

RINGKASAN

Padi merupakan salah satu komoditas yang sangat dijaga keberadaannya karena merupakan makanan pokok warga Indonesia. Padi dalam peningkatan produksinya sangat diperhatikan untuk mencukupi kebutuhan masyarakat. Untuk itu sangat diperhatikan dalam sistem dan teknik budidaya tanaman padi. Pengaplikasian pupuk merupakan hal yang sangat penting dalam menunjang pertumbuhan dan perkembangan tanaman padi. Tujuan dari penelitian ini adalah mengkaji pengaruh terbaik pemberian lima macam dosis pupuk nitrogen dan pupuk hayati, pemberian lima macam dosis pupuk nitrogen dan trichokompos, pemberian kombinasi lima macam dosis pupuk nitrogen dan kombinasi pupuk hayati dan trichokompos, dan dari ketiga macam kombinasi perlakuan yang diberikan (kelima macam dosis pupuk nitrogen yang dikombinasikan dengan pupuk hayati, trichokompos dan kombinasi pupuk hayati dan trichokompos) terhadap laju pertumbuhan dan hasil tanaman padi varietas Ciherang (*Oryza sativa*). Penelitian dilaksanakan di Laboratorium Agronomi, Fakultas Pertanian, Universitas Jenderal Soedirman, Purwokerto dan Lahan Percobaan Belakang Fakultas Biologi pada ketinggian 108 meter di atas permukaan laut. Penelitian akan dilakukan mulai bulan Februari sampai Juni 2016. Padi yang digunakan adalah varietas ciherang. Rancangan percobaan yang digunakan adalah Rancangan Acak Kelompok Faktorial. Data dianalisis dengan Uji F pada taraf 5%, dilanjutkan dengan uji *Duncan Multiple Range Test*. Faktor yang dikaji adalah Dosis Pupuk Nitrogen (N) terdiri lima taraf yaitu konsentrasi 0 Kg/ha (N0), 50 Kg/ha (N1), 100 Kg/ha (N2), 150 Kg/ha (N3), 200 Kg/ha (N4) dan Kombinasi pupuk hayati cair dan trichokompos (B) yang terdiri dari empat taraf yaitu tanpa perlakuan (B0), Trichokompos 4 ton/ha (B1), Pupuk Hayati Cair 0,8 liter/ha (B2), Kombinasi Trichokompos + Pupuk Hayati (B3). Masing-masing perlakuan diulang sebanyak 3 kali. Variabel yang diamati adalah tinggi tanaman, luas daun, bobot kering tanaman, laju pertumbuhan tanaman (LPT), laju pertumbuhan relative (LPR), dan laju asimilasi bersih (LAB), Jumlah malai perumpun, Bobot 1000 Biji, Bobot gabah perumpun, Jumlah gabah permalai, panjang malai, hasil gabah kering giling dan Indeks panen. Hasil penelitian menunjukkan perlakuan Pengaplikasian pupuk Nitrogen mampu memberikan pengaruh nyata pada variabel Bobot 1000 Biji, Jumlah Gabah Perumpun dan sangat nyata pada variabel Panjang Malai dan Bobot Kering Brangkas. Pengaplikasian kombinasi Pupuk Hayati Cair dan Trichokompos mampu memberikan pengaruh sangat nyata pada variabel Bobot 1000 biji, Indeks Panen dan nyata pada variabel Bobot Kering Brangkas dan jumlah malai. Pengaplikasian kombinasi pupuk Nitrogen dan kombinasi Pupuk Hayati Cair dan Trichokompos mampu memberikan pengaruh nyata pada variabel Laju Asimilasi Bersih, Jumlah Gabah Permalai, Bobot Kering Brangkas, Hasil Gabah Kering Giling dan berpengaruh sangat nyata pada variabel Indeks Panen.

SUMMARY

Rice is one commodity that is highly guarded existence as a staple food of Indonesian citizens. Rice in an increase in production is of considerable concern to meet the needs of the community. Therefore, it is considered the systems and techniques of rice cultivation. Application of fertilizer is very important in supporting the growth and development of rice plants. The purpose of this study is to examine the best effect giving five different doses of nitrogen fertilizers and biological fertilizers, giving five different doses of nitrogen fertilizers and trichokompos, giving a combination of five different doses of nitrogen fertilizer and combination of biological fertilizers and trichokompos, and of the three kinds of combination treatment given (five kinds of nitrogen fertilizers combined with biological fertilizers, trichokompos and a combination of biological fertilizers and trichokompos) on growth and yield of rice plants Ciherang (*Oryza sativa*). Research conducted at the Laboratory of Agronomy, Faculty of Agriculture, University of General Sudirman, Purwokerto and Land Experiment Rear Faculty of Biology at an altitude of 108 meters above sea level. Research will be conducted from February to June 2016. Rice is used ciherang varieties. The experimental design used was a randomized block design factorial. Data were analyzed by F test at 5% level, followed by a test of Duncan Multiple Range Test. Factors studied were Dose Fertilizer Nitrogen (N) consists of five levels ie concentrations of 0 kg / ha (N0), 50 Kg / ha (N1), 100 Kg / ha (N2), 150 Kg / ha (N3), 200 Kg / ha (N4) and the combination of biological fertilizer liquid and trichokompos (B) consisting of four levels ie without treatment (B0), Trichokompos 4 ton / ha (B1), liquid biological fertilizer 0.8 liters / ha (B2), combination Trichokompos + Biofertilizer (B3). Each treatment was repeated 3 times. The variables measured were plant height, leaf area, plant dry weight, the rate of plant growth (LPT), the growth rate relative (LPR), and net assimilation rate (LAB), number of panicles by one clump, weight of 1000 seeds, amount of grain by one panicle, panicle length, dry milled grain yield, number of grain by one grove, and harvest index. Research results showed treatment Application of Nitrogen fertilizer is able to provide a real influence on the variable weight of 1000 seeds, Total Grain by one clump and very significant effect on the variable length Malai and Dry Weight stover. The application of the combination of Liquid Biological Fertilizer and Trichokompos able to provide a very real effect on the variable weights of 1000 seeds, harvest index and real effect on the Dry Weight variable stover and panicle number. Nitrogen fertilizer application of the combination and the combination of Liquid Biological Fertilizer and Trichokompos able to provide a real influence on variable rate Net Assimilation, Total Grain by one panicles, Dry Weight stover, results of dry unhusked rice and a very significant effect on the harvest index variable.