



KEMENTERIAN RISET, TEKNOLOGI DAN PENDIDIKAN TINGGI  
UNIVERSITAS SYIAH KUALA  
UPT. PERPUSTAKAAN

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## ELECTRONIC THESIS AND DISSERTATION UNSYIAH

### TITLE

PERUBAHAN PARAMETER SIFAT FISIKA TANAH DAN PRODUKSI RUMPUT GAJAH (PENNISETUM PURPUREUM L.) AKIBAT KEMIRINGAN LERENG DAN BAHAN ORGANIK

### ABSTRACT

Erita. 2015. Perubahan Parameter Sifat Fisika Tanah dan Produksi Rumput Gajah (*Pennisetum purpureum* L.) akibat Kemiringan Lereng dan Bahan Organik. Tesis Magister, Program Pascasarjana Universitas Syiah Kuala, dibawah bimbingan M. Rusli Alibasyah dan Syakur.

#### ABSTRAK

Penelitian ini bertujuan untuk mengkaji perubahan parameter sifat fisika tanah pada berbagai kemiringan lereng akibat pemberian jenis bahan organik (pupuk kandang, kulit gelondong kopi dan daun gamal) serta produksi rumput gajah (*Pennisetum purpureum* L.). Penelitian dilaksanakan bulan September 2013 sampai Januari 2014 di Desa Paya Tumpi Kecamatan Kebayakan Kabupaten Aceh Tengah. Percobaan menggunakan Rancangan Petak Terbagi (Split Plot Design) pola faktorial. Ada 2 (dua) faktor yang dicobakan, faktor pertama (petak utama) kemiringan lereng (L) dan faktor kedua (anak petak) jenis bahan organik. Hasil penelitian menunjukkan bahwa faktor berbagai jenis kelerengan dan pemberian berbagai jenis bahan organik berpengaruh nyata terhadap sifat fisika tanah yaitu permeabilitas, porositas, indeks stabilitas agregat, pori drainase cepat, pori drainase lambat, pori air tersedia, pertumbuhan dan hasil rumput gajah. Pemberian kompos daun gamal merupakan yang terbaik bagi pertumbuhan rumput gajah. Kata kunci : sifat fisika tanah, hasil rumput gajah, bahan organik, kemiringan lereng

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Erita. 2015. Changes in Soil Physics and Production of Elephant Grass (*Pennisetum purpureum* L.) due to various Slopes and Organic Matters application". Master Thesis, Graduate Program of Syiah Kuala University, under the guidance of M. Rusli Alibasyah and Syakur.

#### ABSTRACT

This study aimed to assess the changes in the physical properties and production of elephant grass (*Pennisetum purpureum* L.) due to provision of various types of organic matter (manure, coffee bean skin and *Gliricidia* leaves compost) at various slopes. The experiment was conducted in September 2013 to January 2014 in Paya Tumpi Village, Kebayakan, Central Aceh regency. The Split Plot Design was used in the experiment, consistend of two factor i.e the first factor was (main plot) the slope (L) and the second factor was (sub -plot) the type of organic matter. The results showed that the various tyfes of slopes and the provosion of various tyfes of organic matter significantly affected the soil physycal propertie s : soil permeability, soil porosity, aggregate stability index, rapid drainage pore, slow drainage pore, water pore availability, and the growth and production of elephant grass. *Gliricidia* leaves compost was the best treatment for the growth of elephant grass.

Keywords : soil physics properties, elephant grass production, organic materials, slopes