RINGKASAN

Walang sangit (*Leptocorisa oratorius*) merupakan hama utama pada tanaman padi yang sangat merusak dan menyebabkan petani kehilangan hasil panen antara 50 persen hingga 80 persen. Petani di Indonesia cenderung lebih memilih untuk menerapkan sistem budidaya konvensional dengan penggunaan pupuk kimia dan pestisida kimia untuk mengatasi serangan walang sangit serta memperkecil kerugian ekonomi usaha tani. Alternatif pengendalian yang tepat dan aman untuk mengatasi hama tanaman padi salah satunya yaitu pemanfaatan metabolit sekunder yang jamur entomopatogen yang merupakan alternatif pengendalian yang aman. Pertanian organik adalah teknik budidaya pertanian yang mengandalkan bahan-bahan alami tanpa menggunakan bahan-bahan kimia sintetis. Oleh karena itu dilakukan pengendalian menggunakan metabolit sekunder jamur entomopatogen yang tersarang di dalam teknik budidaya SRI dan organik. Penelitian ini bertujuan untuk mengetahui dan bagaimana pengaruh aplikasi metabolit sekunder jamur entomopatogen yang tersarang di dalam teknik budidaya terhadap intensitas serangan dan populasi hama walang sangit (*Leptocorisa acuta*).

Penelitian dilaksanakan di Laboratorium Perlindungan Tanaman, Fakultas Pertanian, Universitas Jenderal Soedirman, Purwokerto, dan lahan sawah di Desa Brobot, Kecamatan Bojongsari, Kabupaten Purbalingga. Penelitian dilaksanakan pada bulan Mei sampai Juli 2019. Penelitian ini menggunakan Rancangan Petak Tersarang. Perlakuan yang diujikan adalah teknik budidaya sebagai faktor sarang yang teridiri dari teknik budidaya Konvensional, SRI, dan Organik, sedangkan perlakuan yang menjadi faktor tersarang adalah metabolit sekunder jamur entomopatogen isolat asal Cipete, Papringan, Pasir Kulon, dan Kalisalak dengan konsentrasi 10 persen, masing-masing perlakuan diulang sebanyak empat kali. Variabel yang diamati meliputi: (1) populasi hama walang sangit, (2) populasi musuh alami, dan (3) intensitas serangan hama walang sangit. Pengamatan populasi hama dan predator dengan menggunakan pengamatan visual, yaitu dengan melihat pada setiap petak populasi hama dan predator. Pengamatan intensitas serangan dilakukan pada tanaman padi fase vegetatif dan generatif. Persentase gejala serangan hama walang sangit (*Leptocorisa acuta*) pada fase generatif dapat dilihat dari perbandingan malai yang sakit dan jumlah total malai dalam satu rumpun padi.

Hasil penelitian menunjukkan bahwa (1) perlakuan terbaik yang mampu menekan populasi hama walang sangit (*L. acuta*) adalah perlakuan perlakuan metabolit sekunder isolat jamur asal Desa Papringan dan Desa Pasir Kulon yang tersarang di dalam teknik budidaya SRI dimana tidak ditemukannya hama walang sangit pada setiap pengamatan, serta perlakuan terbaik yang mampu menekan intensitas serangan walang sangit (*L. acuta*) adalah perlakuan metabolit sekunder isolat jamur asal Desa Cipete dan Desa Pasir Kulon yang tersarang di dalam teknik budidaya organik dimana tidak ditemukannya tanaman padi yang terserang hama walang sangit. (2) metabolit sekunder dengan teknik budidaya SRI maupun Organik tidak mempengaruhi populasi musuh alami *Lycosa* sp., *Oxyopes* sp., *Argiope* sp., *Atypena* sp., *Tetrahnatha* sp., *Paederus* sp., *Coccinella* sp., dan *Ophionea* sp..

SUMMARY

Stink bug (Leptocorisa oratorius) is a major pest in rice plant that is very destructive and dangerous because farmers yield losses between 50 percent to 80 percent. Farmers in Indonesia prefer to apply conventional farming systems by using chemical fertilizers and chemical pesticides to overcome the attacks of rice pest and reduce economic losses in farming. Appropriate and safe alternative control to overcome rice plant pests, one of which is the utilization of secondary metabolites produced by entomopathogenic fungi, which are safe control alternatives. Organic farming is an agricultural farming techniques that rely on natural ingredients without the use of synthetic chemicals. Therefore the control is done using a secondary metabolites entomopathogenic fungi nested inside SRI and organic. This research aims to find out and how the influence of the application of secondary metabolites of entomopathogenic fungi lodged in the cultivation technique on the intensity of the attack and the population of pest pestitites (Leptocorisa acuta).

This research was conducted in Plant Proctetion Laborory of Agriculture Faculty, Jenderal Soedriman University and the yield on Brobot village, Bojongsari district, Purbalingga Regency, Central Java on May 2019 to July 2019. Laboratory test was used a Nested Plot Design. The treatment tested was cultivation technique as a nest factor consisting of conventional, SRI and Organic cultivation techniques, while the treatment that became a nesting factor was secondary metabolites of entomopathogenic fungi isolates from Cipete, Papringan, Pasir Kulon, and Kalisalak with a concentration of 10 percent, each treatment was repeated as much 4 replications. Variables observed included: (1) population of stink bug, (2) population of natural enemies, and (3) intensity of stinking bug attacks. Observation on the population of pests and predators using visual observations, namely by looking at each swath of the population of pests and predators. Observations of the intensity of the attacks made on rice plant vegetative and generative phase. Percentage of the pest attack symptoms stink bug (Leptocorisa acuta) on the generative phase can be seen from a comparison of the panicle and total number of panicles in one clump of rice.

The results showed that (1) the best treatment that is able to suppress the population of stink bug (L. acuta) is treatment of secondary metabolites entomopathogenic fungi isolates from Papringan Village and Pasir Kulon Village which were nested in SRI cultivation techniques, where no pest was found in any observations, and the best treatment that is able to suppress the intensity of the attack of stink bug (L. acuta) is the treatment of secondary metabolites entomopathogenic fungi isolates from Cipete Village and Pasir Kulon Village which were nested in organic cultivation techniques, where no rice plants were found that were stricken with pests and bugs, and (2) secondary metabolites and SRI fishing techniques were also found organic Lycosa sp., Oxyopes sp., Argiope sp., Atypena sp., Tetrahnatha sp., Paederus sp., Coccinella sp., and Ophionea sp.