

# SAFETY PROCEDURES

## Food safety and food quality

According to the United Nations' Food and Agriculture Organisation (FAO) and the World Health Organization (WHO), there is a clear distinction between food safety and food quality.

**Food safety** refers to all 'hazards that can make food dangerous to public health: inadequate food preservation, improper manipulation or exposure to various types of contamination. Food safety can only be guaranteed by following correct processing procedures and by implementing appropriate, timely monitoring and <sup>2</sup>safeguarding measures if public health risks occur. Responsibility for this lies with each party involved in the food <sup>3</sup>supply chain.

**Food quality** includes all other attributes that influence a product's value to the consumer. This can include negative attributes, such as <sup>4</sup>spoilage, contamination with dirt, discolouration, <sup>5</sup>off-odours, and positive attributes such as the origin, colour, flavour, texture and processing method of the food.

The EU has come up with a **Food Hygiene Package**, based on these principles:

- 1 Monitoring throughout the food production chain
- 2 Risk analysis
- 3 Accountability of all parties involved
- 4 Traceability of all food products
- 5 Consumers assuming responsibility

## HACCP

The **Hazard Analysis and Critical Control Point**, or HACCP food plan, is a recognised way of making sure that food safety hazards in all food businesses are managed responsibly and continuously. It is a self-regulatory system introduced in the EU in 1993 and it has been a legal requirement since 1st January 2006. Its main areas of focus are **food processing, preparation, storage and serving**, all of which must take place under strict health and safety conditions to ensure public health and safety.

The hazard analysis addresses three main types of risk in food production:

- **biological hazards**, when foods become dangerously infected by bacteria which might lead to food poisoning and also include any consequences of the presence of bad bacteria;
- **physical hazards**, through foreign bodies in a food item such as metal or plastic from factory machinery or natural hazards like bones in fish;
- **chemical hazards**, when potentially dangerous chemicals like cleaning fluids or pesticides contaminate food.

There are **five preliminary phases** necessary to carrying out HACCP:

- 1 forming a working group;
- 2 describing the products made or distributed;
- 3 describing the destination or use of the products;
- 4 setting up a flow chart including solutions for problems that might occur;
- 5 checking it works on site.



### HAVE SOME MORE

HACCP originated in the 1960s, when NASA, food producer Pillsbury, and the US Army Laboratories collaborated to provide safe food for **space expeditions**. The project was so successful that in 1971 the National Conference on Food Protection considered its wider adoption. The FDA (the US Food and Drug Administration) asked Pillsbury to establish and manage the first training program for the inspection of canned foods in 1972. Today HACCP training and implementation programs are widely available all over the world.

## READING COMPREHENSION

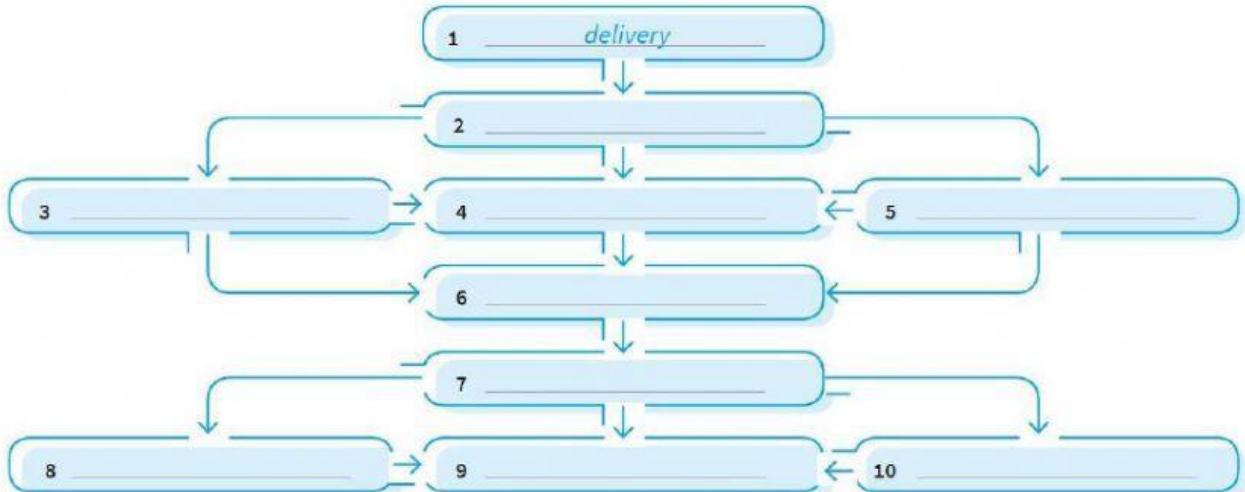
**2** Read the text again and decide if these sentences are T (true) or F (false).

- 1 You can cause a health risk if you don't preserve food properly.
- 2 Nothing can guarantee food safety.
- 3 Smell, texture and colour can be positive or negative qualities in food.
- 4 You need to know where food comes from as part of the food hygiene package.
- 5 Consumers have no responsibility for food safety.

T	F

2 2.10 Listen and complete this flow chart with the words in the box.

cooking - cooling - delivery - freezing - dry storage - preparation - preserving - refrigerating - serving - storing



## Risks and preventive measures

## **Cured meat and vegetables preserved in oil**

**Risks:** bacterium *botulinus*, which grows in the absence of air.

### Prevention:

- carefully wash vegetables and cook them in vinegar or a similar acidic solution to preserve;
- only use cured meats treated with the correct quantities of sodium nitrate.

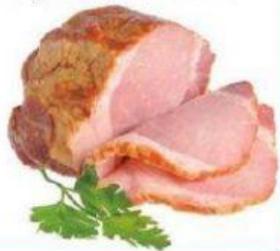


## Cooked meat

**Risks:** clostridia, occurring during the <sup>1</sup>slaughtering process and not fully eliminated by cooking meat, pies, roasts or meatballs, etc.

### **Prevention:** cool meat

products quickly within three hours or maintain a high temperature until the meat is served.



## Long-life canned food

**Risks:** contamination from altered or damaged packaging of meat, vegetable or fish products in oil.

**Prevention:** do not buy or keep food in damaged packaging; where possible store foods in a well-aired, dry place unaffected by temperature changes or humidity.



### Deep-frozen food

**Risks:** bacterial growth caused by sudden changes in temperature, even for short periods of time

### Prevention:

- allow food to cool properly first;
- don't overload fridges or freezers;
- regularly clean, service and defrost units to prevent condensation or frost.



### Flour, cereals, bakery products and nuts

**Risks:** insect infestation, for example from <sup>2</sup>weevils, or contamination by mycotoxins from mould (microscopic fungi).

**Prevention:**

- keep foods sealed at below 15°C and don't allow them to expire;
- check for visible signs of mould, smells or discolouring;
- avoid humidity;
- separate potentially contaminated products and rotate food on shelves.



### Fruit and vegetables

**Risks:** residual pesticides, difficult to identify because they do not cause alterations in colour, smell or taste.

**Prevention:** request documentation from suppliers, including organic ones.



### Mushrooms

**Risks:** a wide range of dangerous and sometimes lethal toxins.

**Prevention:** only purchase in sealed packaging from regulated sellers.



### Fish products

**Risks:** anisakis, a parasitic <sup>3</sup>worm found in fish, which can cause serious health problems; other invisible parasites; biotoxins in shellfish.



**Prevention:**

- suppliers should provide documentation that products are parasite-free, and farmed or fished in clean waters;
- you should also remove fish intestines before cooking and check for any strange colouring;
- freeze wild fish at -15°C for at least 4 days before eating raw or lightly cooked; or cook thoroughly at 70°C to destroy parasites or biotoxins.

### Read the texts

- toxins
- pesticides
- insects
- parasites

### and match these risks to the main food group they affect.

- bakery goods
- fish
- fruit and vegetables
- mushrooms

### INVALSI Read the texts again and answer these questions in no more than 4 words.

- How should you preserve vegetables?
- When does clostridia occur?
- Where should you store long-life foods?
- What can cause bacterial growth in deep-frozen food?
- What are the signs of insect infestations or mycotoxin contamination?
- Why is it difficult to identify residual pesticides on fruit and vegetables?
- Who should you buy mushrooms from?
- What should you obtain from fish sellers?

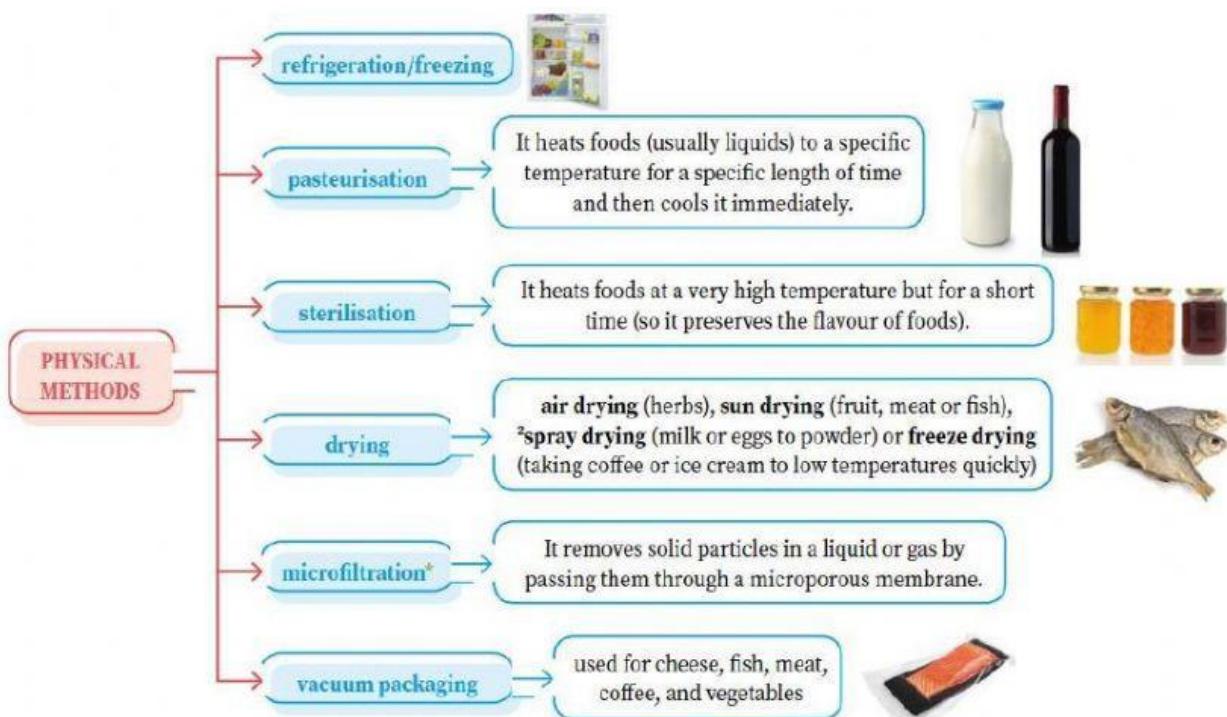
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# Food preservation

Food preservation is any method which keeps food safe and edible after harvest or slaughter. Our hunter-gatherer ancestors also used basic preservation methods. Traditional methods include drying, fermentation and refrigeration. Modern methods include 'canning, pasteurising, freezing, irradiation and adding chemicals. Nowadays packaging also plays a vital role in food preservation.

Preservation techniques are classified according to:

- **PHYSICAL METHODS**, which include:
  - A** applications using low temperatures (refrigeration, freezing, or deep-freezing) or high temperatures (pasteurisation and sterilisation);
  - B** removing water (concentration, drying and freeze-drying);
  - C** an altered environment (protected atmosphere and vacuum-sealed);
- **CHEMICAL METHODS**, which are less expensive methods than physical methods and include both natural and artificial substances;
- **PHYSICO-CHEMICAL METHODS**: smoking;
- **BIOLOGICAL METHODS**: fermentation.

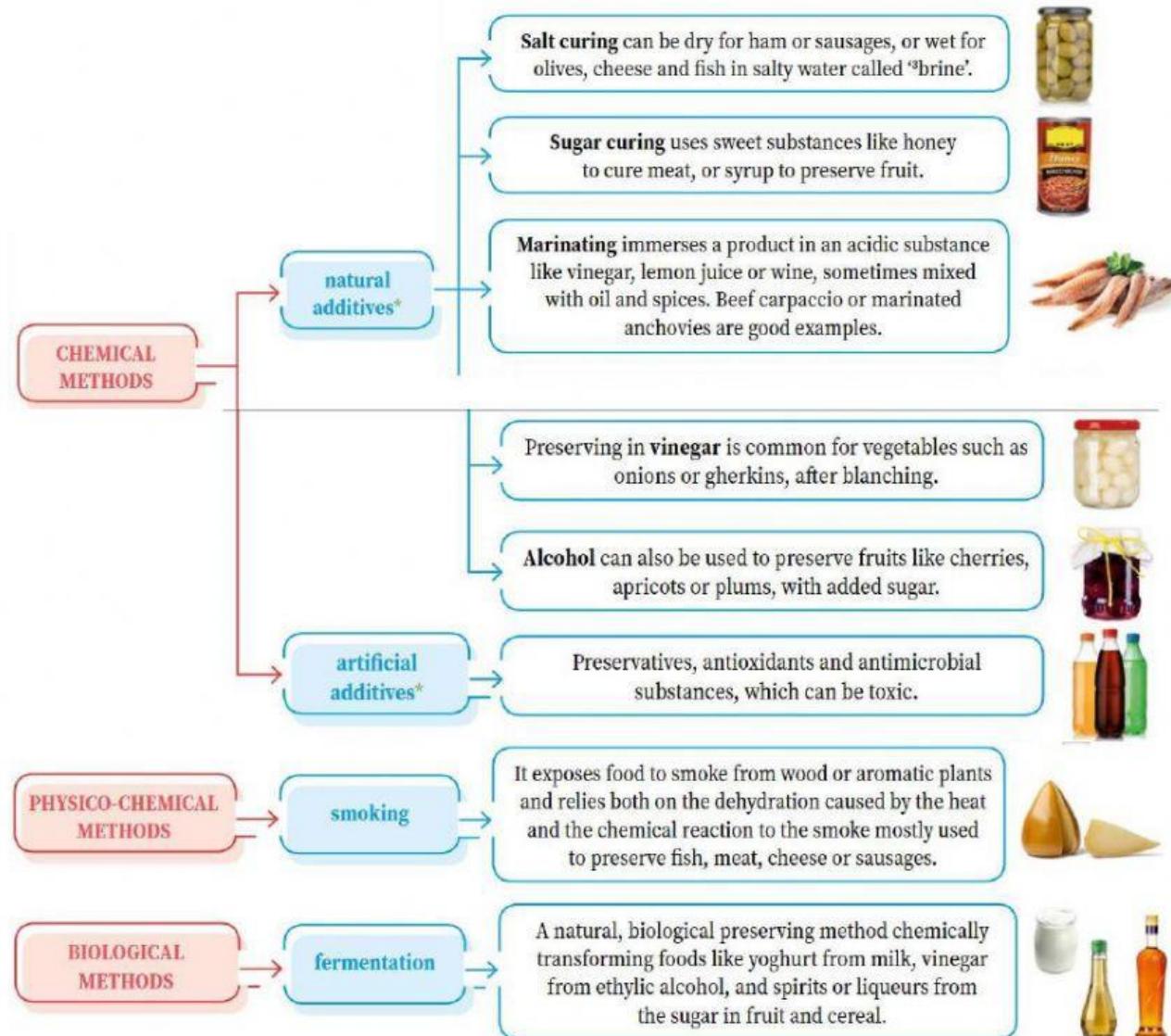


Read the text and the diagrams on pages 178-179 and put these food preservation techniques in the correct category.

additives – curing – drying – fermentation – freezing – marinating  
microfiltration – pasteurising – refrigeration – smoking – sterilisation – vacuum packing

Physical \_\_\_\_\_  
Chemical \_\_\_\_\_

Physico-chemical \_\_\_\_\_  
Biological \_\_\_\_\_



**Read the texts**

**again and choose the correct alternative.**

- Physical food preservation methods usually *alter temperatures/add water*.
- Chemical preservation methods are *cheaper than physical ones/never natural*.
- Salt curing is *both wet and dry/neither wet or dry*.
- Citric acid/E202* is not a chemical additive.
- Physico-chemical and biological preservation methods *don't change foods/use preserving agents*.
- Smoking combines the dehydration caused by smoke with a *natural process/chemical reaction*.
- Fermentation transforms *sugar into alcohol/yoghurt into milk*.

**Write which preservation methods you would use with the foods in the box.**

anchovies	
apples	
beef	
cheese	
coffee	

onions	
oregano	
milk	
salmon	