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Module 11: HAZARD ANALYSIS AND CRITICAL CONTROL POINT



Session 1: HAZARD ANALYSIS AND CRITICAL CONTROL POINT



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INTRODUCTION:

- HACCP is recognized worldwide as the most effective managing system in which food safety is addressed through the analysis and control of biological (microbes & toxins), chemical, and physical hazards in food manufacturing, storage, distribution, and consumers consumption. Although biological contamination of food can lead to health hazard to consumers or even death in addition to financial losses, also chemical and physical contamination of foods are also health hazard to consumers and must be controlled as in the case of food biological contamination.



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- HACCP was developed in the early 1960 when the National Aerospace Agency (NASA) asked Pillsbury a United States food company to produce food that could be used under zero gravity.
- The problem of unknown behavior of food product under zero gravity was solved quickly, but Pillsbury company recognized that the existing destructive quality control techniques for food safety are not reliable for such special food products to assure complete eliminating potential contamination in such special foods from biological, chemical or physical hazards that could cause illness or injury to astronauts in space flight.



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- The initial developed HACCP system was presented in the year 1971 by Pillsbury food company at the Conference on Food Protection (CFP) sponsored by Food and Drug Administration (FDA). This presented HACCP system consists of three HACCP plan principles. These three HACCP principles are:
 1. Identification and assessment of hazards associated with food from farm to fork.
 2. Determination of the Critical Control Points (CCPs) to control any identified health hazard in food process.
 3. Establishment of a system or systems to monitor the critical control points.



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Current seven HACCP principles and application guidelines:

- HACCP is a preventative food safety system in which every step-in food manufacturing process, plus food products storage, and distribution
- is scientifically analyzed and controlled for biological, chemical, and physical hazards. The current seven basic HACCP principles:
 1. Identify hazard analysis assessing the risk.
 2. Identifying Critical Control Points (CCPs).
 3. Establishing Critical Limits (CL).
 4. Implementing continuous Monitoring.

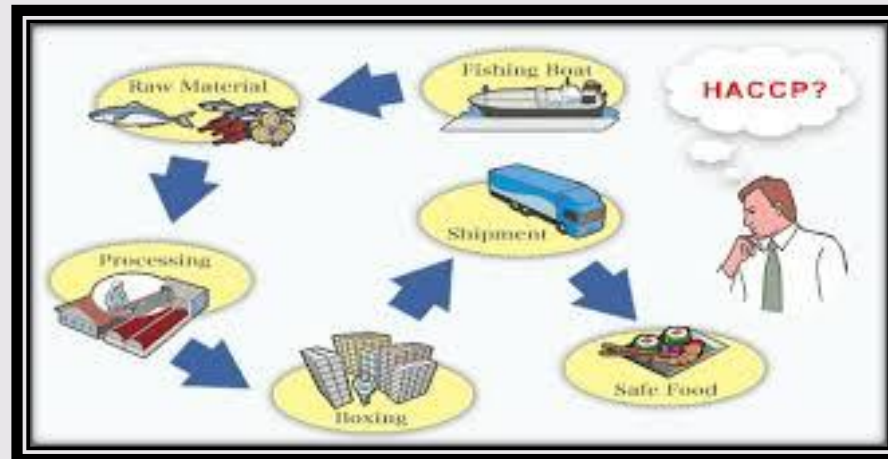


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- Implementing Corrective Measures.
- Verification and Validation.
- Documentations and Records keeping





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Principle (1): Identify hazard analysis accessing less risk:

- HACCP team listing steps in the food process, identify significant hazard or hazards that might occur in each step-in food process, and develop method or methods that must be used in their HACCP plan to prevent, eliminate, or control these identified hazards in food production process.





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Principle (2): Identifying critical control points (CCPs):

- Identify a control procedure that can be applied in each food process step to eliminate food safety hazard or reduce the hazard to acceptable limit in the end product. Identify CCPs that might be required in food process steps are by using a CCP decision tree method.





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Principle (3): Establishing critical limits (CL):

- Critical Limit (CL) is the limit to which biological, chemical, or physical hazard that must be controlled to prevent, eliminate or reduce the hazard into an acceptable limit at the identified CCPs in a in food process steps. Critical limit measurement methods can be time, temperature, moisture, pH, water activity (A_w) or any other methods that are acceptable by regulatory standards.



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Principle (4): Implementing continuous monitoring:

- Monitoring food process steps by the measurement of the critical limit (CL) at each designated critical control point (CCP) must be described including how, when, frequently the measurement taken and who is responsible for taking these measurements during production process.





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Principle (5): Implementing corrective measures:

- Corrective actions are the procedure that must be taken when monitoring indicate that there is a deviation from the established critical limit (CL) in a critical control point (CCP). Taking appropriate corrective action in the event of a deviation at CCP is essential for producing safe food. Corrective measures are usually including identification of the problem and steps taken to assure that such problem will never occur again.



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Principle (6): Verification and validation:

- The validity of a HACCP system is to determine that the process is operating according to the plan. Verification involves taking suffusion steps such as auditing of CCPs, calibration of instruments used for CCPs measurements, in process food product testing, record review, and prior food shipment review to ensure that the validity of the HACCP system is operating according to the plan.



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Principle (7): Documentations and records keeping

- Recording the information that can be used to prove the safety of food produced for consumption is the key component of HACCP plan. Documentation should include information on the HACCP team, product description, flow diagrams, hazard analysis, CCPs identification, critical limits, monitoring systems, record keeping procedures, and verification procedures.



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ACCREDITATION:

- Accreditation means Registration by the National Accreditation Body for certifying
- organic farms, products and processes as per the National Standards for Organic Products and as per the guidelines of the National Accreditation Policy and Programme for organic products.



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1. APPLICATION FOR ACCREDITATION
2. ACCREDITATION FEE
3. ALLOCATION OF ACCREDITATION NUMBER
4. APPROVAL/NON-APPROVAL OF ACCREDITATION
5. ACCREDITATION CONTRACT
6. UPDATION & RENEWAL OF ACCREDITATION
7. LOGO
8. SUSPENSION/ TERMINATION OF ACCREDITATION
9. APPEALS AND REVISION OF AWARD ON APPEALS
10. CATEGORIES FOR ACCREDITATION
11. STANDARDS
12. ISSUE OF CERTIFICATES



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Documentation and Document Control:

- The Inspection and Certification Agencies shall maintain a system for the control of all
- documentation relating to the certification system and shall ensure that:
 - The current issues of appropriate documentation are available at relevant locations.
 - All correction in documents are made by the authorized persons.
 - All changes are processed in a manner, which will ensure direct and speedy action.



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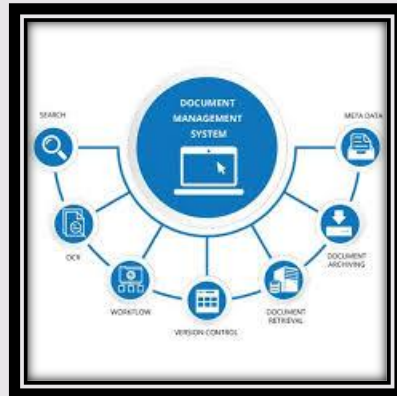
- Super ceded documents are removed from use throughout the organization and its agencies.
- All affected parties are notified of the changes.
- Documents shall be reissued when substantial amendments are made.
- A register of all appropriate documents with the respective date of issues shall be maintained.



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Records:

- All records shall be safely stored and held secure and in confidence to the operator, for a minimum period of five years.
- Inspection reports, certification decisions, certificates and other relevant records shall be signed by the authorized person.





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