

## RINGKASAN

Padi (*Oryza sativa* L.) merupakan komoditas penting bagi masyarakat Indonesia. Produksi padi setiap tahunnya mengalami fluktuatif. Upaya peningkatan produksi padi di Indonesia menghadapi berbagai kendala. Salah satunya adalah hama. Wereng batang cokelat (WBC) merupakan hama penting tanaman padi karena dapat menyebabkan kerusakan parah bahkan kehilangan hasil sampai 90%. Kumbang *Coccinella* sp. merupakan predator WBC yang dapat memangsa telur atau nimfa WBC. Eksplorasi kumbang *Coccinella* sp. dan WBC di lapangan perlu dilakukan untuk mengetahui populasi serta intensitas serangannya dan hubungannya terhadap peranan kumbang *Coccinella* sp. di lapangan. Uji predatisme kumbang *Coccinella* sp. terhadap mangsa utama dan alternatif juga dilakukan untuk mengetahui potensinya dalam mengendalikan WBC. Penelitian ini bertujuan untuk 1) mengetahui populasi kumbang *Coccinella* sp. dan WBC serta intensitas serangannya 2) mengetahui tingkat predatisme kumbang *Coccinella* sp. terhadap nimfa dan imago WBC serta 3) mengetahui tingkat preferensi kumbang *Coccinella* sp. terhadap mangsa alternatif.

Penelitian dilaksanakan di lima kecamatan di Kabupaten Banyumas yang merupakan daerah endemik WBC. Kecamatan tersebut adalah Kecamatan Cilongok, Kebasen, Kembaran, Jatilawang dan Sumpiuh serta Laboratorium Perlindungan Tanaman, Fakultas Pertanian, Universitas Jenderal Soedirman, Purwokerto. Penelitian dilaksanakan dari bulan Nopember 2015 - Juni 2016. Kegiatan penelitian meliputi 1) eksplorasi kumbang *Coccinella* sp. dan WBC yang dilakukan di lima kecamatan di Kabupaten Banyumas. Setiap kecamatan terdiri dari lima desa sampel. Pengambilan sampel ditentukan dengan metode *purposive random sampling*, 2) uji predatisme kumbang *Coccinella* sp. terhadap nimfa dan imago WBC. Uji predatisme dilakukan dengan membandingkan tingkat predatisme kumbang *Coccinella* sp. terhadap 2 stadia WBC (nimfa dan imago) dengan kerapatan mangsa (10, 20 dan 30 individu), 3) uji preferensi kumbang *Coccinella* sp. terhadap mangsa alternatif dilakukan dengan membandingkan tingkat preferensi kumbang *Coccinella* sp. terhadap 2 mangsa alternatif yaitu *Aphis craccivora* dan *Bemisia tabaci*.

Hasil penelitian eksplorasi menunjukkan populasi kumbang *Coccinella* sp. tertinggi yakni pada Kecamatan Jatilawang sebesar 1,34 individu/rumpun. Populasi WBC tertinggi yakni pada Kecamatan Kebasen sebesar 9,67 individu/rumpun. Intensitas serangan WBC tertinggi yakni pada Kecamatan Sumpiuh sebesar 3,54 %. Tingkat predatisme kumbang *Coccinella* sp. terhadap WBC stadia imago lebih tinggi yaitu 3,73 individu/24 jam dibandingkan stadia nimfa yang hanya 3,00/24 jam individu. Tingkat predatisme kumbang *Coccinella* sp. terhadap WBC dengan kerapatan 30 individu yaitu 4,10 individu/24 jam lebih tinggi dibandingkan kerapatan 20 dan 10 individu yang hanya 3,60 dan 2,40 individu/24 jam. Kumbang *Coccinella* sp. menyukai dua mangsa alternatif yang diperlakukan yaitu *Bemisia tabaci* dan *Aphis craccivora*.

## SUMMARY

Rice (*Oryza sativa* L.) is an important commodity for Indonesian people. Rice production is fluctuated for every year. The effort to Brown planthopper (BPH) is an important pest in rice because it can cause damage and even loss of yield up to 90%. *Coccinella* sp. beetle is BPH predator that can prey BPH egg or nymph. The exploration of the *Coccinella* sp. beetle and the BPH in the field need to be conducted to determine population as well as the intensity of the attacks BPH and its relationship to the role of the *Coccinella* sp. beetle in the field. Predation test of *Coccinella* sp. beetle to the main and alternative prey also need to be conducted to know its potential to control of BPH. The objective of this experiments were to 1) determine the population of *Coccinella* sp. beetle, Brown planthopper (BPH) and the its intensity in Banyumas 2) determine the level of predation of beetle *Coccinella* sp. against to the BPH and 3) determine the level of preference of the beetle *Coccinella* sp. against to alternative prey.

The research was conducted in five districts of Banyumas regency where was the BPH endemic area. Those districts were Cilongok, Kebasen, Kembaran, Jatilawang, Sumpiuh and Laboratory of Plant Protection, Faculty of Agriculture, University of Jenderal Soedirman, Purwokerto. The research was conducted from November 2015 to June 2016. Research activities included 1) exploration of the *Coccinella* sp. beetle and the BPH in five districts of Banyumas. Each district was composed of five sample villages. Samples were determined by using purposive random sampling method, 2) predation test of *Coccinella* sp. beetle against to BPH nymph and imago. Predation test was conducted by comparing the level of predation of *Coccinella* sp. beetle to two phases of BPH (nymph and imago) with the density of prey (10, 20 and 30 individuals), 3) Preference test of the *Coccinella* sp. beetle against to alternatives prey by comparing the level of preference of the *Coccinella* sp. beetle against the two of alternatives preys, namely *Aphis craccivora* and *Bemisia tabaci*.

The results of exploratory research showed that the highest population of *Coccinella* sp. beetle was found at Jatilawang district 1.34 individuals/clump. The highest population of BPH was found in Kebasen district 9.67 individuals/clump. The highest intensity of the BPH attack was in Sumpiuh district 3.54%. Predation level of *Coccinella* sp. beetle against to BPH imago phase was 3.73 individuals/24 hours higher than nymph phase 3.00 individuals/24 hours. Predation level of *Coccinella* sp. beetle against to BPH with density of 30 individuals was 4.10 individuals/24 hours higher than the density of 20 and 10 individuals respectively 3.60 and 2.40 individuals/24 hours. *Coccinella* sp. beetle preferred two alternative treated preys were namely *Aphis craccivora* and *Bemisia tabaci*.