

RINGKASAN

Jagung pipilan (*Zea mays* L.) merupakan komoditas pangan utama yang memiliki nilai ekonomi tinggi di Indonesia. Peningkatan produktivitas jagung dapat dilakukan melalui pemupukan organik dan pemberian zat pengatur tumbuh (ZPT) alami. Kohe kambing mengandung unsur hara yang bermanfaat bagi kesuburan tanah, sementara bawang merah mengandung senyawa seperti auksin dan giberelin yang dapat merangsang pertumbuhan tanaman. Penelitian ini telah dilaksanakan di lahan Percobaan Fakultas Pertanian Universitas Islam Sumatera Utara, Jln. Karya Wisata, Kelurahan Gedung Johor, Kecamatan Medan Johor, Kota Madya Medan, Provinsi Sumatera Utara Pada Ketinggian tempat ± 25 mdpl, dengan Topografi datar. Penelitian ini dilakasakan Bulan Januari sampai April 2025.

Penelitian ini bertujuan untuk mengetahui pengaruh kohe kambing terhadap pertumbuhan dan produksi jagung pipilan. Untuk mengetahui pengaruh ZPT ekstrak bawang merah terhadap pertumbuhan dan produksi jagung pipilan. Untuk mengetahui interaksi pemberian kohe kambing dan ZPT ekstrak bawang merah terhadap pertumbuhan tanaman jagung pipilan. Penelitian ini menggunakan Rancangan Acak Kelompok (RAK) faktorial yang terdiri dari 2 faktor perlakuan yaitu: Faktor pertama yaitu pemberian pupuk kohe kambing terdiri atas 4 taraf, yakni: K_0 = Tanpa kohe kambing (kontrol); K_1 = 8 ton /ha, 3,2 kg/plot; K_2 = 16 ton / ha, 6,5 kg/plot; K_3 = 24 ton / ha 8 kg/plot. Faktor kedua yaitu pemberian ZPT ekstrak bawang merah yang terdiri atas 3 taraf, yaitu: Z_0 = Tanpa ZPT ekstrak bawang merah (kontrol); Z_1 = ZPT ekstrak bawang merah (15 mL/liter); Z_2 = ZPT ekstrak bawang merah (30 mL/liter). Variabel Pengamatan yaitu terdiri dari tinggi tanaman, bobot tongkol per sampel, bobot tongkol per plot dan produksi per hektar.

Berdasarkan hasil penelitian menunjukkan bahwa pemberian pupuk kandang kambing (kohe kambing) memberikan pengaruh yang nyata terhadap pertumbuhan dan hasil tanaman jagung pipilan. Peningkatan terlihat pada tinggi tanaman, bobot tongkol per sampel, bobot tongkol per plot, hingga produksi per hektar. Perlakuan terbaik diperoleh pada dosis 8 kg/plot, yang secara konsisten menunjukkan hasil tertinggi di semua parameter. Zat Pengatur Tumbuh (ZPT) dari ekstrak bawang merah tidak memberikan pengaruh terhadap tinggi tanaman dan bobot tongkol per sampel, namun memberikan pengaruh nyata terhadap bobot tongkol per plot dan produksi per hektar. Konsentrasi 30 mL/liter menjadi perlakuan terbaik dalam meningkatkan hasil produksi jagung pipilan. Tidak terdapat interaksi yang nyata antara pemberian kohe kambing dan ZPT ekstrak bawang merah terhadap semua variabel pengamatan, sehingga masing-masing perlakuan bekerja tanpa saling mempengaruhi.

Kata Kunci : Tanaman Jagung Pipilan, Pupuk Kandang Kambing, ZPT Ekstrak Bawang Merah, Pertumbuhan dan Produksi.

SUMMARY

Pipilan corn (Zea mays L.) is a major food commodity with high economic value in Indonesia. Increasing corn productivity can be achieved through organic fertilization and the application of natural plant growth regulators (PGRs). Goat manure contains essential nutrients that enhance soil fertility, while shallots contain natural compounds such as auxins and gibberellins that can stimulate plant growth. 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 Sub-district, Medan Johor District, Medan City, North Sumatra Province, at an altitude of approximately 25 meters above sea level, with flat topography. The study was carried out from January to April 2025.

This study aims to determine the effect of goat manure on the growth and yield of shelled corn. It also aims to examine the effect of shallot extract-based plant growth regulator (PGR) on the growth and yield of shelled corn, as well as the interaction between goat manure and shallot extract PGR on the growth of shelled corn plants. The research was conducted using a factorial Randomized Complete Block Design (RCBD) consisting of two treatment factors. The first factor is the application of goat manure at four levels: K_0 = No goat manure (control); K_1 = 8 tons/ha (3.2 kg/plot); K_2 = 16 tons/ha (6.5 kg/plot); K_3 = 24 tons/ha (8 kg/plot). The second factor is the application of shallot extract PGR at three levels: Z_0 = No shallot extract PGR (control); Z_1 = Shallot extract PGR at 15 mL/liter; Z_2 = Shallot extract PGR at 30 mL/liter. The observed variables include plant height, cob weight per sample, cob weight per plot, and yield per hectare.

Based on the research results, the application of goat manure had a significant effect on the growth and yield of shelled corn. Improvements were observed in plant height, cob weight per sample, cob weight per plot, and yield per hectare. The best treatment was obtained at a dose of 8 kg/plot, which consistently showed the highest results across all parameters. The plant growth regulator (PGR) derived from shallot extract did not significantly affect plant height or cob weight per sample, but it had a significant effect on cob weight per plot and yield per hectare. A concentration of 30 mL/liter was the most effective treatment in increasing the yield of shelled corn. There was no significant interaction between the application of goat manure and shallot extract PGR on any of the observed variables, indicating that each treatment acted independently without influencing each other.

Keywords: *Shelled Corn, Goat Manure, Shallot Extract PGR, Growth and Yield.*