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1

### Training Goals

- Understand your farm’s food safety obligations
- Path to your food safety goals
- Believe you can accomplish it
- Have the tools, support and basic understanding to accomplish it

2

### Long Term Goals

- **Your farm has a food safety system that protects you and your customers, and is scale-appropriate and cost-effective**
- HGAP audit-able
- FSMA compliant

3

4

5

- 1. What is your level of understanding about**
  - Good Agricultural Practices (GAPs)
  - FSMA regulations
  - FSMA Inspections and GAP Audits
- 2. FSMA status**
  - Required to be in full compliance
  - Exempt
  - Qualified Exempt
- 3. Buyer Requirements**
  - None
  - Written food safety plan
  - Food safety audit (with who?)

6

### Farmers Are Food Handlers

Center for Disease Control and Prevention (CDC)

- 48 M cases of food poisoning  
(1 in 6 Americans)
- 128,000 hospitalizations
- 3,000 deaths




***We are Responsible for the Safety of our Product!***

7

### Farmers Are Food Handlers

FDA Outbreaks Linked to Produce Contamination Likely Prior to Retail: 1996-2014


**Produce is linked to 46% of illnesses in outbreaks of single food commodities 1998-2010 -- CDC**

8

### Hazards Associated With Food Borne Illness

Hazard, a known harmful contaminant or condition

1. **Physical:** such as glass, metal, stones, plastic, bone, or bullets
2. **2% Chemical:** such as pesticides, lubricants, or cleaners
3. **97% Biological:** such as bacteria, viruses, fungi, or parasites



***The most significant carriers of biological contaminants are soil, water and fecal matter.***

9

### Contaminants Are Present On All Farms

**Potential Sources: Perform a hazard/risk assessment**

- Create maps and descriptions
- Identify potential sources
- Reduce survival and reproduction of pathogens at source

10

### How Contamination is Transferred: Pathways

11



**Zone 1** — Contact Surface  
**Zone 2** — Areas and surfaces that can easily contaminate contact surfaces.  
**Zone 3** — Areas and materials inside of packing area, but less likely to contaminate.  
**Zone 4** — Outside or adjacent to packing area

12

**1. Source: What and Where**  
**2. Pathway: How It Transferred**  
**3. Survival and Reproduction**


13

13

### 2009 Listeria Case

- 147 infected
- 33 + 10 dead
- 1 miscarriage

A truck used to haul culled cantaloupe to a cattle operation was parked adjacent to the packing facility




*Six misdemeanor counts of introducing adulterated food into interstate commerce.*

**What & Where – Pathway – Survival/Reproduction<sup>14</sup>**

14

### Facility Design


- Pooling of water on floor adjacent to grading stations and employee walkway
- Floor was not easily cleanable
- Packing equipment not easily cleaned and sanitized
- Field heat not removed before placing in cold storage
- Swabs from the fields were negative for listeria
- 13 of 39 swabs from within the facility, were positive
- Puddles under packing line tested positive



**What & Where – Pathway – Survival/Reproduction**

15

- Potato packing equipment allowed water to pool
- **No sanitizer was used in the wash water**



**Source – Pathway – Survival/Reproduction**

-Primus gave farm a 96% a “superior” rating

16



#### **Hazard/Risk ASSESSMENT**

- Land Use
- Water Quality
- Wild and Domestic Animals
- Worker Health & Hygiene
- Worker Training
- Harvest/Packing/Transport

#### **Written Food Safety Plan**

- Organic, plan, train
- Required for food safety audits
- Not required for FSMA

**Source – Pathway – Survival/Reproduction**

17