

民勤绿洲天然胡杨林生长季土壤水盐动态

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Dynamics of Soil Water and Salt During the Growing Season of *Populus euphratica* Forest in Minqin Oasis

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摘要 利用经典统计学与地统计学方法研究民勤绿洲天然胡杨林长季的土壤水盐动态变化规律。结果表明,民勤县双茨科乡土壤含水量随土层深度增加而增大,夹河乡土壤含水量则随土层深度增加先增大后减小。研究区0~20cm土壤含水量较低,为8.5~34.0 g·kg⁻¹,平均值为18.2 g·kg⁻¹。土壤含水量属中等变异性,且呈中等程度的空间相关性。各季节土壤含水量从高到低依次为春季、秋季和夏季。土壤全盐量属中等变异性,总体变化趋势为随土层深度增加而减小,夹河、苏武和双茨科乡0~20cm土壤全盐量平均值分别为15.4、28.0和11.1 g·kg⁻¹。各季节土壤全盐量由高到低依次为春季、夏季和秋季。胡杨胸径与土壤水盐含量间呈负相关。

关键词: 民勤绿洲 胡杨 土壤水盐 变异系数

Abstract: Classical statistical and geostatistical methods were used to explore dynamics of soil salt and water during the growing season of natural *Populus euphratica* in Minqin Oasis. It was found that soil water content increased with soil depth in Shuangcike and Suwu, but it increased first and then decreased with soil depth in Jiahe. In the study area, the soil water content in the 0-20 cm of soil was quite low, ranging between 8.5 and 34.0 g·kg⁻¹ and being 18.2 g·kg⁻¹ on average. It fell into the category of moderate in variability and in spatial correlation as well. And it also varied from season to season, showing a decreasing order of spring, autumn, and summer. The soil salt content in the study area was also in the category of moderate in variability and generally decreased with depth. The soil total salt content in the surface soil (0-20 cm) of Jiahe, Suwu and Shuangcike was 15.4, 28.0 and 11.1 g·kg⁻¹, respectively on average. It also varied with the seasons, showing a decreasing order of spring, summer, and autumn. The diameter at breast height of a *Populus euphratica* tree was negatively related with soil salt and water contents.

Keywords: Minqin Oasis *Populus euphratica* soil water and salt content variation coefficient

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