



---

# FeedSafe – HACCP

# FeedSafe & HACCP Summary

- FeedSafe

- Code Good Manufacturing Practice
- Pre-requisite Programs
- Feed safety
- HACCP

## HACCP Steps 1-5

- Assemble and train the HACCP Team
- Describe the product
- Identify its intended use
- Construct a process flow diagram
- Verify the flow diagram

# The 7 Principles of HACCP (Steps 6-12)

- Conduct a hazard and risk analysis
- Determine the Critical Control Points (CCP)
- Establish the critical limits for each identified CCP
- Establish the monitoring of each CCP
- Establish corrective actions for each CCP
- Establish verification of the HACCP Plan
- Establish documentation and records

# Step 6 - Conduct Hazard Analysis

- Using the verified flow diagram assess the potential food safety hazards and risks at each step
- At each step, identify the following hazards;
  - Physical
  - Chemical
  - Microbiological
- Determine the risk associated with each of the identified hazards
  - Likelihood
  - Severity

# Step 6 – Identify Hazards

- Hazards are anything that could make a food unsafe for consumption and are generally categorized as:
- Physical
  - Sticks, stones, metal, glass, etc., other seeds/grain
  - Insects, weed seeds
  - Maintenance residue
  - Internal glass, jewellery

# Step 6 – Identify Hazards

- **Chemical**

- Naturally occurring toxins – allergens, tannins, anti-nutrients (gossypol, glucosinulates)
- Naturally produced toxins - mycotoxins
- Man-made toxins
- Insecticides and other agricultural chemicals,
- Detergents and sanitisers,
- Fuels and lubricants

# Step 6 – Identify Hazards

- **Microbiological**

- Bacterial - Salmonella, Listeria, E.coli, etc.
  - Moulds and fungi.
  - Pathogens, viruses, parasites.
- Growth of food poisoning microorganisms (pathogens)
- Microbial or physical contamination from food handlers
- Microbial or physical contamination from equipment
- Survival of food poisoning microorganisms

# Step 6 – Identify Hazards

- **Quality and Regulatory**
  - Product Characteristics
  - Customer requirements
  - Legal obligations.



# Step 6 – Assess the Risk

- The risk assessment rates the identified hazards according to the severity and likelihood of the hazard occurring.
- Severity
  - If the hazard did occur what would be the severity or the outcome?
  - Fatal, illness, harm, discomfort or no effect
  - Product recall, customer complaint
  - Legal – RAM, medications, WHP

# Step 6 – Assess the Risk

- The risk assessment rates the identified hazards according to the severity and likelihood of the hazard occurring.
- Likelihood
  - What is the likelihood, probability or frequency of the hazard actually occurring
  - All the time, once a month, once a year, never
  - Happens all the time, Could happen, Has happened, Never happened

# Step 6 – Analysis Matrix

SEVERITY	SCORE
Negligible feed safety risk	1
Minor feed safety risk	2
Major feed safety risk	3
Critical feed safety risk	4

PROBABLE FREQUENCY	SCORE
Remotely possible	1
Known to have occurred in the past	2
Strong possibility of occurring	3
Has occurred previously	4
Hazard is present all the time	5

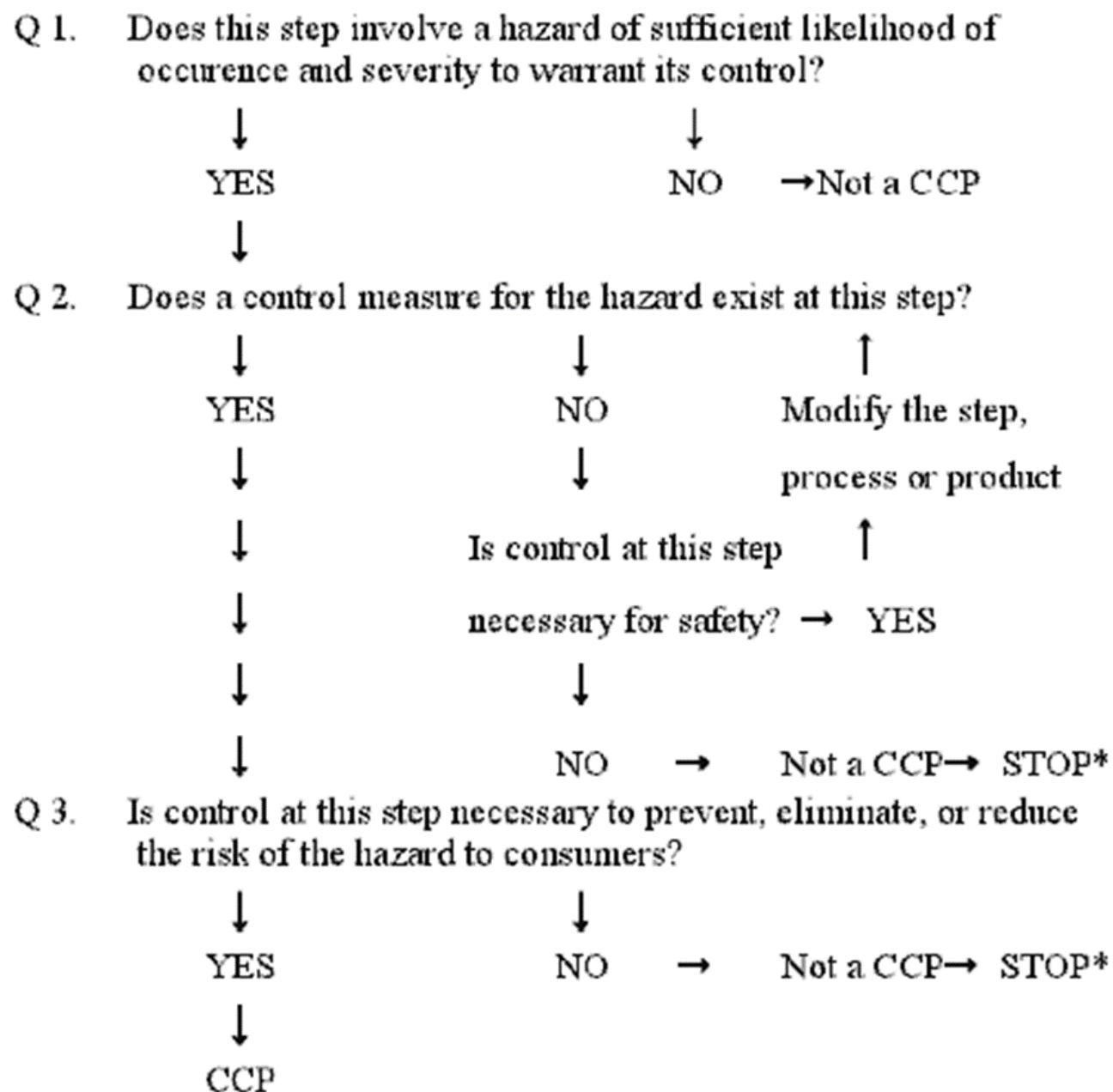
# Step 7 – Determine CCP

- The HACCP Team determines which hazards are critical and it is these that move onto Step 7.
- Critical Control Points (CCP):
  - A CCP is a point, step, or procedure in a food manufacturing process at which control can be applied and, as a result, a food safety hazard can be prevented, eliminated, or reduced to an acceptable level.
  - It must be the last point of control for the identified hazard to be controlled.
  - In the following slide the hazards identified as Red and Orange would be CCPs that must be monitored and controlled.
  - Those identified as Yellow would require monitoring as the minimum level of control.

# Step 7 – Determine CCP

FREQUENCY	SEVERITY			
	4	3	2	1
5	20	15	10	5
4	16	12	8	4
3	12	9	6	3
2	8	6	4	2
1	4	3	2	1

SCORE	FEED SAFETY RISK (Level of risk)
1-4	Minimal
5-10	Minor
11-15	Major
16-20	Critical



# Step 8 – Critical Limits

- Establish critical limits for each critical control point that has been identified.
- A critical limit is the maximum or minimum value to which a physical, biological, or chemical hazard must be controlled at a critical control point to prevent, eliminate, or reduce to an acceptable level.
- Some critical limits can be regulated by Government.
- Critical limits are generally referred to as:
  - Upper or maximum level (UCL)
  - Lower or minimum level (LCL)

# Step 8 – Critical Limits

- Typical critical limits may include:
  - Temperature, time, pH, moisture, water activity, allowable level of contamination
- Examples:
  - Temperature and time parameters for cooking or sanitising
  - Temperature for storage and transportation
  - Chemical testing such as pH, Aw and salt measurements
  - Physical checks such as the presence of foreign objects



# Step 8 – Critical Limits

## Critical limits must be referenced

- validated and based on recognised standards such as regulatory requirements or scientific data.

## Sources and References

- Information from the Industry Guide
- Industry Codes of Practice
- Regulatory requirements or
- Published scientific information such as recognised scientific papers or literature.

# Step 9 - Monitoring

- Establish CCP monitoring requirements
- Monitoring activities are necessary to ensure that the process is under control at each CCP. Codex Alimentarius requires that each monitoring procedure and its frequency be listed in the HACCP plan.
- Monitoring method should be rapid so as to allow operators to make a quick decision as to whether the limit has been breached or not.
- Visual monitoring is the most effective and rapid method. This may include checking temperature and assessing moisture content.

# Step 9 - Monitoring

The monitoring procedures must state:

- What is to be monitored
- When the monitoring will occur (frequency)
- Who performs the monitoring and
- How it will be monitored.

Examples of monitoring procedures include:

- Temperature checks
- Measuring the chlorine concentration in water
- Measuring the pH of a food
- Measuring batching and additions

# Step 10 – Corrective Action

- **Establish corrective actions**

- These are actions to be taken when monitoring indicates a deviation from an established critical limit.
- The HACCP plan must identify the corrective actions to be taken if a critical limit is not met.
- Corrective actions are intended to ensure that no product is injurious to health or otherwise adulterated.
- Corrective actions must bring the process and/or the product back into control.
- Corrective actions may include isolation, rework and disposal.

# Step 11 - Verification

- Establish procedures for ensuring the HACCP system is working as intended.
- Validation ensures that the procedures have been followed and did what they were designed to do; that is, they were successful in ensuring the production of a safe product.
- Verification ensures the HACCP plan is adequate and is working as intended. Verification procedures may include such activities as review of HACCP plans, CCP records, critical limits and microbial sampling and analysis.
- Verification can include:
  - Internal audits
  - Alternative and/or external test analysis
  - Visual observation of CCP procedures



# Step 11 - Verification

- Verification also includes 'validation' – the process of finding evidence for the accuracy of the HACCP system.
- Validation evidence may include:
  - Scientific evidence for critical limitations
  - Scientific evidence for potential hazards
  - Government regulations such as Maximum Residue Limits
  - Industry Code of Practice

# Step 12 - Documentation

- Establish record keeping procedures
- HACCP requires that all plants maintain certain documents, including its hazard analysis and written HACCP plan, and records documenting the monitoring of critical control points, critical limits, verification activities, and the handling of processing deviations.
- Implementation involves monitoring, verifying, and validating that the daily work is compliant in all stages all the time.

# The HACCP Plan

Hazard	Preventative Measures	Critical Limits	Corrective Actions	Monitoring Procedures	Monitoring Frequency	Staff Responsibilities	Verification Procedures
<i>Identify the hazard</i>	<i>SOP steps to prevent the hazard from occurring</i>	<i>What are the upper and lower limits for compliance at this step to control the hazard?</i>	<i>What actions are to take place when the Critical Limits have been breached?</i>	<i>What is being tested, monitored, measured to ensure the Critical Limits have been maintained?</i>	<i>How often is this step and the identified Hazard monitored to ensure compliance?</i>	<i>Who is in charge?</i>  <i>Who is monitoring?</i>  <i>What occurs if correct Action is required?</i>	<i>What is being conducted to ensure this Hazard was controlled?</i>
<b>Example:</b> Chemical cross contamination in storage	Warehouse stock control and storage procedure	Nil	Affected product to be isolated and sampled for testing	Warehouse storage plan and compliance	Monthly warehouse inspection.	Warehouse manager and supervisor	Internal Audit of third party warehouse





---

# Questions

# Question received

1. I note in the second session recording that training in HACCP for the QA/HACCP coordinator and team is required. Is the training formal or nationally accredited training or do these sessions count?
2. if the training is formal/accredited are there any recommended courses, units or providers that have a focus on FeedSafe/stock feeds, and what are approximate costs?

# Question received

3. Being new to HACCP and FeedSafe, is it possible to visit, or do you know of any established FeedSafe accredited sites, who would be open to a site visit or some such to get a better understanding of the standard expectations currently in industry?