RINGKASAN

Produk olahan kacang tanah di Indonesia masih perlu dikembangkan mengingat kandungan komponennya yang potensial sebagai produk pangan fungsional. Namun, pengolahan kacang tanah mempunyai kelemahan, yaitu adanya bau langu dan kandungan aflatoksin pada produk. Fermentasi dan germinasi merupakan cara untuk mengatasi kelemahan tersebut. Formulasi tepung dan produk kacang tanah berbasis tepung hasil fermentasi dan germinasi yang bersifat komersial maupun penelitian belum banyak dilakukan. Sehingga perlu dilakukan penelitian untuk mendapatkan formula tepung kacang tanah germinasi dan fermentasi terbaik berdasarkan karakteristik fisikokimia dan organoleptiknya.

Rancangan penelitian yang digunakan adalah rancangan acak kelompok (RAK), diulang sebanyak tiga kali. Faktor yang digunakan dalam pembuatan kacang tanah *powder* germinasi (KTPG) lama germinasi (24 jam, 28 jam, 32 jam, dan 36 jam) dan waktu pengeringan (24 jam, 26 jam, 28 jam). Faktor yang digunakan dalam pembuatan kacang tanah *powder* fermentasi (KTPF) adalah konsentrasi laru tempe (3%, 5%, dan 7%) serta waktu inkubasi (24 jam, 28 jam, 32 jam, 36 jam). Pada penelitian ini dilakukan analisa terhadap karakteristik KTPG dan KTPF yang dihasilkan, seperti rendemen, kadar air, kadar protein terlarut, kadar asam lemak bebas, kadar gula reduksi, kadar serat kasar, dan uji organoleptik terhadap atribut warna, aroma, tekstur, rasa dan *overall acceptability*. Data fisikokimia yang diperoleh kemudian diuji dengan ANOVA taraf 5% dan jika terdapat pengaruh nyata maka dilanjutkan dengan uji *Duncan Multiple Range Test* (DMRT) dengan taraf 5%. Data organoleptik yang diperoleh dianalisis dengan uji Friedman. Sampel terbaik diperoleh dari uji indeks efektivitas. Seluruh analisis data dilakukan menggunakan *software* IBM SPSS 25 dan *Microsoft Excel*.

KTPG yang diformulasi dengan lama germinasi 36 jam dan waktu pengeringan 28 jam memberikan karakteristik terbaik yaitu memiliki rendemen sebesar 79%, kadar air sebesar 9,37%, kadar protein terlarut sebesar 26,79%, kadar asam lemak bebas sebesar 3,46%, kadar gula reduksi sebesar 0,35%, kadar serat kasar 5,14%, serta menurut panelis memiliki karakteristik warna putih, aroma agak khas kacang tanah, tekstur agak halus, rasa agak khas kacang tanah, dan *overall acceptability* agak suka. KTPF yang diformulasi dengan konsentrasi laru tempe 3% dan waktu inkubasi 24 jam menunjukkan karakteristik terbaik yaitu memiliki rendemen 60,52%, kadar air 13,47%, kadar protein terlarut 79,10%, kadar asam lemak bebas 29,27%, kadar gula reduksi 0,31%, kadar serat kasar 4,05%, serta menurut panelis memiliki karakteristik warna kuning kecoklatan, aroma agak khas kacang tanah, tekstur tidak halus, rasa tidak khas kacang tanah, dan *overall acceptability* agak suka.

Kata kunci: kacang tanah; germinasi; fermentasi; tepung kacang tanah; lama germinasi, waktu pengeringan, konsentrasi laru tempe, waktu inkubasi, karakteristik fisikokimia, karakteristik sensori.

SUMMARY

Processed peanut products in Indonesia still need to be developed beacuse the content of its potential components as functional food products. However, the processing of peanuts has a disadvantage, namely the presence of its odor and aflatoxin content in the product. Fermentation and germination are ways to overcome these weaknesses. Formulations of flour and peanut products based on fermented and germinated peanut powder that are commercial and research result has not been done much. So it is necessary to do research to get the best germination and fermentation peanut powder formula based on its physical and organoleptic characteristics.

The research design used is a randomized group design (RGD), repeated three times. Factors used for germinated peanut powder (GPP) are germination time (24 hours, 28 hours, 32 hours, and 36 hours) and drying time (24 hours, 26 hours, 28 hours). Factors used for Fermented peanut powder (FPP) are the concentration of laru tempeh (3%, 5%, and 7%) as well as incubation time (24 hours, 28 hours, 32 hours, 36 hours). In this study, an analysis of the characteristics of GPP and FPP produced, such as yield, moisture content, dissolved protein content, free fatty acid content, reduced sugar content, crude fiber content, and organoleptic tests of colors, aromas, textures, tastes and overall acceptability. The physicochemical data obtained is then tested with ANOVA level of 5% and if there is a significant difference then continued with the Duncan Multiple Range Test (DMRT) with a level of 5%. The organoleptic data obtained was analyzed with the Friedman test. The best samples are obtained from the effectiveness index test. All data analysis is done using IBM SPSS 25 and Microsoft Excel.

KTPG formulated with a germination time of 36 hours and a drying time of 28 hours provides the best characteristics of having a yield of 79%, moisture content of 9.37%, dissolved protein content of 26.79%, free fatty acid content of 3.46%, reduced sugar content of 0.35%, crude fiber content of 5.14%, and according to panelists it has white color characteristics, a rather distinctive aroma of peanuts, the texture is rather smooth, the taste is rather typical of peanuts, and overall acceptability is rather like. KTPF formulated with a 3% laru tempeh concentration and 24-hour incubation time showed the best characteristics of having a yield of 60.52%, moisture content of 13.47%, dissolved protein content of 79.10%, free fatty acid content of 29.27%, reduced sugar content of 0.31%, crude fiber content of 4.05%, and according to panelists has characteristics of brownish yellow color, a rather distinctive aroma of peanuts, non-smooth texture, the taste is not typical of peanuts, and overall acceptability is rather like.

Keywords: peanuts; germination; fermentation; peanut powder; germination time, drying time, concentration of laru tempeh, incubation time, physicochemical characteristics, sensory characteristics.