ABSTRACT

EFFECT OF CALCIUM LACTATE CONCENTRATION AND SODIUM ALGINATE IMMERSION TIME ON THE CHARACTERISTICS OF ROBUSTA COFFEE RAVIOLI USING THE REVERSE SPHERIFICATION METHOD

By

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The purpose of this study was to determine the effect of calcium lactate concentration and sodium alginate immersion time on the characteristics of coffee ravioli using the reverse spherification method, as well as to identify the best treatment combination. This study was conducted using a factorial Randomized Block Design (RAK) with three replications. The treatments consisted of three levels of calcium lactate concentration: K1 (0.5%), K2 (1.5%), and K3 (2.5%), and three levels of sodium alginate immersion time: W1 (4 minutes), W2 (8 minutes), and W3 (12 minutes). Yield data and sensory tests, including appearance, chewiness, aroma, and taste, were analyzed for homogeneity of variance using Bartlett's test, and data additivity was tested using Tukey's test. The data were then analyzed using analysis of variance (ANOVA) and further tested with the Least Significant Difference (BNT) test at a 5% significance level. The results showed that calcium lactate concentration and sodium alginate immersion time had a significant effect on all parameters. The best treatment was K1W3 (0.5% calcium lactate: 12 minutes), which produced ravioli with the best characteristics based on scoring test results: appearance 4.61 (very round), chewiness 4.03 (very chewy), aroma 4.42 (strong coffee aroma), and taste 4.28 (not bitter).

Keywords : Calcium lactate, coffee, ravioli, reverse spherification, sodium alginate

ABSTRAK

PENGARUH KONSENTRASI KALSIUM LAKTAT DAN LAMA PERENDAMAN SODIUM ALGINAT TERHADAP KARAKTERISTIK RAVIOLI KOPI ROBUSTA MENGGUNAKAN METODE *REVERSE SPHERIFICATION*

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Penelitian ini bertujuan untuk mengetahui pengaruh konsentrasi kalsium laktat dan lama perendaman sodium alginat terhadap karakteristik ravioli kopi dengan metode *reverse spherification* serta perlakuan terbaik dari dari konsentrasi kalsium laktat dan lama perendaman sodium alginat pada ravioli kopi. Penelitian ini dilakukan dengan menggunakan Rancangan Acak Kelompok (RAK) faktorial dengan tiga kali ulangan. Perlakuan terdiri dari 3 taraf konsentrasi kalsium yaitu K1 (0,5%), K2 (1,5%), dan K3 (2,5%) dan faktor kedua terdiri dari 3 taraf lama perendaman sodium alginat yaitu W1 (4 menit), W2 (8 menit), dan W3 (12 menit). Data rendemen dan uji sensori berupa kenampakan, kekenyalan, aroma dan rasa dianalisis kesamaan ragamnya dengan uji Bartlett dan kemenambahan datanya menggunakan uji Tuckey. Data selanjutnya dianalisis dengan sidik ragam lalu diuji lanjut dengan uji Beda Nyata Terkecil (BNT) pada taraf 5%. Hasil penelitian menunjukkan bahwa konsentrasi kalsium laktat dan lama perendaman sodium alginat berpengaruh nyata pada parameter dan perlakuan K1W3 (0,5% kalsium laktat : 12 menit) menghasilkan ravioli dengan karakteristik terbaik berdasarkan skor uji skoring yang meliputi kenampakan 4,61 (sangat bulat), kekenyalan 4,03 (sangat kenyal), aroma 4,42 (sangat khas kopi), dan rasa 4,28 (sangat tidak pahit).

Kata kunci : Kalsium laktat, kopi, ravioli, *reverse spherification*, sodium alginat