

ABSTRACT

A STUDY OF MAKING PROTEIN-RICH DRIED NOODLES FROM WAXY CASSAVA AND PORANG GLUCOMANNAN FLOURS

By

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This study aims to determine the effect of the formulation of waxy cassava flour and glucomannan porang on the physical, chemical, and sensory characteristics of the best protein-rich dry noodles according to SNI 01-2974-1996. This study was conducted using the Completely Randomized Block Design (CRBD) with a single treatment and four replications. The concentration of waxy cassava flour and porang glucomannan consisted of 7 levels, namely T0 (control wheat flour), T1 (100 : 0) g, T2 (97,5 : 2,5) g, T3 (95 : 5) g, T4 (92,5 : 7,5) g, T5 (90 : 10) g and T6 (87,5 : 12,5) g. The research consisted of the process of making glucomannan flour, waxy cassava flour, and dry noodles. Physical testing was conducted on cooking loss, sensory color, texture, aroma, taste, and overall acceptance. Chemical testing was conducted on water and ash content. The best treatments were tested based on the contents of fat, protein, and carbohydrate. The data obtained were analyzed for similarity of variance with the Bartlett test and the additional data with the Tuckey test. The data were analyzed for variance and further analyzed with BNT at the level of 5%. The study results indicate that the increase of porang glucomannan flour concentration significantly affects the physical and sensory properties of dry noodle which included cooking loss, color, texture, aroma and taste of dry noodles. The formulation of waxy cassava flour and porang glucomannan (97,5 : 2,5) gave the best characteristics of dry noodles with an aroma score of 1,78 (very typical of waxy cassava), taste score of 1,92 (very typical of waxy cassava), color score of 3,70 (white), texture score 3,05 (quite easy to break), overall acceptance score 3,12 (slightly likable), moisture content of 8,30%, ash content of 2,20%, protein content of 14,72 %, fat content of 12,46%, and carbohydrate content of 62,32%.

Keywords: *dry noodles, glucomannan, waxy cassava, Channa striata*

ABSTRAK

KAJIAN PEMBUATAN MIE KERING KAYA PROTEIN DARI TEPUNG UBI KAYU WAXY DAN GLUKOMANAN PORANG

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Penelitian ini bertujuan untuk mengetahui pengaruh formulasi tepung ubi kayu *waxy* dan glukomanan porang terhadap karakteristik fisik, kimia, dan sensori mie kering kaya protein terbaik sesuai SNI 01-2974-1996. Penelitian ini disusun dalam Rancangan Acak Kelompok Lengkap (RAKL) dengan perlakuan tunggal dan empat kali ulangan. Konsentrasi tepung ubi kayu *waxy* dan glukomanan porang terdiri dari 7 taraf yaitu P0 (kontrol tepung terigu), P1 (100 : 0) g, P2 (97,5 : 2,5) g, P3 (95 : 5) g, P4 (92,5 : 7,5) g, P5 (90 : 10) g dan P6 (87,5 : 12,5) g. Penelitian terdiri dari proses pembuatan tepung glukomanan porang, tepung ubi kayu *waxy*, dan pembuatan mie kering. Pengujian fisik dilakukan terhadap cooking loss, sensori warna, tekstur, aroma, rasa, dan penerimaan keseluruhan. Pengujian kimia dilakukan terhadap kadar air dan abu. Perlakuan terbaik diuji kadar lemak, protein, dan karbohidrat. Data yang diperoleh dianalisis kesamaan ragamnya dengan uji Bartlett dan kementerian data dengan uji Tuckey. Data selanjutnya dianalisis sidik ragam dan dianalisis lanjut dengan BNT pada taraf 5%. Hasil penelitian menunjukkan bahwa peningkatan konsentrasi tepung glukomanan porang berpengaruh nyata terhadap sifat fisik dan sensori mie kering yang meliputi cooking loss, warna, tekstur, aroma dan rasa mie kering. Formulasi tepung ubi kayu *waxy* dan glukomanan porang (97,5 : 2,5) memberikan karakteristik mie kering kaya protein terbaik dengan skor aroma 1,78 (sangat khas ubi kayu *waxy*), skor rasa 1,92 (sangat khas ubi kayu *waxy*), skor warna 3,70 (putih), skor tekstur 3,05 (agak mudah patah), skor penerimaan keseluruhan 3,12 (agak suka), kadar air 8,30%, kadar abu 2,20%, cooking loss 3,89%, kadar protein 14,72%, kadar lemak 12,46%, dan kadar karbohidrat 62,32%.

Kata kunci: mie kering, glukomanan, ubi kayu *waxy*, *Channa striata*