

INTISARI

Penelitian ini bertujuan untuk mengetahui pengaruh dosis pemberian pupuk NPK dan kombinasi bahan pembenah tanah berupa kompos paitan (*Tithonia diversifolia*) dan biochar sekam padi terhadap perubahan sifat kimia tanah, pertumbuhan dan hasil tanaman melon pada tanah Ultisol Solok, Sumatera Barat. Penelitian ini dilaksanakan pada bulan Maret hingga September tahun 2022 di Rumah Kaca dan Laboratorium Analisa Kimia Balai Penelitian Tanaman Buah Tropika Solok, Sumatera Barat. Penelitian ini disusun dalam Rancangan Acak Kelompok Faktorial yang terdiri dari 2 faktor dengan 3 ulangan. Faktor pertama berupa dosis pupuk NPK yang terdiri atas 4 taraf perlakuan yaitu : P0 (0 kg/ha), P1 (200 kg/ha), P2 (400 kg/ha), P3 (600 kg/ha) dan faktor kedua yaitu dosis bahan pembenah tanah (kompos paitan + biochar sekam padi dengan perbandingan 1:1) terdiri atas 4 taraf yaitu : B0 (0 ton/ha), B1 (20 ton/ha), B2 (40 ton/ha), B3 (60 ton/ha). Hasil penelitian menunjukkan bahwa pemberian pupuk NPK berpengaruh nyata meningkatkan berat buah, dan kadar kemanisan (*brix*) buah melon. Pemberian bahan pembenah tanah berupa kompos paitan dan biochar sekam padi berpengaruh nyata meningkatkan C-organik tanah, volume akar, berat kering akar, berat buah, dan kadar kemanisan (*brix*) buah melon. Interaksi antara pemberian pupuk NPK dan bahan pembenah tanah berupa kompos paitan dan biochar sekam padi berpengaruh nyata menurunkan Al-dd tanah dan meningkatkan pH tanah, tinggi tanaman, jumlah daun, lingkaran buah, tebal daging buah, dan persentase jaring buah melon.

Kata kunci : Pupuk NPK, Kompos Paitan, Biochar sekam padi, Ultisol, Melon

ABSTRACT

*This study aims to determine the effect of doses of NPK fertilizer and a combination of soil amendments in the form of paitan compost (*Tithonia diversifolia*) and rice husk biochar on changes in soil chemical properties, growth and yield of melon plants in Ultisol Solok, West Sumatra. This research was conducted from March to September 2022 at the Greenhouse and Chemical Analysis Laboratory of the Solok Tropical Fruit Research Institute, West Sumatra. This study was arranged in a factorial randomized block design consisting of 2 factors with 3 replications. The first factor was the dosage of NPK fertilizer which consisted of 4 treatment levels, namely: P0 (0 kg/ha), P1 (200 kg/ha), P2 (400 kg/ha), P3 (600 kg/ha) and the second factor, namely the dose soil conditioner (paitan compost + rice husk biochar with a ratio of 1:1) consists of 4 levels, namely: B0 (0 tons/ha), B1 (20 tons/ha), B2 (40 tons/ha), B3 (60 tons/ha). The results showed that the application of NPK fertilizer significantly increased fruit weight and sweetness (brix) of melon fruit. Application of soil amendments in the form of paitan compost and rice husk biochar significantly increased soil organic C, root volume, root dry weight, fruit weight, and melon fruit brix. The interaction between NPK fertilizer application and soil amendments in the form of paitan compost and rice husk biochar significantly reduced soil Al-dd and increased soil pH, plant height, number of leaves, fruit circumference, fruit flesh thickness, and percentage of melon fruit nets.*

Keywords: *NPK Fertilizer, Paitan Compost, Rice Husk Biochar, Ultisol, Melon*