

Glucose Coating: Enhancing Shelf-Life and Quality of Litchi Fruits

Profile of Innovator

Name : Bhola Nath Jha
Age : 70 Years
Education : Postgraduate
Experience : 30 Years
Contact Details : Village: Jhapha,
Dist.: Muzaffarpur, Bihar
Mobile No. : 7488582883



Brief description of Innovation

Litchi, a delicate non-climacteric fruit, deteriorates appearance quickly after harvest due to browning and microbial incidence on peel. Shri Bhola Nath Jha has enhanced shelf life of Litchi by applying glucose solution coating. Fruit loose attractive colour due to browning of the peel and incidence microbial growth. Applying a glucose solution coating forms a protective layer over the fruit's surface, which helps slow down discolouration, inhibits microbial incidence, and thereby extends the shelf life, allowing for longer storage, better transportation, and improved marketability.



Glucose coated harvested litchi for increasing shelf-life



View of glucose coating of litchi fruits for enhancing shelf-life

Innovation's Highlights

Glucose treatment supports metabolism, maintains cell turgor, reduces ROS, preserves anthocyanins, and extends self-life by preventing shrivel, micro-cracking and senescence; Dipping litchi bunches in 5% glucose solution and covering with cotton. Freshly harvested litchi bunches are dipped in a 5% glucose solution to form a protective coating, and then covered with a layer of cotton to minimize moisture loss, protect against physical damage, and further slowdown the deterioration process during storage and transportation.

Benefits/Advantages

This treatment effectively extends the shelf-life of litchi to about 5-6 days after harvest, thereby providing growers and traders with a longer marketing window to reach distant markets, ensuring higher price realization, and significantly reducing post-harvest losses that typically occur due to spoilage, discolouration, and microbial decay.

Scope & Potential of Innovation for Wider Reach/Out Scaling

The technology has huge scope for litchi growers for higher income due to increase in shelf-life of fruits; and it could be adoptable in Bihar and other Litchi-growing regions.

Scientific Validation required

Needs validation for shelf-life of fruits.

Domain

Post-Harvest Technology, Fruit Crops, Litchi, higher prices due to extended shelf-life.