# RINGKASAN

Pada umumnya tepung digunakan sebagai bahan dasar untuk pembuatan beberapa produk pangan seperti *cookies*. Dalam penelitian ini *cookies* dibuat dengan tepung sorgum dan tepung almond. Tepung sorgum dan tepung almond merupakan tepung alternatif yang memiliki kandungan bebas gluten. Selain itu, tepung almond memiliki kandungan protein yang tinggi, meningkatkan cita rasa dan dapat menggantikan penggunaan susu sebagai sumber protein dalam pembuatan *cookies*. Pada pembuatan *cookies* diperlukan bahan pemanis yaitu gula pasir dan gula kelapa kristal.

Penelitian ini bertujuan untuk: 1) mengetahui pengaruh perbandingan tepung sorgum dan tepung almond terhadap karakteristik *cookies* bebas gluten, 2) mengetahui pengaruh perbandingan jenis pemanis terhadap karakteristik *cookies* bebas gluten dan 3) mengetahui *cookies* sorgum-almond terbaik berdasarkan perbandingan tepung sorgum dan tepung almond serta variasi jenis pemanis. Penelitian ini dilakukan secara eksperimental menggunakan Rancangan Acak Kelompok (RAK) dengan 9 kombinasi perlakuan dan 3 ulangan sehingga didapat 27 unit percobaan. Faktor yang diteliti yaitu perbandingan tepung sorgum dan tepung almond (K) yang terdiri dari 1:1 (K1), 2:1 (K2) dan 3:1 (K3) serta variasi jenis pemanis (G) yang terdiri dari gula pasir (G1), campuran gula pasir dan gula kelapa kristal (G2) dan gula kelapa kristal (G3). Data kimia dan fisik dianalisis menggunakan ANOVA pada taraf 5% dan jika terdapat pengaruh nyata dilanjutkan dengan *Duncan Multiple Range Test* (DMRT) pada taraf 5%. Penentuan perlakuan terbaik dilakukan dengan uji indeks efektivitas.

Hasil penenlitian menunjukan bahwa perbandingan tepung sorgum dan tepung almond berpengaruh nyata terhadap kadar lemak dan kadar protein terlarut *cookies*, namun tidak berpengaruh nyata terhadap kadar air, kadar abu, kadar gula reduksi dan volume pengembangan *cookies*. *Cookies* dengan perbandingan tepung sorgum dan tepung almond dapat meningkatkan kadar lemak dan kadar protein terlarut. Variasi jenis pemanis yang ditambahkan berpengaruh nyata terhadap kadar abu dan kadar gula reduksi *cookies*, namun tidak berpengaruh terhadap kadar air, kadar lemak, kadar protein dan volume pengembangan *cookies*. *Cookies* dengan penambahan gula kelapa kristal memiliki kadar abu tertinggi (1,84%). *Cookies* dengan penambahan gula kelapa kristal memeliki kadar gula reduksi tertinggi (2,40%). Perlakuan terbaik dalam penelitian ini yaitu perbandingan tepung sorgum 1: tepung almond 1 (K1) dan gula kelapa kristal (G3) yang memiliki memiliki karakteristik sebagai berikut: kadar air 3,68%, kadar abu 1,85%, kadar lemak 36%, kadar protein terlarut 1,17%, kadar gula reduksi 2,38% dan volume pengembangan 76,68%.

# *SUMMARY*

*Generally flour is used as a raw ingredient for the processing of food products such as cookies. In this study cookies was made by sorghum flour and almond flour. Sorghum flour and almond flour are alternative flour which has no gluten. In addition, almond flour has a high protein content, improves taste, and can replace the used of milk as a source of protein in cookies processing. Furthermore, sweeteners are needed in cookies processing, such as sugar and crystal coconut sugar.*

*This study aimed to: 1) determine the effect of the ratio of sorghum flour and almond flour to the characteristics of gluten-free cookies, 2) determine the effect of the comparison of sweetener types to the characteristics of gluten-free cookies and 3) determine the best sorghum-almond cookies based on the comparison of sorghum and almond flour and variations in sweetener types . This study was conducted experimentally using a randomized block design (RBD) with 9 treatment combinations and 3 replications as of 27 experimental units were obtained. Factors studied were the ratio of sorghum flour and almond flour (K) consisting of 1: 1 (K1), 2: 1 (K2) and 3: 1 (K3) as well as sweetener variations (G) consisting of granulated sugar (G1 ), a mixture of granulated sugar and crystalline coconut sugar (G2) and crystalline coconut sugar (G3). Chemical and physical properties data were analyzed using ANOVA at 5% level and if there were a significant difference continued with Duncan Multiple Range Test (DMRT) at 5% level. Determination of the best treatment iwere analyzed using effectiveness index test.*

*The results showed that the ratio of sorghum flour and almond flour had a significant effect on fat content and dissolved protein levels of cookies, but did not significantly affect water content, ash content, reducing sugar levels and baking expansion. Cookies by comparison of sorghum flour and almond flour can increase fat content and dissolved protein levels. Sweetener variations had a significant effect on the ash content and reducing sugar levels, but did not affect the water content, fat content, dissolved protein content and baking expansion. Cookies with the addition of crystalline coconut sugar has the highest ash content (1.84%). Cookies with the addition of crystalline coconut sugar have the highest reducing sugar content of (2.40%). The best treatment in this study was the cookies with 1:1 ratio of sorghum flour almond flour 1 (K1) and crystal coconut sugar (G3) which has the following characteristics: water content 3.68%, ash content 1.85%, fat content 36%, dissolved protein content 1,17%, reducing sugar levels 2.38% and baking expansion 76.68%.*