

Juniar Dwi Kurniawati, 2019, **Pengaruh Kombinasi Lama Pengukusan Bahan Baku dan Lama Fermentasi terhadap Kualitas Tape Singkong (*Manihot esculenta*)**, Skripsi ini dibawah Bimbingan Drs. Agus Supriyanto, M.Kes. dan Dr. Fatimah S.Si., M.Kes., Departemen Biologi, Fakultas Sains dan Teknologi, Universitas Airlangga, Surabaya.

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### ABSTRAK

Penelitian ini bertujuan untuk mengetahui pengaruh variasi lama waktu pengukusan bahan baku, variasi lama fermentasi dan kombinasi keduanya terhadap kadar glukosa dan kadar air pada tape singkong. Penelitian ini merupakan penelitian eksperimental dengan rancangan faktorial 3×3 dengan total perlakuan sebanyak 9 dan 3 kali ulangan. Variabel pertama adalah 3 variasi lama waktu pengukusan bahan baku (25 menit, 35 menit, 45 menit) dan variable kedua adalah 3 variasi lama fermentasi (2 hari, 3 hari dan 4 hari). Parameter yang diuji adalah kadar glukosa dan kadar air setelah proses fermentasi. Metode yang digunakan dalam menentukan kadar glukosa adalah metode Luff Schoorl. Sedangkan pengukuran kadar air menggunakan metode pengeringan. Hasil penelitian menunjukkan bahwa variasi lama pengukusan bahan baku menunjukkan tidak ada beda signifikan terhadap kadar glukosa. Namun, variasi lama fermentasi dan kombinasi antara lama pengukusan bahan baku dan lama fermentasi memberikan pengaruh yang berbeda signifikan terhadap kadar glukosa yang dihasilkan. Variasi lama pengukusan bahan baku tidak memberikan hasil yang berbeda signifikan terhadap kadar air. Namun, pada perlakuan variasi lama fermentasi dan kombinasi antara lama pengukusan bahan baku dan lama fermentasi menunjukkan hasil yang berbeda signifikan terhadap kadar air. Nilai kadar glukosa tertinggi dihasilkan dari perlakuan lama pengukusan bahan baku selama 45 menit dan lama fermentasi 3 hari sebesar 12,53%. Sementara itu, nilai kadar air tertinggi diperoleh pada perlakuan lama pengukusan bahan baku selama 45 menit dan lama fermentasi 4 hari sebesar 65,79%. Berdasarkan kombinasi antara lama pengukusan dan lama fermentasi, perlakuan kombinasi lama pengukusan 45 menit dan lama fermentasi 3 hari merupakan kombinasi yang menghasilkan tape singkong dengan kualitas terbaik.

Kata kunci: *Fermentasi tape singkong, Lama pengukusan, Kadar glukosa, Kadar air*

Juniar Dwi Kurniawati, 2019, **The Effect of Combination between Material Cooking Time and Fermentation Time On The Quality of Cassava Tapai (*Manihot esculenta*)**, this script was under the guidance of Drs. Agus Supriyanto, M.Kes. and Dr. Fatimah S.Si., M.Kes., Department of Biology, Faculty of Science and Technology, Airlangga University, Surabaya.

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### ABSTRACT

This research was aimed to determine the effect of variation cooking time, variation of fermentation time, and the combination between those factors to the glucose levels and water content on cassava tapai. This research was an experimental used 3×3 factorial design with 9 treatments and 3 replications. The first variable was the cooking time of material cassava tapai (25 minutes, 35 minutes, 45 minutes) and the second variable was fermentation time (2 days, 3 days, and 4 days). The dependent variables were glucose levels and water content. The measurement of glucose levels used Luff Schoorl method and water content used drying method. This research showed that variation of cooking time didn't affect the glucose levels. However, the variation of fermentation time and combination between cooking time and fermentation time affected glucose levels. The variation of cooking time didn't affect the water content. However, the variation of fermentation time and combination of both affected water content. The highest glucose levels was produced by treatment combination between cooking for 45 minutes and 3 days of fermentation that was 12,53%. Meanwhile, the highest water content was produced by treatment combination between cooking for 45 minutes and 4 days of fermentation that was 65, 79%. Based on the combination between cooking time of material cassava tapai and fermentation time, the best quality of cassava tapai was produced by treatment combination between cooking 45 minutes and 3 days of fermentation.

Keywords: *Cassava tapai fermentation, Cooking time, Glucose levels, Water content*