黄土半干旱丘陵区陡坡地土壤水分空间变异性研究

Spatial variability of soil moisture on steep slopeland in loess hill region

投稿时间：2003-2-20　　最后修改时间：2003-7-18

稿件编号：20030602

中文关键词：土壤水分； 陡坡坡地； 空间变异； 黄土丘陵区

英文关键词：soil moisture； steep slopeland； spatial variability； loess hill region

基金项目：国家973计划项目(2002CB111502)和国家973计划前期研究专项资助

作者	单位
潘成忠	中国科学院水利部水土保持研究所黄土高原土壤侵蚀与旱地农业国家重点实验室，杨凌 712100
上官周平	中国科学院水利部水土保持研究所黄土高原土壤侵蚀与旱地农业国家重点实验室，杨凌 712100

中文摘要：

通过对黄土半干旱丘陵区陡坡坡地土壤水分变异规律研究，阐明陡坡坡面土壤水分变化特征，0～200 cm土层内土壤含水量垂直变化呈高—低—高趋势；陡坡土壤水分沿坡顶向下变化总趋势是先增加后持平或减小；在坡面有浅沟微地形存在的情况下，虽然纵向和横向坡位对坡面土壤水分分布均存在影响，但纵向坡位的影响要较横向显著；地统计学对有浅沟微地形存在的陡坡坡面土壤水分变异特征不能进行很好地描述。

英文摘要：

It is very meaningful for making the most of soil moisture to probe into spatial distribution of slopeland soil moisture in the Loess Plateau. Soil samples were taken from eroded steep slopeland in loess hill region. Soil water content of a depth of 200 cm at 20 cm intervals was determined in the laboratory. The data were processed by SPSS (8.0) software. The results show that soil moisture of all soil layers but 180～200 cm are normally distributed. Soil water content on the steep slope is high in 0～20 cm soil depth, low in 20～100 cm, and high in 100～200 cm. Variation of soil water content of 20～120 cm soil depth is much larger than that of both 0～20 cm and 120～200 cm, especially along horizontal direction slope. Soil water content increases at first, then it keeps flat or reduces along longitudinal direction. Though both longitudinal and horizontal slope position affect distribution of soil moisture, longitudinal direction has more significant influence on soil moisture than horizontal direction. Geostatistics is not able to effectively analyze spatial variability of soil moisture on the steep slope with shallow gully in the Loess Plateau.

查看全文　　关闭　　下载PDF阅读器