SA-IP-SPS型保水剂及其对土壤物理性能的影响

Synthesis and effects on physical properties of soil of SA-IP-SPS water retaining agents

投稿时间：2002-6-24 最后修改时间：2002-11-25

稿件编号：20030107

中文关键词：保水剂； 土壤； 物理性能

英文关键词：water retaining agent; soil; physical property

基金项目：国家自然科学基金项目(20176007)；中国博士后基金项目

作者	单位
崔英德	广东工业大学
郭建维	广东工业大学
阎文峰	广东工业大学
易国斌	广东工业大学
康正	广东工业大学

中文摘要：

以未经预处理的工业级丙烯酸、聚乙烯醇为原料，首先通过氯磺酸磺化法在聚乙烯醇分子中引入强亲水性离子基团，然后采用静态水溶液聚合法合成了吸盐水率较高、凝胶机械强度较高的的聚丙烯酸钠-聚乙烯醇硫酸钠互穿网络(SA-IP-SPS）型保水剂。研究了SA-IP-SPS型保水剂含量、颗粒大小对南方赤红壤的水分抑蒸发性能和团粒结构的影响，比较研究结果表明，SA-IP-SPS型保水剂对赤红壤的水分抑蒸发性能和团粒结构改良性能与丙烯酸-丙烯酰胺交联共聚型保水剂效果相当，但明显优于传统的交联聚丙烯酸钠保水剂。

英文摘要：

The water retaining agent with interpenetrating networks of sodium acrylate(SA)-based superabsorbent and sodium PVA sulfate(SPS) were prepared by the static-state aqueous solution polymerization method. The un-pretreated industrial acrylic acid and PVA(molecular weight=124000) were used as reaction raw materials. The strong hydrophilic ionic function groups were introduced into PVA molecules through the Chlorosulfonic acid sulfonation method to prepare SPS. The formation of SA-IP-SPS interpenetrating networks resulted in the improved salt tolerance and mechanical properties of this water retaining agent. In addition the performance of SA-IP-SPS water retaining agents in improving water holding capacity and amending water-stable aggregates of Lateritic Red Soil (from South China) were investigated in detail. The results of the comparison experiment showed that the SA-IP-SPS water retaining agent was approximate to the AA-AM water retaining agent in applying performances, but they were remarkably superior to SA water retaining agents.

查看全文 关闭 下载PDF阅读器