

塑料大棚盐渍化土壤灌水洗盐对水环境污染负荷的研究

Water pollution load of saliferous soil washed by water in plastic greenhouse

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中文摘要:

针对塑料大棚盐渍化土壤常用的灌水洗盐方式, 通过小区和原状土柱模拟灌水洗盐试验, 研究了灌水洗盐降低土壤盐渍化的效果及其通过径流和渗漏流失对水环境的氮磷污染负荷。结果表明: 灌水洗盐能降低表层土壤盐分53%~64%、土壤硝态氮55%~60%, 但使表层土壤速效磷增加了1.0~1.5倍; 洗盐过程中通过径流和渗漏流失进入水环境的氮磷污染负荷为硝态氮7.66 kg/hm²、铵态氮0.77 kg/hm²、总氮12.71 kg/hm²和总磷1.27 kg/h

英文摘要:

According to typical method of saliferous soil washed by water in protected agriculture, the reduction of saline matter in soil and the water pollution load of nitrogen and phosphorus by runoff and leakage were studied with plot scale experiments and indoor soil column experiments. The results showed that 53%~64% of saline matter and 55%~60% of nitrate nitrogen were reduced, respectively, while 1.0~1.5 times of available phosphorus was increased in topsoil after saliferous soil was washed; the total water pollution loads of nitrogen and phosphorus by runoff and leakage were 7.66 kg/hm² of nitrate nitrogen, 0.77 kg/hm² of ammonium nitrogen, 12.71 kg/hm² of total nitrogen and 1.27 kg/hm² of total phosphorus, respectively.

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