KARAKTERISTIK FISIK DAN KIMIA PADA PERMEN JELLY YANG DISUBSTITUSI GLUKOMANAN KONJAK DAN DIFORTIFIKASI FRUKTOOLIGOSAKARIDA (FOS) DAN TABURIA

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INTISARI

Latar Belakang : Permasalahan gizi yaitu masalah kekurangan asupan yang dapat menimbulkan defisiensi gizi seperti kekurangan energi protein, anemia, defisiensi iodium dan kekurangan mikronutrien lainnya. Salah satu program perbaikan gizi yang telah dikembangkan adalah Taburia. Namun, karena daya terima dan tingkat konsumsi taburia yang masih rendah, perlu adanya inovasi untuk meningkatkan daya terima dan konsumsi taburia. Produk yang dibuat adalah permen jelly yang terbuat dari bahan gelatin, glukomanan konjak, dan difortifikasi dengan taburia dan fruktooligosakarida (FOS) sesuai dengan dosis yang telah ditetapkan.
Tujuan : Mengetahui pengaruh konsentrasi gelatin dan glukomanan konjak serta fortifikasi FOS dan taburia terhadap karakteristik fisik (nilai kekerasan, elastisitas, dan kelengketan) dan kimia (kadar air, abu, pH, gula total, dan FOS) pada permen jelly.
Metode : Penelitian ini merupakan penelitian eksperimental dengan rancangan acak lengkap. Sifat fisik yang diteliti yaitu kekerasan, elastisitas, dan kelengketan. Sedangkan sifat kimia yang diteliti adalah kadar air, abu, pH, total gula, dan kadar FOS. Analisis statistik yang digunakan adalah uji Anova dan jika terdapat perbedaan dilanjutkan dengan uji lanjut Duncan.
Hasil : Adanya perbedaan yang signifikan sifat fisik nilai kekerasan dan kelengketan pada lima formulasi permen jelly ($p<0,05$) dengan nilai tertinggi secara berurutan sebesar 647,6 gr/cm^2 dan 482 gr. Perbedaan yang signifikan sifat kimia pada lima formulasi permen jelly ($p<0,05$) antara lain kadar abu dengan nilai tertinggi sebesar 0,97%, pH dengan nilai tertinggi 5,12 dan kadar FOS yang tertinggi sebesar 8,03%. Kemudian, terdapat perbedaaan yang tidak signifikan ($p>0,05$) sifat fisik permen jelly yaitu nilai elastisitas dengan nilai tertinggi sebesar 0,97 mm serta sifat kimia permen jelly yaitu kadar air dengan nilai tertinggi sebesar 29,55% dan total gula dengan nilai tertinggi sebesar 16,04%.
Kesimpulan : Dapat disimpulkan bahwa tidak terdapat perbedaan yang signifikan antara lima formulasi permen jelly terhadap nilai elastisitas, , kadar air dan total gula. Terdapat perbedaan yang signifikan nilai kekerasan, nilai kelengketan, kadar abu, pH, dan kadar FOS pada kelima formulasi permen jelly.
Kata Kunci : gelatin, glukomanan konjak, permen jelly, sifat fisik, sifat kimia, taburia, FOS

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PHYSICAL AND CHEMICAL CHARACTERISTICS OF JELLY CANDY SUBSTITUTED WITH KONJAC GLUCOMANNAN AND FORTIFIED WITH FRUCTOOLIGOSACCHARIDE (FOS) AND TABURIA

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ABSTRACT

Background: Nutritional issue of intake deficiency can lead to nutritional deficiencies such as protein-energy malnutrition, anemia, iodine deficiency and other micronutrient deficiencies. One of the nutrition improvement programs that has been developed is Taburia. In fact, the acceptance and consumption levels of taburia are still low. Therefore, there is a need for innovation to improve acceptance and consumption levels of taburia. The product are jelly candy, which are made from gelatin, konjac glucomannan, and fortified with taburia and fructooligosaccharide (FOS) in accordance with a predetermined dose.
Objective: To determine the effect of the concentration of gelatin and konjac glucomannan and the fortification of FOS and taburia for physical characteristics (hardness, elasticity, and adhesiveness) and chemical characteristics (moisture, ash, pH, total sugars, and FOS) in jelly candy.
Methods: This study was an experimental study with a completely randomized design. The physical characteristics were analyzed for hardness, elasticity, and adhesiveness. While the chemical characteristics were analyzed for moisture, ash, pH, total sugar, and levels of FOS. ANOVA test was used and test of Duncan was used if there was difference.
Results: There were significant differences in physical characteristics of hardness and adhesiveness in five-jelly candy formulations ($p < 0.05$) with the highest value in a sequence of 647.6 g/cm2 and 482 gr. The significant differences were found in the chemical characteristics in five-jelly formulations ($p < 0.05$), among others, the ash content with the highest value at 0.97%, pH highest value at 5.12 and FOS highest level at 8.03%. There were no significant differences ($p > 0.05$) in physical characteristics with the highest value of elasticity at 0.97 mm and the chemical characteristics of the water content in jelly candy with a highest value at 29.55% and total sugar highest value at 16.04%.
Conclusion: There were no significant differences between five formulations of jelly for the elasticity, moisture content and total sugar. There were significant differences in five formulations of jelly for the hardness, adhesiveness, ash content, pH, and levels of FOS.
Keywords: gelatin, konjac glucomannan, jelly, physical characteristics, chemical characteristics, taburia, FOS

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