# RINGKASAN

Budidaya padi di lahan kering merupakan suatu alternatif untuk meningkatkan produksi padi guna memenuhi kebutuhan pangan di Indonesia. Pemanfaatan lahan kering salah satunya adalah dengan menggunakan tanah ultisol karena mempunyai sebaran luas di Indonesia. Pemberian bahan organik seperti arang sekam, pupuk kotoran sapi, dan kasgot pada tanah ultisol perlu dilakukan untuk meningkatkan ketersediaan hara bagi tanaman. Penggunaan varietas unggul dapat berkontribusi untuk meningkatkan produksi padi di Indonesia. Penelitian ini bertujuan untuk mendapat varietas padi, jenis bahan organik, serta interaksi yang lebih baik terhadap pertumbuhan dan hasil tanaman padi di tanah ultisol.

Penelitian ini dilaksanakan pada September 2023 hingga Maret 2024 di Lahan Percobaan Desa Kedungrandu, Kecamatan Patikraja, Kabupaten Banyumas; Laboratorium Agronomi dan Hortikultura Fakultas Pertanian Universitas Jenderal Soedirman. Rancangan percobaan yang digunakan yaitu Rancangan Acak Kelompok dengan 2 faktor. Faktor pertama adalah varietas padi yaitu V1 = Varietas Inpari Unsoed P20 Tangguh, V2 = Varietas Inpago Unsoed Protani, dan V3 = Varietas Inpari Unsoed 79 Agritan. Faktor kedua adalah pemberian bahan organik yaitu B1 = Kontrol, B2 = Arang Sekam, B3 = Pupuk Kotoran Sapi, dan B4 = Kasgot. Masing-masing faktor dikombinasikan dan terdapat 12 kombinasi perlakuan, dengan 3 blok sehingga terdapat 36 unit percobaan. Variabel yang diamati adalah tinggi tanaman, jumlah daun, luas daun, jumlah anakan total, jumlah anakan produktif, bobot basah/kering tanaman, bobot basah/kering tajuk, bobot/kering akar, jumlah gabah per malai, jumlah gabah per rumpun, bobot gabah per rumpun dan bobot 1000 butir gabah. Data yang diperoleh dari hasil penelitian dianalisis menggunakan sidik ragam pada taraf α = 5 %. Apabila hasilnya berpengaruh nyata, maka analisis dilanjutkan dengan uji *Duncan's Multiple Rangen Test* (DMRT) pada taraf α = 5%.

Hasil menunjukkan bahwa varietas Inpago Unsoed Protani memberikan hasil yang lebih baik terhadap variabel luas daun pada umur 10 MST, jumlah anakan total, bobot basah akar, bobot kering akar, dan jumlah anakan produktif umur 14 dan 16 MST. Pemberian bahan organik berupa kasgot memberikan hasil yang lebih baik pada pertumbuhan yaitu tinggi tanaman, jumlah daun, luas daun, jumlah anakan total, bobot basah/kering tanaman, bobot basah/kering tajuk, bobot basah/kering akar, sedangkan pengaruh pada hasil yaitu jumlah anakan produktif, jumlah gabah per malai, jumlah gabah per rumpun, bobot gabah per rumpun, dan bobot 1000 butir gabah. Adanya interaksi antara tiga varietas padi dan macam bahan organik yang memberikan pengaruh nyata pada variabel luas daun umur 6 dan 8 MST serta bobot 1000 butir gabah.

*Kata kunci : bahan organik, padi, ultisol*

# SUMMARY

Rice cultivation in dry land is an alternative which is expected to enhance production of rice to meet the need of food in Indonesia. One of the uses of dry land is by used ultisol land because it has a wide distribution in Indonesia. The application of organic matter such as husk charcoal, cow manure fertilizer, and maggot frass to ultisol soil needed to to increasing nutrient availability for plants. The used of superior varieties can also contribute to increasing rice production in Indonesia. The research aim to obtain rice varieties, types of organic matter, and better interactions with the growth and yield of rice plants in ultisol soils.

This research was conducted from September 2023 to March 2024 at the Kedungrandu Village Experimental Land, Patikraja District, Banyumas Regency; Laboratory of Agronomy and Horticulture, Faculty of Agriculture, Jenderal Soedirman University. The experimental design used was a Group Randomized Design with 2 factors. The first factor is the variety of rice, namely V1 = Inpari Unsoed P20 Tangguh, V2 = Inpago Unsoed Protani, V3 = Inpari Unsoed 79 Agritan. The second factor is the feeding of organic matter, namely B1 = Control, B2 = Husk Charcoal, B3 = Cow Manure Fertilizer, and B4 = Maggot Frass. Each factor is combined and there are 12 treatment combinations, with 3 blocks so that there are 36 trials. The variables observed were plant height, number of leaves, leaf area, total number of tillers, number of productive tillers, wet/dry weight of plants, header wet/dry weight, wet/dry weight of roots, number of grains per panicle, number of grains per clump, grain weight for each hill, and weight of 1000 grains of grain. The data obtained from the results were analyzed using varians at the level of $\alpha = 5\%$. If the results have a significant effect, then the analysis is continued with Duncan's Multiple Range Test (DMRT) at the level of = 5%.

The results showed that The Inpago Unsoed Protani variety gave better results on the variable leaf area (10 Weeks After Planting), number of tillers, wet weight of the roots, dry weight of the roots, and number of productive tillers (14 and 16 Weeks After Planting). The application of organic matter in the form of maggot frass gave better results on growth, namely plant height, number of leaves, leaf area, number of tillers, (plant, shoot, and root fresh weight), (plant, shoot, and root dry weight), while the effect on the yield was number of productive tillers, number of grain per panicle, number of grain per clump, grain weight for each hill, and 1000 grain weight. There was an interaction between three rice varieties and types of organic matter that had a real effect on the variable of leaf area (6 and 8 Weeks After Planting) and 1000 grain weight.

Keywords: organic matter, rice, ultisol