

Natural-Based Post-Harvest Elongation

Al hinai, Ahlam (School: AL Wadi AL Alaa)

Food safety and quality are two factors that are taking into consideration by the food authorities. Food preservatives are employed to ensure safety and to avoid quality disturbance happened from microbial, physical–chemical or enzymatic reactions. There are different types of antimicrobial and antioxidant agents, each one with their particular modes of action. Acidulants, organic acids and parabens are widely and act as antimicrobials. Large numbers of preservatives are chemically synthesized are adversely impacting human health. The use of natural-based alternatives is increasing and got high attention nowadays. Antioxidants are another very important group of food additives. Our research aims to find natural preservatives extracted from the Omani environment that will reduce the microbial growth and subsequently elongate the fruit shelf life. In addition, the project applied experimental and analytical methods to assure scientific findings. The recipe consisting of the baobab fruits and clove powder was prepared as a solution using a certain ratio After that, the selected sample (lettuce and strawberry) was tested using the spread plate technique, and both were preserved for two weeks, and then the samples sprayed with the solution and those not sprayed were compared. The sprayed sample showed no bacterial growth (bacteria or fungi), while the non-sprayed sample showed significant bacterial growth. Moreover, the solution served as an insect repellent. Moreover, the fruit morphology was observed to behave the same as in the beginning. This project will improve food quality and support human health.

Awards Won:

