

黃土高原地區土壤抗沖性空間變異規律

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摘 要 採用原狀土沖刷水槽裝置，對呂梁山以西、長城沿綫以南、渭河以北和甘肅黃河以東的 106 縣（市）、旗範圍內的土壤抗沖性能進行了野外測試，發現黃土高原地區土壤抗沖性存在明顯的地域分異規律，土壤抗沖性存在自北至南、自西北至東南逐漸遞增的趨勢。土壤抗沖性在沿土壤剖面深度垂直變化上，存在三種迥然不同的形態，即：作物根系活動層（10~30cm）土壤抗沖性較大、表層及根系活動層以下抗沖性很弱的農業耕作影響型，粘化層土壤抗沖性大、兩側甚小的土壤成土過程影響型，表層土壤抗沖性最大、往下越來越小的生物生長影響型，前兩種土壤抗沖性沿剖面垂直變化曲綫類似正態分佈曲綫，第三種則類似雙曲綫。根據土壤抗沖係數的大小，以及其他一些理化參數，將黃土高原地區土壤抗沖性規劃分為極強、較強、一般、較弱和極弱等五個區域。

關鍵詞：土壤侵蝕，水平變化，垂直變化。

Horizontal and Vertical Variation of Soil Anti-scourability on Loess Plateau

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ABSTRACT Soil anti-scourability (SAS) in 106 counties from west of Luliang mountain to east Yellow River in Gansu Province, and from north of Weihe to south of Great Wall were tested in the field. The result showed that, SAS in Loess Plateau increased from north to south and from northwest to southeast. According to the observation of the soil profile, SAS may cover three types; cultivation determination type, with strong SAS in crop root layer (10-30cm), and low SAS in the surface soil and below crop root layer; soil formation determination type which has greater SAS in argillic horizon than other layers; and living organism growth determination type with SAS decreasing from top to bottom of soil profile. It is easy to find that, the variation of SAS in the soil profile for the former two types resembles the normal distribution curve, but the latter is hyperbolic type. The SAS in Loess Plateau accordingly can be divided into five categories.

Key Words: soil erosion, horizontal variation, vertical regulation.

一、前 言

土壤抗沖性是指土壤抵抗徑流對其機械破壞和推

動下移的性能，它是由朱顯謨（1958）在將土壤抵抗徑流破壞作用的能力分為抗蝕和抗沖兩種性能時提出的，主要取決於土粒間、微結構間的膠結力和土壤結

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