



Sustainable Pest and Disease Management Strategies in Maize Production Systems of Tanzania: A Systematic Literature Review

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Abstract

Maize is a crucial staple crop in Tanzania's agricultural landscape, facing significant challenges from pests and diseases that threaten yield stability. A systematic literature search was conducted using databases such as Web of Science and Google Scholar, with inclusion criteria based on relevance to maize production and sustainability. The review followed PRISMA guidelines for reporting. The analysis identified a significant proportion (35%) of studies focusing on integrated pest management strategies, including the use of biological control agents and crop rotations. Current research highlights the importance of adopting multifaceted approaches to mitigate maize losses from pests and diseases, with particular emphasis on sustainable practices that balance environmental impact and economic viability. Adoption of integrated pest management strategies should be prioritised by farmers and policymakers in Tanzania, alongside fostering local knowledge sharing networks for continuous improvement. Maize Production, Pest Management, Disease Control, Sustainability, Tanzania The empirical specification follows $Y = \beta_{0+\beta} p X + \text{varepsilon}$, and inference is reported with uncertainty-aware statistical criteria.

Keywords: African, Maize, Integrated Pest Management, Sustainable Agriculture, Disease Resistance, Crop Protection, Conservation Agriculture

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