FeedSafe – HACCP

HACCP

- Food Safety is important
- What is HACCP?
- How do we test for it?
- How do we assure it?
- HACCP Principles

Why is Food Safety Important?

- An estimated 600 million – almost 1 in 10 people in the world – fall ill after eating contaminated food and 420 000 die every year, resulting in the loss of 33 million healthy life years

- The 2018 World Bank report on the economic burden of the foodborne diseases indicated that the total productivity loss associated with foodborne disease in low- and middle-income countries was estimated to cost US$ 95.2 billion per year, and the annual cost of treating foodborne illnesses is estimated at US$ 15 billion

FEEDSAFE ACCREDITED
FEED MANUFACTURER

Food Safety Risks?

- Microbiological
  - Bacteria
    - Salmonella, Listeria, Campylobacter
  - Prions
    - BSE
  - Parasites

- Chemical
  - Agro and veterinary
  - Natural toxins
    - Mycotoxins
  - Heavy Metals

- Physical
  - Glass
  - Plastics

How can we determine that a food is safe to eat?

- Test it for potential risks
  - Time consuming (food has decomposed before test results have been finalized)
  - Expensive (Too many hazards to test for)
  - Not practical (most of the food has been used for the testing)

- Use a taste tester
  - Not practical (most of the food has to be tested)

- Eat it ourselves
  - Not practical or safe

What is HACCP?

- Hazard
  - Any potential risk to the safety of food to be consumed and/or sold.
  - Main risks fall into three categories:
    - Physical
    - Chemical
    - Microbiological

- Analysis
  - Assessment of the likelihood and severity of all potential risk

- Critical Control Point
  - Focus food safety management at the highest risks

HACCP as a solution

- The concept of HACCP was developed as a tool for NASA to ensure food safety for astronauts.

- It is a standardized, scientific and systematic method to assess all potential food safety risks and puts in place monitoring and control for identified high risks, with the aim to remove or minimise these risks.

- HACCP is now recognised as the global standard for food safety.

- Codex Alimentarius is generally regarded as the best method to use.

- Codex Alimentarius Commission is a body founded by the FAO of the UN and the WHO. It is recognized by the WTO as an international trade reference point.

FEEDSAFE ACCREDITED
FEED MANUFACTURER

HACCP Principles

- Codex Alimentarius sets out 7 principles and 12 steps for establishing a HACCP based program to identify potential risks and to control/prevent these food safety risks.

- It involves documented detail of the people and processes involved in the food production process.

- It requires an analysis of potential food safety hazards and the risks associated.

- It includes detailed monitoring and recording of the control of the risks.

- It identifies what will be done when a risk is out of control.

HACCP Assumes….

- Before implementing the HACCP Plan a number of preliminary or prerequisite procedures need to be established and implemented.

- These may include:

  - Documented Procedures

  - Prerequisite Programs and Practices:

    - Incoming Goods, Operating Procedures, Work Instructions, FIFO, Despatch

    - Staff Training

    - Cleaning & Hygiene

    - Pest Control

    - Approved Suppliers

Prerequisite Programs

- PRP or GMP
  - These are generally considered as standard programs that all manufacturers shall have in place.
  - Common across all manufacturing sectors

- oPRP
  - Operational prerequisite program
  - These are standard programs that are expected for a specific manufacturing sector
  - Animal nutrition, pelleting, etc.

FEEDSAFE ACCREDITED
FEED MANUFACTURER

HACCP 7 Principles

- Conduct a hazard analysis

- Determine the Critical Control Points (CCP)

- Establish critical limits for each CCP

- Establish the monitoring of each CCP

- Establish corrective actions for each CCP

- Establish verification of the HACCP Plan

- Establish documentation and records

HACCP 12 Steps

- Assemble and train the HACCP Team

- Describe the product

- Identify its intended use

- Construct a process flow diagram

- Verify the flow diagram

- Apply the 7 Principles of HACCP (Steps 6-12)

HACCP Logic

Identify Hazards Associated with Each Step

Evaluate Hazards for Severity and Likelihood

Characterise Control Measures

Specific Control Point

Pre Requisite Programs

Critical Control Point

FEEDSAFE ACCREDITED
FEED MANUFACTURER

HACCP Step One

- The HACCP Team should consist of people who have the following skills:
  - A knowledge of HACCP
    - This person will also act as the Team Leader
  - A knowledge of the process and disciplines
  - A knowledge of the product and its intended use
  - A member of senior management
    - To show the commitment of senior management to the HACCP Plan
- The HACCP Team must be trained in the 7 Principles and 12 Steps.
- The HACCP Team meetings must be recorded.

HACCP Step Two

Describe the product

- Product name

- Ingredients to be included

- How it is processed?

- Shelf life, storage and handling,

- Packaging, labelling and any particular characteristics

- How it will be used?

HACCP Step Three

Identify its intended use

- Identify the consumer(s)

- Are there high risk consumers (children, elderly, infirmed)

- How will product be used by consumer?

- Consumed as is, re-heated or further processed

- Instructions for correct use

- This will provide the HACCP team with correct information to identify the hazards.

16

HACCP Step Four

Construct a flow diagram

- Determine the scope of the process flow

- Where does the company take control of raw materials?

- How does it handle raw materials

- How does it process products?

- Where does the company hand-over control to the consumer?

Draft a flow diagram or chart that shows each step of the process
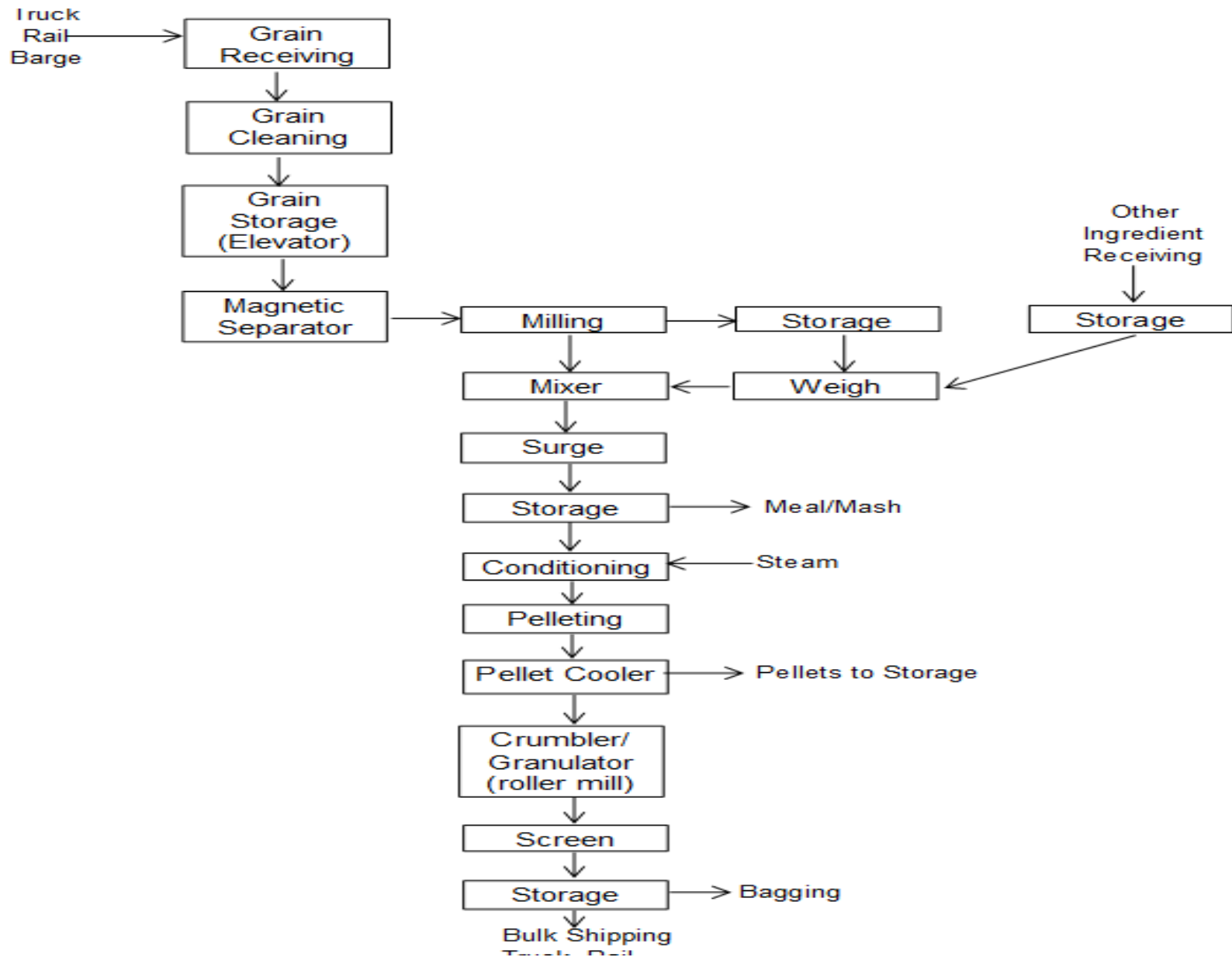
HACCP Step Five

Verify the flow diagram

- On site walk through of the flow chart to verify that the chart does actually represent the true process

- "Walking the line" ensures that all information, processes and controls have been accounted for.

The verified flow diagram must be documented

HACCP Steps Summary

1. Form the HACCP Team
   A. Training
   B. Components
   C. Commitment

2. Describe the Product

3. Define the Customers
   A. Who are they?
   B. How will they use the product?

4. Construct the Process Flow Diagram
   A. Include all the steps

5. Verify the Flow Diagram

Questions