

PERUBAHAN FISIK SUSU BUBUK KENARI SELAMA PENYIMPANAN DENGAN PERLAKUAN KONSENTRASI MALTODEKSTRIN DAN JENIS KEMASAN

INTISARI

Oleh:

Muhammad Zuyvina Bilhaq
20/463639/TP/12917

Kacang kenari merupakan salah satu jenis kacang-kacangan yang populer di masyarakat Indonesia. Salah satu produk hasil olahan kacang kenari adalah susu kacang kenari. Namun, susu yang umum di masyarakat adalah susu hewani dan jarang ditemukan susu nabati seperti susu kacang kenari. Susu hewani mengandung gula alami yang bernama laktosa. Sebagian orang mengidap laktosa intoleran, yang mana pencernaan mereka tidak dapat mencerna laktosa. Bahan dasar utama minuman bubuk berbasis nabati adalah susu almond impor. Namun, Indonesia memiliki buah kenari yang bergizi dan bisa menggantikan susu almond. Penelitian ini memilih susu kenari sebagai pengganti susu almond dan susu hewani. Penelitian ini bertujuan untuk mengkaji pengaruh perlakuan konsentrasi maltodekstrin dan jenis kemasan terhadap perubahan fisik susu bubuk kenari selama penyimpanan. Variabel penelitian yang digunakan pada penelitian ini yaitu maltodekstrin dan kemasan. Perlakuan maltodekstrin menggunakan 3 variasi (20%, 25%, dan 30%) dan perlakuan kemasan menggunakan 3 variasi (aluminium, kertas, dan plastik). Sampel disimpan di dalam suhu ruang selama 60 hari dan pengambilan data diambil setiap 5 hari sekali. Pada penelitian ini, analisis statistik dilakukan untuk mengkaji korelasi antara variabel penelitian terhadap setiap parameter kualitas susu bubuk kenari. Analisis *Technique for Others Reference by Similarity to Ideal Solution* (TOPSIS) dilakukan untuk menentukan perlakuan variasi susu kenari yang terbaik.

Hasil penelitian menunjukkan bahwa proporsi maltodekstrin memiliki pengaruh terhadap parameter susu bubuk kenari, seperti kadar air, densitas, *solubility*, *dispersibility*, *flowability*, dan kohesivitas. Sedangkan jenis kemasan memiliki pengaruh terhadap parameter kadar air, densitas, L^* , a , b , dan *fineness modulus*. Sampel terbaik dari penelitian ini berdasarkan analisis TOPSIS adalah susu bubuk yang dikemas dengan kemasan plastik dengan proporsi maltodekstrin sebesar 20% dan dengan nilai preferensi relatif sebesar 0,763.

Kata kunci: kacang kenari, kemasan, maltodekstrin, susu kenari

Dosen Pembimbing I: Dr. Arifin Dwi Saputro, S.T.P., M.Sc, IPM., ASEAN Eng.

Dosen Pembimbing II: Dian Anggraini Suroto, S.T.P., M.P., M.Eng., Ph.D.

PHYSICAL CHANGES IN WALNUT MILK POWDER DURING STORAGE WITH MALTODEKSTRIN CONCENTRATION TREATMENT AND PACKAGING TYPE

ABSTRACT

By:

Muhammad Zuyyina Bilhaq

20/463639/TP/12917

Walnuts are one type of nut that is popular in Indonesian society. One of the processed products of walnuts is walnut milk. However, the common milk in the community is animal milk and rarely found plant-based milk such as walnut milk. Animal milk contains a natural sugar called lactose. Some people are lactose intolerant, which means their digestive system cannot digest lactose. The main base for plant-based powdered beverages is imported almond milk. However, Indonesia has nutritious walnuts that can replace almond milk. This study chose walnut milk as a substitute for almond milk and animal milk. This study aims to examine the effect of maltodextrin concentration treatment and packaging type on physical changes in walnut milk powder during storage. The research variables used in this study were maltodextrin and packaging. Maltodextrin treatment used 3 variations (20%, 25%, and 30%) and packaging treatment used 3 variations (aluminum, paper, and plastic). The samples were stored at room temperature for 60 days and data were taken every 5 days. In this study, statistical analysis was conducted to examine the correlation between the research variables and each quality parameter of walnut milk powder. Technique for Others Reference by Similarity to Ideal Solution (TOPSIS) analysis was conducted to determine the best walnut milk variation treatment.

The results showed that the proportion of maltodextrin had an influence on the parameters of walnut milk powder, such as moisture content, density, solubility, dispersibility, flowability, and cohesiveness. While the type of packaging has an influence on the parameters of water content, density, L^ , a , b , and fineness modulus. The best sample from this research based on TOPSIS analysis is milk powder packaged with plastic packaging with a proportion of maltodextrin of 20% and with a relative preference value of 0.763.*

Keywords: maltodextrin, packaging, walnut, walnut milk

Supervisors: Dr. Arifin Dwi Saputro, S.T.P., M.Sc, IPM., ASEAN Eng. and Dian Anggraini Suroto, S.T.P., M.P., M.Eng., Ph.D.