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Post Harvest Losses in Horticulture

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Abstract:- The horticultural products are highly perishable in nature. Fruits and vegetables undergo rapid transformation between the harvest and consumption which results spoilage and reduces market value. The impact of Climate and weather conditions, harvesting and handling techniques, packaging material, storage and transportation facility, market situation, dust from cement factory, disease and pest animal attack will leads to post-harvest loss. Mostly post-harvest losses occurs during harvesting, transporting and storage. Improper handling of horticultural produce leads to physical and pathological damage. There will also be impact of cultivation practices on post-harvest losses, such as dosage of fertilizers application, time of sowing, planting material used and time and method of irrigation. The highest post-harvest loss was recorded for tomato (45.32%), for mango (43.53%), whereas the least post-harvest loss was recorded for coffee (15.75%). Post-harvest loss ranging from 20% to 50% was recorded in between marketing and consumption. To minimize the post-harvest losses proper harvesting, storage and transport facilities should be maintained well and should follow proper cultivation practices.

Keywords:- *physiological damage, pathological damage.*

I. INTRODUCTION

Horticulture plays a very important role in economy of our country. Horticultural products are also rich in nutrients and vitamins. There are various reasons for post-harvest losses and it is mainly due to improper handling, transport and storage conditions. Horticultural crop cultivation also provides employment to the labors and other sectors. Processing of horticultural products give various sub-products like jams, jellies etc.

Horticultural crops includes vegetables, fruits, flowers medicinal plants, spices and condiments. They are used for various purposes and have high economic value. Various horticultural products are exported to other foreign countries. It helps in increasing the income of rural people. Cultivation of horticultural crops provide employment in various sectors, and provides opportunity to generate employment for rural population. Horticultural produce contribute 29.5 per cent to Agriculture GDP. So post-harvest losses show major impact on decreasing the marketing quality which leads to low market price and also by-products cannot be produced and show direct impact on economy.

II. FACTORS EFFECTING POST-HARVEST LOSSES

Post-harvest practices includes harvesting, handling, storage, processing, packaging, transportation and marketing. Fruits and vegetables are living organs they perform metabolic actions like respiration .They contain 90% of moisture when the water reserves are exhausted then the fruits and vegetables dies and decays.

During high temperature conditions, low atmospheric humidity and physical injury there will water loss in the produce. Physical injury also leads to the attack of pathogen, splitting, skin breaking.

The process of respiration uses stored starch and sugars and stops when the resources are exhausted, leading to ageing. Newly harvested produce continues to lose water, Loss of water causes shrinkage and weight loss Ripening is also an important factor, it occurs when the fruit is mature, ripeness is followed by senescence. Fruits are of two types on bases of ripening. They are

A. Climacteric fruit:

The fruit which continues to get ripened even after harvesting is known as climacteric fruit.

B. Non-climacteric fruit:

The fruit which ripe when it is still attached to the parent plant is known as non-climacteric fruit.

Ethylene is the plant harmone which promotes ripening and senescence. Ethylene is also used in artificial ripening of fruits, the production ethylene is more when fruits are injured and decayed. High production ethylene will not help to maintain the quality of fruit.

Pre harvest factors that affect post-harvest losses Starting from the soil in which the crop is grown to handling of the produce before harvesting includes under pre harvest factors. Plants require continuous supply of water to perform photosynthesis and transpiration. The time of sowing and the planting material used also shows direct impact on the produce. The dosage of fertilizers, time of irrigation physical damage to the plant and fruit and also pathogen attack will leads to reduction in the quality. Damage may also cause due to environmental stress like heavy rainfall, high temperature. Less production of plant food material will also reduce the quality of produce.

III. STEPS TO AVOID LOSSES

Post-harvest losses can be avoided by following good cultivation practices.

- Recommended rate of fertilizers should be applied.
- Time of sowing should be suitable to the crop.
- The planting material should be healthy.
- Proper irrigation should be provided.
- Intercultural operations should be performed in proper manner.
- Avoid physical and pathological damage to the plant.
- Protect the plant from adverse environmental conditions.
- Harvesting should be done without any physical damage.
- Suitable packaging methods and materials should be used.
- Proper transportation facilities should be maintained.
- Storage conditions should be hygiene.

IV. RESULTS

Post-harvest losses show severe effect on country's economy and decreases the export and import value. Also decreases the market demand .Detoriation in quality of produce may also occur due to high use of chemicals, so preventive measures must be followed during harvesting, transportation and storage.

V. CONCLUSION

Every step that we undergo in cultivation of crop is very crucial so we should take care in order to prevent damage to the produce.

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