

ABSTRACT

THE EFFECT OF CARAGENAN AND GUM ARABIC CONCENTRATION ON THE CHARACTERISTICS OF CRYSTAL GUAVA JELLY CANDY (*Psidium guajava* L.) WITH NATURAL COLOR PURPLE SWEET POTATO JUICE (*Ipomoea batatas* L.)

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This study aims to determine the effect of carrageenan and gum arabic concentrations on the chemical properties, elasticity level, and sensory properties of crystal guava jelly candy with natural purple sweet potato juice coloring and to obtain the best carrageenan and gum arabic formulations that produce crystal guava jelly candy with the best chemical properties, elasticity level, and sensory properties according to SNI 3574-2-2008 on jelly candy. The study was arranged in a Completely Randomized Block Design (RAKL) with a single factor and 4 replications. The treatments in this study were a comparison of carrageenan and gum arabic 6%: 0% (K1), 5%: 1% (K2), 4%: 2% (K3), 3%: 3% (K4), 2%: 4% (K5). The data obtained were analyzed for homogeneity using the Bartlett test and additional data using the Tuckey test, then the data were analyzed by analysis of variance (ANARA) to determine the effect between treatments. If there is a significant effect between treatments, the data is further analyzed using the Least Significant Difference Test (LSD) at the 5% level. The results showed that the formulation of carrageenan and gum arabic significantly affected the chemical properties, level of elasticity, and sensory properties of crystal guava jelly candy. The best jelly candy was treatment K2 (5% carrageenan: 1% gum arabic) which produced a texture score of 5.87 (very chewy), color score of 5.50 (very like), taste score of 5.36 (like), water content of 14.25%, ash content of 1.78%, elasticity of 2.75 mm, compactness of 0.77, reducing sugar content of 4.80%, and sucrose content of 46.90%.

Keywords: carrageenan, gum arabic, jelly candy, crystal guava

ABSTRAK

PENGARUH KONSENTRASI KARAGENAN DAN GUM ARAB TERHADAP KARAKTERISTIK PERMEN *JELLY* JAMBU KRISTAL (*Psidium guajava* L.) DENGAN PEWARNA ALAMI SARI UBI JALAR UNGU (*Ipomoea batatas* L.)

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Penelitian ini bertujuan untuk mengetahui pengaruh konsentrasi karagenan dan gum arab terhadap sifat kimia, tingkat kekenyalan, dan sifat sensori permen jelly jambu kristal dengan pewarna alami sari ubi jalar ungu dan mendapatkan formulasi karagenan dan gum arab terbaik yang menghasilkan permen jelly jambu kristal dengan sifat kimia, tingkat kekenyalan, dan sifat sensori terbaik sesuai SNI 3574-2-2008 tentang permen jelly. Penelitian disusun dalam Rancangan Acak Kelompok Lengkap (RAKL) dengan faktor tunggal dan 4 kali ulangan. Perlakuan pada penelitian ini adalah perbandingan karagenan dan gum arab 6%:0% (K1), 5%:1% (K2), 4%:2% (K3), 3%:3% (K4), 2%:4% (K5). Data yang diperoleh dianalisis kehomogenannya dengan uji Bartlett dan kemenambahan data dengan uji Tuckey, selanjutnya data dianalisis sidik ragam (ANARA) untuk mengetahui pengaruh antar perlakuan. Apabila terdapat pengaruh antar perlakuan yang nyata, data dianalisis lebih lanjut dengan Uji Beda Nyata Terkecil (BNT) pada taraf 5%. Hasil penelitian menunjukkan bahwa formulasi karagenan dan gum arab berpengaruh nyata terhadap sifat kimia, tingkat kekenyalan, dan sifat sensori permen jelly jambu kristal. Permen jelly terbaik yaitu perlakuan K2 (karagenan 5% : gum arab 1%) yang menghasilkan tesktur skor 5,87 (sangat kenyal), warna skor 5,50 (sangat suka), rasa skor 5,36 (suka), kadar air sebesar 14,25%, kadar abu sebesar 1,78%, elastisitas sebesar 2,75 mm, kekompakan sebesar 0,77, kadar gula reduksi sebesar 4,80%, dan kadar sukrosa sebesar 46,90%.

Kata kunci: karagenan, gum arab, permen jelly, jambu kristal