

Food Safety and HACCP

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Food Safety & HACCP

- Why are we concerned?
 - Recent Recalls
 - We are consumers
 - What we consume directly affects our health
 - Food producing animals
 - Gate to plate or Farm to fork



You are key to food safety!

- Dual responsibility - epidemiological surveillance of animal diseases and ensure the safety and suitability of the meat
- Therefore: It is key that training and education include aspects of animal health and food hygiene
- Play a central role in ensuring food safety



HOW DO WE ENSURE FOOD SAFETY ?



HACCP

- H – hazard
- A – analysis
- C – critical
- C – control
- P – point



HACCP Definition

An internationally recognized, systematic approach to:

- prevent,
- reduce,
- control, or
- eliminate hazards

...that may harm a consumer from occurring or developing during the course of food production



Hazards

- **Physical** (wood splinters, metal shavings, needles, glass, plastics...)
- **Chemical** (antibiotic residue, sanitizer residue...)
- **Biological** (*E. coli*, *Salmonella* sp., ...)

HACCP History

- USSR versus U.S. “The Space Race”
- 1957, first artificial satellite, Sputnik
- 1958, US launches the Telstar satellite
- 1961, Yuri Gagarin first man in space
- Gov’t commitment & NASA dev’l



Pillsbury Involvement

- Knew that existing QA program was not going to work
- Increased GMPs to new level
- Analyzed all of the hazards within the plant (HA)
- Points within the production line that were critical were watched more carefully (CCP)
- Landing on the moon



Public Concern...

- the public is getting concerned about food illness issues
 - 1982 – McDonalds E. Coli sickens many
 - Later '80s – Chicago area 49 deaths (L. mono) & 2,200 poisoning by Salmonella
- some large companies see this as a market advantage and start to implement
- Governments gets involved by advertising the benefits and preparing educational documents



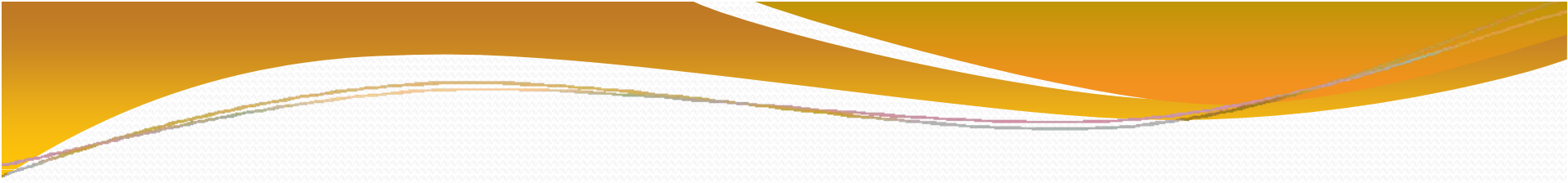
Then it happened...

- 1993, Jack in the Box
- U.S. Fast Food Restaurant
- *E. coli* 0157:H7 outbreak
- Source: hamburger patties
- Killed four and sickened 700 patrons in Washington and neighbouring states



U.S Moves to Mandatory HACCP

- 1993, US Food Code - encourages HACCP
- 1995, FDA mandates seafood HACCP
- July, 1996 USDA releases Pathogen Reduction/HACCP final rule
- Mandating large, small, and very small meat, poultry processing plants (1998-2000)

- 
- **Nov. 29, 2005:** mandatory for meat, poultry, cold storage facilities, (seafood)
 - Food Safety Enhancement Program
 - to promote federally registered food processors and shell egg stations use of HACCP
 - new versus old system of safety
 - only covers **processors**

FSEP Approach to HACCP

**Prerequisite
Programs**

HACCP Plan(s)



Benefits of HACCP

- ***Consumer:***
 - Reduced risk of food borne disease
 - Increased awareness of basic hygiene
 - Increased confidence in food supply
 - Improved quality of life



Benefits...

- ***Government:***

- Improved public health
- More efficient and targeted food control
- Reduced public health costs
- Trade facilitation
- Increased confidence in food supply from community



Benefits...

- *Industry:*
 - Increased consumer/Gov't confidence
 - Reduced insurance costs
 - Decreased business risk
 - May decrease product recalls
 - Reduction in production costs
 - Improved product consistency



Benefits...

- ***Industry con't:***
 - Facilitates global trade (Codex stds.)
 - Consistent with GMPs from Health Can
 - Consistent with QA program
 - Defines responsibilities
 - Shorten employee's response time to out-of-control situations
 - Improved staff-mgt commitment

The Supply Chain

FARM

(ON FARM Q.A. plus other commodity groups)



PROCESSOR

(HACCP)



DISTRIBUTION

(DISTRIBUTION HACCP)



RETAIL

(RETAIL HACCP)



CONSUMER

(??? HACCP)



The main purpose of HACCP is:

Product Safety



Prerequisite Program Definition

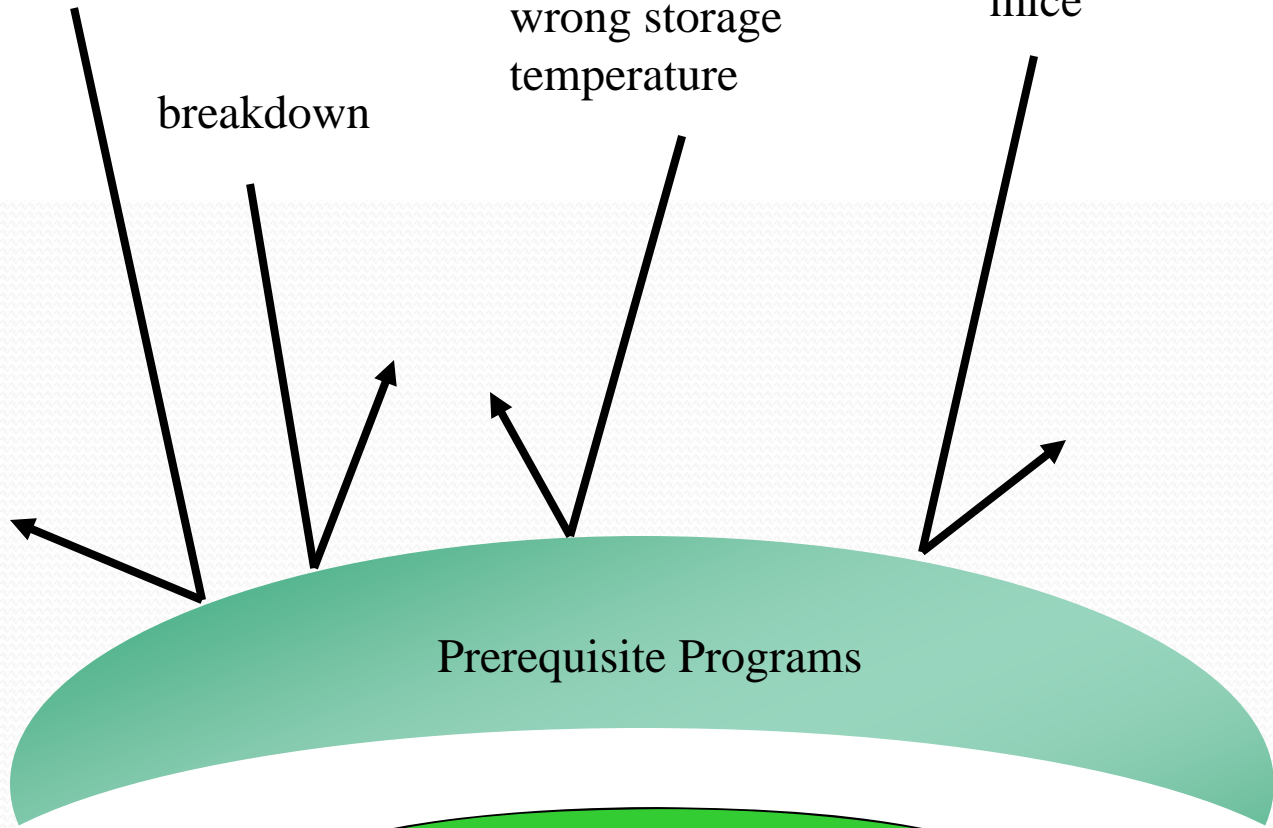
“...the universal steps or procedures that control the operational conditions within a food establishment allowing for an environment that is favorable to the production of safe food.”

unclean
equipment

breakdown

wrong storage
temperature

mice



Prerequisite Programs

Production



The Prerequisite Programs

1. Premises
2. Transportation, Receiving and Storage
3. Equipment
4. Personnel
5. Sanitation and Pest Control
6. Recall
7. Allergens



HACCP Plan

- Consists of 10 Forms that relate to the steps to implementation

Steps to HACCP Program Implementation

(preliminary requirements)

Commitment of Senior Management

- get it on paper (FSEP required); otherwise, production rules. This includes:
- confirming the accuracy of operations in the documentation package
- full support and commitment to implement and maintain the procedures, training, and resources required.

Appointment of HACCP Coordinator

- designated to:
 - coordinate the HACCP development
 - lead HACCP team activities
 - verify/audit the system
 - confirm representation of establishment (changes updated?)
- knowledgeable in HACCP
- knowledgeable of process
- on-site employee (or liaison person)



Steps to HACCP Program Implementation

(primary requirements)

HACCP

- Consists of 12 sequential steps that encompass seven basic principles of HACCP

12 Steps of HACCP

1. Assemble HACCP team
2. Describe the Product
3. Identify intended use
4. Process flow and plant schematic
5. On site Verification
6. List hazards
7. Determine CCP's
8. Establish Critical Limits
9. Establish Monitoring Procedures
10. Establish Deviation
11. Establish Verification
12. Establish Record Keeping

Steps 6-12 are the 7 Principles!




Critical Control Points

- Any point or procedure on a food system where loss of control may result in an unacceptable **Health Risk**

Examples of CCP's

- Receiving
- Cooking / Retorting
- Pasteurization
- Chilling / Freezing
- Drying
- Formulation Control
- pH control
- Water activity
- Ingredient substitutions
- Handling and hygiene for RTE
- Metal detector
- Sieves / Screens
- Chlorination of water



Good Manufacturing Practices

GMP's...

- Are the building blocks of all food safety systems
- Pre-requisites were based on GMP's
- May be different for each environment
- Are essential for safe production on food products



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