

ABSTRACT

STUDY OF TEMPERATURE AND LONG DRYING OF THE WHITE OYSTER MUSHROOM (*Pleurotus ostreatus*) ON CHEMICAL AND PHYSICAL OF FLOUR WHITE OYSTER MUSHROOMS

By

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White oyster mushroom (*Pleurotus ostreatus*) was a high source of vegetable protein, low fat, high productivity, and has potential as a functional food. White oyster mushrooms were easily damaged if stored too long at room temperature due to the high contents of water in white oyster mushrooms. Based on the problem, further processing was needed to prolong the shelf life of white oyster mushrooms by diversify into flour oyster mushrooms. The aim of this research was to get the best combination of temperature and drying duration on chemical and physical properties of white oyster mushroom flour.

The experimental design used was Randomized Block Design (RAK) factorially with two factors and three replications. The first factor was the temperatures of drying were (45⁰C, 50⁰C, 55⁰C). The second factor was long of drying were (20 hours, 24 hours, 28 hours, and 32 hours). The data obtained were analyzed equality with Bartlett test and the addition of data was tested with Tuckey test,

then the data were analyzed to determine the influence of the treatment. The difference between treatment data was further analyzed using Orthogonal Polynomial 5%.

The results showed that the temperature of drying of white oyster mushroom has a very significant effect on water content, protein content, yield, and color of white oyster mushroom flour, the length of drying white oyster mushroom has a significant effect on water content, yield, and color and significantly affects protein content white oyster mushroom flour. The best chemical and physical properties of white oyster mushroom flour on temperature of drying was 45°C and length of drying was 20 hours which produce moisture content 7.76%, protein content 21.82%, yield 10.23%, and color was white score 44.00 (yellowish white).

Keywords: flour oyster mushroom, drying of temperature, length of drying, chemical properties, physical properties.

ABSTRAK

KAJIAN SUHU DAN LAMA PENGERINGAN JAMUR TIRAM PUTIH (*Pleurotus ostreatus*) TERHADAP SIFAT KIMIA DAN FISIK TEPUNG JAMUR TIRAM PUTIH

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Jamur tiram putih (*Pleurotus ostreatus*) merupakan sumber protein nabati yang tinggi, rendah lemak, produktifitas tinggi, dan memiliki potensi sebagai pangan fungsional. Jamur tiram putih mudah rusak jika disimpan terlalu lama pada suhu ruang disebabkan tingginya kandungan air pada jamur tiram putih. Berdasarkan masalah tersebut, diperlukan pengolahan lebih lanjut untuk memperpanjang umur simpan jamur tiram putih dengan cara diversifikasi jamur tiram menjadi tepung jamur tiram. Penelitian ini bertujuan untuk mendapatkan kombinasi pengaruh suhu dan lama pengeringan terbaik terhadap sifat kimia dan fisik tepung jamur tiram putih.

Rancangan percobaan yang digunakan yaitu Rancangan Acak Kelompok (RAK) secara faktorial dengan dua faktor dan tiga kali ulangan. Faktor pertama adalah suhu pengeringan (45⁰C, 50⁰C, 55⁰C). Faktor kedua adalah lama pengeringan (20 jam, 24 jam, 28 jam, dan 32 jam). Data yang diperoleh dianalisis kesamaan

ragamnya dengan uji Bartlett dan kemenambahan data diuji dengan uji Tuckey, selanjutnya data dianalisis sidik ragam untuk mengetahui ada tidaknya pengaruh antar perlakuan. Untuk mengetahui perbedaan antar perlakuan data dianalisis lebih lanjut menggunakan uji lanjut Polinomial ortogonal pada taraf 5%.

Hasil penelitian menunjukkan bahwa suhu pengeringan jamur tiram putih berpengaruh sangat nyata terhadap kadar air, kadar protein, rendemen, dan warna tepung jamur tiram putih; lama pengeringan jamur tiram putih berpengaruh sangat nyata terhadap kadar air, rendemen, dan warna serta berpengaruh nyata terhadap kadar protein tepung jamur tiram putih. Sifat kimia dan fisik tepung jamur tiram putih terbaik pada perlakuan suhu pengeringan 45⁰C dan lama pengeringan 20 jam yang menghasilkan kadar air sebesar 7,76%, kadar protein sebesar 21,82%, rendemen sebesar 10,23%, dan derajat warna sebesar 44,00 (putih kekuningan) .

Kata kunci: tepung jamur tiram, suhu pengeringan, lama pengeringan, sifat kimia, sifat fisik