Food Safety and the Evolution of HACCP (Hazard Analysis and Critical Control Points)

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Food Safety

- 200 known diseases transmitted through food
- 2005; estimated between 9 to 76 million food born illnesses
- Over 9,000 deaths
Food Born Outbreaks

• Jack in the Box
• Hudson Foods
• Spinach
• Taco Bell
• Topps
• PCA
• JBS Swift
Example

• Salmonella present in a finished product at a rate of 1 out of 1000 units
  – (defective rate = 0.1%)
• Sampling plan of 60 units per batch
• 94% probably rate of approving the batch

• Also costly $
HACCP

- Is Preventative, not Re-Active
- Is a management tool designed to protect the food supply from bacterial, chemical, and physical hazards
- Not a ZERO TOLORANCE program
- Designed to minimize risks
History of HACCP

- Pillsbury Company
- NASA (National Aeronautics and Space Administration)
- Last place to have a food born illness!
- No food born illness have occurred in space
- HACCP Final Rule 1997
HACCP Initiation

• Meat & Poultry- 2000
• Seafood- 1997
• Juice- 2004
• Milk
• What’s next
  – 2010 Food Safety Modernization Act
  – GFSI
HACCP

• HACCP cannot stand alone

• Pre-requisite programs:
  – GMP (Good Manufacturing Practices)
    • Broad practices that cover the whole plant; inside and out
  – SSOP (Sanitary Standard Operating Procedures)
    • A little more narrow
    • Covers the general cleanliness of the plant, equipment, and employees
Management System

• Focused on prevention of problems to assure food is safe to consume.

• Based on common sense application of technical & scientific principles of food production.

• Prevention rather than inspection
Basics of HACCP

• Control of factors affecting:
  – Ingredients
  – Product
  – Process

• Objective:
  – Ensure food safety and show the steps & safeguards used to produce it
Basics of HACCP

- The where & the how are the hazard analysis (HA)

- The proof of the control of the process and its conditions is the critical control point (CCP)
HACCP Covers

• All potential food safety hazards
  – Biological
  – Chemical
  – Physical

• Can be naturally occurring in food

• Environmental Contribution

• Manufacturing mistake
HACCP

• 7 Principles of HACCP
• Why HACCP?
  – Ensure the safety of our food supply
  – Protect our loved ones
  – Some protection from being sued
    • Record keeping
7 Principles of HACCP

1. Conduct a hazard analysis
2. Determine the critical control points
3. Establish critical limits
4. Establish a monitoring procedure
5. Establish corrective actions
6. Establish verification procedures
7. Establish record-keeping & documentation procedures