ABSTRACT

LUTFHI KARTIKA SARIE. Utilization of Sweet Corn (Zea mays L. saccharata), Beetroot (Beta vulgaris L.) and Spinach (Amaranthus spp. L.) in the Preparation of Jabiba Vegetable Ice Cream as an Alternative Functional Food. Under the guidance of AHMAD SULAEMAN and YAYAT HERYATNO.

Vegetables are rich with nutrients, especially in fiber and antioxidants. However, current utilization and consumption of vegetables is still low. The purpose of this study was to develop vegetable ice cream from sweetcorn, beetroot, and spinach and to evaluate the physicochemical, nutritional, and sensory qualities of the product. There were nine formulas of vegetable ice cream with the comparison of sweet corn, beets, spinach pasta namely 1:0.5:1 (F1), 2:0.5:1 (F2), 3:0.5:1 (F3), 1:0.5:2 (F4), 2:0.5:2 (F5), 3:0.5:2 (F6), 1:0.5:3 (F7), 2:0.5:3 (F8), 3:0.5:3 (F9), and one formula standard (F0) without substitution of vegetable pasta were developed. Complete randomized design with the most preferred products based on organoleptic tests (F1, F2, and F3) was applied in this experiment. Viscosity overrun and melting time were significantly different, whereas pH and total solids were not significantly different among the three formulas. The fat content, ash content, and antioxidant activity were significantly different, whereas the moisture content, protein content, carbohydrate content, and total fiber were not significantly different. Based on the analyse cost between the three ice cream, the recommended formula was F2 with the physical characteristics of the viscosity 2338 cP, melting time 22.39 min, pH 6.04, total solids 39.13%, 13.80% overrun, and with nutrient composition of 60.87% water content, ash content 1.41%, 3.12% protein content, 9.27% fat content, 25.33% carbohydrate content, 6.08% fiber content, and antioxidant activity 42.59 mg vit C/100g AEAC. The levels of fat and protein of the selected vegetable ice creams meets the requirements of SNI. In addition, vegetable ice cream contributes at least 20% of fiber adequacy, so that this product is included in the high category content of fiber, containing 6.01 grams of fiber per 100 grams.

Key word: vegetable ice cream, functional food