

农学—应用研究

配施矿物质有机肥及化肥减量对玉米水肥资源利用率的影响

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摘要:

采用单因素试验设计,在大田栽培条件下研究了配施矿物质有机肥及化肥减量对玉米产量构成及水、肥资源利用率的影响。结果表明,配施矿物质有机肥可以显著的提高玉米的产量、水分利用效率和氮肥、磷肥利用率。在配施矿物质有机肥的条件下,化肥施量较当地最佳施肥水平减量15%和30%时,玉米产量分别达到13948 kg/hm²、12782 kg/hm²,水分利用效率分别达到1.74 kg/m³、1.62 kg/m³,氮肥利用率分别达到35.97%、30.04%,磷肥利用率分别达到25.93%、21.55%。其中,在当地最佳施肥水平下减量15%并配施矿物质有机肥与当地最佳施肥水平处理的玉米产量没有显著性差异。表明在合理配施矿物质有机肥的条件下,将当前的化肥施量降低15%以内在生产实践中是可行的。

关键词: 肥料利用率

Effect on Water, Fertilizer Use Efficiency of Corn under Mineral organic fertilizer and Chemical Fertilizer Reduction

Abstract:

A field experiment was conducted to investigate the effects of combined application of mineral organic fertilizer and chemical fertilizer, reduced on WUE and fertilizer use efficiency, it was using trail design of single factor. The results showed that: yield, WUE and nitrogen, phosphate use efficiency at combined application of mineral organic and fertilizer significant higher than no mineral organic. When combined application of mineral organic and fertilizer, the yield at fertilizer reduce 15% and 30% were 13948 kg/hm², 12782 kg/hm², the WUE at fertilizer reduce 15% and 30% were 1.74 kg/m³, 1.62 kg/m³, the nitrogen use efficiency at fertilizer reduce 15% and 30% were 35.97%, 30.04%, the phosphate use efficiency at fertilizer reduce 15% and 30% were 25.93%, 21.55%. There was no significant between combined application of mineral organic, fertilizer reduce 15% and local best fertilization treatments. This experiment result have already prove is viable in produce practice that fertilizer reduce lower 15% compares wither current level under the condition of combined application of mineral organic reasonable.

Keywords: fertilizer use efficiency

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