

RINGKASAN

Penelitian ini bertujuan untuk (1) mengetahui efisiensi serapan nitrogen pada pemupukan N dan kombinasi pupuk hayati cair penambat N₂ dengan tricho-kompos, (2) mengetahui efisiensi serapan nitrogen pada pemupukan N, (3) mengetahui efisiensi serapan nitrogen pada kombinasi pupuk hayati cair penambat N₂ dengan tricho-kompos, (4) mengetahui pengaruh pemupukan N dan kombinasi pupuk hayati cair penambat N₂ dengan tricho-kompos terhadap pertumbuhan dan hasil padi Ciherang, (5) mengetahui pengaruh pemupukan N terhadap pertumbuhan dan hasil padi Ciherang, (6) mengetahui pengaruh kombinasi pupuk hayati cair penambat N₂ dengan tricho-kompos terhadap pertumbuhan dan hasil padi Ciherang.

Penelitian ini telah dilaksanakan di lahan sawah kebun percobaan dan laboratorium Agronomi dan hortikultura Fakultas Pertanian Universitas Jenderal Soedirman Purwokerto pada bulan Januari 2016 sampai Mei 2016. Rancangan percobaan yang digunakan yaitu Rancangan Acak Kelompok (RAK) faktorial yang terdiri dari 2 faktor dengan 3 ulangan. Faktor pertama adalah takaran pemupukan N (N) dengan taraf: N0= 0 kg/ha N, N1= 50 kg/ha N, N2= 100 kg/ha N, N3= 150kg/ha N, N4= 200 kg/ha N. Faktor kedua adalah kombinasi pupuk hayati cair penambat N₂ dengan tricho-kompos (H) dengan komposisi sebagai berikut: H0= kontrol, H1= 2 t/ha tricho-kompos, H2= 0,8 l/ha pupuk hayati cair Penambat N₂, H3= 2 t/ha tricho-kompos dan 0,8 l/ha pupuk hayati cair penambat N₂. Variabel penelitian yang diamati yaitu tinggi tanaman, jumlah anakan, bobot kering tanaman, efisiensi serapan nitrogen, jumlah gabah per malai, bobot gabah per rumpun, jumlah malai, bobot 1000 butir dan hasil gabah kering giling. Data hasil pengamatan dianalisis dengan uji F, jika berbeda nyata dilanjut dengan DMRT pada taraf kesalahan 5%.

Hasil penelitian menunjukkan bahwa (1) efisiensi serapan nitrogen pada pemupukan N tidak tergantung pada pemberian kombinasi pupuk hayati cair penambat N₂ dengan tricho-kompos, (2) semakin tinggi taraf pemupukan N yang diberikan ke tanah maka semakin tinggi pula tingkat efisiensi serapan nitrogennya, (3) efisiensi serapan nitrogen pada pemberian kombinasi pupuk hayati cair penambat N₂ dengan tricho-kompos tidak berbeda, (4) pemberian pupuk N dan kombinasi pupuk hayati cair penambat N₂ dengan tricho-kompos berpengaruh pada tinggi tanaman, (5) pemberian pupuk N berpengaruh pada tinggi tanaman, jumlah anakan, bobot kering tanaman, efisiensi serapan nitrogen, bobot gabah per rumpun dan hasil gabah kering giling, (6) pemberian kombinasi pupuk hayati cair penambat N₂ dengan tricho-kompos tidak berpengaruh terhadap pertumbuhan dan hasil padi Ciherang.

SUMMARY

This research aimed to (1) know the nitrogen uptake efficiency in the nitrogen fertilizer and the combination of biological N₂ fixing with tricho-compost, (2) know the nitrogen uptake efficiency in the nitrogen fertilizer (3) know the nitrogen uptake efficiency in the combination of biological N₂ fixing with tricho-compost,(4) know the effect of nitrogen fertilizer and the combination of biological N₂ fixing with tricho-compost on the growth and yield of ciherang rice, (5) know the effect of nitrogen fertilizer on the growth and yield of ciherang rice, (6) know the effect of the combination of biological N₂ fixing with tricho-compost on the growth and yield of ciherang rice,

The research was conducted at the rice field experiment and the laboratory of Agronomy and Horticulture of Agriculture Faculty, University of Jenderal Soedirman, Purwokerto in January 2016 to May 2016. The experimental design used was a Randomized Block Design (RBD) factorial treatment with 2 factors and 3 repetitions. The first factor was the rate of nitrogen fertilizer (N) consist of N0= 0 kg/ha N, N1= 50 kg/ha N, N2= 100 kg/ha N, N3= 150 kg/ha N, N4= 200 kg/ha N. The second factor was the combination of biological liquid N₂ fixing fertilizer with tricho-compost (H) consist of H0= control, H1= 2 t/ha tricho-compost, H2= 0,8l/ha biological liquid N₂ fixing fertilizer, H3= 2 t/ha tricho-compost and 0,8 l/ha biological liquid N₂ fixing fertilizer. The characters observed in this research were: plant height, number of tiller, dry weight of plant, nitrogen uptake efficiency, number of grains per panicle, grain weight per panicle, number of length, 1000 grain weight and dry milled grain yield. The data was analyzed using F test, followed by Duncan Multiple Range Test (DMRT) at the level of 5% error.

The results showed that (1) nitrogen uptake efficiency in the nitrogen fertilizer was not dependent on the combination of biological N₂ fixing with tricho-compost, (2) the increment addition of the rate of nitrogen fertilizer that applied to the soil increasing the nitrogen uptake efficiency, (3) nitrogen uptake efficiency in the combination of biological N₂ fixing with tricho-compost were not different,(4) nitrogen fertilizer and the combination of biological N₂ fixing with tricho-compost were effect of plant height, (5) using nitrogen fertilizer was effect of plant height, number of tillers, plant dry weight, nitrogen uptake efficiency, grain weight per panicle and dry milled grain yield, (6) the combination of biological liquid N₂ fixing fertilizer with tricho-compost were not effect on the growth and yield of ciherang rice.