



Post Harvest Biology Services Section Home

History

The importance of postharvest preservation has been recognized for centuries, as civilizations sought ways to store food for extended periods. However, it wasn't until the 20th century that systematic research into postharvest biology gained momentum. The Green Revolution highlighted the need to reduce postharvest losses and enhance food security.

Gustav W. Fassett

A pioneer in postharvest physiology, he conducted early research on respiration and ethylene production in fruits.

-

Adel A. Kader

Known for his work on postharvest handling of fruits and vegetables, he emphasized the importance of minimizing quality loss.

Controlled Atmosphere Storage

Modifying storage conditions to extend shelf life.

-

Ethylene Management

Regulating ethylene exposure to control ripening.

-

Industrial Applications

1.

Supply Chain Management

Ensuring quality and safety during transportation.

3.

Export and Import

Facilitating global trade by preserving product quality.
5.

Food Safety

Reducing the risk of microbial contamination.
7.

Pharmaceuticals

Preserving medicinal plants for herbal products.
9.

Seed Storage

Ensuring seed viability and germination rates.
11.

International Trade

Meeting international quality standards.
13.

Biofortification

Preserving nutrient content in fortified foods.
15.

Agricultural Biotechnology

Storing plant material for genetic preservation.
17.

Organic Farming

Ensuring organic produce quality during storage.
19.

Climate Change Adaptation

Developing strategies for changing climate conditions.

Precision Agriculture

Tailoring postharvest practices to specific crops and conditions.

-

Nanotechnology

Enhancing preservation through nanomaterials.

-

Biodegradable Films

Creating packaging that decomposes without harming the environment.

-

Waste Valorization

Converting postharvest waste into valuable products.

-

Blockchain Technology

Ensuring traceability and transparency in supply chains.

Postharvest biology stands as a crucial discipline that bridges agricultural production and consumer satisfaction. From its early recognition to its current integration with technology and sustainability, postharvest biology continues to be a cornerstone of food security and quality. As innovations emerge and global challenges such as climate change and food waste persist, the future of postharvest biology research promises to revolutionize how we store, transport, and consume agricultural products, ensuring a more sustainable and secure food supply for generations to come.