of heat treatment on the quality of fresh-cut lotus roots

Yam, A.

Fresh-cut lotus roots were purchased from a local market in Seoul, Korea. Lotus roots were peeled and cut into 5 mm thick slices with a sharp stainless knife. The prepared root slices were dipped for 45 sec in water at 30, 55, 80 ºC. After air drying at room temperature, the slices were packaged with polyethylene films and then stored for 12 days in a walk-in cooler at 7 ± 1ºC. Changes in weight loss, color, total viable cell and sensory characteristics were measured. In general, the weight loss rate was increased slightly in hot lotus roots. Application of heat treatment delayed browning of lotus roots, rehydrated hot at 55ºC. However, the L and a value of lotus roots treated at 80ºC were increased highly during storage. The heat treatment inhibited the enzymatic browning more strongly than non-treatment. The color analysis of lotus roots treated hot water at 55ºC showed the best by sensory evaluation. The heat treated lotus roots for fresh-cut processing may be improved the quality of browning and extend shelf life for the product.

Effect of drying and application method in the efficiency of an edible coating on a semi-hard cheese

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Edible coatings can be used to improve food shelf-life and quality. The methodology of application of coating solution on the coated food surface is important in order to guarantee that the coating performs conveniently. In this work the drying temperature and the application method of a galactomannan coating on a semi-hard cheese were evaluated. Three temperatures were tested (5, 20 and 35ºC) in order to evaluate if it is necessary for the coating to dry during storage at 2 ºC up to 14, 7, and 21 days. The application method can influence the coating performance three methods were tested: dipping, brushing and spraying. Shelf-life parameters such as weight loss, moisture content, 

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Effect of gallic acid and catechin over the mechanical and water vapor barrier properties of kafirin films from white sorghum


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Sorghum is a potential source of kafirin. Films made from kafirin, the prolamin protein of sorghum, could be an environmentally alternative to synthetic plastic films. Two different cast films were prepared from different coating preparations from sorghum flour using ethanol and lactic acid at 60 degrees C. All the kafirin preparations were able to form films of more consistent quality. However, because protein-based films have inferior functional properties to synthetic materials, gallic acid (GA) and catechin (C) were added at 5 to 20% (w/w) as modifying agents during kafirin plasticized cast films. There were differences in film thickness, flexibility, surface texture and color among the different kafirin films. The control kafirin films had much higher tensile strength and lower extensibility than catechin and gallic acid film. Modification with both tannins at increasing levels resulted in a decrease in tensile stress by two-fold for Catechin and 4-fold for Gallic Acid, but a four-fold decreased in both samples in % strain.

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Incorporation of a phenolic extract of Tamarindus indica into protein-starch biodegradable films

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Biofilm's films may act as carriers for active compounds to improve shelf-life and preserve food quality. The objective of this work was to improve food films made of isolated-milk-surfact-plant (IMSP) and potato-native-starch (NS) added as a phenolic source. The tamarind extract (TE) had the highest cheese weight gain. The most efficient method was the dipping method, where the efficiency in terms of coating retention on the cheese surface was the highest of all tested methods (34 %). Regarding shelf-life, results showed that the application method apparently does not have a statistically significant influence in the effectiveness of the coating in terms of weight loss, moisture loss and color differences. In conclusion and having in consideration the spent and/or wasted coating during application by the different methods, brushing would be the ones to choose.

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152-42

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152-37

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Results show that 20ºC is the most efficient drying temperature when compared with 5 ºC or 35 ºC. The application by brushing is the one where a lower amount of coating is spent (2.60 g/cheese) and where the weight gain (0.45 g/cheese) of the cheese after coating application is the lowest. Spraying shows to be the method with the greatest consumption of coating solution (8.21 g/cheese), however, it does not correspond to the highest cheese weight gain. The most efficient method was the dipping method, where the efficiency in terms of coating retention on the cheese surface was the highest of all tested methods (34 %). Regarding shelf-life, results showed that the application method apparently does not have a statistically significant influence in the effectiveness of the coating in terms of weight loss, moisture loss and color differences. In conclusion and having in consideration the spent and/or wasted coating during application by the different methods, brushing would be the ones to choose.