

Influence of Conservation Agricultural Practices on Maize and Soybean Yields in Upper West Region of Ghana

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Justification and Objectives

Sustainable intensification of conservation agricultural practices can improve crop productivity and soil health. These practices will help farmers to adapt their crop production systems to future changing climates and minimize carbon and water foot print.

Objectives of this research were to evaluate influence of tillage practices (conventional, minimum tillage and no tillage), fertilizer management, and soil and water harvesting techniques on grain yield of maize and soybean in different cropping systems under on-farm conditions in upper west region of Ghana.

Materials and Methods

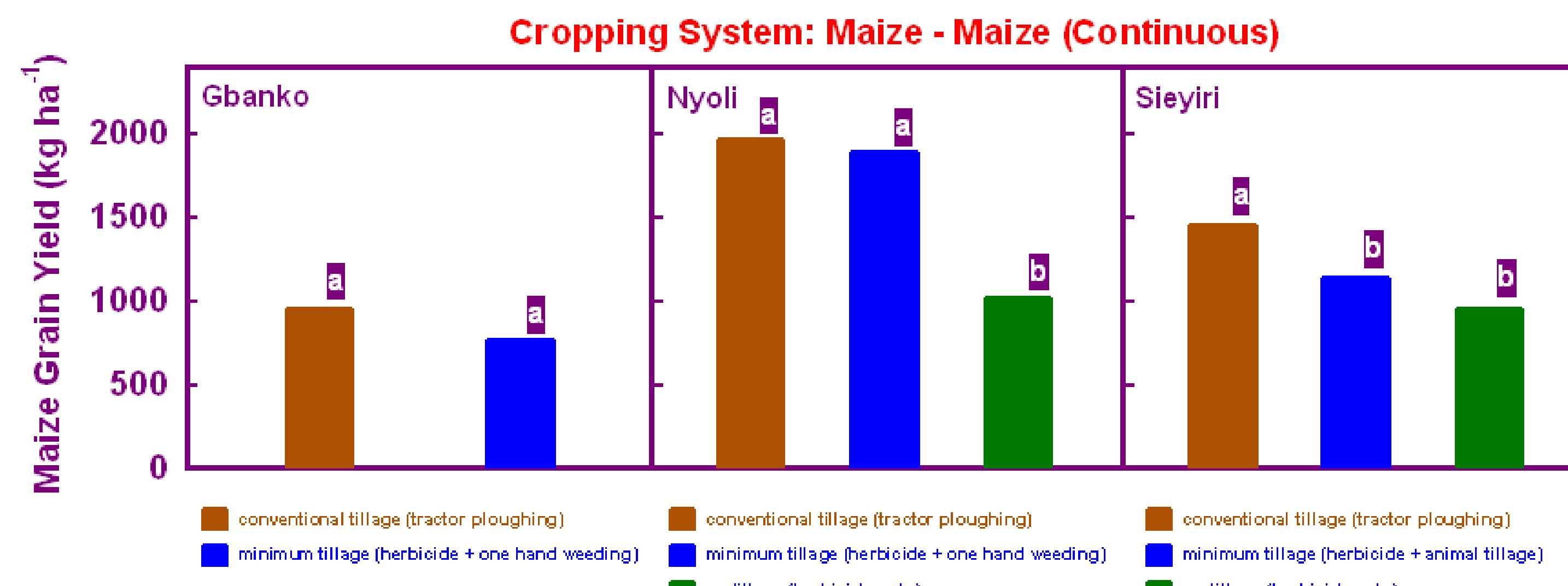
- Influence of tillage practices (conventional, minimum and no tillage) were tested in on-farm conditions at three locations (Gbanko, Nyoli and Sieyiri) in different cropping systems (continuous, rotations or intercropping of maize and soybean). Experimental design was a split-split plot with three replications.
- Effect of fertilizer practices [no fertilizer, NPK (37:16:31 kg ha⁻¹) and P @ 26 kg ha⁻¹] were tested in on-farm and on-station at Busa. Experimental design was a split plot with three replications.

- Impact of soil and water management practices (flat vs. tied ridges with or without grass or pigeonpea strips) were tested in on-farm conditions at Nandom. Experimental design was a randomized complete block with three replications.



Results and Conclusions

- Minimum tillage produced same grain yields of maize or soybean as conventional tractor tillage in all cropping systems.



Results and Conclusions

