

ABSTRACT

Cookies are a type of biscuit made by soft dough, high fat content, relatively crunchy and easily broken if the textured less done. The ingredients used in the manufacture of cookies are divided into two groups : the binder and the softener. The bonding material consists of flour, water, and egg. While the softener consists of sugar, shortening, natrium bikarbonat, and yolk. The powder is used in this study is composite flour (mocaf flour: wheat flour). In this study also added campolay fruit meat as a form of innovation and diversification. Campolay fruit contains a source of carbohydrates, fibre, vitamins (provitamin A, vitamin B₃, and vitamin C), minerals, calcium, and iron and antioxidant activity. The shortening is used the ratio of margarine and white butter. While the emulsifier is used yolk and tween 80. The purpose of this study is examine the correlation of shortening and emulsifier to the characteristics of cookies from composite flour and fruit campolay thus the cookies have good characteristic and high nutrient.

The experimental design that used in this study is a simple linear regression method with 4x4 factorial. This study consists of preliminary research and main research. A preliminary study was conducted to determine the appropriate composite flour (wheat flour: mocaf flour) ratio with the addition of 9% campolay meat in each treatment. Composite flour (mocaf flour: wheat flour) consists of 4 levels, namely 1: 1, 1: 2, 1: 3, and 1: 4. The main research is the treatment of the use of shortening and emulsifier. The first factor was shortening (margarine: white butter) with treatment a₁ (20%: 80%), a₂ (40%: 60%), a₃ (60%: 40%), and a₄ (80%: 20%). The second factor was the emulsifier (yolk: tween 80) with treatment b₁ (97,5%: 2,5%), b₂ (95,0%: 5,0%), b₃ (92,5%: 7,5%), and b₄ (90,0%: 10%).

Based on preliminary research, the selected composite flour is 1: 1 ratio. The main research results of chemical response by using water content, coarse fibre content and reducing sugar content give correlation on the use of shortening and emulsifier to cookies characteristic of composite flour and campolay fruit. The selected treatment based on the organoleptic test using scores sweet and savory attributes, the scent of campolay cookies and the mouthfeel crisp texture, as well as the chemical response (moisture content, crude fibre content, and reducing sugar) were a₃b₁ treatment.

Keywords: Cookies, Composite Flour, Shortening and Emulsifiers.