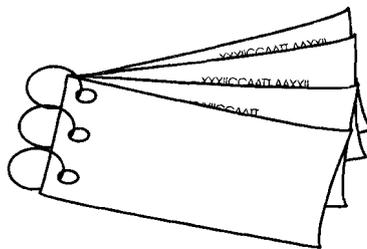


UNIT 11 WASTE DISPOSAL

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- Waste can be described as any materials unused and rejected as worthless or unwanted.
- Waste disposal refers to processing and/ or removal of waste to its final resting place or transfer to a place for re-use or recovery of waste.
- Products may become hazardous when used, stored or disposed of carelessly. Improper disposal of sewage or poisonous substances like pesticides can pollute water and soil. In establishments they can contaminate food, utensils and equipment and therefore may cause serious illness or disease outbreaks.
- Proper disposal is required to prevent contamination of ground surfaces and water supplies or creation of other unsanitary conditions that may attract insects and other vermin.
- Types of waste can be classified by physical, chemical and biological characteristics or by consistency – solid, liquid or sludge.
- Modern methods of waste disposal are commonly referred to as waste management as they are increasingly using methods such as recycling that allows wastes to be re-used and not simply disposed of.
- Methods of waste disposal vary according to materials in the waste and include methods such as incineration, burial at designated sites or sanitary landfill, dumping at sea and reclaiming/ recycling.
- Composting includes preparing refuse and breakdown of organic matter by aerobic microorganisms.
- Anaerobic digestion decomposes waste in an enclosed chamber in an oxygen-free environment. Bacteria thrive forming gaseous by-products and small quantities of solid residue. Sewage sludge and agricultural waste has been treated by anaerobic digestion.

11.1 Measures for Safe Disposal of Waste and Refuse

Waste must be handled, stored or removed in such a way as to prevent food contamination or nuisances.

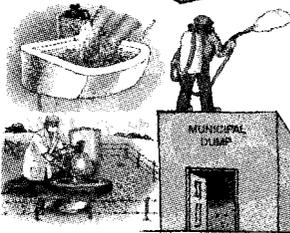
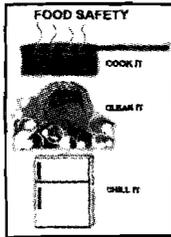
Measures useful at household and food industry level include:

- Garbage and refuse should be kept in durable, easily cleanable, insect-proof and rodent-proof containers.
- Food services establishments should be provided with refrigerated garbage storage rooms, otherwise adequately ventilated and screened garbage rooms should be made available.
- Garbage should be held in leak-proof, non-absorptive, easily-cleaned containers with tight fitting lids. Garbage cans should be lined with plastic garbage bags to facilitate cleaning.
- Garbage and refuse shall be routinely removed from the immediate area around the facility to prevent the attraction of flies and the creation of odour and nuisance problems.
- Adequate facilities shall be provided for washing and sanitizing garbage containers after each use.
- Adequate refuse containers should be made available for customer use to dispose of refuse, wrapping materials, single-service items and uneaten food resulting from the operation of the establishment.
- Liquid waste should be emptied into an approved sewage collection system when such a system is available. When not available, liquid waste must be stored in a sealed container. This waste shall be disposed of at a location that will not create a fly, odour, or nuisance problem.
- Durable waste containers of sufficient size and number, lined with plastic bags and provided with tight-fitting lids should be provided. These containers must be covered at all times. The containers should be emptied as often as necessary to avoid creating a nuisance. When dumpsters are used for daily storage, plastic bags should be used and tightly closed prior to storage in dumpsters.
- Suitable receptacles should be provided, both inside and outside food premises, for the disposal of waste food and debris. Disposable polythene sacks or plastic bins are usually provided for internal use and dustbins for external use.
- Refuse containers used internally must be emptied as frequently as necessary and always at least once a shift. After emptying, reusable containers must be thoroughly cleaned before being brought back into the food processing area. Care should be taken that receptacles used for storage or collection of refuse should not be reused for the storage of food.
- Sewage and liquid wastes are to be stored in a permanently installed holding tank that has at least 15 percent greater capacity than the water supply tank in a manner which protects the premises, personnel and contents within the establishment and surroundings from contamination. All plumbing is to be constructed and maintained to prevent contamination of the potable water supply, food equipment, utensils, the premises, contents, employees and patrons. All sewage and liquid waste is to be disposed of in a public sanitary sewer or a sewage disposal system.

Some measures specific to refuse and garbage containers and storage are enumerated next.

11.2 Garbage and Refuse Containers

- Garbage and refuse should be kept in durable, easily cleanable insect-proof and rodent-proof containers that do not leak and do not absorb liquids. Plastic bags and high wet strength paper bags may be used to line these containers and may be used for storage inside the food service establishment when protected from insects and rodents.
- Containers used in food preparation and utensil washing areas should be kept covered after they are filled.
- Containers stored outside the establishment, and dumpsters, compactor and compactor systems should be easily cleanable, should be provided with tight fitting lids, doors or covers, and should be kept covered when not in actual use. In containers designed with drains, drain plugs should be kept in place at all times, except during cleaning.
- There should be a sufficient number of containers to hold all the garbage and refuse that accumulates.
- Soiled containers should be cleaned at a frequency which is enough to prevent insect and rodent attraction. These containers should be thoroughly cleaned on the inside and outside in a way that does not contaminate food, equipment, utensils, or food preparation areas. Suitable facilities, including hot water and detergent or steam, should be provided and used for washing containers. Liquid waste from compacting or cleaning operations should be disposed of as sewage.
- Garbage and refuse on the premises should be stored in a manner inaccessible to insects and rodents. When stored outside, plastic bags or high wet strength paper bags or bale units containing garbage and refuse must be stored in a manner inaccessible to insects and rodents. Cardboard or other packing material not containing garbage or food waste need not be stored in covered containers.
- Garbage or refuse storage rooms, if used, should be constructed of easily cleanable, non-absorbent, washable materials, shall be kept clean, should be insect and rodent proof, and should be large enough to store the garbage and refuse containers that accumulate.
- Outside storage areas or enclosures should be large enough to store the garbage and refuse containers that accumulate and should be kept clean. Garbage and refuse containers and compactor systems located outside should be stored on or above a smooth surface of non-absorbent material, such as concrete or machine-laid asphalt, that is kept clean, graded to prevent accumulation of liquid waste, and maintained in good repair.



Key Terms

Incineration: A treatment technology used to destroy waste by controlled burning at high temperatures.

Refuse: Discarded matter



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