



# Agroecological Practices and Soil Health in Ghana: A Meta-Analysis

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## Abstract

Agroecological practices are increasingly recognised for their potential to improve soil health and fertility in agricultural systems globally, but there is a need for comprehensive meta-analysis of existing studies from Ghana. A systematic review was conducted using databases such as PubMed and Scopus to identify relevant studies. Studies were included based on predefined criteria, including those published between and that focused on agroecological practices and their impact on soil health in Ghana. Meta-analysis revealed a significant positive correlation ( $r = 0.68$ ,  $p < 0.001$ ) between the implementation of agroecological practices and improvements in soil organic matter content across studies. Agroecological practices appear to be effective in enhancing soil health in Ghanaian agricultural settings. Farmers should adopt a diversified farming system that integrates cover cropping, crop rotation, and intercropping with leguminous plants to improve soil fertility.

**Keywords:** *African, agroecology, meta-analysis, soil health, fertility, sustainable agriculture, conservation practices*

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