

Effect of Galactomannan based Edible Coating on the postharvest quality of guava

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ABSTRACT

Edible coatings are considered as edible packaging and ecofriendly invention by replacing the synthetic food packaging materials. Main aim of the present study was to evaluate the effect of fenugreek galactomannan (FG) and (GG) guar galactomannan based edible coating on guava at ambient temperature for 20 days of storage. Treatment combinations were T_0 = control (without coating), T_1 = FG (1.01%) T_2 = GG (1.24%) T_3 = FG+GG (1.01%+1.24%). The study results depicted that edible coatings of FG and GG alone and in combination significantly delayed in weight loss, firmness, TSS, acidity and pH. Ascorbic acid contents of guava fruits decreased in all treatments during storage while T_3 showed best results in maintain ascorbic acid. Total sugars of guava fruits first increased and then decreased after 10 days in all treatments during storage. The results revealed that there was highly significant effect of treatments and storage period on total phenolic contents. Total antioxidant activity of guava fruits decreased as the storage period progressed. DPPH radical scavenging activity decreased significantly in the control (uncoated) guava after one week of storage while value decreased at a slower rate in coated guava. The maximum plate count was recorded in T_0 and the minimum total plate count and mold count was observed in T_3 at the 20th day of storage. The study revealed that T_3 was most effective edible coating formulation in retaining quality and shelf stability of guava during storage.



BIOGRAPHY

Ammara Ainee has completed her Ph.D. at the age of 35 years from university of Sargodha, Pakistan. She is working as Lecturer at Institute of Food Science and Nutrition, University of Sargodha, Pakistan. She has 12+ years of university teaching and research experience. She has supervised 30 students and Co-Supervised 17 Students of M.Sc.(Hons.) Food Science and Technology and M.Sc.(Hons.) Food and Nutrition. She is Member of collaborative research project for Citrus value chain and poverty reduction among small holders of district Sargodha under joint venture of Australian Center for International Agriculture Research (ACIAR)-Queensland University, University of Agriculture Faisalabad, University of Sargodha, Punjab Agriculture Department and Citrus Research Institute Sargodha. She is Member of Pakistan Society of Food Scientists and Technologists. National Institute of Food Science and

Technology, University of Agriculture, Faisalabad. Pakistan. 2011-present. Member of the Nutritionists Club. School of Nutrition. 2015-present. Member of board of study, Institute of Food Science and Nutrition, University of Sargodha, Sargodha. Pakistan. 2013-present. She is serving as a reviewer of several reputed journals.

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