

入渗水矿化度对土壤水盐运移影响的试验研究

Experimental study on salt and water movement affected by mineralization degree of infiltration water

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中文摘要:

合理开发利用咸水和微咸水资源已成为当今世界各国关注的热点问题。为了分析微咸水矿化度、水量及土壤初始条件等因素对土壤水盐运移的影响,采用土柱在室内进行了微咸水入渗试验。该文分析了入渗水矿化度对入渗过程的影响,分析了盐分的分布特征,建立入渗水矿化度和土壤总盐量之间的数学模型,总结了土壤剖面的盐分运移规律。分析结果表明:入渗水矿化度的增加可增大土壤的入渗能力,入渗水的矿化度在1~5 g/L时,土壤积盐量随入渗水矿化度增加而增大;不同矿化度的水入渗后,土壤表层含水率基本相近,接近饱和和含水率。

英文摘要:

Reasonable development and utilization of salt water and saline water resources have become a heat issue in the world recently. In order to study the effected of mineralization degree of saline water, soil moisture content and soil initial conditions on water and salt movement, the experiment of brackish water infiltration with earth pillar were conducted in doors. Impact of the salinity of the infiltration water on the process of infiltration was analyzed, the mathematical model between infiltration water mineralization degree and soil salt content was established, and the soil salt movement law in soil profiles were summarized. The results showed that ability of soil infiltration raised with the increasing of water mineralization degree. As mineralization degree is ranged from 1~5 g/L, the extent of accumulated salt increases a long with increased mineralization degree of infiltration water. The surface soil water content was close with different mineralization degree levels water, which approached saturated water content.

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