

## RINGKASAN

Pupuk NZEO-SRPlus merupakan pupuk NZEO-SR yang diperkaya dengan Si dan coating nano zeolite dan bahan humat. Pelapisan atau coating untuk memperlambat pelepasan unsur N dari pupuk sehingga dapat meningkatkan efisiensi dan efektifitas pupuk. Tujuan penelitian ini adalah untuk mengetahui 1) pengaruh komposisi dan *coating* pupuk NZEO-SR plus terhadap beberapa sifat kimia tanah ultisol, N-Total, N-Tersedia, Si-Tersedia, C-Organik, KTK, pH H<sub>2</sub>O, dan DHL, 2) pengaruh komposisi dan *coating* pupuk NZEO-SR plus terhadap serapan N tanaman padi gogo, 3) pengaruh komposisi dan *coating* pupuk NZEO-SR plus terhadap pertumbuhan tanaman padi gogo.

Penelitian dilakukan di Laboratorium Ilmu Tanah Fakultas Pertanian, dan *screen house* Fakultas Pertanian Universitas Jenderal Soedirman. Penelitian dilaksanakan selama 5 bulan, pada bulan September 2020 sampai dengan Februari 2021. Rancangan Percobaan penelitian yang digunakan adalah Rancangan Acak Kelompok Lengkap dengan 2 faktor perlakuan dan 3 kali ulangan. Faktor pertama adalah perlakuan macam pupuk NZEO-SRPlus dan faktor kedua yaitu *coating* nano zeolite dan asam humat. Variabel yang diamati meliputi : 1). karakteristik kimia tanah : N-Total, N-Tersedia, Si-Tersedia, C-Organik, DHL, pH H<sub>2</sub>O dan KTK, 2). pertumbuhan dan hasil tanaman : tinggi tanaman dan jumlah anakan, 3) Serapan hara N dan Si.

Hasil penelitian menunjukkan bahwa perlakuan coating pupuk NZEO-SRPlus meningkatkan N-Total, N-Tersedia, Si-Tersedia, KTK, C-Organik, Serapan N dan serapan Si tanaman. Sedangkan perlakuan komposisi pupuk NZEO-SRPlus meningkatkan N-Total, N-Tersedia, Si-Tersedia, KTK, DHL, jumlah anakan, Serapan N dan serapan Si tanaman.

## SUMMARY

*NZEO-SRPlus fertilizer is an NZEO-SR fertilizer enriched with Si and nano zeolite coating and humic materials. Coatings or coatings to slow down the release of N elements from fertilizers so as to increase fertilizer efficiency and effectiveness. The purposes of this study were to determine 1) the effect of the composition and coating of NZEO-SR plus fertilizers to some of the chemical properties of ultisols, N-Total, N-Available, Si-Available, C-Organic, CEC, pH H<sub>2</sub>O, and DHL, 2) the effect of composition and coating of NZEO-SR plus fertilizer to upland rice plant N uptake, 3) the effect of composition and coating of NZEO-SR plus fertilizer to the growth of upland rice plants.*

*The research was carried out in the Laboratory of Soil Science, Faculty of Agriculture, and screen house of the Faculty of Agriculture, Jenderal Soedirman University. The research was conducted for 5 months, from September 2020 to February 2021. The experimental design used was a completely randomized block design with 2 treatment factors and 3 replications. The first factor is the treatment of NZEO-SRPlus fertilizers and the second factor is the nano zeolite coatings. The variables observed included 1) soil chemical characteristics: N-Total, N-Available, Si-Available, C-Organic, DHL, pH H<sub>2</sub>O and CEC, 2) plant growth and yield: plant height and number of tillers, 3) nutrient uptake N and Si.*

*The results showed that the NZEO-SRPlus coating treatment increased N-Total, N-Available, Si-Available, CEC, C-Organic, N uptake and Si uptake of plants. While the treatment of NZEO-SRPlus fertilizer composition increased N-Total, N-Available, Si-Available, CEC, DHL, number of tillers, N uptake and Si uptake of plants.*