

Lilis Nafi'atul Hidayah, NPM 220331100015. Pengaruh Proporsi Jamur Tiram (*Pleurotus ostreatus*) Dan Gluten Dengan Penambahan Enzim Terhadap Karakteristik Daging Tiruan. Dibawah bimbingan **Cahyo Indarto, S.TP., M.P., Ph.D** dan **Dian Farida Asfan, S.T.,M.T.**

ABSTRAK

Penelitian ini bertujuan untuk mengetahui pengaruh proporsi jamur tiram (*Pleurotus ostreatus*) dan gluten secara enzimatis menggunakan enzim transglutaminase terhadap karakteristik daging tiruan. Penelitian menggunakan rancangan acak lengkap (RAL) faktorial dengan dua faktor, yaitu proporsi jamur tiram dan gluten (20%:80% dan 30%:70%) serta konsentrasi enzim transglutaminase (0%, 1%, dan 1,5%) dengan tiga kali ulangan. Parameter yang dianalisis meliputi kadar air, kadar protein, water holding capacity (WHC), tekstur (*hardness*), warna, dan uji organoleptik. Hasil penelitian menunjukkan bahwa interaksi antara proporsi jamur tiram dan gluten dengan penambahan enzim transglutaminase tidak berpengaruh signifikan terhadap kadar air, namun berpengaruh nyata terhadap tekstur (*hardness*). Formulasi proporsi bahan berpengaruh signifikan terhadap kadar protein, di mana formulasi dengan proporsi gluten lebih tinggi menghasilkan kadar protein lebih tinggi. Penambahan enzim transglutaminase berpengaruh nyata terhadap WHC, yang meningkat seiring bertambahnya konsentrasi enzim. Nilai kadar air berkisar antara 65,03%–73,66%, kadar protein antara 16,20%–17,35%, dan WHC antara 25,15%–39,16%. Tekstur terbaik diperoleh pada formulasi 30% jamur tiram dan 70% gluten dengan penambahan enzim 1%, menghasilkan struktur lebih kompak dan menyerupai daging. Berdasarkan hasil tersebut, kombinasi proporsi jamur tiram dan gluten dengan penambahan enzim transglutaminase berpengaruh terhadap karakteristik fisik, kimia, dan sensori daging tiruan. Perlakuan terbaik diperoleh pada formulasi 30% jamur tiram dan 70% gluten dengan 1% enzim, sehingga menghasilkan kualitas daging tiruan paling optimal. Penelitian ini diharapkan menjadi alternatif pengembangan produk pangan berbasis nabati yang bernilai gizi tinggi dan menyerupai daging hewani, sekaligus mendukung diversifikasi sumber protein berkelanjutan.

Kata kunci: *daging tiruan, jamur tiram, gluten, transglutaminase.*

Lilis Nafi'atul Hidayah, NPM 220331100015. *The Effect of the Proportion of Oyster Mushrooms (Pleurotus ostreatus) and Gluten Enzymatically on the Characteristics of Imitation Meat. This study was conducted under the supervision of Cahyo Indarto, S.TP., M.P., Ph.D and Dian Farida Asfan, S.T.,M.T.*

ABSTRACT

This study aimed to determine the effect of the proportion of oyster mushroom (Pleurotus ostreatus) and gluten with enzymatic treatment using transglutaminase on the characteristics of meat analog. The study employed a factorial Completely Randomized Design (CRD) with two factors: the proportion of oyster mushroom and gluten (20%:80% and 30%:70%) and the concentration of transglutaminase enzyme (0%, 1%, and 1.5%), with three replications. The analyzed parameters included moisture content, protein content, water holding capacity (WHC), texture (hardness), color, and organoleptic properties. The results showed that the interaction between the proportion of oyster mushroom and gluten with the addition of transglutaminase enzyme had no significant effect on moisture content, but significantly affected texture (hardness). The formulation significantly influenced protein content, where higher gluten proportion resulted in higher protein levels. The addition of transglutaminase enzyme significantly improved WHC, which tended to increase with higher enzyme concentrations. Moisture content ranged from 65.03% to 73.66%, protein content from 16.20% to 17.35%, and WHC from 25.15% to 39.16%. The best texture was obtained from the formulation containing 30% oyster mushroom and 70% gluten with 1% enzyme, producing a more compact structure and characteristics closer to real meat. Based on the results, the combination of oyster mushroom and gluten proportions with transglutaminase enzyme addition significantly influenced the physical, chemical, and sensory characteristics of the meat analog. The optimal treatment was obtained at 30% oyster mushroom and 70% gluten with 1% enzyme, yielding the highest quality meat analog. This study is expected to contribute to the development of plant-based food products with high nutritional value and meat-like characteristics, supporting sustainable alternative protein sources.

Keywords: meat analog, oyster mushroom, gluten, transglutaminase