

**KAJIAN INDEKS KESUBURAN KIMIA TANAH PADA  
DAERAH FISIOGRAFIS KARST DI KAWASAN LUAR  
NGALAU KAMANG SUMATERA BARAT**

**SKRIPSI**



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## **Abstrak**

Penelitian kajian indeks kesuburan tanah pada daerah fisiografis karst Ngalau Kamang telah dilakukan bulan Juni 2018 sampai Oktober 2019 di Nagari Kamang Mudiak kecamatan Kamang Magek dan Laboratorium Jurusan Tanah Fakultas Pertanian Universitas Andalas. Tujuannya untuk mengetahui indeks kesuburan kimia tanah pada daerah fisiografis karst di kawasan luar Ngalau Kamang. Penelitian dilakukan dengan metode survei, dengan pengambilan titik sampel secara random sampling berdasarkan bahan induk tanah karst yang berpatokan pada ngalau. Titik yang telah ditentukan yaitu terletak bagian atas luar ngalau, titik terdekat dari ngalau (0,15 km ke arah Barat ngalau) dan terjauh dari ngalau (3 km ke arah Utara ngalau) di belakang bukit karst. Parameter yang dianalisis yaitu, pH tanah, bahan organik, K-dd, Ca-dd, Mg-dd, dan P tersedia. Hasil analisis tanah di laboratorium dilanjutkan dengan perhitungan indeks kesuburan tanah memakai rumus SFI dan SEF di uji menggunakan uji t pada aplikasi JMP13. Berdasarkan hasil penelitian, didapatkan nilai SFI di kawasan fisiografis karst Ngalau Kamang yang paling tinggi terdapat pada lokasi terjauh dari ngalau yaitu di belakang bukit karst yang mempunyai vegetasi hutan. Sedangkan nilai paling rendah terdapat di bagian luar atas ngalau yang memiliki sedikit vegetasi. Nilai SEF pada kawasan karst Ngalau Kamang besar dari 5, membuktikan pada kawasan tersebut merupakan tanah yang subur.

*Kata kunci: Karst, Kesuburan Tanah, SEF, SFI,*

# **STUDY OF SOIL CHEMICAL FERTILITY INDEX IN KARST PHYSIOGRAPHIC AREAS OUTSIDE KAMANG CAVE, WEST SUMATERA PROVINCE**

## **Abstract**

A research on study of soil fertility index in the physiographic area of Kamang cave was carried out from June 2018 to October 2019 in Kamang Mudiak, Kamang Magek sub-district, West Sumatera. Then, soil samples were analysed at Soil Laboratory, Faculty of Agriculture, Andalas University. The research was aimed to find out the soil chemical fertility index in the karst, physiography area outside Kamang cave area. This study was conducted by survey method, soil samples were taken on karst soil parent material. The sampling points were located at the top outside the cave, the closest location was 0.15 km to the west of the cave and the farthest location was 3 km to the north of the cave, behind the karst hill. The parameter analyzed were soil pH, organic matter, exchangeable-K, exchangeable-Ca, exchangeable-Mg and P availability. The results of laboratory analysis followed by soil fertility index calculation using the SEF and SFI formula were tested using T test on JMP13 application. Based on these results, the highest SFI value in karst physiographic area of Kamang cave was located at the farthest area from the cave (under forest land use) which was behind the karst hill. While the lowest value was at the top outside of the cave that had less vegetation. Value of SEF Kamang cave karst area was  $> 5$ , it meant that the soil of this area was fertile.

*Key word: SEF, SFI, karst, soil fertility*