



# Socioeconomic Barriers to Crop Rotation Practices among Farmers in Northern Nigeria: A Longitudinal Review

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## Abstract

Crop rotation is a farming practice that involves alternating different types of crops in a field over time to maintain soil fertility and reduce pest pressure. However, socioeconomic factors often influence farmers' adoption of this practice. The review utilised a comprehensive search strategy across multiple databases including PubMed, Scopus, and Web of Science. Studies published between and were included based on predefined eligibility criteria. Crop rotation adoption was significantly lower among smallholder farmers in Northern Nigeria compared to larger-scale operations ( $p < 0.05$ ). Socioeconomic factors such as income levels, access to credit, and land tenure security play critical roles in determining the likelihood of crop rotation implementation. Government policies should prioritise smallholder farmers' socioeconomic needs, including improved access to finance and extension services, to promote sustainable agricultural practices like crop rotation. The empirical specification follows  $Y = \beta_{0+\beta} p X + \text{varepsilon}$ , and inference is reported with uncertainty-aware statistical criteria.

**Keywords:** *African agriculture, crop management, poverty, smallholder farmers, soil fertility, pest resistance, longitudinal studies*

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