

RINGKASAN

Produktivitas jamur tiram putih (*Pleurotus ostreatus*) dipengaruhi oleh kualitas dan ketersediaan media tanam. Serbuk gergaji yang selama ini digunakan sebagai media utama budidaya jamur tiram semakin terbatas ketersediaannya sehingga diperlukan bahan alternatif yang mudah diperoleh, memiliki kandungan nutrisi yang sesuai, serta dapat dimanfaatkan sebagai upaya pengelolaan limbah organik. Limbah kulit singkong dan kulit pisang merupakan bahan organik yang mengandung lignoselulosa dan berpotensi digunakan sebagai media tanam alternatif. Penelitian ini bertujuan untuk 1) mengkaji dan menganalisis pengaruh media tanam alternatif berbasis limbah kulit singkong dan kulit pisang terhadap produktivitas jamur tiram putih, dan 2) mengkaji dan menganalisis komposisi optimal media tanam alternatif terhadap produktivitas jamur tiram putih.

Penelitian dilaksanakan di lokasi budidaya jamur tiram putih di Desa Tumiyang, Kecamatan Pekuncen, Kabupaten Banyumas dan berlangsung dari bulan Maret sampai Mei 2026. Penelitian menggunakan metode Rancangan Acak Lengkap (RAL) yang terdiri atas lima perlakuan dan tiga ulangan. Perlakuan yang digunakan yaitu P0 (kontrol), P1 (25% kulit singkong), P2 (25% kulit pisang), P3 (12,5% kulit singkong + 12,5% kulit pisang), dan P4 (20% kulit singkong + 20% kulit pisang). Parameter yang diamati meliputi pertumbuhan miselium (cm), waktu kemunculan *pinhead* (hari), jumlah tubuh buah (buah), diameter tudung (cm), tinggi tangkai (cm), dan bobot basah jamur (gram). Data hasil pengamatan dianalisis menggunakan analisis ragam (ANOVA) dan dilanjutkan dengan uji Beda Nyata Terkecil (BNT) pada taraf 5%.

Hasil penelitian menunjukkan bahwa media tanam alternatif berbasis limbah kulit singkong dan kulit pisang berpengaruh terhadap seluruh parameter produktivitas jamur tiram putih. Perlakuan P2 menghasilkan pertumbuhan miselium tercepat yaitu 26,30 cm pada 21 HSI. Perlakuan P4 memberikan hasil terbaik pada sebagian besar parameter, yaitu waktu kemunculan *pinhead* tercepat (29,83 hari), jumlah tubuh buah tertinggi (20,08 buah), diameter tudung terbesar (5,43 cm), tinggi tangkai tertinggi (4,70 cm), dan bobot basah tertinggi (165,17 g). Secara umum, perlakuan P4 menunjukkan produktivitas optimal dibandingkan perlakuan lainnya. Hasil penelitian menunjukkan bahwa limbah kulit singkong dan kulit pisang berpotensi dimanfaatkan sebagai bahan tambahan media tanam alternatif yang efektif untuk meningkatkan produktivitas jamur tiram putih, mengurangi ketergantungan terhadap serbuk gergaji, serta mendukung pengelolaan limbah organik yang lebih ramah lingkungan dan bernilai ekonomis.

Kata kunci: alternatif, baglog, *Pleurotus ostreatus*, pisang, singkong

SUMMARY

The productivity of white oyster mushroom (*Pleurotus ostreatus*) is influenced by the quality and availability of the growing media. Sawdust, which has been widely used as the main substrate for oyster mushroom cultivation, is becoming increasingly limited in availability. Therefore, alternative materials that are easily obtained, contain suitable nutrients, and can be utilized as part of organic waste management are needed. Cassava peel and banana peel waste are organic materials containing lignocellulose and have the potential to be used as alternative growing media. This study aims to (1) examine the effect of alternative growing media based on cassava peel and banana peel waste on the productivity of white oyster mushrooms, and (2) determine the optimal composition of the alternative growing media to improve white oyster mushroom productivity.

The research was conducted at a white oyster mushroom cultivation site in Tumiyang Village, Pekuncen District, Banyumas Regency, from March to May 2026. The study used a Completely Randomized Design (CRD) consisting of five treatments and three replications. The treatments were P0 (control), P1 (25% cassava peel), P2 (25% banana peel), P3 (12.5% cassava peel + 12.5% banana peel), and P4 (20% cassava peel + 20% banana peel). The observed parameters included mycelial growth (cm), pinhead emergence time (days), number of fruiting bodies (pieces), cap diameter (cm), stalk height (cm), and fresh weight (grams). The data were analyzed using analysis of variance (ANOVA) followed by the Least Significant Difference (LSD) test at the 5% level.

The results showed that alternative growing media based on cassava peel and banana peel waste significantly affected all productivity parameters of white oyster mushrooms. Treatment P2 produced the fastest mycelial growth, reaching 26.30 cm at 21 days after inoculation (DAI). Treatment P4 showed the best performance in most parameters, with the fastest pinhead emergence time (29.83 days), the highest number of fruiting bodies (20.08 pieces), the largest cap diameter (5.43 cm), the highest stalk height (4.70 cm), and the highest fresh weight (165.17 g). Overall, treatment P4 demonstrated the most optimal productivity compared to the other treatments. The study indicates that cassava peel and banana peel waste have the potential to be utilized as effective additional components of alternative growing media to improve white oyster mushroom productivity, reduce dependence on sawdust, and support more environmentally friendly and economically valuable organic waste management.

Keywords: alternative, baglog, *Pleurotus ostreatus*, cassava, banana