



Food Manufacture

# Food Manufacture HACCP

## Lesson 3

This course explores the HACCP system in food manufacture and explains the important role it plays in ensuring food safety.





**There are seven  
HACCP principles  
(steps) to be  
followed after the  
preliminary steps  
have been  
completed.**



# The seven HACCP principles are:

Principle 1: Hazard analysis – using the flow chart diagrams identify and list the hazards with their causes and specify the control measures.

Principle 2: Critical Control Point (CCP) determination – a decision tree is used.

Principle 3: Establish critical limits – these must be met to ensure that each CCP is under control.

Principle 4: Establish a system to monitor control of CCP – this can be observations, metal detection and temperature control.



# The seven HACCP principles are:

Principle 5: Establish the corrective action to be taken when monitoring indicates that a particular CCP is not under control.

Principle 6: Establish procedures for verification to confirm that the HACCP is working effectively – this may include a review.

Principle 7: Establish documentation concerning all procedures and records appropriate to the principles and their application.



# Principle 1

## Hazard analysis

Using the flow chart diagrams a list is generated of all potential hazards that may be reasonably expected to occur at every step in relation to product, process and facilities.





# Principle 1

## Hazard analysis

Potential hazards includes all hazards that may be present in raw materials, hazards that may be introduced during the process e.g. contamination from equipment, environment or personnel, hazards that could survive or increase at a process step and allergenic risk.





# Principle 1

## Hazard analysis

A risk assessment then determines which of the hazards are of such a nature that their prevention, elimination or reduction to an acceptable level is essential to the production of food which is safe to consume.





# Principle 1

## Hazard analysis

Principles that need to be examined for the hazard analysis are:

- What hazards could occur and their risk of occurring.
- Is the hazard a significant risk.
- What will happen if the hazard occurs.
- What can be done to control the hazard.







## Principle 2

Critical Control Point  
determination

The significance of any hazards to the safety of the finished product is assessed allowing a decision of what control measures need to be implemented.



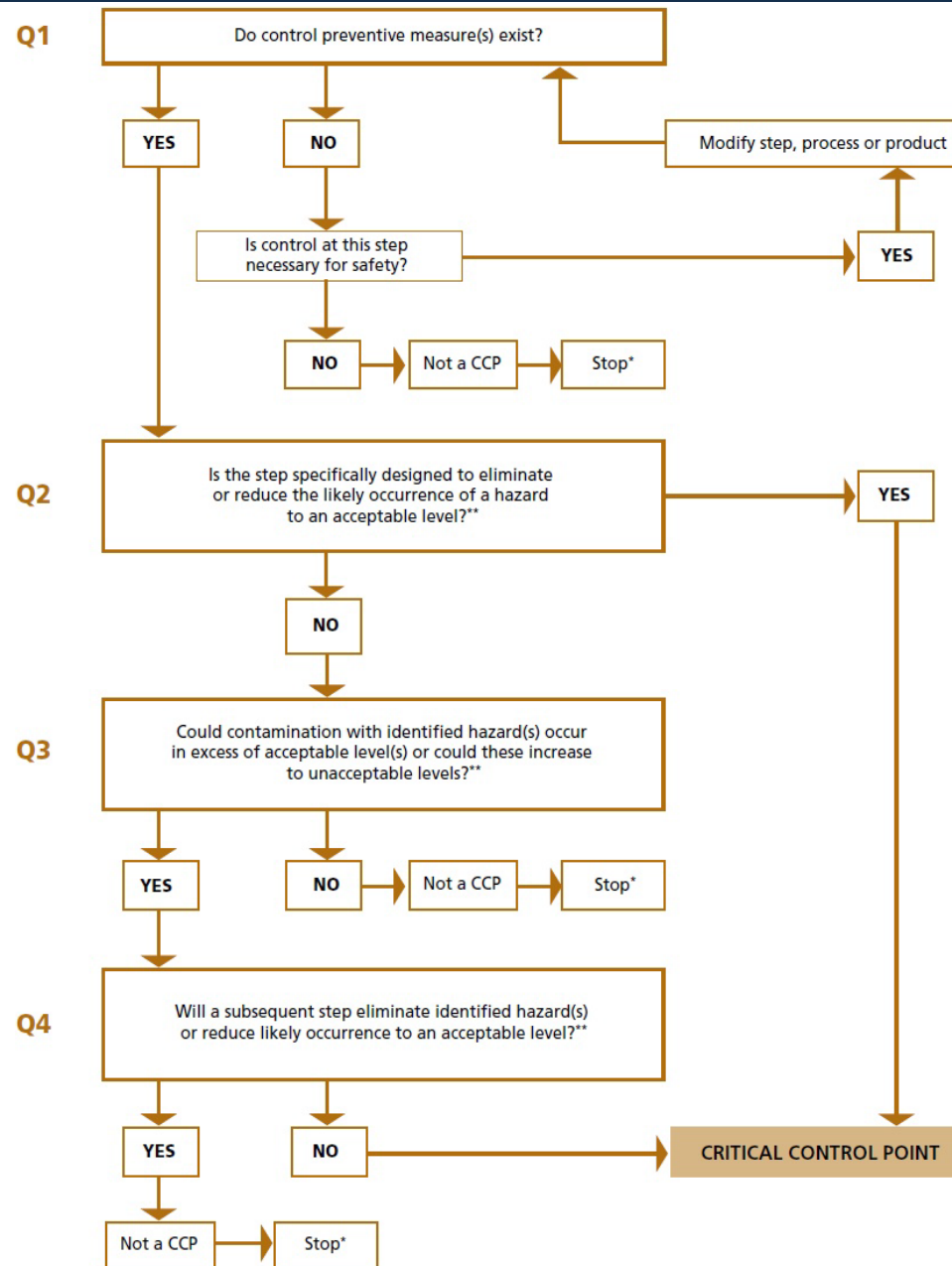


## Principle 2

### Critical Control Point determination

All steps in the process flow are then fed through the decision tree to identify those steps where control of the hazards is critical for end product safety. These are called critical control points (CCP).







## Principle 2

Critical Control Point  
determination

A CCP is the last point of a certain hazard where it can be controlled to make sure the food is safe to eat.





## Principle 2

Critical Control Point  
determination

All CCP's throughout the manufacturing process flow are numbered from the beginning to the end of the products journey through the factory.

Some examples of CCP's are metal detection, cooking, chilling and labelling.





## Principle 2

Critical Control Point  
determination

Within the factory a CCP is clearly identified for example a notification on a chiller door that states 'CCP3 chilling' and it's control measure.

**CCP 3**

**Temperature**

**Control**

**Chiller**

**0°C to 5°C**



## Principle 3

Establish critical limits

A measurable critical limit is set at every CCP which defines what is acceptable and what is unacceptable.





## Principle 3

Establish critical limits

The critical limit is set using any legal requirements and any specific customer specifications.

The measurements taken at a CCP are recorded for due diligence purposes.







## Principle 3

Establish critical limits

There is clear guidance on what corrective action should be taken if the measurement is outside of the critical limit.





## Principle 4

Establish a system to monitor control of CCP

Regular checks are completed at all CCP's to monitor food safety. These checks make sure measurements stay within critical limits.





## Principle 4

Establish a system to monitor control of CCP

A checks at CCP's are carried out by trained staff who fully understand the CCP it's critical limits, what the corrective actions are and how to carryout the check correctly.





## Principle 5

Establish corrective action to be taken

A corrective action is set for every CCP which states what must be done if a monitoring measurement is outside of the critical limit.





## Principle 5

Establish corrective action to be taken

An example of a CCP and corrective action is a CCP which is checking a product is cooked to 80°C core temperature. The control check is using a thermometer probe to measure the core temperature. The critical limit is a core temperature held at 80°C or above. The corrective action if the core temperature is below 80°C is to return the product to the oven and cook further till the minimum core temperature of 80°C is achieved.





## Principle 5

Establish corrective action to be taken

The corrective action instructions are clearly stated on the CCP monitoring documents.

Any corrective actions taken are recorded on the CCP monitoring documents.





## Principle 6

Establish procedures for verification

The HACCP system will be verified to make sure it is working correctly and food being produced and handled is safe to eat.





## Principle 6

Establish procedures for verification

The most common way to verify the HACCP system is:

- Management meetings
- HACCP team meetings
- Auditing records
- Monitoring customer complaints
- Visual monitoring of CCP checks







## Principle 6

Establish procedures for verification

Management meetings are held regularly to check if the HACCP system is working.





## Principle 6

Establish procedures for verification

Regular HACCP team meetings are held to focus on every CCP and make sure all parts of the HACCP system are working.





## Principle 6

Establish procedures for verification

CCP monitoring documentation is checked regularly, this is often done daily. Checks can be carried out on the completed records and whilst the records are being completed





## Principle 6

Establish procedures for verification

All customer complaints are monitored, the data from customer complaints is analysed to identify any trends or specific CCP issues.





## Principle 6

Establish procedures for verification

All CCP checks being performed by staff will be visually checked to ensure they are being completed correctly. This CCP auditing is usually checked by the quality and technical department.





## Principle 6

Establish procedures for verification

The whole HACCP system is reviewed every six months. This review is documented to prove the system is working how it should and any improvements have been made. The HACCP system will also be reviewed if:

- The factory process changes
- Machinery, equipment or tools change
- Recipe's are amended





## Principle 7

Establish documentation

CCP documentation will be completed at every CCP. The checks will be completed by trained staff and results recorded.





## Principle 7

Establish documentation

CCP documentation is audited to check that monitoring is carried out and recorded correctly.







## Principle 7

Establish documentation

CCP documentation is filed away and kept for proof of due diligence should it be needed.





## Principle 7

Establish documentation

A standard operating procedure and/or work instruction procedure is in place for at least every stage in the HACCP system process.





# Revision Activity 3

**Name three of the HACCP principles?**