

ABSTRACT

THE EFFECT OF MALTODEXTRIN ON THE CHARACTERISTICS OF INSTANT MANGO POWDER DRINK USING FOAM MAT DRYING METHOD

By

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The abundant harvest of mango fruits requires proper handling, and one of the ways to utilize them is by processing them into instant powdered drinks. These powdered drinks necessitate the use of a filling agent called maltodextrin, which plays a crucial role in determining the characteristics of the beverage. This research aims to investigate the impact of adding maltodextrin as a filling agent on the characteristics of instant mango powdered drinks. The research method used a Completely Randomized Block Design with four replications and a single factor, which was the concentration of maltodextrin to mango pulp weight. There were six treatment levels: K0 (0%), K1 (5%), K2 (7.5%), K3 (10%), K4 (12.5%), and K5 (15%). The research data were statistically analyzed using ANOVA, followed by a Honestly Significant Difference test at a significance level of 5%. The results demonstrated that the addition of maltodextrin significantly influenced the dissolution time, moisture content, ash content, vitamin C content, and antioxidant activity of the instant mango powdered drinks. Sensory evaluation also revealed that the addition of maltodextrin had a significant impact on the color, aroma, and aftertaste of the instant mango powdered drinks. The best treatment was obtained in K5 (15% maltodextrin) with the sensory attributes included a slightly orange color, a somewhat characteristic mango aroma, a slightly bitter aftertaste, and were well-received by the panelists, with a preference a moderate liking for the color, a positive response to the aroma, and an overall enjoyment of the aftertaste.

Keywords: maltodextrin, mango, instant powdered drink

ABSTRAK

PENGARUH PENAMBAHAN MALTODEKSTRIN TERHADAP KARAKTERISTIK MINUMAN SERBUK MANGGA INSTAN DENGAN METODE FOAM MAT DRYING

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Melimpahnya jumlah buah mangga saat panen raya perlu diberikan penanganan yang baik, salah satunya diolah menjadi minuman bubuk instan. Minuman bubuk membutuhkan bahan pengisi yaitu maltodekstrin yang berperan penting terhadap karakteristik minuman. Penelitian ini bertujuan mengetahui pengaruh penambahan maltodekstrin sebagai bahan pengisi terhadap karakteristik minuman serbuk mangga instan. Metode penelitian menggunakan Rancangan Acak Kelompok Lengkap (RAKL) dengan empat ulangan dan satu faktor yaitu konsentrasi maltodekstrin terhadap berat bubuk mangga dengan enam taraf perlakuan yaitu K0 (0%), K1 (5%), K2 (7,5%), K3 (10%), K4 (12,5%), dan K5 (15%). Data dianalisis secara statistik dengan uji ANOVA dan dilanjutkan dengan uji beda nyata jujur (BNJ) pada taraf nyata 5%. Hasil penelitian menunjukkan penambahan maltodekstrin memberikan pengaruh nyata terhadap waktu larut, kadar air, dan kadar abu minuman serbuk mangga instan. Berdasarkan uji sensori perlakuan penambahan maltodekstrin berpengaruh nyata terhadap warna, aroma, dan aftertaste minuman serbuk mangga instan. Perlakuan terbaik diperoleh pada perlakuan K5 (15% maltodekstrin) dengan karakteristik mutu waktu larut 50,03 detik, kadar air 2,08%, kadar abu 0,76%, vitamin C 156,87 mg/100g bahan, aktivitas antioksidan nilai IC₅₀ 585,64 ppm, dengan karakteristik sensori warna agak oranye, aroma agak khas mangga, dan aftertaste agak pahit, serta penerimaan panelis terhadap warna agak suka, aroma suka dan aftertaste suka.

Kata Kunci: maltodekstrin, mangga, minuman serbuk instan