

RINGKASAN

Tanaman pakcoy merupakan tanaman hortikultura yang penting dalam memenuhi kebutuhan konsumsi masyarakat Indonesia. Namun, penurunan produktivitas akibat degradasi lahan dan penggunaan pupuk anorganik berlebihan mendorong perlunya alternatif pemupukan berbasis organik. Pupuk kasgot dan pupuk kandang sapi merupakan dua jenis pupuk organik yang berpotensi meningkatkan kesuburan tanah dan produktivitas tanaman. Kasgot memiliki unsur hara yang dapat digunakan sebagai pupuk organik maupun media tanam pada tanaman. Kasgot merupakan residu yang berasal dari biokonversi limbah organik menggunakan maggot yang dapat digunakan untuk media tanam dalam budidaya tanaman. Pupuk kandang sapi merupakan salah satu pupuk yang sering digunakan dalam budidaya tanaman, karena fungsinya sebagai penyedia unsur hara makro dan mikro bagi tanaman, penggemburan tanah, memperbaiki daya serap dan daya tampung air tanah. Tujuan penelitian ini yaitu untuk mengkaji pengaruh pupuk kasgot dan pupuk kandang sapi untuk meningkatkan produksi dan hasil pada tanaman pakcoy.

Penelitian ini dilaksanakan di greenhouse Fakultas Pertanian, Universitas Jenderal Soedirman. Persiapan dan analisis dalam penelitian ini dilakukan di Laboratorium Agronomi & Hortikultura dan Laboratorium Ilmu Tanah, Fakultas Pertanian, Universitas Jenderal Soedirman. Kegiatan penelitian ini dilaksanakan selama 2 bulan, dimulai Mei 2024 sampai dengan Juni 2024. Penelitian dilakukan dengan menggunakan Rancangan Acak Kelompok Lengkap (RAKL) yang melibatkan dua faktor utama dengan total 9 kombinasi perlakuan. Faktor pertama adalah pupuk kasgot (K) dengan 2 taraf (10 ton/ha dan 20 ton/ha), sedangkan faktor kedua adalah pupuk kandang sapi (S) dengan 2 taraf (10 ton/ha dan 20 ton/ha). Variabel pengamatan yang dikaji diantaranya tinggi tanaman, jumlah daun, luas daun, kehijauan daun, volume akar, bobot basah tanaman, bobot kering tanaman, bobot basah akar, dan bobot basah akar. Hasil penelitian menghasilkan himpunan data yang kemudian dianalisis melalui pengujian ANOVA dengan tingkat signifikansi 95% dan kemudian dilakukan Uji DMRT tingkat signifikansi 95% jika pengaruhnya nyata.

Hasil penelitian menunjukkan bahwa aplikasi pupuk kasgot dapat meningkatkan jumlah daun, luas daun dan kehijauan daun. Aplikasi pupuk kandang sapi dapat meningkatkan tinggi tanaman pakcoy. Terdapat interaksi antara pupuk kasgot dan kandang sapi pada kehijauan daun tanaman pakcoy.

SUMMARY

Pak choy is an important horticultural crop that plays a key role in meeting the consumption needs of the Indonesian population. However, the decline in productivity due to land degradation and excessive use of inorganic fertilizers has prompted the need for organic-based fertilization alternatives. Maggot frass fertilizer and cow manure are two types of organic fertilizers that have the potential to improve soil fertility and plant productivity. Maggot frass contains nutrients that can be utilized as organic fertilizer or growing media for plants. It is a residue derived from the bioconversion of organic waste using maggots, which can be used as a planting medium in crop cultivation. Cow manure is one of the fertilizers frequently used in agriculture due to its function as a source of macronutrients and micronutrients for plants, its ability to loosen the soil, and its role in enhancing soil water absorption and retention capacity. The aim of this study was to evaluate the effects of maggot frass fertilizer and cow manure on the growth and yield of pak choy plant.

The research was conducted in the screenhouse of the Faculty of Agriculture, Jenderal Soedirman University. Preparations and laboratory analyses were carried out at the Agronomy & Horticulture Laboratory and the Soil Science Laboratory, Faculty of Agriculture, Jenderal Soedirman University. The research was conducted for two months, from May 2024 to June 2024. The study used Completely Randomized Block Design (CRBD), involving two main factors with a total of nine treatment combinations. The first factor was maggot frass fertilizer (K) with two levels (10 tons/ha and 20 tons/ha), and the second factor was cow manure (S) with two main factors (10 tons/ha and 20 tons/ha). The observed variables included plant height, number of leaves, leaf area, leaf green, root volume, plant weight, dry plant weight, root weight, and dry root weight. The collected data were analyzed using ANOVA at a 95% significance level, and if significant effects were found, further analysis was conducted using the Duncan's Multiple Range Test (DMRT) at a 95% significance level.

The results showed that the application of maggot frass fertilizer increased the number of leaves, leaf area, and leaf green. The application of cow manure increased the height of pak choy plants. There was also an interaction between maggot frass fertilizer and cow manure on the leaf green of pak choy plants.