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2ND NATIONAL SEMINAR

ON

EMERGING TRENDS IN AGRICULTURE

AND ALLIED SCIENCES:

A PATHWAY TO FOOD SECURITY

BOOK OF ABSTRACTS

20-21 SEPTEMBER 2025

Organized by

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Biological Herbicide for *Striga Hermonthica*: Development, Seed Treatment Formulation, and Performance Evaluation

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Abstract

Strigahermonthica (witchweed) is a destructive parasitic weed that severely limits cereal crop production across Africa and Asia. Conventional herbicide use is often costly, environmentally challenging, and ineffective due to *Striga*'s biology. This study explores the development of a biological herbicide using beneficial microorganisms, focusing on microbial production, formulation as a seed treatment, and evaluation of performance. The approach involves isolating effective microbial strains, optimizing fermentation for large-scale production, designing protective seed treatment formulations, and testing their ability to suppress *Striga* germination and emergence under laboratory, greenhouse, and field conditions. Emphasis is placed on compatibility with host seeds, microbial viability during storage, and adaptability for farmer use. This work provides a framework for eco-friendly, sustainable *Striga* management through microbial seed treatments.

Keywords

Strigahermonthica, biological herbicide, microbial control, seed treatment, fermentation process, formulation technology, performance evaluation, large-scale production