



K.R. MANGALAM UNIVERSITY
THE COMPLETE WORLD OF EDUCATION

Report

Workshop on Post-harvest Technology at Shikohpur KVK in collaboration with NSS

Date: 21/11/2023

Venue: Krishi Vgyan Kendra, Shikohpur

Event Type: Extension Activity Mode

of Activity: Offline

Target Group: Residents of village and Students of SOAS

Organized by: School of Agricultural Sciences

Convener: Dr. J.S Yadav

Faculty Coordinators: Dr. Neha Sharma, Dr. Parita, Dr. Rabiya Basri

Resource Persons: Dr. Anamika Sharma, Dr. Kavita Bisht, Dr. Bharat and other staff members

Number of Participants: 35 (Students of SOAS), 13 (Residents of village)

School of Agricultural Sciences in collaboration with NSS, K.R Mangalam University, Gurugram organized "Workshop on Post-harvest Technology at Shikohpur KV K in collaboration with NSS" on 21th November, 2023. This workshop was aimed to spread awareness regarding post-harvest management of fruits and vegetables and value addition through processing. Dr. Kavita Bisht, subject matter specialist (SMS) has explained and demonstrated various strategies and techniques to preserve highly perishable fruits and vegetables to the students. Students learned about the process of increasing shelf life by converting them into different forms with special reference to Indian gooseberry to make it available in off season. Importance of millets in the form of bakery products were also explained as 2023 is celebrated as 'International year of millets'.

Post-harvest processing of fruits and vegetables is a crucial step in the agricultural value chain that occurs after harvesting and before consumption or further distribution. This

process involves a series of activities aimed at preserving the quality, extending the shelf life, and adding value to the harvested produce.

Here are the key reasons for possible causes of post-harvest losses:

1. **Poor Handling Practices:** Rough handling during harvest and post-harvest operations can lead to physical damage and bruising, accelerating spoilage and reducing the shelf life of the produce.
2. **Inadequate Infrastructure:** Lack of proper storage facilities, cooling systems, and transportation infrastructure can result in suboptimal conditions for the produce, leading to higher losses.
3. **Lack of Post-Harvest Management Knowledge:** Limited knowledge about appropriate post-harvest practices, such as sorting, grading, and packaging, can lead to improper handling and storage.
4. **Temperature and Humidity Fluctuations:** Incorrect temperature and humidity levels during storage can accelerate ripening and promote mold and bacterial growth, causing spoilage.
5. **Pests and Diseases:** Inadequate pest control measures during storage can result in infestations and losses due to insects and pathogens.
6. **Ethylene Production:** Some fruits and vegetables produce ethylene gas, which accelerates ripening and can lead to premature spoilage when stored with ethylene-sensitive produce.
7. **Lack of Access to Markets:** Limited access to markets can result in delayed sales and the inability to sell produce at optimal ripeness, leading to losses.
8. **Financial Constraints:** Farmers may lack access to credit or financial resources to invest in post-harvest infrastructure and technologies, leading to suboptimal handling practices.
9. **Inefficient Packaging:** Inappropriate or insufficient packaging can lead to physical damage, exposure to pests, and loss of product quality during transportation and storage.
10. **Poor Transportation Facilities:** Inadequate transportation facilities can result in delays, temperature fluctuations, and damage during transit, contributing to post-harvest losses.
11. **Market Demand and Consumer Preferences:** Market demand and consumer preferences for specific sizes, shapes, and appearances may lead to the rejection of perfectly edible produce, contributing to losses.

Dr. Kavita Bisht has suggested the utmost importance of processing of fruits and vegetables for the following reasons:

1. **Preservation of Quality:** Post-harvest processing helps in maintaining the sensory attributes, nutritional content, and overall quality of fruits and vegetables. Proper handling, cooling, and storage techniques prevent spoilage, decay, and loss of essential nutrients, ensuring that consumers receive fresh, flavorful, and nutritious produce.
2. **Extension of Shelf Life:** By applying appropriate post-harvest techniques, the shelf life of fruits and vegetables can be significantly extended. This allows for storage, transportation, and marketing over longer periods, reducing food waste and enhancing marketability.
3. **Reduction of Losses:** Post-harvest processing minimizes losses due to physical damage, pests, diseases, and physiological changes that occur after harvest. Efficient sorting, grading, and packaging practices help to maintain produce integrity and reduce spoilage during handling and transportation.
4. **Value Addition and Marketability:** Processing activities such as washing, cleaning, peeling, cutting, and packaging enhance the visual appeal and convenience of fruits and vegetables. Value-added products like ready-to-eat salads, cut fruits, and frozen vegetables cater to consumer preferences and expand market opportunities.
5. **Food Safety and Hygiene:** Proper post-harvest processing ensures food safety by reducing microbial contamination and the risk of foodborne illnesses. Thorough cleaning, sanitization, and adherence to good agricultural and manufacturing practices (GAP/GMP) ensure the safety and hygiene of the final product.
6. **Economic Benefits:** Improved post-harvest processing practices result in better product quality and reduced losses, leading to higher returns for farmers and other stakeholders in the supply chain. Enhanced marketability and increased demand for processed products can also create new income opportunities.
7. **Facilitating International Trade:** Meeting quality and safety standards through post-harvest processing is essential for exporting fruits and vegetables to international markets. Compliance with regulations and certifications enhances access to global markets and promotes export opportunities.
8. **Diversification of Products:** Post-harvest processing allows for the creation of a wide range of products from fruits and vegetables. This diversification enables the

development of new food products, beverages, and ingredients, catering to various consumer preferences.

9. **Sustainable Agriculture:** By reducing losses and maximizing the use of harvested produce, post-harvest processing contributes to sustainable agriculture. It optimizes resource utilization, minimizes waste generation, and supports environmentally friendly practices.
10. **Employment Generation:** The post-harvest processing industry creates job opportunities in various stages, from sorting and grading to packaging and value addition. This enhances rural employment and contributes to the economic development of agricultural communities.

This workshop was proved very informative for the students to learn practically and develop related skills. Students have shown keen interest in post-harvest technology and suggested to organize such workshops in future. This workshop was coordinated by Dr. Neha Sharma, Dr Parita and Dr Rabiya Basri







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