Importance of Postharvest Technology in horticultural crops.

1. **Post harvest loss reduction**: Worldwide post harvest fruit and vegetable losses are as high as 5-18%. Thus, the post harvest technology helps in reduction of losses in handling, packaging, transportation and storage with modern infrastructure, machinery through processing into a wide variety of products and home scale preservation with low cost technology.
2. Use of thermal processing, low temperature, drying, chemical and biological reactions coupled with other preservation techniques are applied to enhance the storability.
3. Containers and packaging materials confer portability, enhance quality of produce as well as extend the shelf life.
4. It helps to make available a large quantity of food by avoiding losses and provide better quality food and nutrition, more raw materials for processing, thus ensuring better returns to the farmers.
5. Value addition to the horticulture produce through processing units is a boon for the welfare of the horticulture growers as they can save their crop from wastage and at the same time their produce becomes a more valuable, price fetching commodity with suitable postharvest treatment, packaging and by processing into various products.
6. Processing of the horticultural crops contributes to the economy through the availability of commodity, machinery and equipments and other raw materials required for the industry to develop.
7. Processing industry has the unenviable role to make fruits and vegetables available throughout the year in a prime condition by deploying modern technologies like ripening manipulation, refrigeration, freezing, modified atmospheric storage and packaging, drying and irradiation.

8. Export of processed products earns valuable foreign exchange. Eg: Brazil is the largest exporter of fruit juices. Papaya is supplied by India, Malaysia, Taiwan, Mexico and Brazil.
9. Post harvest technology helps in employment generation. It offers ample opportunities to self employment, casual labour, cottage scale units and large scale processing units.
10. The processed products and ready to serve foods are especially useful to the urban people as there is a paucity of time to cook the food or other delicious items. Thus processed foods add taste, variety and provide the required nutrition for the working masses.
11. The processed foods are of special attraction to the children and those who need specific nutritive products like infants, women and the old.
12. The processing industry can convert even the waste from agriculture/horticulture sector into value added products and thus, can stabilise the economy of the processing unit.
13. Post harvest technology through the processed fruit and vegetable products is helping to meet the needs of defence forces, astronauts and also in the home scale preservation of various foods.
14. As a science, postharvest technology is employing various disciplines like food microbiology, food biochemistry, food chemistry, applied physics, food engineering, horticulture, plant physiology, genetics and plant breeding, computer application, statistics, economics and management and psychology through the technological convergence of all these disciplines.

Importance of PHT, In other words

1)Reduction in Post harvest losses:- PHT ensures reduction of post harvest losses in what has already been produced. So, reduction post harvest losses is an alternative way of increasing production of agriculture & horticultural crops.

2) Reduction of cost of production:- PHT reduces cost of production, packaging, storage,

Transportation , marketing and distribution, lowers the price for consumer and increases the Farmers income.

3) Reducing the malnutrition: Proper PHT ensures availability of sufficient food to all, thus reducing malnutrition and ensuring healthy growth of the nation. It also extends the season of availability of particular commodity.

4) Economic loss reduction :-Produces economic losses at grower level , during marketing and at consumers level.

5)Employment generation:- Processing industries provides employment to both skilled as well as unskilled persons.

6) Export earnings :- Export of fresh and processed horticultural commodities also attracts valuable foreign exchange.

7) Defense and astronauts requirements:- Defense forces posted in remote border areas as well as astronauts who travel in to space have special requirements of ready eat and high energy low volume food. The requirements are fulfilled by processing industries.

8) Home scale Preservation :- Home scale Preservation helps in minimizing the losses of fruits & vegetables as well as uses of Preserved products through out the year/off season e.g. pickles.

9) Value addition & Waste Utilization:- Preservation industries are the backbone of horticulture industry, taking care of gluts and wastes. Processing can always fetch an additional income to the growers & helps in stabilizing the prices with economic returns.

10) Adding taste, variety & providing Nutrition:- Fruit and vegetable are highly perishable but most important commodity for human diet due to their high nutritional value. They are the cheapest and other source of protective food supplied in fresh or processed or preserved form throughout the year for human consumption.

Scope of post harvest technology

1. India has varied agro climatic conditions like tropical, sub-tropical and temperate. Hence all types of fruits and vegetables can be grown throughout the year. Therefore, post harvest handling techniques are a never ending business.

2. It helps to avoid market glut. During glut price go down in order to stabilise the process, handling, storage and transportation are needed.

3. To make fruits available during off seasons. Many fruits/ vegetables are seasonal.
4. To make them available in all places where they are not grown.
5. Export: There is a great demand for Indian fresh produce and processed products abroad. There is scope to utilise the export potential.
6. There is need to raise the nutritional standards of our people. According to ICMR the individual can consume 350g/day/person but presently available is only 150g/day/person because of post harvest losses and population explosion.

Scope of PHT In other words

1. Magnitude of post harvest losses in fruit and vegetable is still to be minimized by proper cultural Operations, harvesting, transportation and storage facilities.

2. Through the establishment of cold storage and other amenities at the growers and retailers level, there is a greater scope for fruit and vegetable processing industry. Presently mango, pineapple, citrus, grapes, tomatoes, peas, potatoes, cucumber are being processed on a major scale.
3. There are about 4000 small and large scale processing ts in the country which process only about 2.5% of the total fruit and vegetable as against 40-85% in developed countries (E.g.: Malaysia-83%, Phillippines-78%, Brazil and USA-70%).
4. A variety of fresh fruit and vegetable in India can be made available in plenty due to favorable agro-climatic situations. Hence there is no derth for raw material for processing.
5. Product profile being developed in India at present is limited to few fruit and vegetable. E.g.. Mango, Pineapple, Grapes etc. But there is a wider potentiality for processing of papaya, sapota, banana, jack, guava, aonla, carambola and other minor fruits.
6. Similarly there is a greater scope for processing cauliflower, carrot, bitter-gourd onion, garlic, water melon, muskmelon etc.

Thank You