TITLE: DEVELOPING *TRICHODERMA*-BASED FORMULATIONS FOR BIOLOGICAL CONTROL OF RICE BLAST IN LOW-LAND RICE AGRO-ECOSYSTEMS OF TANZANIA

DATE: 11-1-2023, TIME 10:00 AM, VENUE: Crop science laboratory 2

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Abstract

 Rice productivity is constrained by several factors including rice blast disease caused *Pyricularia oryzae.* Use of Biological control agents (BCAs) has increased its importance in plant disease management and one of BCAs are *Trichoderma* spp due to multi-antagonistic properties against pathogen. Climatic change have found to undermine their ecological adaptability, calling for the need of evaluating native *Trichoderma* diversity in lowland rice agroecosystems of Tanzania, assessing their adaptability and efficacy against rice blast. Objective of the study is to improve rice productivity and agroecosystem sustainability in lowland rice ecosystem through agroecological practices for disease management by identifying *Trichoderma* ssp*.* that are native to selected lowland rice ecologies of Tanzania; assessing their biological resilience to different ecological stresses; evaluating their efficacy against *Pyricularia oryzae*; developing formulations and determining their economic feasibility. Soil sample will be collected from agroecological zones of Tanzania for isolation and identification of *Trichoderma* spp., screening for their efficacy will be done to determine their antagonistic. Resilience test on pH, temperature and water activity will be done to determine their adaptive capacity. Development of formulation will be done for different application regime in the field, and their economic feasibility will be determined. Output are developed Trichoderma formulation, minimum of five published papers and PhD Thesis. Estimated budge is 47,000,000 TSH. Work plan: Jan-March 2023 soil sampling, In vitro experiments Feb- October 2023; Field experiment - May 2023- Feb 2025, Data collection -Jan 2023- Feb 202; Data analysis and report writing, and presentations - Jan 2023 – Oct 2025.