

## RINGKASAN

Penelitian ini telah dilaksanakan di Kebun Percobaan Fakultas Pertanian Universitas Islam Sumatera Utara, Jln. Karya Wisata Gedung Johor, Kota Medan. Ketinggian tempat  $\pm 25$  mdpl dengan topografi datar. Penelitian ini dilaksanakan pada bulan Februari 2025 s/d selesai.

Penelitian ini bertujuan untuk mengetahui pengaruh populasi gulma belulang (*E.indica*) terhadap pertumbuhan vegetatif tanaman jagung manis (*Z. mays saccharata*). Penelitian ini menggunakan Rancangan Acak Kelompok (RAK) non faktorial. Perlakuan yang di uji adalah populasi gulma *E. indica* dengan berbagai taraf. Adapun perlakuan yang di uji adalah: E<sub>0</sub> = Tanpa Gulma Belulang (kontrol); E<sub>1</sub> = 1 Gulma Belulang *E. indica* per polybag; E<sub>2</sub>= 2 Gulma Belulang *E. indica* per polybag; E<sub>3</sub> = 3 Gulma Belulang *E. indica* per polybag; E<sub>4</sub> = 4 Gulma Belulang *E. indica* per polybag; E<sub>5</sub>= 5 Gulma Belulang *E. indica* per polybag. Parameter pengamatan meliputi pertumbuhan vegetatif tanaman jagung manis yakni tinggi tanaman, diameter batang bobot basah dan bobot kering tanaman. Pengamatan pertumbuhan gulma belulang (*E. indica*) meliputi bobot basah dan bobot kering.

Berdasarkan hasil penelitian menunjukkan bahwa populasi gulma belulang (*E. indica*) hanya berpengaruh nyata terhadap parameter tinggi tanaman jagung manis pada umur 2 Minggu Setelah Tanam (MST). Namun, pada umur 4 dan 6 MST, populasi gulma tidak menunjukkan pengaruh yang nyata terhadap tinggi tanaman. Keberadaan gulma belulang tidak memberikan pengaruh terhadap pertumbuhan diameter batang tanaman jagung manis pada seluruh pengamatan (2, 4, dan 6 MST). Populasi gulma belulang memberikan pengaruh nyata terhadap bobot basah dan bobot kering tanaman jagung manis pada umur 6 MST. Peningkatan jumlah populasi gulma cenderung menurunkan bobot basah dan bobot kering tanaman, yang menunjukkan adanya kompetisi dalam penyerapan air, cahaya, dan unsur hara. Gulma belulang memiliki kemampuan kompetitif yang relatif terbatas terhadap tanaman jagung manis yang menunjukkan bahwa kehadiran gulma *E. indica* perlu dikendalikan sejak awal pertumbuhan untuk menghindari gangguan terhadap pertumbuhan dan hasil tanaman jagung manis.

**Kata Kunci :** Tanaman Jagung Manis, Gulma Belulang, Populasi dan Pertumbuhan.

## **SUMMARY**

*This research was conducted at the Experimental Field of the Faculty of Agriculture, Islamic University of North Sumatra, located on Jln. Karya Wisata, Gedung Johor, Medan City. The site is situated at an altitude of approximately 25 meters above sea level with flat topography. The research was carried out from February 2025 until completion.*

*This study aims to determine the effect of goosegrass (*E. indica*) population on the vegetative growth of sweet corn plants (*Z. mays saccharata*). The study employed a non-factorial Randomized Complete Block Design (RCBD). The treatment tested was the population of *E. indica* weeds at various levels. The treatments were as follows:  $E_0$  = Without Goosegrass (control);  $E_1$  = 1 *E. indica* plant per polybag;  $E_2$  = 2 *E. indica* plants per polybag;  $E_3$  = 3 *E. indica* plants per polybag;  $E_4$  = 4 *E. indica* plants per polybag;  $E_5$  = 5 *E. indica* plants per polybag. Observational parameters included the vegetative growth of sweet corn, namely plant height, stem diameter, fresh weight, and dry weight of the plant. Observations on the growth of goosegrass (*E. indica*) included measurements of fresh weight and dry weight.*

*Based on the results of the study, it was found that the population of goosegrass (*E. indica*) had a significant effect only on the plant height of sweet corn at 2 weeks after planting (WAP). However, at 4 and 6 WAP, goosegrass population did not show a significant effect on plant height. The presence of goosegrass also did not affect the stem diameter of sweet corn plants at any observation period (2, 4, and 6 WAP). In contrast, goosegrass population had a significant effect on the fresh weight and dry weight of sweet corn plants at 6 WAP. An increase in the number of goosegrass plants tended to reduce the fresh and dry biomass of sweet corn, indicating competition in the absorption of water, light, and nutrients. *E. indica* exhibits a relatively limited competitive ability against sweet corn plants, suggesting that its presence needs to be controlled from the early stages of growth to avoid adverse effects on the growth and yield of sweet corn.*

**Keywords** : Sweet Corn, Goosegrass, Population, Growth