

## RINGKASAN

Produksi padi di Indonesia semakin menurun, akan tetapi kebutuhan pangan beras selaras dengan jumlah penduduk yang semakin meningkat. Pemenuhan kebutuhan tersebut tidak lepas dari kendala di lapang, salah satunya adalah ketidakefisienan pupuk nitrogen. Salah satu cara untuk meningkatkan nilai efisiensi penyediaan nitrogen adalah memodifikasi pupuk tersebut dengan teknologi *coating* nano zeolit dan asam humat menjadi *slow release fertilizer*. Penelitian ini bertujuan untuk 1) Mengetahui pengaruh dosis N terhadap karakter agronomi dan hasil tanaman padi gogo, 2) Mengetahui pengaruh aplikasi macam pupuk N terhadap karakter agronomi dan hasil tanaman padi gogo, dan 3) Mengetahui pengaruh interaksi aplikasi macam pupuk dan dosis N terhadap karakter agronomi dan hasil tanaman padi gogo.

Penelitian ini dilaksanakan pada September sampai Desember 2020 di Desa Purwosari, Kecamatan Baturraden, Kabupaten Banyumas. Rancangan yang digunakan adalah Rancangan Acak Kelompok Lengkap (RAKL) dengan dua faktor perlakuan dan tiga kali ulangan. Faktor pertama adalah macam pupuk yaitu pupuk urea, NZEO-SR Plus *coating* 1%, dan NZEO-SR Plus *coating* 3%. Faktor kedua adalah dosis pupuk yaitu dosis N 0, 100, dan 200 kg/ha. Variabel yang diamati pada penelitian ini, meliputi tinggi tanaman, jumlah anakan per rumpun, luas daun, jumlah anakan produktif, panjang malai, jumlah gabah per malai, bobot kering tanaman, bobot gabah kering per tanaman, bobot gabah kering panen (GKP ton/ha), bobot 1000 biji, kadar air, indeks panen, serapan N, dan efisiensi agronomi. Data pengamatan dianalisis dengan uji F dan dilanjutkan dengan *Duncan's Multiple Range Test* (DMRT) pada taraf kesalahan 5%.

Hasil penelitian menunjukkan bahwa dosis nitrogen yang terbaik pada variabel tinggi tanaman 8 MST, jumlah anakan per rumpun, luas daun, jumlah anakan produktif, bobot gabah kering panen (ton/ha), serapan nitrogen, dan efisiensi agronomi adalah dosis N 100 kg/ha. Pupuk NZEO-SR Plus *coating* 1% memberikan hasil tertinggi terhadap jumlah anakan per rumpun 8 MST, panjang malai, dan efisiensi agronomi. Perlakuan terbaik macam pupuk dan dosis N terhadap serapan nitrogen pada perlakuan pupuk NZEO-SR Plus *coating* 3% dosis 200 kg/ha, sedangkan efisiensi agronomi pada perlakuan pupuk NZEO-SR Plus *coating* 1% dosis 100 kg/ha.

## SUMMARY

*Rice production in Indonesia is decreasing, but the need for rice food is in line with the increasing population. Fulfilling these needs cannot be separated from obstacles in the field, one of which is the inefficiency of nitrogen fertilizers. One way to increase the efficiency of nitrogen supply is to modify the fertilizer with zeolit and humic acid coating technology into a slow release fertilizer. The aims of the research were 1) The effect of N dosage on the agronomic character and yield of gogo rice 2) The effect of the application of various fertilizers N on the agronomic character and yield of gogo rice, and 3) The effect of the interaction between of various fertilizers and the dosage of N on the.*

*This research was conducted from September to December 2020 in Purwosari Village, Baturraden District, Banyumas Regency. The research was arranged by randomized complete block design (RAKL) with two factors and three replications. The first factor was the type of fertilizer which is urea fertilizer, NZEO-SR Plus coating 1%, and NZEO-SR Plus coating 3%. The second factor was the dosage of fertilizer which is the dose of N 0 kg/ha, 100 kg/ha, and 200 kg/ha. The observed were plant height, number of tillers per clump, leaf area, number of productive tillers, panicle length, number of grain per panicle, plant dry weight, dry grain weight per plant, harvested dry grain weight (ton/ha), weight of 1000 seeds, moisture content, harvest index, nitrogen uptake, and agronomic efficiency. Observation data were analyzed by the F test and continued with Duncan's Multiple Range Test (DMRT) at the 5% error level.*

*The results showed that the best nitrogen dose on the variable plant height at 8 WAP, the number of tillers per clump, leaf area, number of productive tillers, harvested dry grain weight (tonnes/ha), nitrogen uptake, and agronomic efficiency, the best dose at 100 kg/ha. The NZEO-SR Plus fertilizer coating 1% gave the highest yield for the number of tillers per clump 8 WAP, panicle length, and agronomic efficiency. The best treatment types of fertilizers and N dose on nitrogen absorption in the treatment of NZEO-SR Plus fertilizer at a coating 3% dose of 200 kg/ha, while agronomic efficiency in the treatment of NZEO-SR Plus fertilizer at a coating 1% dose of 100 kg/ha.*