



# Integrated Pest Management Strategies in Northern Kenyan Maize Farms: A Three-Year Performance Evaluation

Odhiambo Muthoni<sup>1,2</sup>, Chiraimbu Chepchaiyo<sup>1,3</sup>, Mwesigwa Olckor<sup>4</sup>, Kerubo Ochola<sup>5</sup>

<sup>1</sup> Jomo Kenyatta University of Agriculture and Technology (JKUAT)

<sup>2</sup> Department of Animal Science, Egerton University

<sup>3</sup> Kenya Agricultural and Livestock Research Organization (KALRO)

<sup>4</sup> Department of Soil Science, Moi University

<sup>5</sup> Moi University

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**Correspondence:** [omuthoni@gmail.com](mailto:omuthoni@gmail.com)

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## Author notes

*Odhiambo Muthoni is affiliated with Jomo Kenyatta University of Agriculture and Technology (JKUAT) and focuses on Agriculture research in Africa.*

*Chiraimbu Chepchaiyo is affiliated with Kenya Agricultural and Livestock Research Organization (KALRO) and focuses on Agriculture research in Africa.*

*Mwesigwa Olckor is affiliated with Department of Soil Science, Moi University and focuses on Agriculture research in Africa.*

*Kerubo Ochola is affiliated with Moi University and focuses on Agriculture research in Africa.*

## Abstract

Integrated Pest Management (IPM) strategies have been proposed as a sustainable approach to reducing pesticide use in maize farming, particularly in regions with high pest pressure and limited resources. A total of 20 farms were randomly selected for a longitudinal study. Data was collected through regular field visits, farmer interviews, and monitoring of pest populations using visual assessment methods. Pest infestation levels decreased by an average of 35% in treated fields compared to untreated controls ( $p < .05$ ), indicating the efficacy of IPM strategies but with variability across different farm conditions. IPM proved effective in reducing pest pressure and improving maize yields, although challenges related to resource availability and farmer training need further attention. Continued support for farmers through extension services is recommended to ensure consistent adoption of IPM practices. Future research should focus on long-term sustainability and cost-effectiveness. Integrated Pest Management, Maize Farming, Northern Kenya, Yield Improvement The empirical specification follows  $Y = \beta_{0+\beta} p X + \text{varepsilon}$ , and inference is reported with uncertainty-aware statistical criteria.

**Keywords:** Kenya, Northern Kenya, Maize Farming, Pest Management, Integrated Approach, Ecologically Based Practices, Risk Assessment

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