

APPLICATION OF HACCP PRINCIPLES FOR THE MEAT INDUSTRY

GUIDANCE SHEET NO: 12

DETERMINE CRITICAL CONTROL POINTS PRINCIPLE 2



CRITICAL CONTROL POINTS

A Critical Control Point (CCP) is a process step at which control can be applied and is essential to prevent or eliminate a food safety hazard, or reduce it to an acceptable level.

For each process step (identified in the process flow diagram) you need to decide if control of each significant hazard identified (in the hazard analysis) is essential to prevent or eliminate a hazard or reduce it to an acceptable level, and / or to meet legal requirements.

Each CCP will need at least one critical limit (guidance sheet 14) that will show the hazard is being controlled; plus, monitoring and corrective action procedures (guidance sheets 15 & 16) that ensure that unsafe food does not reach the market.

The correct determination of CCPs is vital to ensure that there is effective management of food safety.

The number of CCPs in a process will depend on the complexity of the process itself and the scope of the study (for example, whether there are just a few types of hazard, or lots of different hazards).

Personnel with extensive experience of HACCP implementation may choose to determine CCPs by applying a set of standard questions for each process step in the process flow diagram. However, in most cases the process of determining CCP's is made much easier by the use of a decision tree.

KEY QUESTIONS TO ASK

For personnel with extensive experience of HACCP it is possible to determine a critical control point in a food process by answering three key questions at each process step these are:

Question 1 – Does this step prevent, eliminate or reduce contamination to an acceptable level?

If yes, this step is likely to be a CCP move onto question 3.

If no, move on to question 2.

Question 2 – Could contamination of the product occur in excess of acceptable levels or increase to unacceptable levels if control is lost?

If yes, move on to question 3.

If no, this step is not a CCP.

Question 3 – Will a subsequent step prevent, eliminate or reduce contamination to an acceptable level?

If yes, this step is not a CCP.

If no, this step is a CCP.

DECISION TREES FOR DETERMINING CRITICAL CONTROL POINTS

There are many different decision trees to choose from. You can choose to develop your own decision tree but the CAREC Safe Processing Standard recommends that you use either the Codex Alimentarius Commission decision tree or the decision tree developed for the food processing industry in the United Kingdom by Campden BRI (an industry funded research and training institute).

The Codex decision tree is internationally accepted but has the disadvantage that it does NOT take account of pre-requisite programmes and this leads to potential for false CCP's (hazards and steps that are controlled by pre-requisite programmes).

The Campden BRI decision tree has all of the features of the Codex tree but has the great advantage of including pre-requisite programmes thus preventing false identification of CCP's. On this basis the Campden-BRI decision tree would be recommended as the best decision tree to use for most food business operators.

Using the Campden BRI decision tree, process steps where hazards are effectively controlled by prerequisite food hygiene requirements will not be identified as CCPs. Using this tree will therefore typically generate fewer CCPs than the Codex decision tree.

Your prerequisite food hygiene requirements will need to be well developed, implemented and maintained to ensure continued safe production of food. For example, if you take the physical hazard glass and run it through both decision trees, the Codex tree will identify it as a CCP whereas the Campden BRI decision tree will not, as long as effective prerequisite requirements are in place to control it.

USE OF CODEX AND CAMPDEN-BRI DECISION TREES

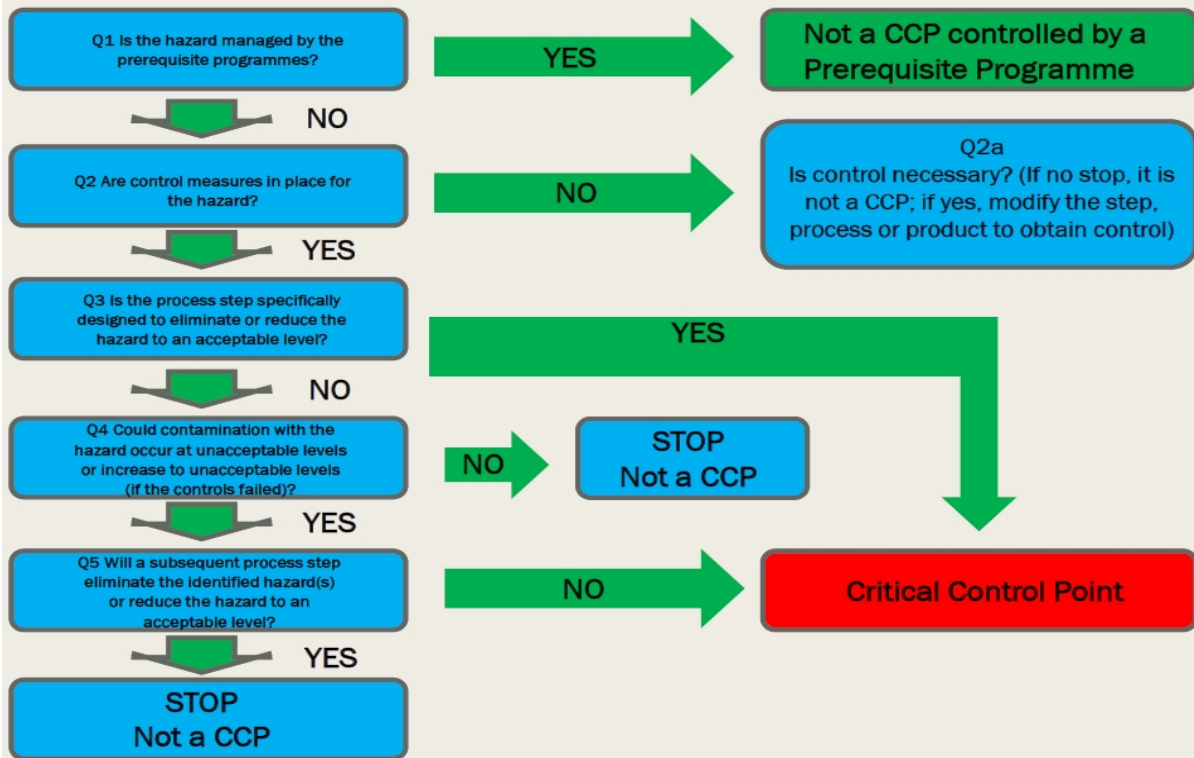
Apply the HACCP decision tree (whichever one you use) to each hazard at each process step. You will be prompted to record responses to the questions (yes or no).

The Campden BRI decision tree has 6 questions: Q1,Q2,Q2a,Q3,Q4,Q5

The Codex decision tree has 5 questions: Q1, Q1a (N.B. Q1a'Is control at this step necessary for safety?' is not identified by a number on the tree), Q2,Q3,Q4.

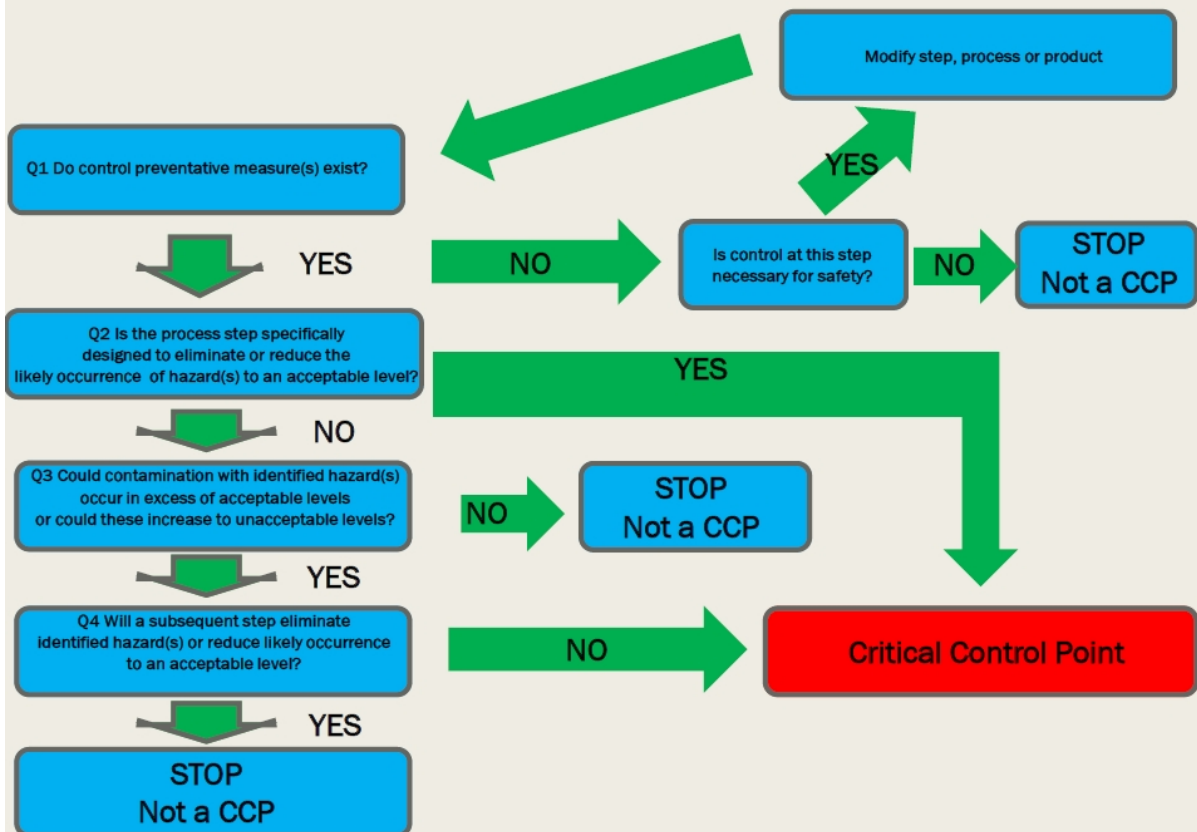
Copies of both the Campden-BRI and Codex decision trees are given on the next page.

Campden-BRI Decision Tree¹



¹ HACCP a practical guide. 5th edition Campden-BRI (2015) www.campdenbri.co.uk

Codex Alimentarius Commission Decision Tree²



² General Principles of Food Hygiene. CXC 1-1969 (revised 2020) <http://www.fao.org/fao-who-codexalimentarius>

GUIDANCE FOR USERS OF THE CODEX DECISION TREE

If you choose to use the Codex tree the following guidance will be helpful:

Q1. Do control preventative measure(s) exist? This refers to control measures.

Q2. Is the step specifically designed to eliminate or reduce the likely occurrence of a hazard to an acceptable level? This refers to the process step (not the controls).

Q3. Could contamination with identified hazard(s) occur in excess of acceptable level(s) or could these increase to unacceptable levels? Think about this in terms of 'if you lost control'.

Q4. Will a subsequent step eliminate identified hazard(s) or reduce likely occurrence to an acceptable level? This refers to whether there is another process step further on in the process flow diagram that will eliminate identified hazard(s) or reduce likely occurrence to an acceptable level.

WHAT DOES IT MEAN IF NO CCP'S ARE IDENTIFIED?

If no CCPs are identified, you should look again at the decision tree you used and check your answers to the questions, in case you have missed anything. However, if you are using Operational Prerequisite Programmes with Operational Sanitary Standard Operating Procedures (guidance sheet 17) these may be controlling some significant hazards in your process, removing the need for CCP's.

Operational Pre-Requisite Programmes are broad controls (for example, temperature control) which may be critical for ensuring effective control of food safety risks.

UNCONTROLLED HAZARDS

Valid control measures need to be identified for each CCP. If a significant hazard is identified at a step where control is necessary to reduce that hazard to an acceptable level, but no control measure exists at that step or at a subsequent step, then the product or operation must be modified to remove or control the hazard.

It is **NOT** acceptable to leave a CCP in your production process uncontrolled or partially controlled as this creates a risk of unsafe food products reaching the consumer.

DOCUMENTATION AND RECORD KEEPING

You should keep evidence of how you determined whether control of each hazard is a CCP or not.

If your decisions are based on the experience and judgment of HACCP team members, you should document their experience and the reasons for the judgments made, for every hazard you considered.

If you are using a decision tree to help with this decision-making process, you should keep a copy of the decision tree you used.

A review of this principle should be planned for and triggered if there are changes to the HACCP system (guidance sheet 21).

COMMON PROBLEMS WITH CRITICAL CONTROL POINTS

Failure to identify that a particular step is a CCP because a hazard is not dealt with at a subsequent step in the operation under the operator's control.

Failure to identify that a particular step is not a CCP because a hazard is dealt with at a subsequent step in the operation under the operator's control.

Inappropriate CCPs are identified through lack of training or knowledge about the hazards, or incorrect use of decision trees or questionnaires.