

RINGKASAN

Pengembangan padi gogo di lahan kering secara intensif dan tepat merupakan suatu usaha untuk pengadaaan pangan di masa depan yang mendukung ketahanan pangan nasional terlebih di daerah terpencil. Inceptisol adalah tanah yang tergolong masih muda atau tanah yang sedang mulai berkembang dan umumnya mempunyai kesuburan yang rendah dikarenakan kandungan bahan organik tanah, kemasaman, dan kandungan beberapa unsur makro rendah. Penggunaan pupuk nitrogen merupakan salah satu cara untuk meningkatkan produksi tanaman padi, namun perlu ditingkatkan efisiennya. Pupuk NZEO-SR Plus adalah pupuk N yang berbasis zeolite dengan coating nano zeolite dan bahan humat yang mempunyai potensi meningkatkan efisiensi pemupukan N. Penelitian bertujuan untuk: 1) mengetahui pengaruh pemberian dosis dan macam pupuk N terhadap sifat kimia tanah; 2) mengetahui pengaruh pemberian dosis dan macam pupuk N terhadap pertumbuhan tanaman padi dan; 3) mengetahui interaksi antara dosis dan macam pupuk N terhadap sifat kimia tanah dan pertumbuhan tanaman padi.

Penelitian dilaksanakan selama empat bulan sejak bulan Oktober 2020 hingga Januari 2021, bertempat di lahan Desa Purwosari dan Laboratorium Tanah dan Sumberdaya Lahan, Fakultas Pertanian, Universitas Jenderal Soedirman. Rancangan penelitian yang digunakan yakni Rancangan Acak Kelompok Lengkap (RAKL). Perlakuan terdiri dari 2 faktor yaitu macam pupuk dan dosis pupuk. Variabel yang diamati meliputi variabel sifat kimia tanah: pH, daya hantar listrik (DHL), potensial redoks, C-Organik, kapasitas tukar kation (KTK), N tersedia, P tersedia, K tersedia, dan Si tersedia. Variabel pertumbuhan meliputi tinggi tanaman dan jumlah anakan produktif.

Hasil penelitian menunjukkan bahwa pemupukan mampu meningkatkan C-organik tanah sebesar 0,36% dan kapasitas tukar kation sebesar 29,28 me/100 g tanah, tinggi tanaman sebesar 72,56 cm, dan jumlah anakan produktif sebesar 12,06 batang. Perlakuan pemberian macam pupuk memberikan pengaruh terhadap C-organik sebesar 0,37 pada perlakuan P1, kapasitas tukar kation sebesar 28,84 pada perlakuan P1, dan N tersedia sebesar 2 pada perlakuan P1. Adanya interaksi antara dosis dan macam pupuk terhadap C-organik, kapasitas tukar kation, N tersedia, P tersedia, Si tersedia, dan jumlah anakan produktif.

SUMMARY

Gogo rice is a type of rice planted on dry land and relies solely on rain to moisten the soil. Gogo rice development in an intensive, well-off land, and rightly provides a future food supply that supports national food security even more in remote areas. Inceptisol is classified as young soil or soil that is starting to develop and generally low in fertility because of soil organic matter, acidity, and the low concentration of nutrients. The use of nitrogen fertilizer is one to increase the production of rice, but it needs to increase efficiency. NZEO-SR Plus fertilizer is a zeolite-based N fertilizer. This fertilizer was developed to achieve a higher use of N and to make it more environmentally efficient. The purpose of research is: 1) knowing the effects of some kind of N fertilizer on the soil's chemistry; 2) knowing the effects of some kind of N fertilizer on the growth of rice plants, and; 3) knowing the interactions of dozerz and N fertilizers on the chemical of soil and the growth of the rice plants.

Research carried out for four months from October 2020 to January 2021, at the land of Purwosari and the Soil Laboratory and Land Resource, Agriculture Faculty, Jenderal Soedirman University. The research design used was a Randomized Complete Block Design (RCBD). The treatment consists of two factors of a kind fertilizer and a dose of fertilizer. The variables observed include: pH, electrical conductivity (DHL), redox potential, C-organic, cation exchange capacity (CEC), available N, available P, available K, available Si. And plant variables include: height of plant and number of productive offspring.

The result show that a fertilizer affects on C-organic by 0,36% and effect on Cation Exchange Capacity by 29,28 me/100 g, showed an effect on height of plant by 72,56 cm, and the number of productive offspring was 12,06 stems. The treatment a kind lof fertilizer gave an effect on C-organic by 0,37% in P1 treatment, the cation exchange capacity of 28,84 in P1 treatment, and available N of 240,33 ppm in P1 treatment. There was interactions between dosing and kind of fertilizer on C-organic, cation exchange capacity, available N, available P, available Si, and the number of productive offspring.