

HACCP Principle 4: Monitoring Critical Limits

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Critical Limits

- **Observations and/or Measurements to Assess Whether a CCP is Under Control**
- **Must be Able to Produce an Accurate Record of Measurement or Observation**

Purpose

- **Track System Operation**
 - Trends Toward Loss of Control
 - Action Taken before Limit Exceeded
- **Determines when There is Loss of Control and Corrective Action Needed**
- **Provides Written Documentation for use in Verification of HACCP Plan**

Who is Responsible for Monitoring?

- **Each CCP must be Monitored by a Specific Individual**
- **Consider**
 - **Number of Critical Control Points**
 - **Preventive Measures**
 - **Complexity of Monitoring**

Personnel to Consider

- **Line Supervisors**
- **QC Personnel**
- **Selected Line Workers**
- **Maintenance**

Other Considerations

- **Personnel Must be Trained in Technique used to Monitor**
- **Need to Understand Importance and Purpose of Monitoring**
- **Have Ready Access**
- **Unbiased in Monitoring and Reporting**
- **Accurately Report**

Important!!

- **Report Unusual Occurrences Immediately.**
 - **Rapid Adjustment so Process Stays in Control**
- **or**
- **Corrective Action Taken**
- **All Records must be Signed or Initialed by Person Doing the Monitoring.**

Continuous Monitoring

- **Ideal - All Products Tested**
- **Time/Temperature Processes**
- **pH of Batch**
- **Equipment Must be Calibrated**
- **Automated Equipment or Sensors**

Discontinuous/Attribute Sampling

- **Sometimes Continuous Not Possible**
- **Establish Monitoring Interval**
- **Statistically Designed Data Collection**
- **Tests Must be Rapid**
- **Microbial Testing - Not Usually Possible**

Examples of Non-Continuous Monitoring:

- **Visual Observations**
- **Internal Time/Temperature Measurements**
- **pH**
- **Moisture Level (A_w)**

Random Checks

- **Useful for Supplementing Monitoring**
 - **Testing of Incoming Ingredients**
 - **Check Equipment**
 - **May include Physical, Chemical and/or Microbial Testing**

Group Exercise

Monitoring Procedures

- **For Each CCP**
 - **Determine the Best Monitoring Procedure**
 - **Determine the Frequency of Monitoring and Documentation**
 - **Determine Decision Criteria**
 - **Acceptable or Unacceptable**