ABSTRACT

Zefanya Tjokrodiredjo (03420100087)

FORMULATION OF “LEGUMES MILK-PUMPKIN JUICE” BASED ON THE OPTIMIZATION OF VITAMIN A CONTENT AND ITS SENSORY QUALITY
(ix + 150 pages: 13 figures, 18 tables, and 24 appendices)

Winged bean and jack bean are underdeveloped legumes which high in nutrient content and can be utilized as legumes milk together with soy milk. Pumpkin juice is high in vitamin A and can be used to overcome undesirable beany flavor in legumes milk. These research aims to formulate “legumes milk-pumpkin juice” beverage that fulfill the criteria of soy milk beverage rich in vitamin A with high sensory acceptance. Mixture experimental design was utilized to formulate an appropriate proportion of soy milk, jack bean milk, winged bean milk and pumpkin juice to produce the targeted beverage. Selected formula were containing 181.5 ml of jack bean milk, 352 ml of soy milk, 41.5 ml of winged bean milk and 425 ml of pumpkin juice in 1000 ml legumes milk pumpkin juice. The acceptance of its sensory attributes were 4.7 (neutral to slightly like) for color, 4.6 (neutral to slightly like) for aroma, 4.7 (neutral to slightly like) for taste, 4.8 (neutral to slightly like) for viscosity and 4.8 (neutral to slightly like) for overall preference. The nutrient content of the selected formula were 1.52±0.20 % protein, 1.49±0.27 % fat, 0.43±0.02% ash and 11.56±0.05 % carbohydrate (wb) which fulfilled the SNI standard of soy beverage. The selected formula also possessed 96.83 μg RAE per serving size (700ml), in which the formulated beverage can be claimed as a good source of vitamin A. Viscosity, total solid, total dissolved solid, pH, fat globule and color of the formulated drinks were 27.55±1.01 cPs, 5.69±0.05, 11.60±0.16, 6.21±0.28, 3.25±0.73 μm, *a value of 4.43±0.38 and *hue of 72.78±0.46, respectively. The selected formula was microbiologically safe (11 MPN/ml).

Keywords: beverage, legumes milk, mixture design, pumpkin juice, vitamin A

References: 78 (1967 – 2014)