Enactus

Acadia University

Economic Impact of Biochar in Local Agriculture

Created October 7th, 2025

Overview

Biochar, a carbon-rich product made through the pyrolysis of organic waste, has soil enhancement and carbon sequestration potential. Beyond its environmental applications, biochar use in agriculture could reduce fertilizer costs, improve crop yields, and generate new income opportunities through carbon credit trading or waste management. Biochar influences the economic outcomes of agricultural operations, which connects sustainability to profitability.

Purpose

The purpose of this study is to assess the economic effects of biochar adoption in agricultural settings. Comparing metrics like input costs and potential revenue streams could help determine if biochar provides financial benefit to farmers while supporting sustainable practices

Goals

1. **Define the purity of the biochar produced Explore community-level economic benefits:** Investigate how local biochar production (via the innovative kiln) contributes to job creation, waste reduction, and circular economic growth.
2. **Quantify changes in input costs:** Measure how biochar application affects fertilizer and irrigation expenses over a defined growing period.

3. **Analyze long-term financial sustainability:**Model whether consistent biochar use leads to lasting profitability or cost savings across multiple planting cycles.