

Development and Quality Evaluation of Plant-Based Burger Patties

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Abstract

Substitution of meat-by-meat analogues and plant-based meat products can present beneficial results in both personal and societal aspects. When considering the cost-effectiveness, religious beliefs and ethics, plant-based meat substitutes will be an exciting option for Sri Lankan consumers. Plant-based burger patties are among the most popular meat substitutes in the international market. The main objective of this study was to develop four different types of plant-based burger patties using young jackfruit, mushrooms and vegetables. Three young jackfruit and oyster mushroom based and young jackfruit-based burger patties were developed by changing the binding agents. Three mushroom based burger patties were developed using oyster, button and abalone mushrooms. Three vegetables-based burger patties were developed using different percentages of carrot, pumpkin and cabbage. The burger patties were vacuum packed and stored under frozen conditions. After thawing and pan frying, sensory properties of the developed burger patties including appearance, color, odor, taste, texture, mouth feel and overall acceptability were evaluated using a five-point hedonic scale and the most preferred burger patty from each category were selected. Cooking characteristics of the burger patties including cooking yield, cooking loss, moisture retention (MR), reduction of thickness (RT) and reduction of diameter (RD) were evaluated. Young jackfruit and mushroom based burger patty had the highest cooking yield (98.5%) and the lowest cooking loss (1.86%). Vegetables based burger patty and young jackfruit and mushroom based burger patty had the lowest RD and RT, respectively. Mushroom based burger patty had the highest MR. The results of this study indicate the possibility of using young jackfruit, mushrooms and vegetables as main raw materials in successfully developing plant-based burger patties.

Keywords: Burger patties, Mushrooms, Plant-based diet, Vegetables, Young jackfruit

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