



UNIT 3 TOPIC – 7

Traditional and modern methods

Traditional and modern methods of grain storage differ significantly in terms of technology, materials, and efficiency. Both methods aim to preserve grains from pests, spoilage, and environmental factors. Here's an overview of traditional and modern grain storage methods:

Traditional Methods of Grain Storage:

1. **Open Storage:** In many rural areas, grains are stored in open structures like granaries or on the ground, covered with tarpaulin or thatch. This method is simple and low-cost but exposes grains to pests, moisture, and temperature fluctuations.
2. **Sacks or Bags:** Grain is stored in jute or woven bags. While this method provides some protection against pests and moisture, it is not entirely effective in preventing infestations or spoilage.
3. **Pits or Underground Storage:** In some regions, pits are dug in the ground to store grains. These pits offer natural insulation and protection against temperature variations. However, they may not be entirely effective in preventing moisture infiltration or pest infestations.
4. **Traditional Granaries:** Some cultures have developed traditional granaries made of mud, bamboo, or other locally available materials. These structures offer better protection against pests and environmental factors compared to open storage.

Modern Methods of Grain Storage:

1. **Silos:** Silos are cylindrical or tower-like structures made of concrete, metal, or plastic. They provide airtight storage and protect grains from moisture, pests, and temperature fluctuations. Silos can be designed for bulk storage on farms or for industrial-scale grain storage.
2. **Warehouses:** Commercial warehouses equipped with temperature and humidity control systems provide ideal conditions for grain storage. They are often used for large-scale storage and distribution.
3. **Hermetic Storage:** Hermetic storage involves sealing grains in airtight containers, preventing the entry of oxygen and moisture. This method can be highly effective in preserving grain quality and preventing pest infestations. Hermetic bags and containers are gaining popularity in small-scale and rural storage.
4. **Grain Bins:** Grain bins are typically made of metal and are commonly used on farms for storing bulk grains. They provide protection against pests and weather, and some are equipped with aeration systems to maintain grain quality.
5. **Refrigerated Storage:** Refrigerated storage facilities maintain low temperatures to



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prevent insect infestations and slow down grain aging. They are often used for storing sensitive grains like malting barley.

6. **Chemical Treatments:** Modern storage facilities may use chemical treatments to control pests and fungi. These treatments can be applied directly to the grain or used in combination with other storage methods.
7. **Airtight Storage Bags:** Airtight storage bags, often made of multilayer plastic materials, are becoming popular in many developing countries. They are affordable and effective in preventing moisture and pest damage.

Modern grain storage methods are generally more effective in preserving grain quality, reducing losses, and ensuring food security. However, the choice of storage method depends on factors such as scale, budget, and local conditions. In some cases, a combination of traditional and modern methods may be employed to meet specific needs.