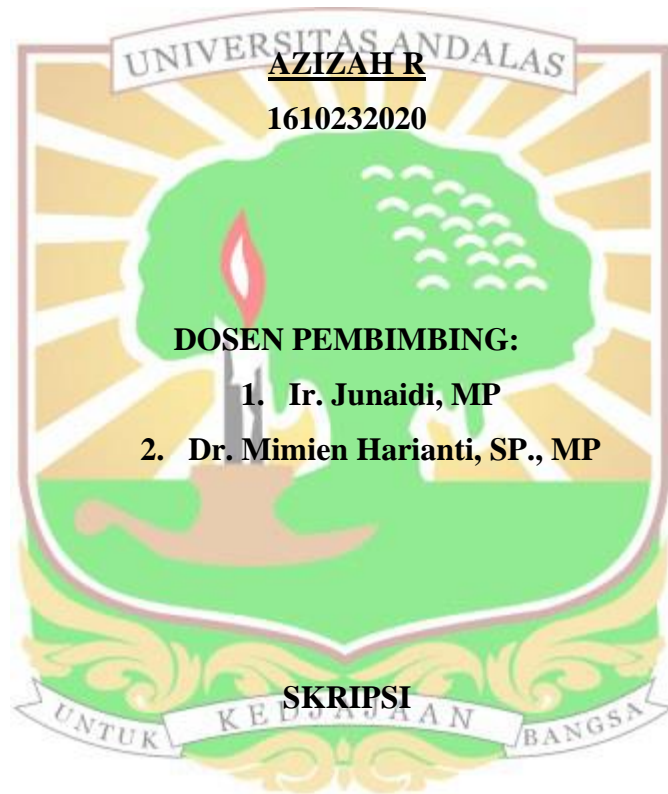


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 β -GLUKOSIDASE SEBAGAI INDIKATOR DEGRADASI LAHAN
PERTANIAN INTENSIF DI DAERAH UTARA KAKI GUNUNG TALANG**

Oleh



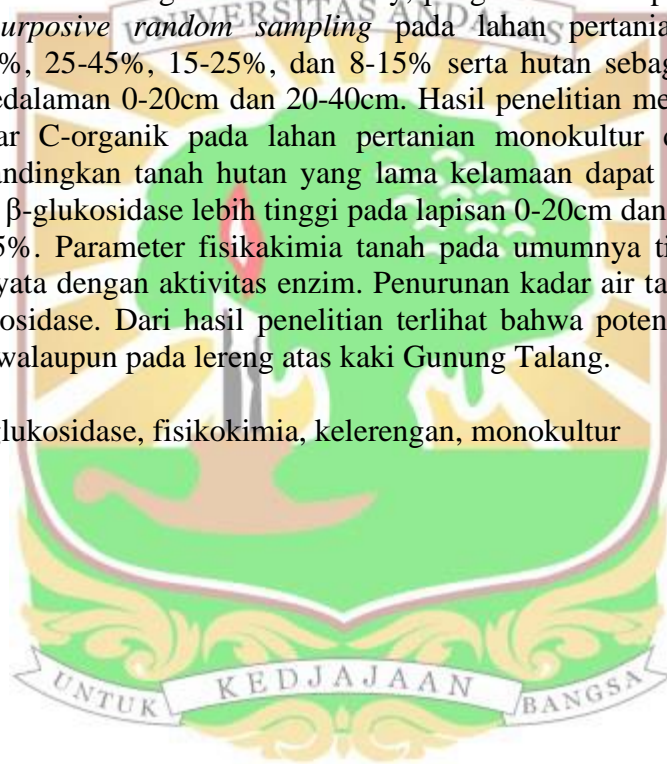
**PROGRAM STUDI ILMU TANAH
FAKULTAS PERTANIAN
UNIVERSITAS ANDALAS
PADANG
2021**

KORELASI SIFAT FISIKOKIMIA TANAH DENGAN AKTIVITAS β -GLUKOSIDASE SEBAGAI INDIKATOR DEGRADASI LAHAN PERTANIAN INTENSIF DI DAERAH UTARA KAKI GUNUNG TALANG

ABSTRAK

Perubahan kondisi bahan organik tanah di lahan monokultur daerah utara kaki Gunung Talang dapat diidentifikasi dengan pengukuran aktifitas enzim β -glukosidase. Penelitian ini bertujuan untuk mengkaji korelasi antara beberapa sifat fisikokimia tanah dengan aktivitas β -glukosidase sebagai indikator degradasi lahan pertanian monokultur intensif pada beberapa kelerengan di daerah utara kaki Gunung Talang. Penelitian ini dilakukan dengan metode survey, pengambilan sampel tanah dilakukan dengan cara *purposive random sampling* pada lahan pertanian monokultur di kelerengan >45%, 25-45%, 15-25%, dan 8-15% serta hutan sebagai kontrol. Tanah diambil pada kedalaman 0-20cm dan 20-40cm. Hasil penelitian menunjukkan adanya penurunan kadar C-organik pada lahan pertanian monokultur diberbagai tingkat kelerengan dibandingkan tanah hutan yang lama kelamaan dapat memicu degradasi lahan. Aktivitas β -glukosidase lebih tinggi pada lapisan 0-20cm dan paling tinggi pada kelerengan 8-15%. Parameter fisikakimia tanah pada umumnya tidak menunjukkan korelasi yang nyata dengan aktivitas enzim. Penurunan kadar air tanah dapat memicu aktivitas β -glukosidase. Dari hasil penelitian terlihat bahwa potensi degradasi lahan masih minimal walaupun pada lereng atas kaki Gunung Talang.

Kata kunci : β -glukosidase, fisikokimia, kelerengan, monokultur



**CORRELATION BETWEEN SOIL PHYSICOCHEMICAL PROPERTIES AND
β-GLUCOSIDASE ACTIVITY AS AN INDICATOR OF DEGRADATION OF
INTENSIVE AGRICULTURAL LAND IN THE NORTH OF THE FOOT AREA OF
MOUNT TALANG**

ABSTRACT

Changes of soil organic matter conditions in monoculture land in the northern foothills of Mount Talang can be identified by measuring β-glucosidase enzyme activity. This study was aimed to examine the correlation between several physicochemical characteristics of soil with β-glucosidase activity as an indicator of degradation for intensive monoculture agricultural land on several slopes in the northern foothills of Mount Talang. This research was conducted by survey method, soil sampling was carried out by purposive sampling on monoculture agricultural land at several slope levels (> 45%, 25-45%, 15-25%, and 8-15%) and forest as a control. Soil samples was taken at a depth of 0-20cm and 20-40cm. The results showed that there was a decrease in organic-C content in monocultural management of agricultural land at various slopes compared to forest soils. By time, the monoculture management could trigger land degradation. β-glucosidase activity was higher in the 0-20cm then in 20-40 soil layer, and the highest was at 8-15% slopes. Soil physicochemical parameters did not show a significant correlation with enzyme activity. Decrease in groundwater content could trigger β-glucosidase activity. From the research results, it could be concluded that the potential of land degradation was still minimal even though it was on the upper foot slopes of the Mount Talang.

Key words: β-glucosidase, monoculture, physicochemistry, slope

