

INTISARI

Pssament memiliki kemampuan memegang dan menyimpan air rendah, infiltrasi dan evaporasi tinggi, kesuburan dan bahan organik sangat rendah, dan efisiensi penggunaan air rendah. Bawang merah merupakan tanaman yang memiliki produktivitas tinggi. Penelitian ini dilakukan untuk mengetahui pengaruh kombinasi bahan pembenah tanah antara lain pupuk kandang sapi, biochar sekam padi, mikoriza serta pupuk KCl terhadap sifat kimia tanah, pertumbuhan tanaman, produktivitas umbi bawang merah serta serapan K pada tanaman bawang merah. Penelitian ini dilaksanakan di Rumah Kaca, Fakultas Pertanian, Universitas Gadjah Mada serta diuji di laboratorium Fakultas Pertanian, Universitas Gadjah Mada. Media tanam diambil dari tanah pasir pantai Samas, Bantul. Rancangan penelitian yang digunakan yaitu Rancangan Acak Lengkap (RAL) nonfaktorial dengan 13 perlakuan dan 3 ulangan sehingga total 39 sampel. Hasil penelitian menunjukkan bahwa penambahan kombinasi pupuk kandang sapi, biochar sekam padi, mikoriza dan pupuk KCl dapat memperbaiki sifat kimia tanah seperti daya hantar listrik (DHL), bahan organik, KPK, N-tersedia (NH_4^+), K-tersedia serta K-potensial tanah pasir pantai Samas, Bantul. Parameter agronomis yang mengalami perbaikan yaitu tinggi tanaman, jumlah daun, panjang akar, jumlah umbi, bobot segar dan bobot kering trubus dan umbi serta meningkatkan serapan hara K pada umbi bawang merah. Kombinasi perlakuan terbaik adalah perlakuan dengan kombinasi pupuk lengkap yaitu pupuk kandang sapi+biochar sekam padi+mikoriza+pupuk KCl dengan serapan hara K sebesar 355,41 mg/tan.

Kata kunci : bawang merah, biochar sekam padi, KCl, pupuk kandang sapi.

ABSTRAK

Psamment has low ability to retain and store air, high infiltration and evaporation, very low fertility and organic matter, and low water use efficiency. Onion is a plant that has high productivity. This study was conducted to determine the effect of a combination of soil amendments including cow manure, rice husk biochar, mycorrhiza and KCl fertilizers on soil chemical properties, plant growth, onion bulb productivity and K uptake in onion plants. This research was carried out at the Greenhouse, Faculty of Agriculture, Gadjah Mada University and tested in the laboratory of the Faculty of Agriculture, Gadjah Mada University. The planting medium was taken from Samas Beach Sand, Bantul. The research design used was a nonfactorial Completely Randomized Design (CRD) with 13 treatments and 3 replications so that a total of 39 samples. The results showed that the addition of a combination of cow manure, rice husk biochar, mycorrhiza and KCl fertilizers could improve soil chemical properties such as electrical conductivity (DHL), organic matter, COC, N-available (NH_4^+), K-available and K-potential in Samas beach sandy soil, Bantul. The agronomic parameters that underwent improvement were plant height, number of leaves, root length, number of tubers, fresh and dry weight of tubers and tubers as well as increased nutrient K absorption in onion bulbs. The best treatment combination was the treatment with a complete fertilizers combination, namely cow manure+rice husk biochar+mycorrhiza+KCl fertilizers with a K nutrient absorption of 355.41 mg/plant.

Keywords: cow manure, KCl, onion, rice husk biochar.