INTISARI

Produktivitas air pada budidaya tanaman padi merupakan perbandingan hasil produksi dengan jumlah air yang dibutuhkan. Pemberian bahan organik dan metode irigasi yang efisien dapat meningkatkan hasil produksi dan mengurangi kebutuhan air konsumtif tanaman padi sekaligus meningkatkan produktivitas air. Untuk itu perlu diketahui komposisi tanah sawah dan bahan organik serta metode pemberian air yang dapat menghasilkan produktivitas air paling optimum.

Penelitian ini menganalisis pengaruh komposisi 0%, 20%, 40%, dan 60% bahan organik terhadap keragaan tanaman, hasil produksi, jumlah air irigasi, kebutuhan air konsumtif, dan produktivitas air tanaman padi. Padi ditanam di dalam pot berukuran diameter atas 30 cm, diameter bawah 22,5 cm, dan tinggi 28,5 cm. Tanah yang digunakan bertekstur *loam* yang diambil dari Dusun Widoro, Desa Bangunharjo, Kecamatan Sewon, Kabupaten Bantul dan padi yang digunakan adalah varietas Ciherang. Metode pemberian air menggunakan metode *Alternate Wetting and Drying* (AWD) untuk komposisi bahan organik 0%, 20%, 40%, dan 60 %, kemudian dibandingkan dengan pemberian air secara konvensional untuk komposisi bahan organik 0%.

Penambahan bahan organik pada tanah sawah dan sistem pemberian air metode AWD dapat meningkatkan produktivitas air pada tanaman padi. Produktivitas air terendah terjadi pada budidaya padi metode konvensional yaitu 0.29 kg/m^3, sedangkan produktivitas air tertinggi terjadi pada budidaya padi metode SRI dengan persentase bahan organik 40% yaitu 0.97 kg/m^3. Uji statistik menunjukkan bahwa campuran bahan organik sebesar 20%, 40%, dan 60% menghasilkan produktivitas air yang tidak beda nyata. Budidaya padi metode SRI dengan campuran bahan organik 40 % dapat meningkatkan produktivitas air sebesar 235% dibandingkan dengan budidaya padi metode konvensional.

Kata kunci: Padi, *Alternate Wetting and Drying*, Produktivitas Air

ABSTRACT

The water productivity on the rice cultivation is the ratio of crop production and the water amount needed. The adding of organic matter and the efficient irrigation method are able to increase the crop production and to reduce the consumptive water need of the rice plants. Therefore, it is necessary to determine the rice field soil composition and organic matter and also water adding method which can produce the most optimized water productivity.

This research is aimed at analyzing the effect of 0%, 20%, 40% and 60% organic matter composition toward the diversity of plants, the crop production, the water irrigation amount, the consumptive water needs, and the water productivity of rice cultivation. Rice is planted in a pot with 30 cm diameter top, 22.5 cm diameter base, and 28.5 cm height. The soil which is used has loam texture and is from Dusun Widoro, Desa Bangunharjo, Kecamatan Sewon, Kabupaten Bantul and the rice variety is Ciherang. The watering method applied is *Alternate Wetting and Drying* (AWD) method for 0%, 20%, 40%, and 60 % organic matter composition and then, it is compared to the conventional water adding to 0% organic water composition.

The adding of organic matter on the rice field soil and the water adding system by AWD method could increase the water productivity on the rice plant. The lowest level on conventional water productivity method on the rice cultivation is 0.29 kg/m^3 meanwhile, the highest productivity water on the rice cultivation on SRI method with the percentage to 40 % organic matter is 0.97 kg/m^3. The statistic test was showed to 20%, 40%, and 60% organic mixture which the productivity is not significantly different. The rice cultivation by SRI method with 40% organic matter mixture could increase 235% water productivity while, compared to the rice cultivation which used by the conventional method.

Keywords: rice, Alternate Wetting and Drying, water productivit