

INTISARI

Penelitian ini bertujuan untuk mengetahui pengaruh campuran arang eceng gondok dengan kompos kandang sapi terhadap perubahan sifat kimia tanah, serapan N, P, K, efisiensi serapan N, P, K padi serta pertumbuhan vegetatif dan generatif padi. Pengambilan sampel tanah dilakukan pada awal sebelum perlakuan dan setelah dua minggu perlakuan. Pengambilan sampel tanaman dilakukan pada akhir masa vegetatif dan akhir masa generatif. Penelitian ini dilaksanakan di Deket, Lamongan, Jawa Timur pada bulan Maret 2019 sampai bulan November 2019. Perlakuan yang diaplikasikan adalah kombinasi arang eceng gondok dengan dosis 3 ton/ha, 5 ton/ha, 7 ton/ha, 10 ton/ha, 12,5 ton/ha, 15 ton/ha, 17,5 ton/ha dengan kompos kandang sapi dengan dosis 2,6 ton/ha. Hasil penelitian menunjukkan pemberian campuran arang eceng gondok dan kompos kandang sapi berpengaruh terhadap penstabilan pH aktual tanah dan pH potensial tanah, menurunkan DHL, menaikkan C-organik, KPK, ketersediaan N, P, K. Dari semua perlakuan yang diaplikasikan, perlakuan arang eceng gondok 15 ton/ha dan kompos kandang sapi 2,6 ton/ha memberikan nilai serapan nitrogen tertinggi yaitu 246,5 mg/pot, perlakuan arang eceng gondok 17,5 ton/ha dan kompos kandang sapi 2,6 ton/ha memberikan nilai serapan fosfor dan kalium tertinggi yaitu 151,79 mg/pot dan 151,2 mg/pot. Selain itu, tanaman pada perlakuan arang eceng gondok 17,5 ton/ha dan kompos kandang sapi 2,6 ton/ha mampu meningkatkan produktivitas padi sebesar 5,10 ton/ha.

Kata kunci: arang, eceng gondok, kompos kandang sapi, padi, nitrogen, fosfor, kalium.

ABSTRACT

This study aims to determine the effect of a mixture of water hyacinth charcoal with cow manure on changes in soil chemical properties, N, P, K uptake, N, P, K uptake efficiency and rice vegetative and generative growth. Soil sampling was carried out at the beginning before treatment and after two weeks of treatment. Plant sampling is done at the end of the vegetative period and the end of the generative period. This research was carried out in Deket, Lamongan, East Java, from March 2019 to November 2019. The treatment applied was a combination of water hyacinth charcoal with a dose of 3 tons / ha, 5 tons / ha, 7 tons / ha, 10 tons / ha, 12,5 tons / ha, 15 tons / ha, 17,5 tons / ha with cow manure at a dose of 2.6 tons / ha. The results showed that the application of a mixture of water hyacinth charcoal and cow manure influenced the actual pH of the soil and potential soil pH, reduced DHL, increased organic C, KPK, availability of N, P, K. Of all treatments applied, water hyacinth charcoal treatment 15 tons/ha and 2.6 tons cow manure tons/ ha provides the highest nitrogen uptake value of 246.5 mg/pot, water hyacinth charcoal treatment 17,5 tons/ha and 2,6 cow manure tons/ha provide absorption values The highest phosphorus and potassium is 151,79 mg/pot and 151,2 mg/pot. Besides, the plants in the treatment of water hyacinth charcoal 17.5 tons/ha and cow manure 2,6 tons/ha can increase rice productivity by 5,10 ton/ha.

Key words: water hyacinth charcoal, cow manure compost, rice, nitrogen, phosphorus, potassium.