

Postharvest longevity of Longkong fruits by waxing with Chitosan solution and incorporated with gamma irradiation

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Since Chitosan is the substance that can be extracted from shrimp shell, easy to find, and cheap in the Southern region of Thailand. In addition, it can prolong the life of fruit after harvest with the qualification of high cation that can binding to gram-negative bacteria. It can cause bacteria to lose balance in chemistry and eventually die. Moreover, it can also eliminate many types of microorganisms. Therefore, this project uses Chitosan solution with the different concentration in order to prolong the life of Longkong in conjunction with gamma ray, gamma ray can destroy microorganisms that are the cause of spoilage of fruit. This experimentation records the result with photography and analyzes the results by Adobe Photoshop Cs6 program by measuring the RGB red spectrum. Because the red spectrum can show a linear correlation between time and spectrum intensity better than green and blue colors. Beside chitosan solution, this experiment also irradiated the Longkong fruit with gamma radiation dose In order to find the concentration of Chitosan solution and dose of Gamma ray that is appropriate to prolong the life of fruit after harvest. The preliminary experiment found that the waxed Longkong with chitosan solution at 0.5%(V/V) in acetic acid 0.5%(V/V) concentration can extend the life of Longkong longer than other concentrations and than other Longkongs that are not coated by chitosan solution for 7 days. In the case of gamma irradiation to Longkong, the dosage quantity of gamma ray that used in the experiment is not appropriate for prolonging the life of Longkong because it Dok Mai Si Thong, a similar result is also occurred to the mango fruit that made the mango tissue soft faster than the fruit has not been irradiated.

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