

RINGKASAN

Biskuit merupakan produk makanan kering yang terbuat dengan proses pemanggangan yang mengandung bahan dasar lemak dan terigu. Umumnya biskuit terbuat dari tepung terigu. Pada penelitian ini dilakukan pemanfaatan bahan baku lokal yaitu tepung uwi dan tepung labu kuning sebagai bahan baku pembuatan biskuit. Karakteristik biskuit di pasaran memiliki rasa manis, namun konsumsi makanan dengan pemanis gula tebu dapat menimbulkan masalah kesehatan. Untuk itu dalam penelitian ini dilakukan pemanfaatan alternatif pemanis yaitu gula kelapa kristal, stevia dan sorbitol. Tujuan penelitian ini untuk mengetahui pengaruh proporsi tepung komposit uwi dan tepung labu kuning, serta variasi jenis pemanis terhadap sifat fisikokimia dan sensori biskuit

Rancangan percobaan yang digunakan berupa Rancangan Acak Lengkap (RAL), dengan faktor yang diteliti yaitu proporsi tepung komposit (T) yang terdiri atas terigu, tepung uwi dan tepung labu kuning, dengan taraf T1 (30%:50%: 20%), T2 (30%:55%:15%), T3 (30%:60%:10%) dan variasi jenis pemanis (P) yang terdiri atas P1 (gula pasir), P2 (gula kelapa kristal), P3 (stevia), P4 (sorbitol). Pada penelitian ini dilakukan pengamatan berupa karakteristik kimia yaitu kadar air, kadar abu, kadar lemak, kadar protein total, kadar karbohidrat (*by difference*), kadar gula total, kadar beta karoten dan kadar serat pangan, karakteristik fisik yang diamati yaitu volume pengembangan. Sedangkan sifat sensori yang diuji yaitu warna, aroma, tekstur, rasa dan tingkat kesukaan. Hasil pengujian variabel fisikokimia dan sensori dianalisis menggunakan ANOVA dan uji lanjut *Duncan Multiple Range Test* (DMRT) pada taraf $\alpha=5\%$.

Hasil penelitian menunjukkan bahwa semakin tinggi proporsi tepung komposit dalam adonan akan meningkatkan kadar karbohidrat biskuit, sedangkan proporsi tepung labu kuning yang tinggi akan meningkatkan kadar lemak dan protein total biskuit. Penggunaan gula kelapa kristal dapat meningkatkan kadar abu dan kadar protein total namun menurunkan volume pengembangan biskuit. Sedangkan interaksi faktor proporsi tepung komposit dan variasi jenis pemanis memberikan pengaruh nyata terhadap atribut sensori warna, aroma dan rasa pada biskuit. Keempat sampel yang dilakukan uji sensori yaitu T2P1, T3P2, T3P3 dan T3P4, nilai kadar air diperoleh berturut-turut 3,07%; 3,64%; 3,04%; 2,61%, kadar abu 3,72%; 3,90%; 4,05%; 3,72%, kadar lemak 16,86%; 15,45%; 15,04%; 15,81%, kadar protein total 8,30%; 7,10%; 7,15%; 6,80%, kadar karbohidrat (*by difference*) 68,04%; 70,24%; 70,73%; 71,06%, kadar gula total 22,64%; 16,52%; 13,03%; 17,66%, kadar beta karoten ($\mu\text{g}/100\text{g}$) 5.919,34; 4.827,28; 3.895,73; 3.207,39, kadar serat pangan total 6,96%; 9,77%; 8,63%; 5,14%.

Kata kunci: Biskuit, gula kelapa kristal, sorbitol, stevia, tepung labu kuning, tepung uwi

SUMMARY

Biscuit is a dry food product made from the baking process of dough containing fat and flour as the basic ingredients. Generally, biscuit are made from wheat flour. In this study, used uwi (*Dioscorea alata*) flour and pumpkin flour for making biscuit. Characteristics of biscuit in general is sweet taste, but consumption of foods with sucrose sugar can cause health problems. This research also used alternative sweeteners such as crystal coconut sugar, stevia, and sorbitol. The purpose of this research was to determine the effect of proportion of uwi flour and pumpkin flour as well as variations of sweeteners on the physicochemical and sensory properties of biscuit.

The experimental design that used in this study was a Completely Randomized Design (CRD) with the factors studied were the proportion of composite flour (T) consisting of wheat flour, uwi flour, and pumpkin flour with a level of T1 (30%: 50%: 20%), T2 (30%:55%:15%), T3 (30%:60%:10%), and various types of sweeteners (P) consisting of P1 (sugar), P2 (crystal coconut sugar), P3 (stevia powder), P4 (sorbitol). In this study, observations were made in the form of chemical characteristics such as water content, ash content, fat content, total protein content, carbohydrate content (by difference), total sugar content, beta carotene content, and total dietary fiber content. The physical characteristic observed was volume expansion. Whereas, the sensory properties tested were color, aroma, texture, taste, and level of preference. The test results of physicochemical and sensory variables were analyzed using ANOVA and Duncan Multiple Range Test (DMRT) advanced test at the level $\alpha = 5\%$.

The results showed that the proportion of composite flour in the dough would increase the carbohydrate content of the biscuit, while a high proportion of pumpkin flour would increase the total fat and protein content of the biscuit. The used of crystalline coconut sugar can increase the ash content and total protein content, but reduce the volume of biscuit development. Meanwhile, the interaction of the proportion of composite flour and variations in the type of sweetener gave a significant effect on the sensory attributes of color, aroma and taste in biscuits. The four samples that were subjected to sensory tests were T2P1, T3P2, T3P3 and T3P4, the water content values that we obtained were 3.07%; 3.64%; 3.04%; 2.61%, ash content 3.72%; 3.90%; 4.05%; 3.72%, fat content 16.86%; 15.45%; 15.04%; 15.81%, total protein content 8.30%; 7.10%; 7.15%; 6.80%, carbohydrate content (by difference) 68.04%; 70.24%; 70.73%; 71.06%, total sugar content 22.64%; 16.52%; 13.03%; 17.66%, beta carotene content ($\mu\text{g}/100\text{g}$) 5,919.34; 4,827.28; 3,895.73; 3,207.39, total dietary fiber content 6.96%; 9.77%; 8.63%; 5.14%.

Keywords : Biscuit, crystal coconut sugar, sorbitol, stevia, pumpkin flour, uwi flour