



UNIT-8 Food Handling

Learning Outcomes

By the end of this unit the learner will be able to:

- ✓ Ensure food is heated to, held at and chilled to an appropriate temperature for safety
- ✓ Understand the important of ensuring food temperatures are accurate
- ✓ Discuss the primary principles of safe and hygienic food storage

Unit 8

Food Handling

The risk of contamination is particularly high whenever food is being prepared for cooking or processed in some other way in readiness for consumption.

It is important for the food handler to be aware of the critical points when microbial growth is favoured. Appropriate preventative measures can then be followed.

Preparation of Food

Care should be taken at all times to ensure that:

- Food handlers have excellent personal hygiene and that unconscious body habits are strictly monitored.
- Tasting food is done in a hygienic manner. Tasting spoons should be used and thoroughly washed between samples. Never use fingers for tasting.
- Unnecessary human contact with food is avoided. Tongs, scoops, spoons, disposable gloves should be used whenever possible.
- Raw and cooked foods should be kept separate.
- Hands, utensils and equipment are thoroughly cleaned between tasks to minimise the risk of contamination.
- Foods, especially those that are potentially hazardous, do not stay at kitchen temperatures for longer than is necessary.
- Fruit and raw vegetables to be used raw are thoroughly washed.
- Food of doubtful quality is thrown out.

The Cooking Process

- If foods are cooked at the correct temperature for the correct time, most bacteria can be destroyed. Thorough cooking of meat means achieving an internal temperature of 74°C-88°C. This can be measured using a special meat thermometer.

Meat Thermometer

- Bacterial spores can survive the cooking process. Dishes that require long, slow cooking eg. meat/veg, casserole style dishes may provide a suitable medium for spore germination if not cooked properly.
- Boned, rolled roasts, gravies, and items made from mincemeat are likely to carry higher levels of bacteria and need thorough cooking.
- Stuffed poultry cooks more slowly. Cook the stuffing separately to ensure the thorough cooking of chicken, turkey and duck.

Reheating of Foods

Ideally food quantities are managed so that leftovers are kept to a minimum and reheating is not required.

For those situations when reheating is necessary then:

- Heat the food quickly to minimise the time in the temperature danger zone.
- Heat the food to the right temperature (75°C) for at least ten minutes in order to destroy bacteria.
- Stirring the food makes reheating faster.
- It is easiest and quickest to reheat in small batches.
- Remember, heating does not destroy the toxin produced by *Staphylococcus aureus*.

Hot Holding of Foods

Often in food service situations foods are kept hot for service. It is necessary for the food to be kept at 60°C or above, out of the temperature danger zone.

The following points should be remembered:

- Maintain the internal temperature of food at or above 60°C. Check the core temperature of the food using a probe thermometer.
- In a deep container the food at the top may become cool. Ensure that all the food is kept at a safe temperature.
- To retain heat and moisture in food, keep lids on where possible.

Cooling Foods before Refrigeration

To cool food the temperature should be reduced as quickly as possible. It is not advisable to place hot food in the refrigerator/cool-room straight away as this may raise the refrigerator/cool-room temperature and cause condensation on other foodstuffs.

Food should be cooled to 4°C within 90 minutes of cooking. To cool cooked food quickly:

- Transfer food cooked in bulk to smaller, shallow containers.
- Stand container in ice-bath. Stir frequently.
- Elevate base of container to allow air circulation.

Once cooled, cover and refrigerate.

Refrigerated Display

There are various types of refrigeration equipment used for display purposes.

The major hygiene concerns are:

- Ensuring the equipment is operating at the right temperature.
- Ensuring the equipment is clean.
- Avoiding cross contamination of foods.

Thawing

Remember! Freezing does not kill bacteria, it only stops their growth while food is in the frozen state. As soon as the water in the food begins to return to the liquid state, bacteria become active. Food is even more vulnerable as the temperature begins to rise.

Acceptable methods of thawing:

- 1. In a Refrigerator/Cool-Room.**
 - Place the food on a tray to catch the drips.
 - Position food for thawing on shelves below any cooked food or ready to eat products.
 - This method is slow and thus requires some planning ahead.
- 2. Using a Microwave.**
 - Suitable for small items or single portions.
 - Use 'defrost' setting and turn food frequently so that it does not begin to cook.
- 3. As part of the Cooking Process eg. Frozen vegetables, some convenience products.**
- 4. Under Clean, Cold Running Water.**
 - Food should remain in original undamaged wrapper.
 - Place on wire rack.
 - Do not place directly in sink.
 - Never leave food to thaw in a sink of warm water.

Foods should not be thawed at kitchen temperatures. Once defrosted the item should be used quickly. Do not refreeze.

Display and Serving Food

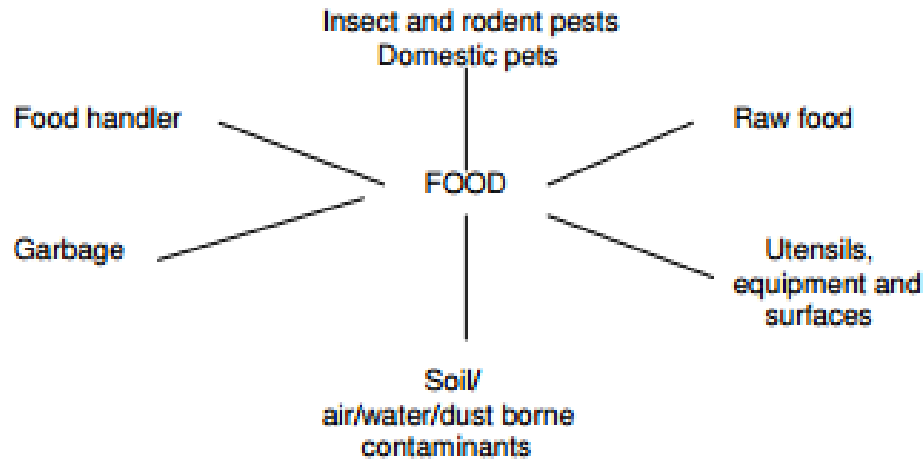
The major risks are contamination by the public.

Ideally where customers are able to serve themselves, the food on display is protected by a 'sneeze-guard'.

- Ensure there are plenty of serving utensils.
- Provide butter, jams and spreads in portion control packs.
- Supervise the self-serve area.
- Do not refill near-empty dishes with fresh ingredients.
- Cutlery, crockery and glassware must be handled in a hygienic manner.

Food Storage

Food hygiene is about protecting food from contamination and minimising microbial growth. The many ways that food may be exposed to cross contamination are shown below.



Cross Contamination of Food

Food hygiene is important at each stage of the catering cycle; that is throughout:

- Purchasing.
- Transport and delivery.
- Receiving.
- Storage.
- Preparation.

Foods should only be purchased from reputable suppliers who follow all the appropriate rules and regulations to ensure that food is wholesome and clean. The transport of food should comply with government regulations.

Delivery times should be arranged so that a responsible person can be on hand to receive incoming items. Deliveries such as bread and milk should not be left outside the premises. Items should be checked to ensure that they:

- Meet specifications and are of appropriate quality and quantity.
- Are not spoiled or damaged.
- Are at correct temperatures and that frozen foods are still frozen.

Classification of Foods for Storage

These groups are based on the stability of foods in terms of expected storage or shelf life. This is relative since all foods are perishable if incorrectly stored. Storing under appropriate conditions will maximise shelf life.

Non Perishable

- Low moisture and low fat eg. Flour, sugar, pasta, rice, cocoa, dried peas and beans.
- Most canned and bottled goods.
- May be stored at room temperature (18°C) for relatively long periods.

Semi-Perishable

- Items still low in moisture, but containing more fat.
- Keep quite well for 1-3 months at room temperature (18°C) eg. Snack foods, potato crisps, pretzels, deep frying compound, biscuits.
- Keeping qualities of some items may be improved if held under refrigeration temperatures eg. Eggs, nuts, butter, margarine, firm cheeses.

Perishable

- The quality of these goods deteriorates rapidly at room temperature.
- Shelf life of between 2-10 days eg. Meats, poultry, fish, shellfish, milk, cream, fresh and soft cheese, breads, fruits, most vegetables, cooked foods, products made with eggs or stock.
- A sub-group within the perishable category is the potentially hazardous foods.

Potentially Hazardous Foods

These require special temperatures

- Fresh meat. 1-3°C
- Poultry 0°C
- Fish, shellfish. 0°C on crushed ice
- Small goods 2-8°C
- Dairy products 4-8°C

Storage of Food

When storing food, the aim is to protect food from contamination and to minimise microbial growth. Appropriate storage conditions help to maximise quality and minimise wastage due to deterioration and spoilage.

There are certain conditions common to dry stores, cool-rooms and freezers critical to the minimisation of food spoilage and the prevention of food poisoning.

Cleanliness

- Regular cleaning of floors and shelving.
- Spillages cleaned immediately.
- Containers clean, with lids if necessary.

Segregation of Different Types of Food

- Stored at appropriate temperatures.
- Keep items covered if appropriate.
- Orderly arrangement of items.
- Cleaning materials to be kept away from food.

Purchase Appropriate Amounts

- Over stocking means that items are kept longer in storage.
- Quality deteriorates, wastage may occur.

Rotation of Stock - First In, First Out

- Regular inspections for damaged, deteriorating items.
- Store only for the appropriate time.

Dry Stores

- Cool and protected from sunlight.
- Well ventilated, dry, free from dampness and humidity.
- Enough shelving for stacking goods.
- Orderly arrangements, so frequently used items are accessible.
- Items should be stored off the floor.
- Heavy items should be stored on lower shelves.
- Large bins used for bulk items like flour and sugar.
- Suitable containers with tight fitting lids used for opened packages such as custard powder and salt.
- Containers should be clearly labelled.
- Good lighting to enable easy inspection and cleaning.
- Dry goods should be monitored for signs of insect infestation or the presence of rodents.
- Dispose of any rusted, dented, leaking or bulging cans.

Refrigerator / Cool-Room Storage

- Do not overload refrigerator or cool-room.
- Keep separate sections for different foods. In particular meats, poultry, fish, milk, fruits and vegetables should be segregated. Raw and ready to eat products should be kept well apart. Ready to eat products should always be stored above raw items
- Place food items on trays or in containers. Do not place food directly on shelves. Do not stack food containers/trays on top of other foods.
- Cover or wrap foods to prevent contamination, spread of odours, and dehydration. Note: large pieces of meat are best left uncovered. This allows the surface to dry out, slowing down bacterial growth.
- Keep refrigerator/cool-room door closed when not in use.

Freezer Storage

- Promptly store frozen foods.
- Food should be packaged or wrapped to protect items from freezer burn and to prevent spillages.
- Items should be labelled and dated.
- First in, first out.
- Only freeze good quality food.
- Do not re-freeze thawed products.
- Minimise opening of freezer to conserve cold air.

Further Reading: