

RINGKASAN

Pakcoy (*Brassica rapa* L.) merupakan jenis tanaman sayuran yang penting di Indonesia. Salah satu kendala peningkatan produksi pakcoy yaitu adanya serangan hama ulat krop (*Crocidolomia pavonana* F.). Pengendalian *C. pavonana* masih bertumpu pada penggunaan pestisida kimia sintetik, namun penggunaannya dapat menimbulkan dampak negatif. Oleh karena itu, perlu adanya pengendalian alternatif yang ramah lingkungan yaitu pemanfaatan jamur entomopatogen *Metarhizium anisopliae*. Selama pertumbuhannya jamur membutuhkan nutrisi yang cukup. Nutrisi jamur dapat dipenuhi dengan menggunakan media perbanyak tepung kedelai, terigu, beras, dan ketan. Penelitian ini bertujuan untuk; 1) mengetahui jenis tepung yang tepat untuk perbanyak *Metarhizium anisopliae*, 2) mengetahui pengaruh media perbanyak *Metarhizium anisopliae* dari beberapa jenis tepung terhadap mortalitas dan intensitas serangan ulat crop (*Crocidolomia pavonana* F.), 3) mengetahui pengaruh *Metarhizium anisopliae* terhadap hasil.

Penelitian dilaksanakan di Laboratorium Perlindungan Tanaman dan *Screen house* Fakultas Pertanian Universitas Jenderal Soedirman, Purwokerto, pada bulan Oktober 2018 sampai Januari 2019. Penelitian dilakukan melalui dua tahap. Penelitian tahap pertama (*in vitro*) menggunakan Rancangan Acak Lengkap (RAL) dengan 5 perlakuan dan 5 ulangan, yaitu media perbanyak PDB, tepung kedelai 2%, tepung terigu 2%, tepung beras 1,5%, dan tepung ketan 1,5%. Penelitian tahap kedua (*in planta*) menggunakan Rancangan Acak Kelompok (RAK) dengan 8 perlakuan dan 4 ulangan, setiap ulangan terdapat 2 unit tanaman, perlakuan yang diujikan yaitu kontrol negatif, kontrol positif, media perbanyak PDB, tepung kedelai 2%, tepung terigu 2%, tepung beras 1,5%, tepung ketan 1,5%, pestisida decis. Variabel pengamatan pada tahap pertama yaitu kerapatan spora, serta tahap kedua meliputi mortalitas larva, intensitas serangan, dan bobot segar tanaman. Hasil penelitian menunjukkan bahwa 1) tepung kedelai 2% merupakan media perbanyak *M. anisopliae* terbaik dengan jumlah kerapatan spora sebesar $3,08 \times 10^7$ spora/ml, 2) *Metarhizium anisopliae* yang diperbanyak pada media tepung kedelai 2% mampu menimbulkan mortalitas *C. pavonana* sebesar 28,75%, 3) pemberian *M. anisopliae* tidak berpengaruh terhadap intensitas serangan hama dan hasil tanaman.

SUMMARY

Pakcoy (Brassica rapa L.) is an important type of vegetable plant in Indonesia. One obstacle to increasing pakcoy production is the attack of cabbage caterpillar pest (Crocidolomia pavonana F.). Control of C. pavonana still relies on the use of synthetic chemical pesticides, but its use can have a negative impact. Therefore, it is necessary to have an environmentally friendly alternative control, namely the use of the entomopathogenic fungus Metarhizium anisopliae. During the growth of fungi requires adequate nutrition. Fungi nutrition can be fulfilled using propagation medium of soy flour, wheat flour, rice flour, and glutinous rice. This research was aimed to; 1) knowing the type of flour that is right for the propagation of Metarhizium anisopliae, 2) knowing the effect of the propagation media of Metarhizium anisopliae from several types of flour on the mortality and intensity of cabbage caterpillar attack (Crocidolomia pavonana F.), 3) knowing the effect of Metarhizium anisopliae on yield.

*This research was conducted in Plant Protection Laboratory and Screen house of Fakultas of Agriculture, Jenderal Soedirman University, Purwokerto, from Oktober 2018 to Januari 2019. The research was conducted through two stages. The first stage (in vitro) of the study used a completely randomized design (CRD) with 5 treatments and 5 replications, that is propagation media of PDB, 2% soybean flour, 2% wheat flour, 1,5% rice flour, 1,5% glutinous flour. The second stage (in planta) of the study used a Randomized Block Design (RBD) with 8 treatments and 4 replications, each replication has 2 units of plants, the treatments tested were negative control, positive control, propagation media of PDB, 2% soybean flour, 2% wheat flour, 1.5% rice flour, glutinous flour 1.5%, decis pesticide. The observation variable in the first stage was spore density, and the second stage included the larval mortality, intensity of attack, and fresh weight of plants. The results showed that 1) 2% soybean flour is the best *M. anisopliae* propagation medium with a total spore density of 3.08×10^7 spores / ml, 2) *Metarhizium anisopliae* which was propagated in 2% soybean flour medium was able to cause *C. pavonana* mortality of 28.75%, 3) the application *M. anisopliae* didn't have affect the intensity of pest attacks and yield.*