

COMPARING THE ENVIRONMENTAL EFFECTS OF REGENERATIVE AGRICULTURE SYSTEMS WITH CONVENTIONAL AGRICULTURAL PRACTICES

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In the face of accelerating global environmental challenges, particularly within the agricultural sector, the pursuit of sustainable solutions has become imperative nowadays. This study explores the pressing issues surrounding agricultural practices and their profound impact on the environment. Focusing on regenerative agriculture systems and conventional practices, to conduct a comparative analysis to distinguish the respective environmental effects. The degradation of soil health, loss of biodiversity, increasing of climate change, and pollution of water bodies are among the considerable challenges facing global agriculture. Conventional agricultural practices, characterized by intensive tillage, monoculture cropping, and heavy reliance on synthetic inputs, have been instrumental in exacerbating these environmental woes. Evidently, the pursuit of higher yields often comes at the expense of long-term sustainability, as witnessed in the depletion of soil fertility, loss of biodiversity, and emission of greenhouse gases. In contrast, Regenerative agriculture represents a new way of farming that focuses on using natural processes to improve the environment and farming methods. By prioritizing soil health restoration, biodiversity enhancement, and carbon sequestration, regenerative agriculture offers a promising avenue for addressing these pressing environmental concerns. Through minimal tillage, diverse crop rotations, cover cropping, and agroforestry, regenerative practices foster resilient agroecosystems capable of withstanding environmental stresses and mitigating the impacts of climate change. Drawing upon a comprehensive review of empirical studies and meta-analyses, our comparative analysis highlights the stark disparities between regenerative agriculture systems and conventional practices across various environmental dimensions. From soil health improvement to carbon sequestration, regenerative approaches consistently outperform conventional methods, offering tangible solutions to mitigate the adverse environmental impacts of agriculture. This study emphasises the urgent need for a transition towards more sustainable and regenerative agricultural practices to preserve the environment, ensure food security, and foster resilience in the face of a changing climate.