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# Preferences for adoption of integrated pest management in Nigeria: A discrete choice experiment approach

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**Abstract**

Adoption of sustainable agricultural practices, including integrated pest management (IPM), has remained relatively low among smallholder farmers in Nigeria. Despite the potential benefits of these practices, research and dissemination efforts have not translated into widespread uptake among farmers. This persistent gap highlights the need to better understand the factors influencing farmers' adoption decisions and the trade-offs they face when considering alternative pest management strategies. To address this, the study employs a discrete choice experiment (DCE) to examine cucumber farmers' preferences for IPM attributes and to identify key barriers and enablers of adoption. The experiment captures key attributes related to the adoption of IPM, including sources of advisory support, reduction of pesticide residues from the environment, transition time and changes to farm income and yields. A mixed logit model that accounts for unobserved preference heterogeneity is used to analyse the preferences and trade-offs, and subsequently, willingness to accept (WTA) measures are estimated. Results reveal that financial constraints, risk aversion to production losses, limited effectiveness of advisory services, and aversion to long transition periods significantly limit IPM uptake among farmers. Farmers strongly prefer practices that substantially reduce pesticide residues from the environment but require substantial compensation to offset perceived economic and yield-related risks. Public advisory support is less favoured by IPM-aware farmers, indicating the need for more tailored and effective extension strategies. Policy measures to promote IPM adoption should include financial incentives, improved access to credit, and support for shorter transition periods. Gender-responsive and context-specific interventions, along with strengthened farmer networks, are essential for scaling up sustainable pest management practices across diverse agricultural systems.

**Keywords:** Discrete choice experiment, integrated pest management, sustainable

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