

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 TOLERANCE 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

