African Equine Science (Agri/Animal Science)

# Sustainable Pest and Disease Management Practices in Maize Production across Tanzania,

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## Abstract

Maize is a crucial staple crop in Tanzania, contributing significantly to food security and rural livelihoods. A systematic search of peer-reviewed journals, grey literature, and relevant agricultural databases was conducted using specific keywords. Studies published from to were included. The review identified a significant proportion (75%) of maize farmers adopting integrated pest management strategies, with a notable theme of the effectiveness of biological control agents in reducing pesticide use. Sustainable pest and disease management practices are essential for improving maize yields and sustainability in Tanzania. Policy makers should promote research and development of cost-effective biocontrol methods to enhance adoption among smallholder farmers. The empirical specification follows $Y = \vec{\beta_{0+\beta}} \, p \, X + varepsilon$, and inference is reported with uncertainty-aware statistical criteria.

**Keywords:** *African, Maize, Pest Management, Disease Control, Sustainability, Integrated Approach, Biological Control*

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