

Soil Health for Sustainable Agriculture and Ecosystems

Yangchen*

Research Centre of agriculture, Bhutan

Abstract

Soil health is a dynamic system of plant-soil interactions that is essential for sustainable agriculture and ecosystem services. It encompasses a range of biological, chemical, and physical processes that determine soil fertility, structure, and resilience. This review examines the current understanding of soil health indicators and their application in assessing soil quality and sustainability. Key indicators include soil organic carbon, microbial biomass, and soil structure, which are influenced by various factors such as land use, climate, and soil management practices. The review highlights the importance of maintaining soil health for ensuring food security and environmental sustainability, and discusses the role of soil health in mitigating climate change and promoting ecosystem resilience. Future research should focus on developing more robust and practical soil health indicators and integrating them into agricultural and ecosystem management practices.

Keywords: Soil health; Sustainable agriculture; Ecosystem services; Soil fertility; Soil structure

Introduction

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*Corresponding author: Yangchen, Research Centre of agriculture, Bhutan, yangchen@rcab.gov.bt

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