

**PENGARUH RUMPUT VETIVER (*Vetiveria zizanioides*),
RUMPUT GAJAH (*Pennisetum purpureum*), DAN RUMPUT
RAJA (*Pennisetum purpureophoides*) TERHADAP ALIRAN
PERMUKAAN DAN EROSITANAH**

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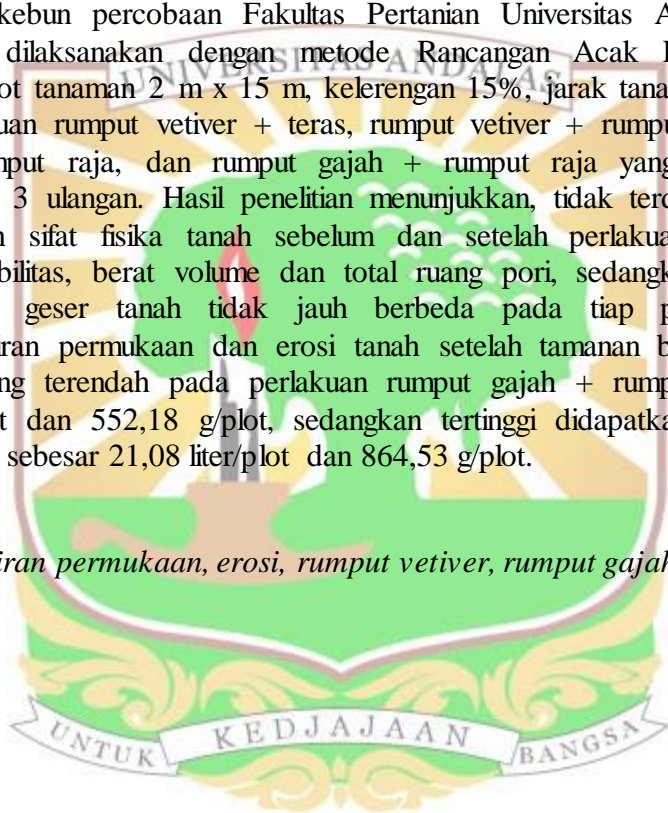
**FAKULTAS PERTANIAN
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PENGARUH RUMPUT VETIVER (*Vetiveria zizanioides*), RUMPUT GAJAH (*Pennisetum purpureum*), DAN RUMPUT RAJA (*Pennisetum purpureophoides*) TERHADAP ALIRAN PERMUKAAN DAN EROSI TANAH

Abstrak

Aliran permukaan dan erosi merupakan faktor utama penyebab kerusakan tanah di Indonesia. Penggunaan tanah yang tidak mengindahkan prinsip-prinsip konservasi tanah dan air sangat besar pengaruhnya terhadap degradasi dan kerusakan tanah. Penelitian ini bertujuan untuk mengetahui besaran aliran permukaan dan erosi tanah yang ditanami rumput vetiver, rumput gajah, dan rumput raja yang dilakukan di kebun percobaan Fakultas Pertanian Universitas Andalas Padang. Penelitian ini dilaksanakan dengan metode Rancangan Acak Lengkap (RAL) dengan luas plot tanaman 2 m x 15 m, kelengkapan 15%, jarak tanam 0,4 m x 1 m, dengan perlakuan rumput vetiver + teras, rumput vetiver + rumput gajah, rumput vetiver + rumput raja, dan rumput gajah + rumput raja yang terdiri dari 4 perlakuan dan 3 ulangan. Hasil penelitian menunjukkan, tidak terdapat perbedaan yang signifikan sifat fisika tanah sebelum dan setelah perlakuan pada tekstur tanah, permeabilitas, berat volume dan total ruang pori, sedangkan laju infiltrasi dan kekuatan geser tanah tidak jauh berbeda pada tiap perlakuan. Hasil pengukuran aliran permukaan dan erosi tanah setelah tanaman berumur 3 bulan didapatkan yang terendah pada perlakuan rumput gajah + rumput raja sebesar 16,94 liter/plot dan 552,18 g/plot, sedangkan tertinggi didapatkan pada rumput vetiver + teras sebesar 21,08 liter/plot dan 864,53 g/plot.

Kata kunci: *aliran permukaan, erosi, rumput vetiver, rumput gajah, rumput raja.*



EFFECT OF VETIVER GRASS (*Vetiveria zizanioides*), ELEPHANT GRASS (*Pennisetum purpureum*), AND KING GRASS (*Pennisetum purpureophoides*) ON SURFACE FLOW AND SOIL EROSION

Abstract

Surface flow as well as erosion is the main causes for soil damage in Indonesia. The use of land without considering soil and water conservation rules has a huge effect on soil degradation and damage. This study was aimed to determine the amount of surface flow and soil erosion on land having 15% slope planted with Vetiver grass, Elephant grass and King grass in the Experimental Station Faculty of Agriculture Andalas University, Padang. This research was a field experiment consisting of 4 treatments and 3 replications There were 12 experimental plots in total. Each plote was 2 m x 15 m in size with treatments Vetiver grass + terrace, Vetiver grass + Elephant grass, Vetiver grass + King grass, and Elephant grass + King grass. The experimental plots were allocated based on Completely Randomized Design (CRD). The results showed that there was no significant difference in the physical properties of the soil between before and after treatment, especially on the soil texture, permeability, bulk density, total pore space, infiltration rate, and soil shear strength. The data for surface flow and soil erosion after 3 months were found to be the lowest in the treatment Elephant grass + king grass (16.94 L/plot and 552.18 g/plot, respectively) while the highest was in the treatment Vetiver grass + terrace (21.08 L/plot and 864.53 g/plot, respectively).

Keywords: *surface flow, erosion, Vetiver grass, Elephant grass, King grass.*

