



Eco-Friendly Biopesticides in Cotton Pest Management: An Analysis of Northern Ghana Farmers' Practices

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Published: 10 March 2005 | **Received:** 12 November 2004 | **Accepted:** 21 February 2005

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DOI: [10.5281/zenodo.18810506](https://doi.org/10.5281/zenodo.18810506)

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Abstract

Cotton production in northern Ghana faces significant challenges from pests that threaten both yield and quality. Traditional chemical pesticides are widely used but pose environmental risks. A mixed-methods approach combining surveys with qualitative interviews was employed to assess farmer perceptions and practices related to biopesticide use. Farmers reported a preference for biopesticides over chemical pesticides, citing reduced environmental contamination as the primary driver. However, there is variability in application frequency based on pest severity (e.g., 2–4 applications per season). Biopesticide adoption has led to enhanced sustainability but requires further optimization of application strategies. Further research should focus on developing cost-effective biopesticides and training programmes for farmers to maximise benefits. Cotton, Biopesticides, Farmers' Practices, Pest Management, Northern Ghana

Keywords: *Sub-Saharan, African, Ghanaian, Farmers, PestManagement, Biocontrol, Integrated Pest Management, Resilience Studies*

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