

农学—研究报告

洞庭湖红壤坡地玉米生态拦截技术对产量和径流氮磷的影响?

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摘要:

坡地氮磷流失是洞庭湖农业面源污染的重要来源。此研究以湖南省湘阴县红壤坡地土壤为研究对象, 通过田间小区试验, 探讨了生态拦截技术对玉米产量、化肥利用率和氮磷流失量的影响。结果表明, 生态拦截技术能有效减少地表径流量和泥沙流失量, 径流量减少了5.7%~17.1%, 而泥沙流失量减少了40.1%~45.6%。拦截氮磷效果显著, 径流中总氮、总磷的去除效果分别达到26.5%~44.9%和29.3%~33.1%。生态拦截处理对玉米产量均表现出增产, 比顺坡玉米提高了4%~8.1%; 并一定程度提高NP化肥肥效和肥料利用率。

关键词: 洞庭湖

The Ecological Interception Technology and Effects on Maize Yield and Surface Runoff in Red Soil Slopes of Dongting Lake

Abstract:

The loss of nitrogen and phosphorus in sloping land is an important resource of agricultural nonpoint pollution. The red soil slope in Xiangyin County, Hunan Province, which is the object of this research. Through setting a field experiment, we discussed the effect of eco-blocking technology on maize yield and NP loss. The results showed that, eco-blocking technology could effectively reduce the surface runoff and sediment loss. Compared with CK, runoff reduced 5.7%-17.1%, sediment loss decreased 40.1%-45.6%. The effect of nitrogen and phosphorus Intercepting was apparent. The runoff of TN and TP were estimated to be 26.5%-44.9% and 29.3%-33.1%, respectively. It also could increase corn yield and improve the NP fertilizer efficiency and utilization. Corn production increased by 4%-8.1% compared with CK.

Keywords: Dongting Lake

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参考文献:

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1. 康文星 王卫文 何介南.洞庭湖湿地草地不同利用方式对土壤碳储量的影响[J]. 中国农学通报, 2011,27(第2期1月): 35-39
2. 覃永晖, 吴 晓, 张连彪, 张 强.台湾农村建设对环洞庭湖区新农村规划的启示[J]. 中国农学通报, 2009,25(11): 293-296
3. 余慧芬 覃永晖.构建环洞庭湖地区新农村“五个文明”的思考[J]. 中国农学通报, 2009,25(22): 0-0
4. 陈端吕1, 宋涛2.西洞庭湖区森林景观指数适宜转换粒度研究[J]. 中国农学通报, 2010,26(10): 110-114

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