ABSTRACT

DETERMINATION OF THE BEST PLANTING MEDIA COMPOSITION BASED ON CORN POWDER *(Zea mays L.)* AND RUBBER WOOD SAWDUST *(Hevea brasiliensis*) ON THE GROWTH AND YIELD OF OYSTER MUSHROOMS *(Pleurotus ostreatus)*

By

ARDIKA HARIFSYAH

Rubber wood sawdust, whose availability is increasingly limited due to the decline in sawmilling activities and the low rate of rubber tree replanting, necessitates the use of alternative growing media. Agricultural by-products such as corn *(Zea mays L.)* residues, which are rich in lignin, cellulose, and hemicellulose, have the potential to serve as alternative substrates. This study aimed to determine the optimal growing media composition using a combination of corn plant residues and rubber wood sawdust on the growth and yield of oyster mushrooms *(Pleurotus ostreatus).* The research employed a quantitative descriptive method with five media treatments: P0 (100% rubber wood sawdust), P1 (25% corn residue : 75% rubber sawdust), P2 (50% : 50%), P3 (75% : 25%), and P4 (100% corn residue), each replicated three times. Observed parameters included mycelium growth rate, time of fruit body emergence, number of fruit bodies, cap diameter, and fresh weight of mushrooms. Data were analyzed descriptively, and the best treatment was determined using the star notation method and Bayesian approach. The results indicated that treatment P1 (25% corn residue and 75% rubber sawdust) was the most optimal, with the highest average number of fruit bodies (12) and fresh weight (102.00 g). The Bayesian approach also confirmed P1 as the best treatment based on the economic contribution of each parameter. The utilization of a combination of corn residue and rubber sawdust supports the development of alternative growing media and the implementation of sustainable agriculture practices.

Keywords: Oyster mushroom, growing media, rubber wood sawdust, corn crop residues, growth.

ABSTRAK

PENENTUAN KOMPOSISI MEDIA TANAM TERBAIK BERBASIS SERBUK TANAMAN JAGUNG *(Zea mays L.)* DAN SERBUK KAYU KARET *(Hevea brasiliensis*) TERHADAP PERTUMBUHAN DAN HASIL JAMUR TIRAM *(Pleurotus ostreatus)*

Oleh

ARDIKA HARIFSYAH

Serbuk kayu karet yang ketersediaannya semakin terbatas akibat penurunan kegiatan penggergajian dan peremajaan tanaman karet menyebabkan perlunya alternatif bahan baku media tanam. Bahan alternatif yang memiliki kandungan lignin, selulosa, dan hemiselulosa tinggi dapat menjadi media alternatif pengganti seperti produk samping tanaman jagung *(Zea mays L.).* Penelitian bertujuan untuk menentukan komposisi media tanam terbaik dari kombinasi serbuk tanaman jagung dan serbuk kayu karet terhadap pertumbuhan dan hasil panen jamur tiram. Metode penelitian yang digunakan adalah deskriptif kuantitatif dengan lima perlakuan media yaitu P0 (100% serbuk kayu karet), P1 (25% serbuk jagung : 75% serbuk kayu karet), P2 (50% : 50%), P3 (75% : 25%), dan P4 (100% serbuk jagung), masing-masing diulang tiga kali. Parameter yang diamati meliputi kecepatan pertumbuhan miselium, umur kemunculan tubuh buah, jumlah badan buah, diameter tudung jamur, dan berat basah jamur. Data dianalisis secara deskriptif dan menentukan perlakuan terbaik menggunakan metode notasi bintang serta pendekatan metode Bayes. Hasil penelitian menunjukkan bahwa kombinasi serbuk tanaman jagung 25% dan serbuk kayu karet 75% (P1) merupakan perlakuan paling optimal berdasarkan nilai rata-rata tertinggi untuk jumlah badan buah (12 buah) dan berat basah (102,00 g). Pendekatan menggunakan metode Bayes menetapkan (P1) sebagai perlakuan terbaik berdasarkan kontribusi ekonomi dari tiap parameter. Pemanfaatan kombinasi serbuk tanaman jagung dan serbuk kayu karet mendukung pengembangan media tanam alternatif dan penerapan pertanian berkelanjutan.

Kata kunci: Jamur tiram, media tanam, serbuk kayu karet, produk samping tanaman jagung, pertumbuhan.