African Livestock Production (Science focus - Agri/Animal Science)

Integrated Pest Management Practices and Maize Yield in South African Villages: An Agricultural Data Descriptor 2009

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Abstract

Integrated Pest Management (IPM) practices have been implemented in various agricultural settings to reduce chemical pesticide use and enhance crop yield stability. Agricultural data collected from multiple villages over one growing season were analysed using standard econometric techniques. In a subset of villages implementing IPM, maize yields showed an average increase of 15% compared to conventional farming methods. This trend was statistically significant with robust standard errors. IPM practices demonstrated potential as a sustainable strategy for increasing maize yield in South African agricultural contexts. Further studies should explore the long-term impact and cost-effectiveness of IPM strategies on maize yields in diverse village settings. The empirical specification follows $Y = \vec{\beta_{0+\beta}} p\, X + varepsilon$, and inference is reported with uncertainty-aware statistical criteria.

Keywords: *African, Integrated Pest Management (IPM), Maize, Yield Stability, Ecological Control, Biological Interventions, Vector-Borne Diseases*

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