

RINGKASAN

Padi merupakan salah satu komoditas pangan strategis nasional. Produksi padi dalam tiga tahun terakhir selalu mengalami penurunan. Salah satu penyebabnya karena kurangnya suplai air akibat penurunan curah hujan sehingga terjadi kekeringan pada lahan sawah, terutama di musim tanam kedua dan ketiga. Oleh karena itu, perlu dilakukan peningkatan produksi dengan pengaturan interval pemberian air yang didukung penambahan amelioran tanah. Penelitian ini bertujuan untuk 1) mengetahui pengaruh interval pemberian air terhadap pertumbuhan dan hasil padi sawah (*Oryza sativa* L.), 2) mengetahui pengaruh penambahan amelioran tanah terhadap pertumbuhan dan hasil padi sawah (*Oryza sativa* L.), serta 3) mengetahui pengaruh interaksi antara interval pemberian air dan penambahan amelioran tanah terhadap pertumbuhan dan hasil padi sawah (*Oryza sativa* L.).

Penelitian dilaksanakan di *screen house* yang berada di Desa Pasir Kulon, Kecamatan Karanglewas, Kabupaten Banyumas selama 6 bulan mulai Januari hingga Juni 2025. Penelitian ini merupakan percobaan faktorial yang terdiri dari dua faktor, yaitu interval pemberian air dan amelioran tanah. Faktor pertama, interval pemberian air terdiri dari 3 taraf, yaitu pemberian air setiap hari (P0), setiap 4 hari sekali (P1), dan setiap 8 hari sekali (P2). Sementara faktor kedua, amelioran tanah terdiri dari 4 taraf, yaitu tanpa amelioran sebagai kontrol (A0), kompos jerami padi (A1), *biochar* sekam padi (A2), serta kombinasi kompos jerami padi dan *biochar* sekam padi (A3). Penelitian ini menggunakan Rancangan Acak Kelompok (RAK) dengan 3 ulangan. Berdasarkan kedua faktor penelitian, total kombinasi taraf faktor berjumlah 12, sehingga terdapat 36 unit percobaan. Data hasil pengamatan dan pengukuran dianalisis ragam menggunakan uji F pada taraf kepercayaan 95%, selanjutnya apabila berpengaruh nyata dilanjutkan dengan uji *Duncan's Multiple Range Test* (DMRT) pada taraf nyata 5%.

Hasil penelitian menunjukkan bahwa interval pemberian air berpengaruh nyata pada variabel pertumbuhan (tinggi tanaman, luas daun, kandungan klorofil, umur berbunga, umur panen, dan jumlah anakan produktif) dan variabel hasil (jumlah gabah per malai, persentase gabah isi, berat gabah kering panen, bobot kering tajuk, dan bobot kering akar). Interval pemberian air tidak berpengaruh nyata hanya pada variabel pertumbuhan jumlah anakan total. Penambahan amelioran memberikan pengaruh nyata terhadap seluruh variabel pertumbuhan seperti tinggi tanaman, luas daun, kandungan klorofil, umur berbunga, umur panen, jumlah anakan total dan jumlah anakan produktif. Namun terhadap variabel hasil, penambahan amelioran hanya berpengaruh nyata pada berat gabah kering panen dan bobot kering tajuk. Pengaruh interaksi antara interval pemberian air dan penambahan amelioran tanah terhadap pertumbuhan dan hasil hanya terdapat pada variabel kandungan klorofil dengan kombinasi perlakuan terbaik P1A1 (pemberian air setiap 4 hari sekali dan amelioran tanah kompos jerami padi).

SUMMARY

Rice is one of the national strategic food commodities. Rice production in the last three years has always decreased. One of the reasons is the lack of water supply due to the decrease in rainfall so that there is a drought in the rice fields, especially in the second and third planting seasons. Therefore, it is necessary to increase production by regulating the interval of water application supported by the addition of soil ameliorant. This study aims to 1) determine the effect of the interval of water application on the growth and yield of paddy rice, 2) determine the effect of the addition of soil ameliorant on the growth and yield of paddy rice, and 3) determine the effect of the interaction between the interval of water application and the addition of soil ameliorant on the growth and yield of paddy rice.

The research was carried out at a screen house located in Pasir Kulon Village, Karanglewas District, Banyumas Regency for 6 months from January to June 2025. This study is a factorial experiment consisting of two factors, namely the interval of watering and soil amelioration. The first factor, the interval of water provision consists of 3 levels, namely daily water (P0), every 4 days (P1), and every 8 days (P2). Meanwhile, the second factor, soil ameliorant consists of 4 levels, namely without ameliorant as a control (A0), rice straw compost (A1), rice husk biochar (A2), and a combination of rice straw compost and rice husk biochar (A3). This study used a Group Random Design (RAK) with 3 replicates. Based on the two research factors, the total combination of factor levels amounted to 12, so there were 36 experimental units. The observation and measurement data were analyzed using the F test at a 95% confidence level, then if it had a real effect, it was followed by the Duncan's Multiple Range Test (DMRT) test at a real level of 5%.

The results showed that the interval of watering had a significant effect on growth variables (plant height, leaf area, chlorophyll, flowering age, harvest age, and number of productive saplings) and yield variables (number of grain per panicle, percentage of filled grain, weight of harvested dry grain, dry weight of plants, and dry weight of roots). The interval of watering had no real effect only on the growth variable of the total number of saplings. The addition of ameliorant has a significant influence on all growth variables such as plant height, leaf area, chlorophyll, flowering age, harvest age, total number of saplings and number of productive saplings. However, for the yield variable, the addition of ameliorant only had a real effect on the weight of harvested dry grain and the dry weight of the plant. The effect of the interaction between the interval of watering and the addition of soil ameliorant on growth and yield was only found in the chlorophyll content variable with the best treatment combination P1A1 (watering every 4 days and ameliorant of rice straw compost soil).