

## ABSTRACT

Nathania Natawijaya (1305002712)

### **UTILIZATION OF KIDNEY BEAN (*Phaseolus vulgaris* L.) AND MUNG BEAN (*Vigna radiata*) AS BREAKFAST BEVERAGE**

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(xiii + 56 pages, 15 tables, 13 figures, 25 appendices)

*Breakfast is one of the most important meals of the day as it influences human's physical and mental performance throughout the day. Kidney bean (*Phaseolus vulgaris* L.) and mung bean (*Vigna radiata*) are legumes from the Leguminosae with high nutritional composition and have potential as breakfast beverage. However, legumes contain antinutritional factors that may hinder the absorption and digestion of other nutrients. Thus, the aim of this research is to determine the best processing methods to reduce the amount of antinutrient and the ratio of kidney bean to mung bean in the making of breakfast beverage. Two processing methods used are heat treatment (boiling and steaming) and germination (germinated and non-germinated). The protein and antinutritional content (tannin and phytic acid) of the legumes are analyzed. The best processing method for kidney bean is boiling and germination, while the best processing method for mung bean is boiling and non-germination. During the second stage of research, five kidney bean to mung bean ratios (1:4, 1:2, 1:1, 2:1 and 4:1) are applied in the making of breakfast beverage. The physical and sensory characteristics are analyzed. The breakfast beverage made with 2:1 kidney bean to mung bean ratio is chosen as the best formulation. One serving size of breakfast beverage (250 g) contains 9.4 grams of protein (18.8% DV), 30.525 grams of carbohydrate (10.175% DV), 9.25 grams of dietary fiber (37% DV), and 0.975 grams of fat (1.5% DV).*

**Keywords** : Kidney bean, mung bean, anti-nutritional factor, phytic acid, tannin, breakfast beverage

**References** : 45 (1980-2016)