ROHINI

COLLEGE OF ENGINEERING AND TECHNOLOGY

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DEPARTMENT OF AGRICULTURAL ENGINEERING

AI3601 POST- HARVEST TECHNOLOGY

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UNIT I: FUNDAMENTALS OF POST HARVESTING

CO1: To understand the importance of post-harvest processing and determine moisture content of products.

Post Harvest Losses

Common factors contributing to Post-Harvest Losses:

1. **Lack of infrastructure:**
    - Insufficient storage facilities, especially in developing regions, contribute to losses.
    - Adequate storage infrastructure such as warehouses, silos, and drying facilities is crucial to minimize post-harvest losses.
2. **Inadequate post-harvest technologies:**
    - Limited adoption of modern post-harvest technologies, including proper drying, sorting, and packaging techniques, can contribute to losses.
3. **Pest and Pathogen Infestations:**
    - Insects, rodents, and fungi can attack stored grains, pulses, and oilseeds, leading to spoilage and deterioration.
4. **Poor handling practices:**
    - Rough handling during transportation and processing can cause physical damage to the harvested products, resulting in losses.
5. **Lack of information and training:**
    - Farmers and stakeholders may lack awareness and training on best practices in post-harvest management, leading to avoidable losses.

Post-Harvest Losses of Cereals, Pulses and Oilseeds

Post-harvest losses of cereals (Wheat, Rice, Maize, etc.):

- **Harvesting Losses:** Inadequate harvesting techniques may result in shattering of grains, spillage, or damage during cutting and threshing.
- **Storage Losses:** Improper storage conditions can lead to insect infestations, mold growth, and moisture-related problems, causing deterioration of grain quality.
- **Transportation Losses:** Rough handling during transportation can lead to breakage and additional losses, especially in regions with poor infrastructure.


Post-harvest losses of pulses (Chickpeas, Lentils, Peas, etc.):

- **Shattering during Harvest:** Pulses are susceptible to shattering during harvesting if not done at the right stage of maturity, leading to losses in yield.
- **Storage and Insect Infestations:** Pulses are often prone to insect infestations, mold, and decay during storage if proper storage conditions are not maintained, resulting in quality deterioration and losses.
- **Processing Losses:** Processing pulses can result in losses if not done efficiently, and damaged or broken pulses may not meet market standards.


Post-harvest losses of oilseeds (Soybeans, Sunflower, Canola, etc.):

- **Seed Shattering:** Some oilseeds are prone to shattering during harvesting, causing seeds to fall and be lost before they can be collected.
- **Quality Deterioration:** Improper drying and storage conditions can lead to the development of mold, rancidity, or other quality issues, reducing the market value of oilseeds.
- **Processing Losses:** Oil extraction processes may result in losses if not optimized, and by-products may not be efficiently utilized.

Mitigation Strategies to Avoid Post-Harvest Losses

Strategies may include:

- Adoption of improved harvesting techniques.
- Implementation of proper storage facilities and conditions.
- Use of appropriate drying methods to reduce moisture content.
- Adoption of pest management strategies during storage.
- Investment in transportation infrastructure to minimize losses during transit.
- Training and awareness programs for farmers on post-harvest management.
- Development and dissemination of improved post-harvest technologies.