

ANALISIS KUALITAS FISIK DAN KIMIA JAGUNG MANIS

(*Zea Mays L. Saccharata*) DENGAN BERBAGAI

METODE PENGERINGAN

INTISARI

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Jagung manis merupakan tanaman hortikultura yang melimpah di Indonesia dan memiliki banyak nutrisi. Penyimpanan jagung manis segar dalam jangka panjang akan menyebabkan kualitas jagung manis berkurang. Salah satu cara untuk meminimalisir kehilangan kualitas jagung manis yakni dengan melakukan pengolahan pascapanen seperti pengeringan. Untuk mengetahui kualitas hasil pengeringan maka dilakukan penelitian dengan tujuan menganalisis perubahan sifat fisik (kadar air, susut bobot, warna, penyusutan, tekstur (kekerasan), *bulk density*, dan mikrostruktur) dan kimia (karotenoid) jagung manis selama proses pengeringan serta menentukan nilai konstanta perubahan kadar air, kekerasan dan karotenoid pada perlakuan terbaik. Penelitian ini menggunakan dua variabel yaitu metode pengering (*freeze dryer* dan *cabinet dryer*) dan suhu pengering (50°C, 60°C, dan 70°C) serta perlakuan kontrol berupa pengering efek rumah kaca. Analisis penelitian ini menggunakan ANOVA dua arah dan TOPSIS. Hasil penelitian menunjukkan FD70 merupakan perlakuan terbaik dengan nilai kadar air terendah sebesar 3,92 (%wb), susut bobot sebesar 77,59%, penyusutan sebesar 23,10%, tekstur (kekerasan) sebesar 271,7 gf, *bulk density* sebesar 0,256 g/ml, dan karotenoid sebesar 169,32 µg/g. Nilai konstanta perubahan kadar air, kekerasan dan karotenoid perlakuan FD70 sebesar -10,458%/jam, -0,0259 g/jam, dan 4,5887 (µg/g)/jam.

Kata kunci: *freeze dryer*, *cabinet dryer*, pengering rumah kaca, kualitas fisik dan kimia, jagung manis

*Analysis of Physical and Chemical Quality of Sweet Corn
(*Zea Mays L. Saccharata*) with Various Drying Method*

ABSTRACT

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Sweet corn is a horticultural plant that is abundant in Indonesia and has many nutrients. Storage of fresh sweet corn in the long term will decrease the quality of sweet corn. One way to minimize the loss of sweet corn quality is by post-harvest processing such as drying. To determine the quality of the drying results, a study was conducted with the aim of analyzing changes in the physical properties (moisture content, weight loss, color, shrinkage, texture (hardness), bulk density, and microstructure) and chemical (carotenoids) of sweet corn during the drying process and to determine the constant value of changes in water content, hardness and carotenoids in the best treatment. This study used two variables, namely drying method (freeze dryer and cabinet dryer) and drying temperature (50°C, 60°C, and 70°C) and control treatment in the form of greenhouse dryer. The analysis of this study used two-way ANOVA and TOPSIS. The results showed that FD70 was the best treatment with the lowest water content value of 3.92 (% wb), weight loss of 77.59%, shrinkage of 23.10%, texture (hardness) of 271.7 gf, bulk density of 0.256 g/ml, and carotenoids of 169.32 µg/g. The constant values of changes in water content, hardness and carotenoids in FD70 treatment were -10.458%/hour, -0.0259 g/hour, and 4.5887 (µg/g)/hour.

Keywords: freeze dryer, cabinet dryer, greenhouse dryer, physical and chemical quality, sweet corn