RINGKASAN

Cookies merupakan salah satu jenis produk *bakery* yang sangat digemari masyarakat. Pada dasarnya pembuatan *cookies*, menggunakan tepung terigu rendah protein sehingga tepung terigu dapat disubstitusi dengan tepung jagung dan tepung almond. Kelebihan dari penggunaan tepung jagung dan almond selain untuk substitusi tepung terigu juga dapat menghasilkan *cookies* bebas gluten yang aman dikonsumsi bagi penderita autis, *gluten intolerant*, dan *lactos intolerant*. Akan tetapi kandungan protein yang dihasilkan masih rendah sehingga perlu adanya suplementasi tepung kacang koro pedang untuk meningkatkan proteinnya. Pada pembuatan *cookies* dibutuhkan juga bahan lain seperti pemanis. Pada penelitian ini jenis pemanis yang digunakan adalah gula pasir, gula kelapa kristal dan sorbitol.

Penelitian ini dilakukan dengan tujuan untuk mengetahui: 1) pengaruh suplementasi tepung kacang koro pedang terhadap karakteristik fisikokimia *cookies* berbasis tepung jagung dan tepung almond; 2) pengaruh jenis pemanis terhadap karakteristik fisikokimia *cookies* berbasis tepung jagung dan tepung almond; 3) formulasi yang tepat agar dapat menghasilkan *cookies* berbasis tepung jagung dan tepung almond dengan karakteristik terbaik.

Rancangan yang digunakan dalam penelitian ini adalah Rancangan Acak Kelompok (RAK). Faktor yang diteliti meliputi suplementasi tepung kacang koro pedang (T) dengan taraf 10% (T1), 20% (T2), dan 30% (T3); jenis pemanis (P) terdiri dari gula pasir (P1), gula kelapa kristal (P2), dan sorbitol (P3). Berdasarkan faktor tersebut diperoleh 9 kombinasi perlakuan. Variabel yang diamati berupa volume pengembangan, kadar air, kadar abu, kadar lemak, kadar gula reduksi dan kadar protein terlarut. Data variabel fisikokimia dianalisis menggunakan uji ANOVA taraf 5% dan uji lanjut *Duncan Multiple Range Test* taraf 5%. Perlakuan terbaik dipilih dengan menggunakan uji indeks efektivitas.

Hasil penelitian menunjukkan bahwa suplementasi tepung kacang koro pedang berpengaruh terhadap kadar lemak dan kadar protein terlarut. Sedangkan variasi jenis pemanis berpengaruh pada kadar air, kadar abu, kadar lemak dan kadar gula reduksi. Kombinasi perlakuan terbaik pada penelitian ini yaitu *cookies* tepung jagung dan tepung almond dengan suplementasi tepung kacang koro pedang sebesar 30% dan pemanis gula pasir (T3P1). Karakteristik fisikokimia *cookies* tepung jagung dan tepung almond yang dihasilkan dari kombinasi perlakuan terbaik memiliki nilai volume pengembangan sebesar 70,99%, kadar air sebesar 3,20%, kadar abu sebesar 0,98%, kadar gula reduksi sebesar 0,20%, kadar lemak sebesar 27,77% dan kadar protein terlarut sebesar 2,76%.

SUMMARY

Cookies are one of the bakery's products favored by community. Basically, cookies are made using low-protein flour so that wheat flour can be substituted with corn flour and almond flour. The advantages of using corn flour and almonds beside to the substitution of wheat flour can also produce gluten-free cookies that are safe for consumption for patients with autism, gluten intolerant, and lactos intolerant. However, the producing cookies have a low protein content therefore needs to be supplementation of jack bean flour to increase the protein. Cookies are also needed for making other ingredients such as sweeteners. This study use white sugar, palm sugar, and sorbitol as the sweetener. The aim of this study are 1) To find out the effect of jack bean flour supplementation toward physicochmical caracteristic of the corn flour and almond flour-based cookies; 2) To find out the effect of sweeteer variation toward physicochmical caracteristic of the corn flour and almond flour-based cookies; 3)To find out of the precise combination between jack bean flour supplementation and sweetener variation that have best physicochemical characteristic of the corn flour and almond flour-based cookies.

The experimental design that used in this study was Block Randomized Design. The factors of this study were jack bean supplementation (T) with three levels that were 10% (T1), 20% (T2), 30%(T3); and sweetener variation with three levels that were white sugar (P1), palm sugar (P2), sorbitol (P3). Based on these factor, 9 combinations of treatment were obtained. Psychochemical variables which observed in this study were moisture content, ash content, fat content, reducing sugars content, dissolved protein content and volume cookies. The data was analyzed with ANOVA test 5% and further test with Duncan Multiple Range Test 5%. The best combination of treatment was chosen by using the effectiveness index test.

The result showed that jack bean suplementation had an effect on fat content and dissolve protein content. While, sweerner variation had an effect on water content, ash conten, fat content and reducing sugar content. The best combination was cookies with 30% jack bean supplementation and use white sugar as the sweetener (T3P1). The best psychochemical characteristic had a 70.99% volume cookies, 3.20% moisture content, 0.98% ash content, 0.20% reducing sugar content, 27.77% fat content,and 2.76% dissolve protein content.