

Module 48

Safety and Quality Management

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Introduction

In this module we look at safety and quality management in the packhouse. To ensure a safe and good quality product, most packhouses employ a safety and quality control system. The preferred system for food safety and quality management in South African packhouses is HACCP. The HACCP system is an internationally recognised method of managing food production, and HACCP compliance and certification is required by most overseas markets.



HACCP Principles

HACCP is a systematic, preventive approach to food safety and quality that addresses physical, chemical, and biological hazards as a means of protecting food safety and quality.

HACCP is used in the food industry and identifies potential food safety hazards at specific points in specific processes, known as critical control points (CCPs), so that key actions can be taken to reduce or eliminate these dangers.

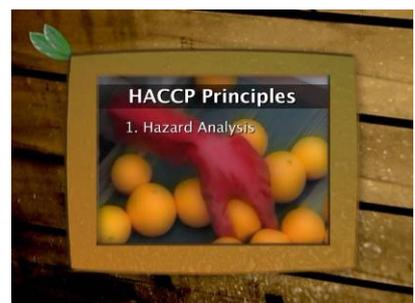
The system is used at all stages of food production and preparation, including packing and distribution. The HACCP system is based on seven principles.



Principle 1 – Hazard Analysis

The first principle is to do a hazard analysis.

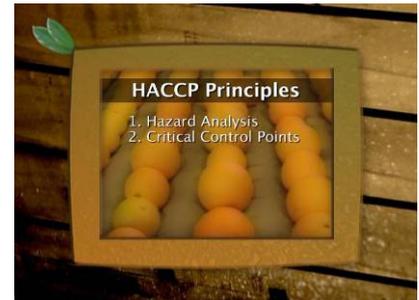
Packhouses determine food safety hazards and identify the measures the packhouse can apply to prevent or control hazards. A food safety hazard is any biological, chemical, or physical property of the packhouse that can cause food to be unsafe for human consumption.



Principle 2 – Critical Control Points

Principle two is the identification of critical control points.

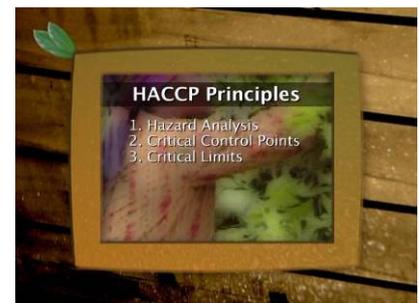
A critical control point (CCP) is a point, step, or procedure in the process where control can be applied and as a result, a food safety hazard can be prevented, eliminated, or reduced to an acceptable level.



Principle 3 – Critical Limits

The third principle is establishing critical limits for each critical control point.

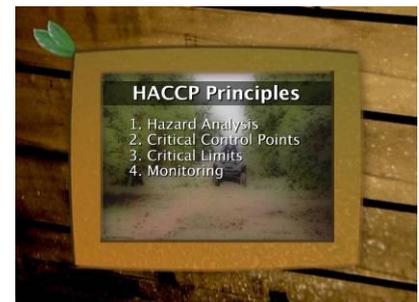
A critical limit is the maximum or minimum value for the physical, biological, or chemical hazard at that control point. If that hazard falls within the critical limits, the food safety hazard should be at an acceptable level.



Principle 4 – Monitoring

Establishing the requirements for monitoring critical control points is principle four.

Monitoring is necessary to ensure that the process is under control at each critical control point. Each monitoring procedure and its frequency should be listed in the HACCP plan.



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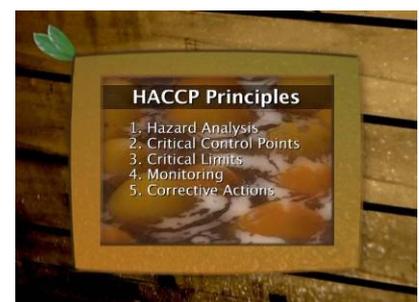
Reference

An example of monitoring is regular titration. For more information on this process, please look at **Module 21 – Titration.**

Principle 5 – Corrective Actions

Principle five is to establish corrective actions.

These are actions to be taken when monitoring indicates a deviation from an established critical limit. Corrective actions are intended to ensure that no product that might be dangerous when consumed enters the commercial chain.



Principle 6 – Recordkeeping

Principle six is about establishing recordkeeping procedures.

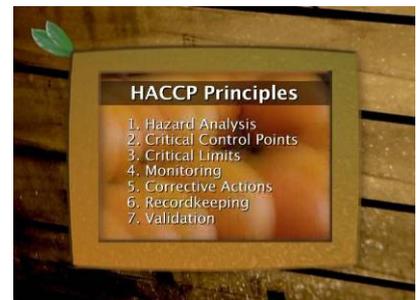
HACCP regulations require that all packhouses maintain certain documents, including its hazard analysis and written HACCP plan, and records documenting the monitoring of critical control points, critical limits, verification activities, and the corrective actions taken when deviations occur.



Principle 7 – Validation

The last principle, number seven, is about establishing procedures for validating the working of the HACCP system.

Validation ensures that the packhouses do what they were designed to do – that is, they are successful in packing a safe product. Packhouses are required to validate their own HACCP plans before they can be accredited and certified.



HACCP Implementation

We must maintain HACCP standards throughout the packhouse process. HACCP standards include fruit safety, staff health and safety, and the packhouse environment must be safe, clean and neat.

We will now look at a few examples of the practical implementation of HACCP principles in a packhouse.



Example – Chemical Use

The first two examples concern the use of chemicals during production and in the packhouse.

To ensure food safety, we monitor the spraying records of producers, to check that they correspond with recommendations we sent to them for the plant protection products that may be used for particular markets. In the packhouse, daily samples are taken of chemicals used in the packhouse, and sent away for analysis to verify compliance with standards.



Example – Personal Hygiene

The next two examples look at the personal hygiene of workers in the packhouse environment.

When handling fruit, all packhouse workers, and particularly sorters and packers, must wear protective clothing, and specifically gloves, because long nails can damage fruit.

If anyone is injured in the packhouse – accidents do happen – the person must report the injury to the supervisor immediately. The area where the injury occurred is evaluated and thoroughly cleaned. Work in the packhouse is stopped and the injured person is treated before he is allowed to return to work.



Example – Building Maintenance

In the next example, we look at an example of how building maintenance is controlled through HACCP.

We have a glass policy in the packhouse. Every window is numbered, and if windows break, records are kept of it. The area is inspected for broken glass, because staff can be exposed, and there is a great danger that fruit can pick up glass splinters. The part of the HACCP standard is strictly applied.



Quality Control and Monitoring

This example is about quality control and monitoring.

Sometimes fruit is damaged on a line. The quality controller takes samples every hour from packing trays and lines. The samples are inspected to ensure that the size spread is correct, fruit are being handled properly, and there are no injuries to the fruit. This feedback goes to the packhouse manager who signs it off.



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Retention Samples

Retention samples are usually taken by retaining one carton of each batch of fruit packed in the packhouse. These cartons must be regularly inspected to monitor the development of postharvest diseases, and kept for at least three weeks at ambient temperature.

