ID 26

Evaluation of mixed jam prepared from ripen *Solanum lycopersicum* and *Capsicum annuum*

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Abstract

In today's world, people are paying more attention to the concept and intake of fruits and vegetables in order to live a healthy life. Tomato is a vegetable with high amount of biologically active substances and Vitamin C. It is an ideal vegetable in making jam due to its natural orange reddish colour. However, utilization of tomato for the production of value-added products is still to be revealed. Red pepper is one of the major spices consumed globally, recognized for its aroma and nutrient properties. An effort was made in this study to prepare the best combination of ripened tomato and red pepper pulp levels for jam production, which can enhance the spicy taste of mixed jam. Based on the findings of preliminary studies, four formulations of mixed jam were created by blending different ratios of ripened tomato, red pepper pulp, and ginger extracts at various levels for jam preparation. T1 (tomato 100g + capsicum 0g + ginger10 g), T2 (tomato 70g + capsicum 30g + ginger10 g), T3 (tomato 60g + capsicum 40g + ginger10 g), and T4 (tomato 50g + capsicum 50g + ginger10 g) are the treatments. The prepared formulations were nutritionally and sensorily evaluated. For the treatments, chemical analyses such as pH, titratable acidity, total soluble solid, moisture content, and ash content were performed. Color, taste, texture, aroma, and overall acceptability were evaluated by 20 semi-trained panelists using a nine–point hedonic scale. The nutritional analysis revealed an increasing trend in pH (4.35±.0.01 - 4.87 ±0.02), TSS (71.93 ±0.08 - 71.95±0.15), ash content (0.38± 0.03 % -0.48± 0.05 %), and a decreasing trend in titratable acidity (0.57± 0.01 %-0.53± 0.03 %) and moisture content (61.29 ± 0.04- 55.52 ± 0.07 %) with an increase in red pepper pulp from 30 g to 50 g. The formulation T2 with 70g ripened tomato and 30g red pepper, had the highest overall acceptability. In terms of sensory and nutritional properties, all formulations differed significantly ($p < 0.05$). As a result, ripened tomato and red pepper pulps supplemented with ginger extract have a high potential for jam production.

Keywords: Ginger extract, Mixed jam, Nutritional properties, Red pepper, Ripen tomato

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