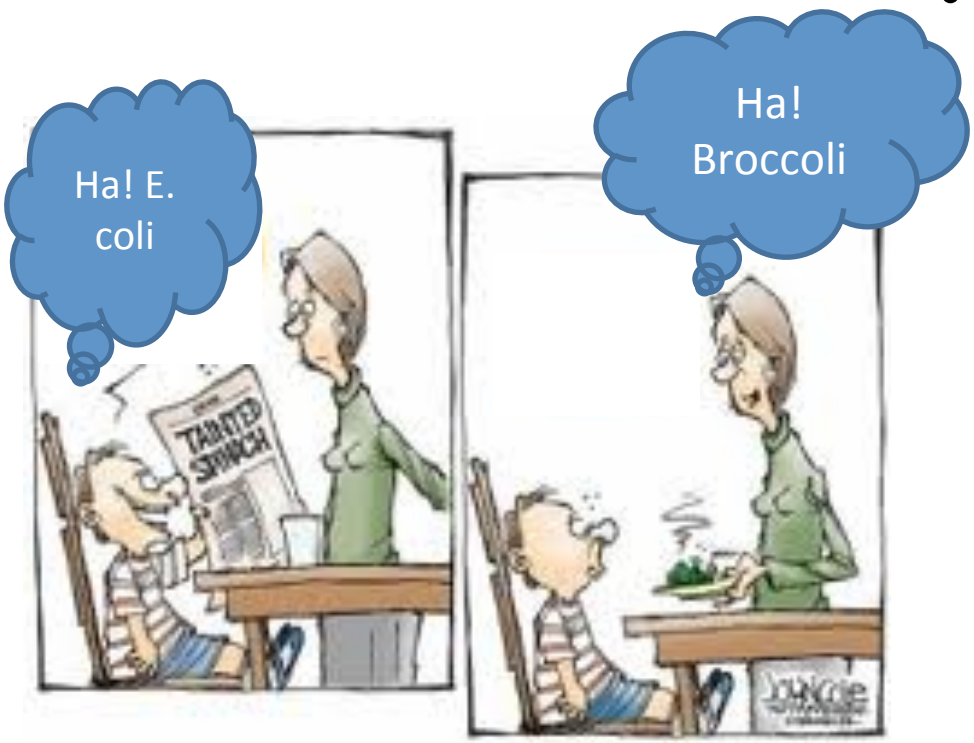
Urban areas

Farming Practices

What can you do as a consumer to reduce food safety risks!

Try to Understand the Farm to Fork Supply Chain

Perception of Food Safety by Consumers.

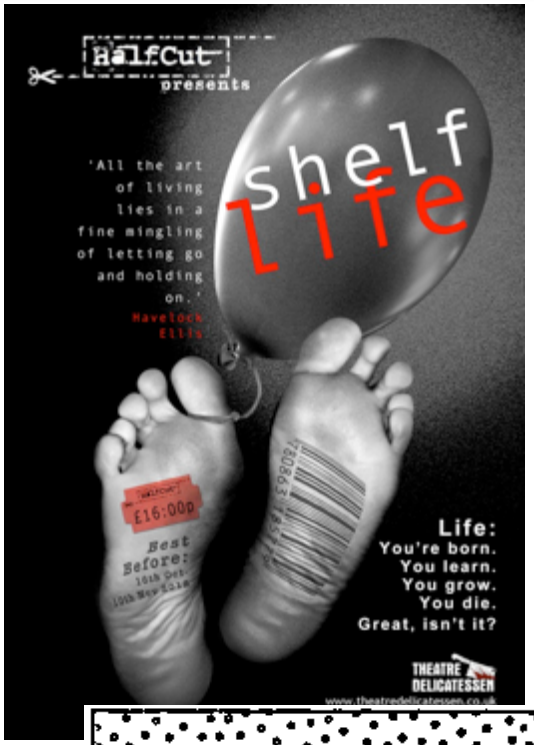


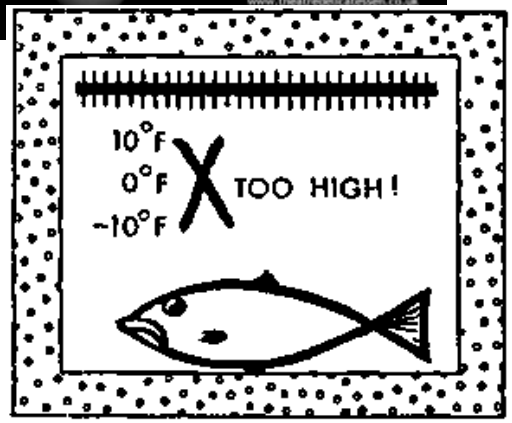
www.foodpoisonjournal.com

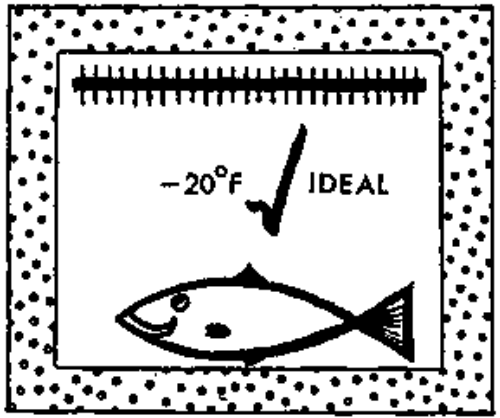
- Information received by consumers can significantly affect **food consumption behavior**
  - **Survey with 500 subjects[1]**
    - **~50% perceived bacteria as a SERIOUS food safety concern**
    - **~30% made a SERIOUS changes in consumption behavior when bacteria is a safety concern**

1. Source: Rimal et al. Int J of Consummer Studies, 25:43-52, 2001

What can you do as a Consumer?







What can you do as a Consumer

Please remember that the next "inspector" is another consumer!!

The North Carolina Fresh Produce Safety Task Force

- **Purpose:** minimize food safety risks and enhances the economic competitiveness of the NC fresh produce industry.

- Team – Partnership Approach with: Growers, Wholesalers, Commodity groups, NC Universities, State and Federal Agencies.

- Training materials and guidance to the industry.

NORTH CAROLINA
FRESH PRODUCE SAFETY
TASK FORCE
www.ncfreshproducesafety.org

Thank you