

RINGKASAN

Jagung manis dikenal dengan nama *sweetcorn* banyak dikembangkan di Indonesia. Jagung manis banyak dikonsumsi karena memiliki rasa yang lebih manis, aroma lebih harum, dan mengandung gula sukrosa serta rendah lemak sehingga baik dikonsumsi bagi penderita diabetes. Jagung manis memberikan keuntungan relatif tinggi bila dibudidayakan dengan baik. Permintaan pasar terhadap jagung manis terus meningkat dan peluang pasar yang besar belum dapat sepenuhnya dimanfaatkan petani dan pengusaha Indonesia karena berbagai kendala. Salah satu faktor pembatas pengembangan jagung manis di Indonesia adalah terbatasnya lahan produktif akibat adanya alih fungsi lahan pertanian ke lahan dengan kesuburan tanah rendah. Peningkatan efektivitas dan efisiensi pemupukan dapat dilakukan dengan pemberian pupuk yang berimbang dan harus sesuai dengan kebutuhan tanaman jagung agar produktivitasnya meningkat, salah satunya dengan pemberian pupuk FABA (*Fly Ash Bottom Ash*) dan NZEO-SRPlus. Tujuan penelitian ini yaitu mengetahui pengaruh pupuk FABA (*Fly Ash Bottom Ash*) dan NZEO-SRPlus terhadap pertumbuhan dan hasil tanaman jagung manis.

Penelitian telah dilaksanakan di Desa Karangwangkal, Kecamatan Purwokerto Utara, Kabupaten Banyumas. Penelitian dilakukan dengan percobaan faktorial 2 x 3 dengan menggunakan Rancangan Acak Kelompok (RAK). Faktor pertama dosis pupuk NZEO-SRPlus (N) dengan 4 aras yaitu N0 (0 kg/ha, kontrol), N1 (100 kg/ha), N2 (200 kg/ha), N3 (300 kg/ha). Faktor kedua dosis FABA (*Fly Ash Bottom Ash*) (F) dengan 3 aras yaitu F0 (0 kg/ha, kontrol), F1 (5.000 kg/ha), F2 (10.000 kg/ha). data yang diperoleh dari penelitian di analisis ragam dan apabila menunjukkan adanya perbedaan nyata maka dilakukan uji lanjut menggunakan DMRT (*Duncan's Multiple Range Test*) pada taraf kesalahan 5%.

Hasil penelitian menunjukkan bahwa dosis NZEO-SRPlus berpengaruh terhadap tinggi tanaman, jumlah daun, kehijauan daun, diameter tongkol, panjang tongkol berkelobot, bobot tongkol, bobot akar segar, bobot akar kering, bobot brangkasan segar, bobot brangkasan kering, dan indeks panen. Dosis FABA (*Fly Ash Bottom Ash*) berpengaruh terhadap panjang tongkol berkelobot, bobot akar segar, bobot akar kering, dan indeks panen. Interaksi antara dosis pupuk NZEO-SRPlus dan dosis FABA (*Fly Ash Bottom Ash*) berpengaruh terhadap variabel tinggi tanaman, kehijauan daun, diameter tongkol, panjang tongkol, bobot akar segar, bobot akar kering, dan indeks panen.

SUMMARY

Sweet corn is known as sweetcorn and is widely cultivated in Indonesia. Sweet corn is widely consumed because it has a sweeter taste, a more fragrant aroma, and contains sucrose sugar and is low in fat so it is good for diabetics. Sweet corn provides relatively high profits if cultivated properly. Market demand for sweet corn continues to increase and the large market opportunities have not been fully utilized by Indonesian farmers and entrepreneurs due to various obstacles. One of the limiting factors for the development of sweet corn in Indonesia is the limited productive land due to the conversion of agricultural land to land with low soil fertility. Increasing the effectiveness and efficiency of fertilization can be done by providing balanced fertilizers and must be in accordance with the needs of corn plants so that their productivity increases, one of which is by providing FABA (Fly Ash Bottom Ash) and NZEO-SRPlus fertilizers. The purpose of this study was to determine the effect of FABA and NZEO-SRPlus fertilizers on the growth and yield of sweet corn plants.

The research was conducted in Karangwangkal Village, North Purwokerto District, Banyumas Regency. The study was conducted with a 2 x 3 factorial experiment using a Randomized Block Design (RAK). The first factor was the dose of NZEO-SRPlus fertilizer (N) with 4 levels, namely N0 (0 kg/ha, control), N1 (100 kg/ha), N2 (200 kg/ha), N3 (300 kg/ha). The second factor was the dose of FABA (Fly ash bottom ash) (F) with 3 levels, namely F0 (0 kg/ha, control), F1 (5,000 kg/ha), F2 (10,000 kg/ha). The data obtained from the study were analyzed in variance and if there was a significant difference, further testing was carried out using DMRT (Duncan's Multiple Range Test) at an error level of 5%.

The results showed that the dose of NZEO-SRPlus affected plant height, number of leaves, leaf greenness, cob diameter, cob length with husk, cob weight, fresh root weight, dry root weight, fresh stalk weight, dry stalk weight, and harvest index. The dose of FABA (Fly ash bottom ash) affected the length of cob with husk, fresh root weight, dry root weight, and harvest index. The interaction between the dose of NZEO-SRPlus fertilizer and the dose of FABA (Fly ash bottom ash) affected the variables of plant height, leaf greenness, cob diameter, cob length, fresh root weight, dry root weight, and harvest index.