

## Module 03 - lecture 03

# Hazard Analysis and Critical Control Point determination

# Hazard Analysis

**The process of collecting and evaluating information on hazards and conditions leading to their presence to decide which are significant for food safety and should be addressed in the HACCP plan**

# Requirements of Hazard Analysis

## Information needed for hazard analysis:

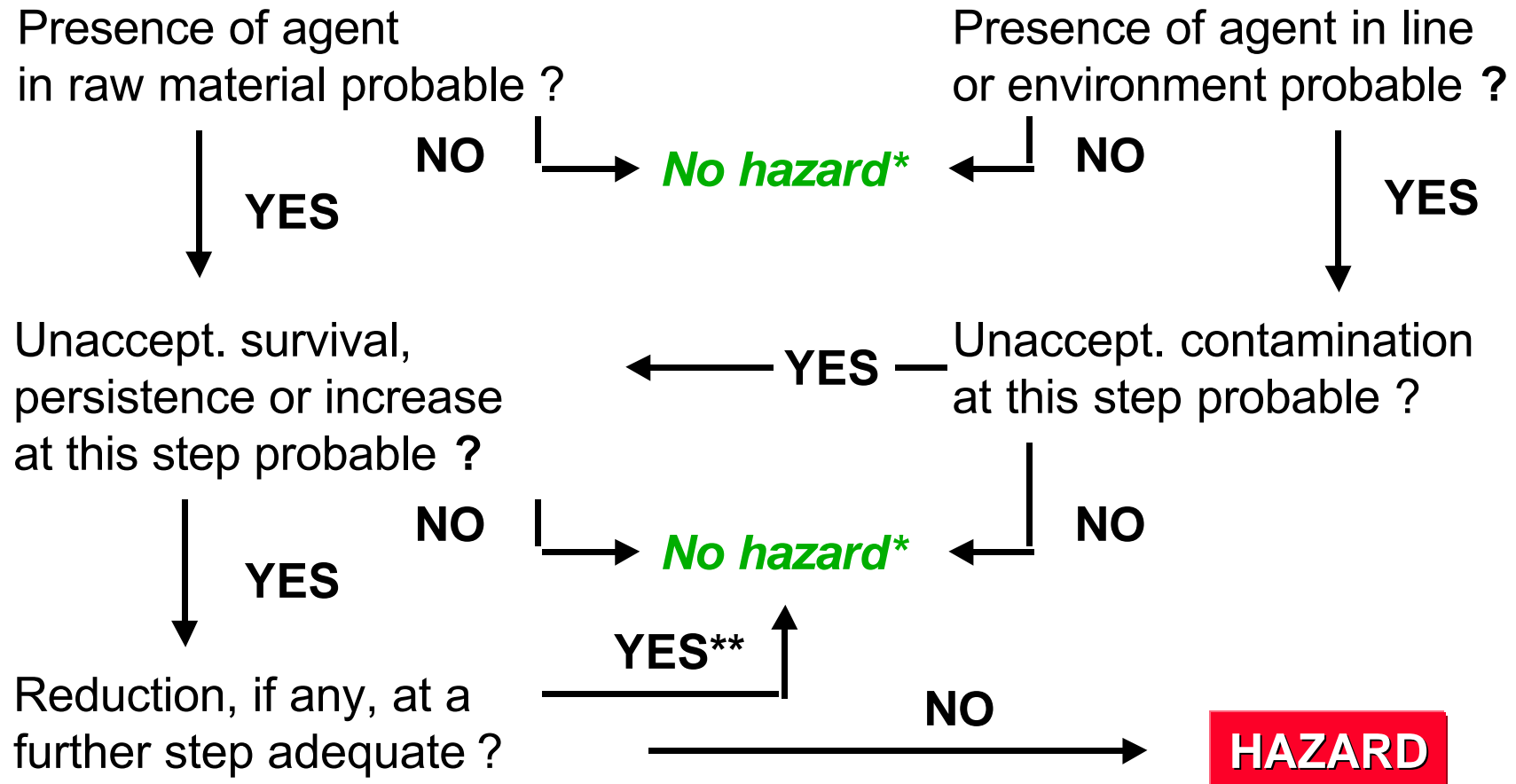
- ⊕ the agents that could be present in the food under study
- ⊕ the severity of the effects and the likelihood of their occurrence
- ⊕ the levels that could cause adverse health effects
- ⊕ the conditions that could lead to unacceptable levels

# Areas to consider in Hazard Analysis

- ⊕ **Raw materials and ingredients**
- ⊕ **Product formulation**
- ⊕ **Processing conditions**
- ⊕ **Packaging**
- ⊕ **Storage and distribution**
- ⊕ **Preparation and use**
- ⊕ **Target groups**

# Hazard determination

Questions to be answered for each potential hazard for each step



\* Not a hazard to be controlled at this step

\*\* Reduction step becomes thus a CCP



# Hazard Analysis Assessment of risk

## *Choice of words*

- ⊕ **possible**
- ⊕ **probable**
- ⊕ **likely**
- ⊕ **reasonably expected to occur**
- ⊕ **acceptable / unacceptable**

# HACCP Decision Tree

## Questions for each hazard and each raw material

Q 1. Could the raw material contain the hazard at dangerous levels?

YES

NO

Q 2. Will further processing / handling (including correct consumer use) remove the hazard or reduce it to a safe level?

Not a CCP

YES

NO

Not a CCP

CCP

# HACCP Decision Tree

## Questions for each hazard and each process step (1)

Q 3. Is the formulation / composition of the intermediate or final product essential to prevent unacceptable increase of the hazard?

**YES**

**NO**

**Not a CCP**

**Formulation or  
composition is  
CCP**

# HACCP Decision Tree

## Questions for each hazard and each process step (2)

Q 4. Is (re)contamination probable?  
Is increase of the hazard probable?

YES

NO

Go to Q6

Q 5. Will further processing / handling  
(including correct consumer use)  
remove the hazard?

YES

NO

Not a CCP

CCP

# HACCP Decision Tree

## Questions for each hazard and each process step (3)

Q 4. Is (re)contamination probable?  
Is increase of the hazard probable?

NO

YES

Go to Q5

Q 6. Is the process step intended to eliminate  
or reduce the hazard to safe levels?

YES

NO

Not a CCP

CCP

**Normally, foods produced  
under GMP are safe**

**When foodborne diseases occurred,  
this was due to *deviations* from GMP,  
or *incidents*  
that were not detected in time**

# Questions for each CCP and Hazard (1)

*When is deviation from normality  
unacceptable?*

**( i.e. establishment of Critical Limits )**

## Questions for each CCP and hazard (2)

*How can this be identified?*

*How frequently should it be checked?*

*How should results be recorded?*

**( i.e. establishment of monitoring procedures )**

# Questions for each CCP and hazard (3)

*What is the appropriate reaction  
to deviations?*

**( i.e. description of corrective actions )**

# Key messages

- **Hazard analysis should be done in a systematic manner, to prevent hazards from being overlooked**
- **CCPs may be identified with the help of decision trees**
- **Existing lines normally produce safe products, based on GMP, deviations from normality have to be prevented**
- **Hazards associated with changes must be anticipated and controlled**