



Conservation Tillage Adoption and Soil Health Impacts among Smallholder Farmers in Northern Ghana,

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Abstract

Conservation tillage practices have been proposed as a sustainable soil management strategy for smallholder farmers in northern Ghana, aiming to reduce soil erosion and improve soil health. The study employed qualitative interviews with a sample of 30 farmers who adopted conservation tillage practices, supplemented by analysis of pre- and post-tillage soil samples to assess changes in key soil properties such as organic matter content and bulk density. Conservation tillage adoption was found to increase organic matter content in the topsoil by an average of 15% compared to conventional tillage practices, indicating improved soil structure and fertility. The findings suggest that conservation tillage can be effectively promoted as a sustainable farming practice among smallholder farmers in northern Ghana, contributing to long-term soil health and productivity. Farmers should be encouraged to adopt conservation tillage through targeted extension services, which could include training workshops and subsidies for equipment needed to implement these practices. Conservation Tillage, Soil Health, Smallholder Farmers, Northern Ghana

Keywords: *Sub-Saharan, Smallholder, Conservation, Soil, Health, Methodology, Sustainability*

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