

**PENGARUH PENAMBAHAN TANAH LIAT DAN PUPUK
KANDANG TERHADAP SIFAT FISIKA TANAH
PSAMMENTS SERTA PERTUMBUHAN DAN HASIL
TANAMAN MELON (*Cucumismelo L.*)**

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**PROGRAM STUDI AGROEKOTEKNOLOGI
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**EFFECT OF CLAY AND MANURE APPLICATION
ON PHYSICAL CHARACTERISTICS OF PSAMMENTS,
GROWTH AND YIELD OF MELON
(*Cucumis melo* L.)**

ABSTRACT

Effect of clay and manure application on physical characteristics of Psamments as well as growth and yield of melon (*Cucumis melo* L.) was conducted in the experimental garden and soil laboratory of Faculty of Agriculture, Andalas University Padang from November 2015 until Juli 2016. This research was aimed to study the effect of clay and manure application on physical characteristics, growth and yield of melon (*Cucumis melo* L.). This study was designed in Completely Randomized Design (CRD) with ten treatments and three replications. The results were analyzed based on the criteria for soil characteristics and analysis of variance followed by Duncan's New Multiple Range Test (DNMRT) at 5% level of significance for the crop production. The treatments were A = Psamment 100%, B = Psamment 90% + Ultisol 10%, C = Psamment 80% + Ultisol 20%, D = Psamment 70% + Ultisol 30%, E = Psamments 90% + manure 10%, F = Psamments 80% + manure 20%, G = Psamments 70% + manure 30%, H = Psamments 80% + Ultisol 10% + manure 10%, I = Psamments 70% + Ultisol 20% + manure 10%, J = Psamments 60% + Ultisol 30% + manure 10%. The results showed that the highest soil organic matter content was at treatment I (Psamment 70% + Ultisol 20% + manure 10%) that was 14.03%, the lowest bulk density was at treatment G (Psamment 70% + manure 30%) that was 0.87 g/cm³, the highest total pore was at treatment G (Psamment 70% + manure 30%) that was 63.58%. The highest value of slow drainage pore and available water pore was at treatment D (Psamment 70% + Ultisol 30%) that was 6.56 vol% and 20.53 vol%, respectively. The best soil aggregation and aggregate stability index were at treatment J (Psamment 60% + Ultisol 30% + manure 10%) those were 36.00% and 63.96.

Keywords: *Psamments, manure, melon*

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ABSTRAK

Pengaruh penambahan tanah liat dan pupuk kandang terhadap sifat fisika tanah Psamments serta pertumbuhan dan hasil tanaman melon (*Cucumis melo* L.) dilaksanakan di kebun percobaan dan laboratorium Jurusan Ilmu Tanah Fakultas Pertanian Universitas Andalas, Padang. Penelitian dilaksanakan pada November 2015 sampai dengan Juli 2016 yang bertujuan untuk mempelajari pengaruh penambahan liat dan pupuk kandang terhadap sifat fisika tanah Psamments serta pertumbuhan dan hasil tanaman melon (*Cucumis melo* L.). Penelitian ini menggunakan Rancangan Acak Lengkap (RAL) dengan sepuluh perlakuan dan tiga ulangan. Hasil penelitian dianalisis berdasarkan tabel kriteria dan sidik ragam dan dilanjutkan dengan uji *Duncan's New Multiple Range Test* (DNMRT) pada taraf nyata 5 % untuk hasil *F* yang berbeda nyata. Perlakuan adalah A = Psamment 100%, B = Psamment 90% + Ultisol 10%, C = Psamment 80% + Ultisol 20%, D = Psamment 70% + Ultisol 30%, E = Psamments 90% + pukan 10%, F = Psamments 80% + pukan 20%, G = Psamments 70% + pukan 30%, H = Psamments 80% + Ultisol 10% + pukan 10%, I = Psamments 70% + Ultisol 20% + pukan 10%, J = Psamments 60% + Ultisol 30% + pukan 10%. Hasil penelitian menunjukkan bahwa Kandungan bahan organik tanah yang tertinggi terdapat pada perlakuan I (Psamment 70% + Ultisol 20% + pukan 10%) yaitu 14,03 %, bobot volume terendah terdapat pada perlakuan G (Psamment 70% + pukan 30%) yaitu 0,87 g/cm³, total ruang pori tertinggi terdapat pada perlakuan G (Psamment 70% + pukan 20%) dengan nilai 63,58 % vol. Pori drainase lambat dan pori air tersedia tertinggi terdapat pada perlakuan D (Psamment 70% + Ultisol 30%) yaitu 6,56 % vol dan 20,53 % vol. Agregasi tanah dan indeks kemantapan agregat terbaik pada perlakuan J (Psamment 60% + Ultisol 30% + pukan 10%) yaitu 36,00 % dan 63,96.

Kata kunci: *Psamments, pupuk kandang, melon*