

Kadar Air, Abu, Tingkat Kekerasan, dan Warna Biskuit Tepung Mocaf dengan Substitusi Tepung Kacang Merah (*Phaseolus vulgaris L.*) dan Tepung Biji Kluwih (*Artocarpus camansi*)

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ABSTRAK

Latar Belakang : Anak autis mengalami ketidaksempurnaan enzim pencernaan dan *picky eaters*, sehingga perlu pengembangan produk bebas gluten dan kasein (GFCF) dan sesuai preferensi makan anak autis yang menyukai tekstur renyah dan warna coklat.

Tujuan: Menganalisis pengaruh substitusi tepung kacang merah dan biji kluwih terhadap kadar air, kadar abu, *hardness*, dan warna.

Metode : Penelitian eksperimental RAL dengan 4 formulasi, yaitu F0=100:0:0, F1=30:52,5:17,5, F2=30:35:35, F3=30:17,5:52,5. Analisis kadar air, kadar abu, *hardness*, dan warna masing-masing menggunakan metode gravimetri, *texture analyzer*, dan *Hunter*. Analisis statistik kadar air dan warna menggunakan *One way Anova* dengan uji lanjut *Duncan*, sedangkan kadar abu dan *hardness* menggunakan *Kruskal-Wallis* dengan uji lanjut *Post Hoc*.

Hasil : Terdapat pengaruh nyata pada formulasi terhadap kadar air, kadar abu, *hardness*, warna L*, dan warna b* ($p < 0,05$). Akan tetapi, tidak terdapat pengaruh nyata terhadap warna a* ($p > 0,05$). Rata-rata kadar air, kadar abu, *hardness*, warna L*, warna a*, dan warna b*, yaitu (1,21–3,09%), (1,51–2,21%), (7,26–19,41 N), (41,2–60,52 N), (15,93 – 16,84), (23,36 – 31,76).

Simpulan : Semakin banyak substitusi tepung kacang merah, meningkatkan kadar air, kadar abu, *hardness*, dan a*, sedangkan tepung kluwih meningkatkan L* dan b*. Tekstur biskuit belum sesuai dengan preferensi, namun warna sudah sesuai.

Kata Kunci : autisme, biskuit, kacang merah, biji kluwih, fisikokimia

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Water Content, Ash, Hardness, and Color of Mocaf Flour Biscuits with Substitution of Red Bean Flour (*Phaseolus vulgaris* L.) and Kluwih Seed Flour (*Artocarpus camansi*)

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ABSTRACT

Background : Autistic children have imperfections in digestive enzymes and picky eaters, so it is important to develop gluten and casein free products (GFCE) and meet the eating preferences of autistic people.

Objective : Analyze the effect of red bean flour and kluwih seeds substitution on moisture content, ash content, hardness, and color.

Method : RAL experimental research with 4 formulations, namely F0=100:0:0, F1=30:52.5:17.5, F2=30:35:35, F3=30:17.5:52.5. Analysis of moisture content, ash content, hardness, and color using gravimetric, texture analyzer, and Hunter methods, respectively. Statistical analysis of moisture content and color used One-way Anova and Duncan, while ash content and hardness used Kruskal-Wallis and Post Hoc.

Result : There is a significant effect of formulation on moisture content, ash content, hardness, L*, and b* ($p < 0,05$). However, there is no significant effect on a* ($p > 0,05$). The average moisture content, ash content, hardness, L*, a*, and b* was (1.21-3.09%), (1.51-2.21%), (7.26-19.41 N), (41.2-60.52 N), (15.93 - 16.84), (23.36 - 31.76).

Conclusion : Increasing the substitution of red bean flour increases the moisture and ash content, hardness, and a*, while kluwih seed flour increases L* and b*. The color of the biscuits is consistent with the autism preferences, but the texture is not consistent.

Keywords : autism, biscuit, red bean, kluwih seed, physicochemistry

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