



SNS COLLEGE OF TECHNOLOGY

AN AUTONOMOUS INSTITUTION



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DEPARTMENT OF AGRICULTURE ENGINEERING

COURSE CODE & NAME: 19AGT401 & Post Harvest Engineering

IV YEAR / VII SEMESTER

**UNIT : I - THRESHING, MOISTURE MEASUREMENT AND PHYSICAL
PROPERTIES OF AGRICULTURAL PRODUCES**

TOPIC 1 : Post harvest engineering - introduction - objectives



DEFINITION

PHT is the application of science and technology to agricultural commodities which acts after harvesting food from farms for preservation, processing, packaging, storage, handling, transportation, and marketing. PHT is an actual application of food science & Technology. It is a path through which food comes from the farm to the consumer's plate.

Post-Harvest Technology can minimize the losses of fresh food commodities & increase the value addition to crops, horticulture, livestock & fishery sector, etc. Plays a vital role in the reduction of wastage of food.



Principals of PHT

1. Increase in productivity
2. Ensuring value addition in food
3. Increasing diversification
4. Reducing post-harvest losses
5. Commercialization of agriculture
6. Generation of employment
7. Creating surplus for export agro-business
8. Generating availability of food in any season, access particular area
9. Storage, marketing & transportation of food
10. Waste management & reduction

PHT is a very important procedure in the agro-business chain. PHT is an actual means of Food Engineering & Technological application. It is a link between farm to consumers plate.



Objectives of PHT

- To reduce loss in quantity or volume and the product's qualitative or nutritional value.
- To maintain the excellent quality of the produce (color, taste, flavor, aroma).
- To increase the shelf life of the crops.
- To keep the fruits or vegetables or commodities free from insects and pests.
- To get vegetables and fruits fresh all year round.



Stages in PHT



1. Harvesting (Handling)
2. Threshing
3. Drying (Transport and distribution)
4. Storing
5. Processing

Primary processing (Cleaning, classification, de-hulling, pounding, grinding, packaging, soaking, winnowing, drying, sieving, whitening, milling)

Secondary processing (Mixing, cooking, frying, molding, cutting, extrusion, Product evaluation (Quality controls))

6. Packaging (Weighing, labeling, sealing)
7. Marketing (Publicity, selling, distribution)
8. Use (Recipes elaboration: traditional dishes, new dishes)
9. Consumer preferences (Product evaluation, consumer education)



Factors affecting Post-Harvest losses



1. Pre-harvest production practices

It is mainly about farming factors like
water supply
Soil fertility
Cultivation practices
Use of chemicals & fertilizers

2. Harvesting and field handling

The product can get damaged mostly during its harvesting. So, good harvesting practices and field handling is necessary. As good quality of harvesting workers or advanced harvesting machinery is used, then loss can be reduced.

3. Packing or packaging

Good packaging not just for marketing & presentation but also helps to prevent the product from both mechanical and other damages. It also helps to increase the shelf life of the product.

4. Storage

Good storage and keeping quality helps to preserve products for a longer period. Storage rooms which are clean and hygienic and free from rodents and insects helps to preserve food for a long time.



Contd.,



5. Transportation

A lot of mechanical damages and quantitative losses are occurring due to inappropriate transportation. So, transportation with good care is important.

6. Marketing

Improper handling may cause damage in crops especially in perishable products. So, it can reduce the quality also the quantity of food products which can deplete its market price.

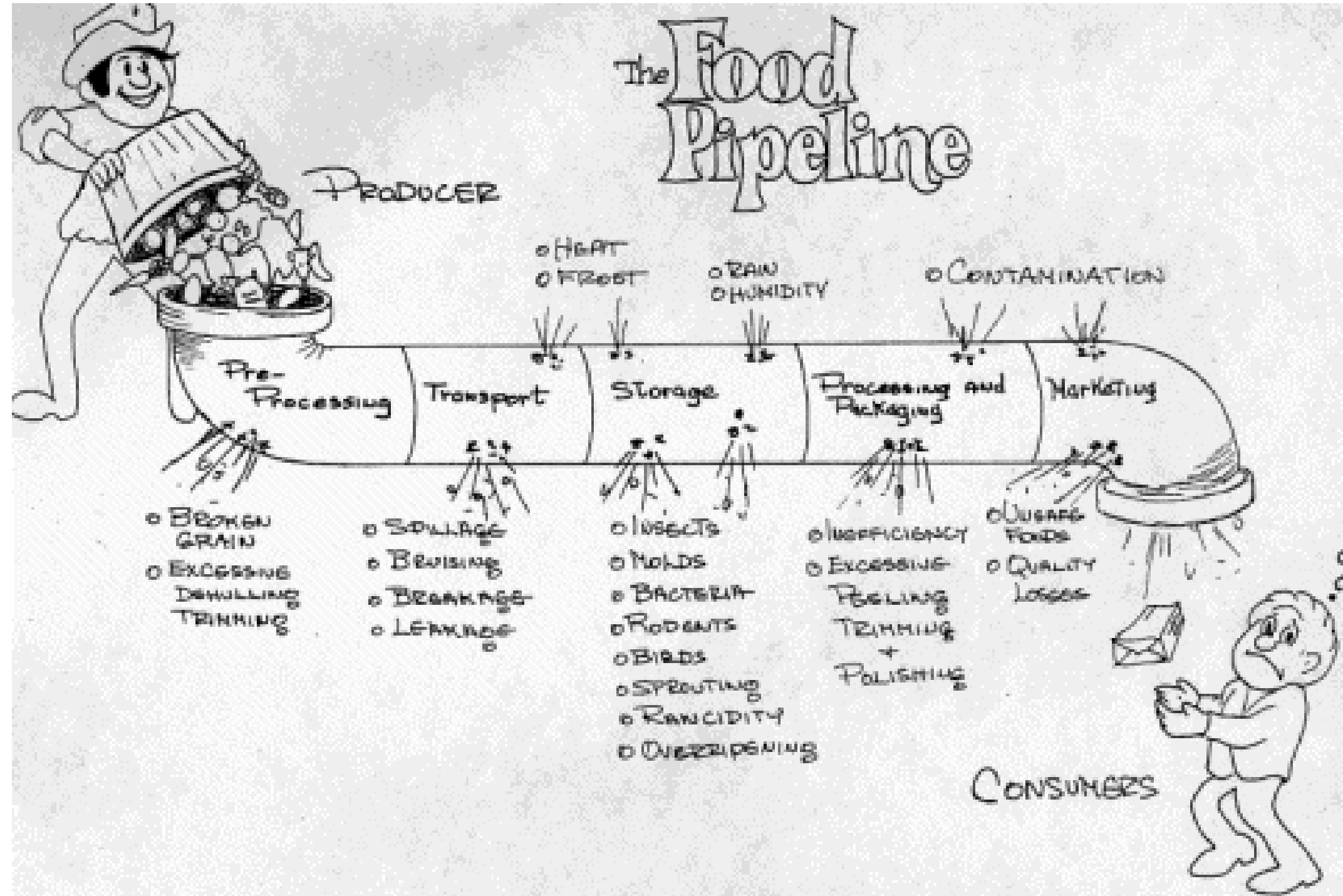
7. Perishability of the product

Perishability simply means the amount of water present in the food. As the food is highly perishable, good practices are important to preserve food for a longer time. As the perishability of food is low its shelf life naturally increases



The Food Pipeline

(Source: Bourne, 1977, mimeo)





Importance of post-harvest technology

- Post-harvest technology is the application of technology to the post-harvest handling and storage of agricultural produce.
- Post-harvest technology can improve the quality and shelf life of agricultural products.
- Post-harvest technology can help to reduce the wastage of agricultural produce.
- Post-harvest technology can help to improve the economics of agriculture.
- Post-harvest technology is an important tool in the fight against hunger and malnutrition.



THANK YOU..!!