

RINGKASAN

Edamame merupakan tanaman yang termasuk kedalam kategori sayuran (*green soybean vegetable*). Edamame sebagai komoditas agribisnis cukup potensial untuk dikembangkan di agroindustri. Semua tanaman termasuk edamame memerlukan nutrisi yang disebut hara tanaman (*plant nutrient*). Kebutuhan hara baik makro atau mikro dapat dipenuhi, salah satunya melalui pemupukan. Pupuk dapat diberikan dalam bentuk padat misalnya bokashi, maupun dalam bentuk cair yang dapat disemprotkan melalui daun. Melihat kondisi lahan subur yang semakin terbatas di Indonesia, maka pengembangan edamame dapat dilakukan dengan memanfaatkan lahan sub-optimum seperti lahan pasir pantai sebagai upaya untuk meningkatkan produksi tanaman edamame. Penelitian bertujuan untuk mendapatkan dosis bokashi limbah tongkol jagung, frekuensi pupuk daun dan interaksi yang memiliki pengaruh terbaik terhadap pertumbuhan dan hasil tanaman edamame.

Penelitian dilaksanakan di *screenhouse* Fakultas Pertanian Universitas Jenderal Soedirman, Kabupaten Banyumas, Jawa Tengah dengan ketinggian 110 meter di atas permukaan laut (mdpl), mulai dari bulan November 2020 sampai Januari 2021. Rancangan yang digunakan Rancangan Acak Kelompok Lengkap (RAKL) dengan dua faktor dan tiga ulangan. Faktor pertama adalah dosis bokashi yaitu 10 ton/ha, 30 ton/ha, dan 50 ton/ha. Faktor kedua adalah frekuensi pupuk daun yaitu control/ tanpa perlakuan, 5 hari sekali, dan 10 hari sekali. Data hasil percobaan dianalisis menggunakan *analysis of varians* (ANOVA) pada taraf kesalahan 5% dan jika berbeda nyata dilanjutkan dengan uji *Duncans Multiple Range Test* (DMRT) pada taraf 5%.

Hasil penelitian menunjukkan bahwa pemberian bokashi limbah tongkol jagung dapat meningkatkan variabel luas daun sebesar 20,98%, bobot tajuk segar sebesar 47,9%, bobot tajuk kering sebesar 49,01%, bobot akar segar sebesar 78,52%, bobot akar kering sebesar 50,31%, jumlah polong per tanaman sebesar 45%, bobot polong per tanaman sebesar 58,27%, dan tidak memberikan pengaruh yang berbeda nyata pada variabel tinggi tanaman dan panjang akar. Pemberian pupuk daun dapat meningkatkan variabel bobot segar akar sebesar 45,41% dan pemberian pupuk daun tidak mempengaruhi pertumbuhan dan hasil tanaman edamame pada variabel lain. Tidak terdapat interaksi antara dosis bokashi limbah tongkol jagung dengan frekuensi pupuk daun terhadap semua variabel pertumbuhan dan hasil tanaman edamame.

Kata kunci: edamame, tanah pasir, bokashi, pupuk daun.

SUMMARY

Edamame is a plant that belongs to the category of vegetables (*green soybean vegetable*). Edamame as an agribusiness commodity has enough potential to grow in agroindustry. All plants including edamame require nutrients called plant nutrients. Nutrient needs both macro and micro can be fulfilled, one of which is through fertilization. Fertilizer can be given in solid form such as bokashi, or in liquid form that can be sprayed through the leaves. Observing that fertile land in Indonesia got more limited, the development of edamame can be done by utilizing sub-optimum land such as beach sandy soil as an effort to increase edamame plant yield production. The aim of the study was to determine the bokashi dose of corncob waste, frequency of foliar fertilizer and the interaction that had the best effect on growth and the yield production of edamame.

The research was conducted at the *screenhouse* of the Faculty of Agriculture, Jenderal Sudirman University, Banyumas Regency, Central Java with a height of 110 meters above sea level (masl), starting from November 2020 until January 2021. The design used was Complete Group Randomized Design with two factors and three repetition. The first factor is the dose of bokashi which is 10 tons/ha, 30 tons/ha, and 50 tons/ha. The second factor is the frequency of foliar fertilizers, which is control/without treatment, once every 5 days, and once every 10 days. The experimental data were analyzed using the analysis of variance (ANOVA) at an error level of 5% and if significantly different, would be continued with the Duncans Multiple Range Test (DMRT) at a 5% level.

The results showed that giving corncob waste bokashi could increase leaf width area variables by 20.98%, fresh crown weight by 47.9%, dry crown weight by 49.01%, fresh root weight by 78.52%, dry root weight. by 50.31%, the number of pods per plant by 45%, the weight of pods per plant by 58.27%, and did not give a significantly different effect on the variables of plant height and root length. The application of foliar fertilizers can increase the fresh roots weight by 45.41% and the application of foliar fertilizers does not affect the growth and yield production of edamame plants in other variables. There was no interaction between the dose of corncob waste bokashi and the frequency of foliar fertilizer on all variables of growth and yield of edamame plants.

Keywords: edamame, sandy soil, bokashi, foliar fertilizer.