

H.A.C.C.P

capstone of a food safety program

Dr. Hany Khalil
USDA
Professor of Food Science
California Polytechnic State University
San Luis Obispo, California

History of HACCP

- The HACCP concept had its origin in the USA and stands for "Hazard Analysis Critical Control Point".
- Chronology of its development:
 - 1958- Concept discussions at NASA (National Aeronautics and Space Administration)
 - 1959- Development of the HACCP concept to assure one hundred percent safety of food to be used in space
 - 1971- The HACCP system was published and documented in the USA
 - 1985- The National Academy of Science (NAS) recommended the use of the system. Worldwide the system became used and the FAO/WHO Codex Alimentarius cited the system in the Codex

The HACCP Approach

- The idea is to develop a plan that anticipates and identifies places in the production process – known as critical control points (CCP's) where contaminants might be introduced or other food safety concerns can be identified
- When critical limits are exceeded, corrective action must be taken and documented
- An independent third party should be used to verify or validate the effectiveness of a HACCP plan

The HACCP Approach, Cont.

- A HACCP program is unique and specific to each product in each processing facility and requires a thorough analysis of each phase of processing at that facility
- The use of an individual trained in developing HACCP programs is recommended

HACCP

Component of a Food Safety System

- **Overview**
- After prerequisite programs (GAP's, SSOP's, and GMP's) have been established, you now have a frame work for HACCP
- HACCP provides a systematic approach to identify, assess and control the risk of biological, chemical, and physical hazards
- HACCP is a living, evolving system

Example of a HACCP Program for Almonds

- At the moment, almond handlers in the U.S.A. are not required under US law to implement HACCP procedures in their operations
- However, handlers recognize the benefits of HACCP practices to their customers and integrate them into their production routines

Developing a HACCP Plan in an Almond Processing Facility

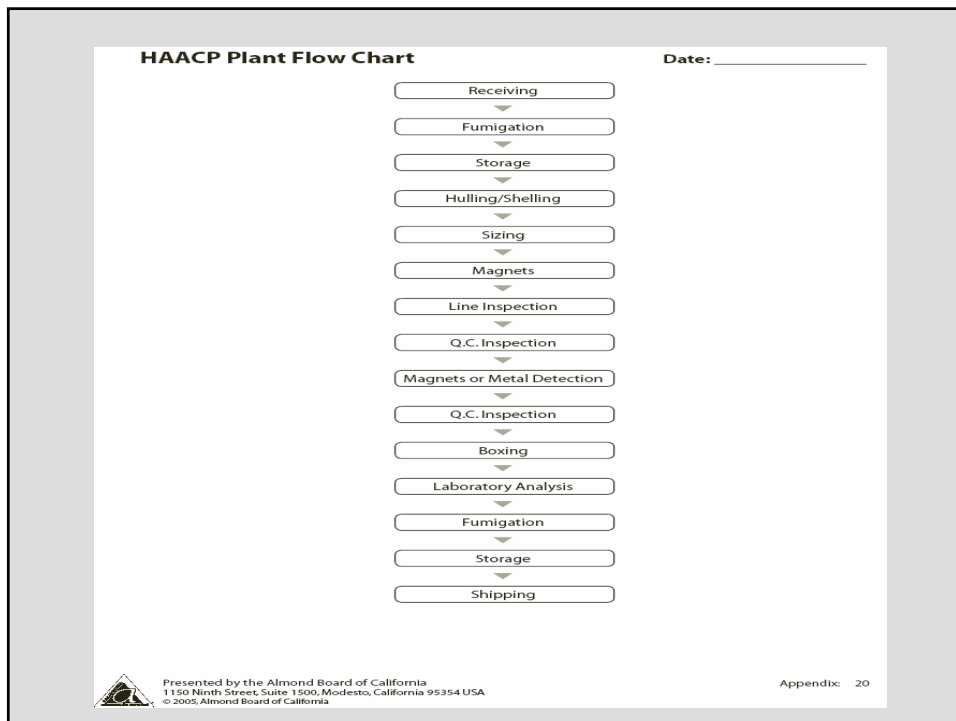
- A series of steps must be completed before a HACCP plan can be developed:
- 1- Assemble a HACCP team
- 2- Provide a general description of the food product, its processing, distribution, and storage methods (flow chart is very helpful for this step)
- 3- Compile information on the customer
- 4- Identify the intended use by the typical consumer

The Seven Principles of HACCP

- 1. Conduct a Hazard Analysis
- 2. Determine Critical Control Points
- 3. Establish Critical Limits
- 4. Establish Monitoring Procedures
- 5. Establish Corrective Actions
- 6. Establish Verification Procedures
- 7. Establish Record Keeping and Documentation Procedures

1. Conduct a Hazard Analysis

- Assess the food safety hazards that are reasonably likely to occur and that must be controlled for almonds or almond products based upon experience, illness data, scientific reports, or other information
- Hazards can be biological, chemical, or physical
- Use the process flow chart
- Summarize the information in a Hazard Analysis Worksheet



HAACP Hazard Analysis Worksheet

Firm Name:		Product Description: (each product must have its own hazard analysis.)			
Firm Address:		Methods of Distribution and Storage:			
Date of Analysis:		Intended Use and Consumer:			
		Typical Consumer:			
Processing Step	Identify potential hazards introduced, controlled, or enhanced at this step.	Are any potential food safety hazards significant? (Yes or No)	Justify your determination of hazard significance.	What control measures can be applied for the significant hazard?	Is this step a Critical Control Point? (Yes or No)
Receiving	Biological: Chemical: Physical:				
Fumigation	Biological: Chemical: Physical:				
Hulling/Shelling	Biological: Chemical: Physical:				
Sizing	Biological: Chemical: Physical:				
Packing	Biological: Chemical: Physical:				
Storage	Biological: Chemical: Physical:				
Shipping	Biological: Chemical: Physical:				

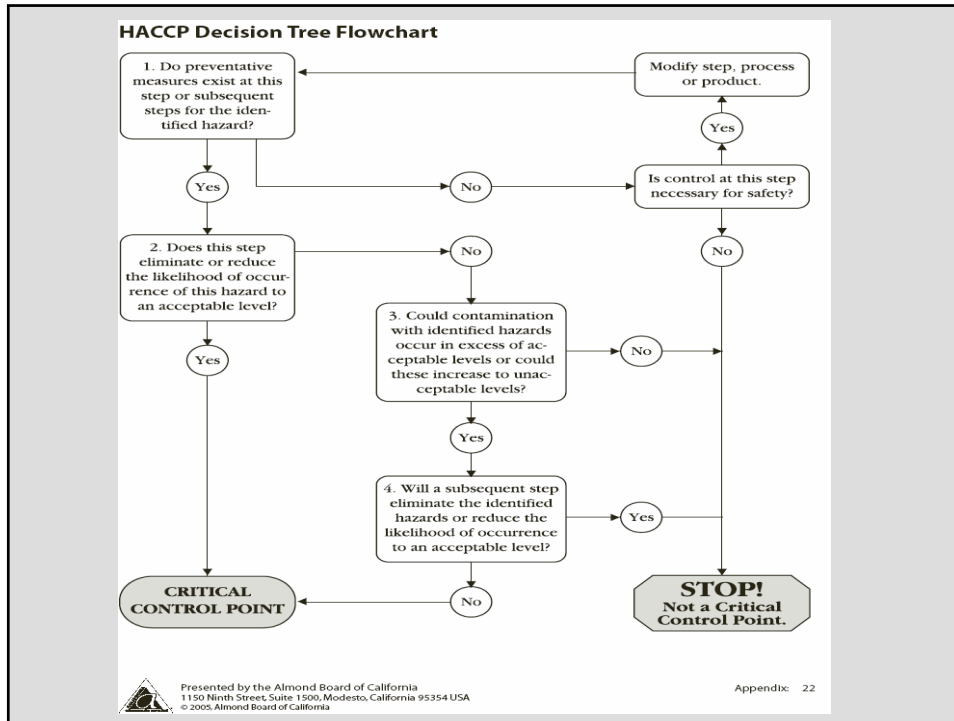


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2. Determine Critical Control Points

- All hazards identified in step #1 (Hazard Analysis) must be controlled at some point in the process
- Identify the Critical Control Points (CCP's) in the process that will help you eliminated or minimize the hazards (Decision Tree Flowchart can help in this step)
- The number of CCP's identified depends on the product being produced, the ingredients (if any) used, and the processing methods employed



3. Establish Critical Limits

- Critical limits are tolerances beyond which the related CCP is out of control and a potential hazard can exist
- A critical limit is a maximum and/or minimum value at which control must be maintained for the CCP
- CCP limits cannot be average values or ranges of values
- Critical limits must be validated by the processor or be supported by scientific data or literature


4. Establish Monitoring Procedures

- Monitoring is a scheduled observation of a CCP and its limits
- The procedure must be reliable enough and performed often enough to ensure that the hazard is under control
- Determine what will be monitored, how it will be monitored, when it will be monitored, and who will perform the monitoring
- HACCP Plan Form is needed for this step

HACCP Plan Form

Firm Name:			Product Description:						
Firm Address:			Methods of Distribution and Storage:						
			Intended Use and Consumer:						
CCP	Significant Hazard	Critical Limits	Monitoring				Corrective Action(s)	Records	Verification
			What	How	Frequency	Who			

Signature of responsible individual: _____ Date: _____



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5. Establish Corrective Actions

- When there is deviation from an established CCP, corrective actions must be taken to prevent a product that may be unsafe from reaching consumers
- Corrective action must include correcting the problem and putting the process back in control, and placing the product on hold pending evaluation of safety
- Corrective action steps taken must be documented

6. Establish Verification Procedures

- Every HACCP plan should be examined to validate its ability to control food safety hazards that are reasonably likely to occur, and that the plan is being effectively implemented
- Verification should include, at a minimum:

6. Establish Verification Procedures, Cont.

- a. Reassessment of the HACCP plan - Reassess the adequacy of the HACCP plan whenever any
- changes occur that could affect the hazard analysis or alter the HACCP plan in any way, or at least annually
- Changes may include: raw materials or sourcing of raw materials, handling methods or systems, finished product distribution systems, or the intended use or consumers of the finished product
- The HACCP plan must be modified whenever a reassessment reveals that the plan is no longer adequate

6. Establish Verification Procedures, Cont. 1

- b. Ongoing verification activities - Ongoing verification activities include a review of any consumer complaints to determine whether they relate to the performance of CCP's or reveal the existence of unidentified CCP's, the calibration of process-monitoring instruments, or in-process testing

6. Establish Verification Procedures, Cont. 2

- **c.** Records review - A review, including signing and dating, by an individual who has been trained in accordance with appropriate HACCP practices, including:
 - i. The monitoring of critical control points
 - ii. Ensuring that the records are complete and that documented values are within the
 - critical limits
 - iii. The taking of corrective actions

7. Establish Record Keeping and Documentation Procedures

- The HACCP plan must be on file at the facility
- It must include documentation relating to CCP's and any action on deviations and/or disposition of product
- Types of records could include:

7. Establish Record Keeping and Documentation Procedures, Cont.

- a. Processing - Records of all monitored CCP's
- b. Deviation - Records of any deviations from the HACCP plan
- c. Ingredients - Supplier qualification, ingredient certification, audit records
- d. Product safety - Records on safe shelf-life, microbiological testing, microbiological challenge studies
- e. Storage and distribution - Traceability data
- f. Validation studies

CONCLUSION

- Ensuring food safety in your industry is not difficult
- Rather it takes consistent, steady, and diligent effort to constantly think about your process/product and be ready to implement changes to enhance food safety
- When should you begin implement a food safety program?



It Takes Time



- The best time to implement a food safety program is 20 years ago!

The next best time is NOW!!



TOGETHER WE CAN DO IT



Q & A



*Thank
You*

