

## RINGKASAN

Petani dalam budidaya cabai rawit mengalami banyak kendala, di antaranya, ialah serangan hama *Thrips* sp.. Kerusakan akibat serangannya sangat bervariasi, dari kerusakan ringan sampai kerusakan berat hingga dapat mengakibatkan kehilangan hasil panen. Pengendalian yang dilakukan petani terhadap hama ini umumnya masih menggunakan insektisida kimia sintetis yang banyak menimbulkan dampak negatif. Usaha untuk mengurangi dampak negatif tersebut dikembangkan pengendalian yang menggunakan pestisida nabati, salah satunya pestisida nabati maja-gadung. Selain itu ada juga senyawa bahan alam yaitu metabolit sekunder yang dapat digunakan untuk mengendalikan hama. Penelitian ini bertujuan untuk mengetahui pengaruh (1) aplikasi tunggal pestisida nabati maja-gadung, aplikasi tunggal metabolit sekunder BIO B-10 terhadap populasi hama *Thrips* sp., (2) aplikasi gabungan antara pestisida nabati maja-gadung dengan metabolit sekunder BIO B-10 terhadap populasi hama *Thrips* sp., (3) pengaruh aplikasi tunggal dan gabungan antara pestisida nabati maja-gadung dengan metabolit sekunder BIO B-10 terhadap tinggi tanaman, jumlah daun, dan hasil produksi tanaman (bobot buah cabai).

Penelitian ini dilaksanakan dilahan cabai milik petani Desa Karangsalam Kecamatan Kedungbanteng dari bulan November 2020 hingga Februari 2021. Penelitian ini menggunakan Rancangan Acak Kelompok Lengkap (RAKL) pola faktorial, faktor 1 yaitu pestisida nabati maja-gadung (0, 2, 8 ml/l) dan faktor 2 yaitu metabolit sekunder BIO B-10 (0, 2, 4 ml/l) dengan 3 ulangan, sehingga terdapat 9 kombinasi perlakuan. Variabel yang diamati yaitu populasi hama *Thrips* sp., populasi predator, tinggi tanaman, jumlah daun, dan bobot buah per tanaman. Hasil penelitian menunjukkan bahwa perlakuan aplikasi tunggal pestisida nabati maja-gadung dengan konsentrasi 2 ml/l dan 8 ml/l mampu menekan populasi *Thrips* sp. sebesar 21,6% dan 41,4% dibandingkan dengan kontrol. Perlakuan aplikasi tunggal metabolit sekunder BIO B-10 dengan konsentrasi 2 ml/l dan 4 ml/l mampu menekan populasi *Thrips* sp. sebesar 66,5% dan 65,5% dibandingkan dengan kontrol. Aplikasi kombinasi terbaik adalah kombinasi pestisida nabati maja-gadung 8 ml/l dan metabolit sekunder BIO B-10 dengan konsentrasi 4 ml/l yang mampu menekan populasi *Thrips* sp. sebesar 76,9% dibandingkan dengan kontrol. Perlakuan aplikasi pestisida nabati maja-gadung dan metabolit sekunder BIO B-10 tidak memberikan pengaruh terhadap tinggi tanaman, jumlah daun, dan bobot buah per tanaman.

Kata kunci: Cabai rawit, *Trips* sp., maja, gadung, dan *B. bassiana*.

## SUMMARY

*Farmers in small chili cultivation experience many obstacles, among others are pest Thrips sp. attacks. Damage due to pest Thrips sp. attacks varies widely, from minor damage to serious damage to the loss of crop yields. The control carried out by farmers to these pests, generally still uses synthetic chemical insecticides which have many negative impacts. Efforts to reduce these negative impacts have been developed to control using botanical pesticides, one of which is stone apple–intoxicating yam botanical pesticides. Other than that, there are also natural compounds, namely secondary metabolites that can be used to control pests. This study aims to determine the effect (1) of single application of stone apple–intoxicating yam botanical pesticides, single application of secondary metabolites BIO B-10 ,(2) combined application of stone apple–intoxicating yam botanical pesticides and secondary metabolites BIO B-10 on Thrips sp. populations, and (3) effect of single and combined application of stone apple–intoxicating yam botanical pesticides and secondary metabolites BIO B-10 on plant height, number of leaves and crop production (fruit weight per plant).*

*This research was carried out on chili land owned by farmers in Karangsalam Village, Kedungbanteng District from November 2020 to February 2021. This study used a factorial Completely Randomized Block Design (RAKL). Factor 1 is stone apple–intoxicating yam botanical pesticides (0, 2, 8 ml/l) and factor 2 is secondary metabolite *B. bassiana* BIO B-10 (0, 2 , 4 ml/l) with 3 replications, so there were 9 treatment combinations. The variables observed were Thrips sp. population, predator population, plant height, number of leaves, and fruit weight per plant. The results showed that the single application treatment of stone apple–intoxicating yam botanical pesticides with a concentration of 2 ml/l and 8 ml/l was able to suppress the population of Thrips sp. by 21.6% and 41.4% compared to the control. The single application treatment of BIO B-10 secondary metabolites with concentrations of 2 ml/l and 4 ml/l was able to suppress the population of Thrips sp. by 66.5% and 65.5% compared to the control. The best combination application is the combination of stone apple–intoxicating yam botanical pesticides and secondary metabolites BIO B- 10 with a concentration of 8 ml/l + 4 ml/l which is able to suppress the population of Thrips sp. by 76.9% compared to the control. The application treatment of stone apple–intoxicating yam botanical pesticides and secondary metabolites BIO B-10 did not affect plant height, number of leaves, and fruit weight per plant.*

*Keywords: Small chili, Thrips sp., maja , gadu and B. bassiana.*