

RINGKASAN

Penelitian ini dilaksanakan di lahan percobaan Fakultas Pertanian Universitas Islam Sumatera Utara, Jln. Karya Wisata, Gedung Johor, Kecamatan Medan Johor, Kabupaten Kota Madya Medan. Sumatera Utara. Dengan ketinggian tempat \pm 25mdpl. Penelitian ini dilaksanakan pada bulan Desember 2020 sampai dengan bulan April 2021. Penelitian ini bertujuan untuk mengetahui pengaruh pestisida nabati ekstrak bawang putih terhadap hama perusak tanaman dan penyakit karat daun pada tanaman kedelai.

Penelitian ini menggunakan Rancangan Acak Kelompok (RAK) Non Faktorial yaitu faktor konsentrasi pestisida nabati ekstrak bawang putih dengan empat taraf perlakuan yang diuji yaitu : S_0 (kontrol), S_1 (konsentrasi 5%), S_2 (konsentrasi 10 %) dan S_3 (konsentrasi 20%). Parameter yang diamati adalah intensitas kerusakan daun oleh serangan hama, intensitas kerusakan daun oleh serangan penyakit karat daun, persentase kerusakan polong dan produksi per plot.

Hasil penelitian menunjukkan bahwa ekstrak bawang putih mempengaruhi intensitas kerusakan daun oleh serangan hama dan intensitas serangan penyakit karat daun *phakosphora pachyrizi* , namun tidak mempengaruhi persentase kerusakan polong dan produksi biji kering .Aplikasi ekstrak kasar bawang putih pada konsentrasi 20% menunjukkan efektifitas yang baik dan menghambat serangan hama perusak daun dan penyakit karat daun *phakopsora pachyrizi*

Kata Kunci : Tanaman Kedelai, Ekstrak Bawang Putih, Hama Perusak Daun, Penyakit Karat Daun

SUMMARY

This research was conducted in the experimental field of the Faculty of Agriculture, Islamic University of North Sumatra, Jln. Tourism Work, Johor Building, Medan Johor District, Medan City District. North Sumatra. With a height of ± 25 meters above sea level. This research was conducted from December 2020 to April 2021. This study aims to determine the effect of vegetable pesticides from garlic extract on plant-destroying pests and leaf rust disease on soybeans.

This study used a non-factorial randomized block design (RAK), namely the concentration of garlic extract vegetable pesticides with four treatment levels tested, namely: S0 (control), S1 (5% concentration), S2 (10% concentration) and S3 (20% concentration). Parameters observed were intensity of leaf damage by pests, intensity of leaf damage by leaf rust disease, percentage of pod damage and production per plot.

The results showed that garlic has metabolites and allicin components which are toxic to insects and have anti-fungal and anti-microbial properties. It is used as a compound to have an effect on pests and leaf rust diseases. The sensitivity or level of concentration will have an impact on the level of damage to leaves, pods and seeds due to the influence of the active compound of garlic extract which can act as a vegetable insecticide. The application of vegetable pesticides with garlic extract had a significant effect on the intensity of leaf damage due to pests and leaf rust disease but had no significant effect on the percentage of pod damage and production per plot.

Keywords: Soybean Plants, Garlic Extract, Leaf Destroying Pests, Leaf Rust Disease