

Intisari

Penelitian ini bertujuan untuk mempelajari pertumbuhan jamur tiram putih (*Pleurotus ostreatus*) pada *baglog* serasah daun kakao dan serbuk gergaji, mendapatkan perbandingan campuran komposisi antara serbuk gergaji dengan serasah daun kakao yang tepat sehingga dapat digunakan sebagai media tumbuh jamur tiram putih, dan mengetahui potensi limbah media jamur tiram dalam meningkatkan pertumbuhan dan menekan perkembangan penyakit layu Fusarium tanaman tomat. Penelitian ini dibagi dalam dua bagian yaitu pertumbuhan vegetatif dan generatif jamur tiram putih dan pengaruh pupuk limbah media jamur tiram yang diperkaya *Trichoderma harzianum* terhadap perkembangan penyakit layu Fusarium pada tomat. Hasil penelitian menunjukkan bahwa pemberian komposisi serbuk gergaji dan serasah daun kakao yang berbeda untuk media tumbuh jamur tiram putih menunjukkan pengaruh berbeda pada variabel panjang koloni miselium (cm), saat muncul *pinhead* (badan buah) hari setelah pembukaan (HSP) *baglog*, dan bobot segar badan buah (g). Media yang paling bagus untuk pertumbuhan jamur tiram adalah media dengan komposisi serasah daun kakao 25%: serbuk gergaji 75% (DM). Perlakuan DM mempunyai potensi produksi rata-rata bobot segar 150,70 g/*baglog*, panjang koloni miselium 16,00 cm diukur pada hari ke-30, dan saat muncul *pinhead* pertama 14,90 HSP *baglog*. Pupuk limbah media jamur tiram yang diperkaya *T. harzianum* dapat meningkatkan pertumbuhan tanaman tomat, dan penambahan *T. harzianum* dapat menekan populasi *F. oxysporum* f.sp. *lycopersici* dan perkembangan penyakit layu Fusarium pada tomat.

Kata kunci: *Fusarium oxysporum* f.sp. *lycopersici*, jamur tiram, serasah daun kakao

Abstract

The aims of the research were studied the growth of white oyster mushrooms (*Pleurotus ostreatus*) on baglog of cocoa leaf and sawdust litter, to know the precise composition mixture of sawdust and cocoa leaf litter which were used as a growing medium for oyster mushroom, and to know the potency of medium containing oyster mushrooms waste in supporting growth of tomato and reducing the infection rate of *Fusarium* wilt on tomato. This research was divided into two parts: the vegetative and generative growth of white oyster mushrooms and the influence of fertilizer which was made from oyster mushroom waste enriched with *Trichoderma harzianum* against the development of *Fusarium* wilt on tomatoes. The results showed that different composition of sawdust and cocoa leaf litter formed for oyster mushroom growing medium gave different effects on the length of mycelial colonies (cm), pinhead's time of bud (days after the baglog opened (HSP) , and fresh fruit weight (g). The best composition for growth medium for oyster mushroom was 25% cocoa leaf litter : sawdust 75% (DM). DM treatment was potentially produced a fresh fruit with 150.70 g / baglog in weight, and 16.00 cm of mycelial colony which was measured on the 30-day, and the first pinhead appeared on 14.90 HSP. Fertilizer which was made from the medium of oyster mushrooms enriched with *T. harzianum* enhanced the growth of tomato, and increased *T. harzianum* reduced population *F. oxysporum* f.sp. *lycopersici* and infection rate of *Fusarium* wilt.

Keywords: *Fusarium oxysporum* f.sp. *lycopersici*, oyster mushrooms, cocoa leaf litter