Biotechnological Management to Prevent Wastage of Plant Products in Storage-Transportation Chain for the Consumer

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ABSTRACT

Today, due to the significant losses in post-harvest, preservation and transportation of fruit and vegetables, it is needed healthy alternatives for the effective and sustainable marketing of agricultural products. It is important to look at every stage of agricultural problems from production to the table. Various packaging materials can be used to protect food, and coatings are being developed as an alternative material.

In this study; biocompatible protective film and biocomposite protective coatings that retard biodegradation and retard ripening, reduce water loss and respiration, prevent toxic effects that reduce microbial invasion and loss of taste on foods, retard nutrient depletion and also support plant vitamins and minerals. For this purpose, a new generation synthesis product was used which contains various amino groups and benefits from the bacteriostatic-bactericidal action. 0, 150 ml, 500 ml, 1000 ml, 1500 ml of synthesis products were added to 1 ton of washing water before post-harvest storage for tomatoes, apples and citrus fruits. The most successful result was obtained with a 65% increase in fruit shelf life in experiments, in which 750 ml of synthesis product was added to 1 ton of wash water.

As a result of this project, after application of liquid synthesis product before storage after fruit and vegetable harvesting, it has been found that the shelf-life of each fruit and vegetable product were increased and losses during storage is reduced or eliminated by 75-80% , There is no problem that could pose a risk for the sale and sustainable management of the product, which is attracted to the product sector and demanded by the market, and which should solve the existing problem in this context and keep it low compared to its competitors.

The success of this study will enable the solution of similar problems in similar sectors that could be solved with similar technology. Reducing stock losses, promoting food safety and industrialization will bring together employment and commercial activities.

The aim of this article is to examine the effectiveness of synthetic agricultural products developed using biotechnological methods to prevent the loss of plant-based products to the consumer and to determine the degree of utilization.