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Short Communication

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Identification and Characterisation of causal agent(s) of Thread blight disease on cocoa (Theobroma cacao L.)

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Abstract:

This study was conducted in 2014/2015 at Plant Pathology Laboratory of the Department of Crops and Soil Science KNUST, Kumasi, Ghana. The study aimed at identifying and characterizing thread blight (TB) pathogens on cocoa. This experiment was done in controlled environment using Complete Randomized Design (CRD) with four replications. Seven (7) different culture agar media viz.,(Potato Dextrose, Malt Extract, V-8 Juice, Oatmeal, Plantain, Banana, and Green Cocoa Mucillage) were tested. Mycelia growth, colony character and sporulation pattern of the fungal isolates were studied for seven (7) days of incubation at 28±1 °C. Six (6) different isolates of Thread Blight were identified. The cultural characteristics and sporulation pattern were greatly influenced by the type of medium used. Thread Blight pathogen(s) are homobasidiomycetes, which produce complex fruiting bodies and gilled mushrooms (Agaricales). Six(6) different types of mushrooms were produced with TB fungi. The study revealed that white TB on cocoa is caused by two different organisms which are closely related, Marasmius and Marasmiellus species. The study revealed plantain, Banana and oil palm as the alternative host crops. Pathogenicity test on six (6) varieties of cocoa seedlings and three alternative host crops showed that white TB is hyper-virulent and responsible for causing most of the TB disease on cocoa.

Biography:

Emmanuellah Lekete-Lawson (Mrs.) is a Microbiologist/Plant Pathologist. She is a PhD candidate. Her research interest includes: An integrative study to identify metabolic alterations and Mechanical Forces Exerted by Fungal Pathogens on Host Tissues, Characterization and management of thread blight disease on Cocoa, New disease reports on Oil palm and coconut and management. She has published a number of scientific papers in several scientific journals and has presented more than 40 papers at both local and international conferences and workshops. She is the head of Plant Health Unit of Council for Scientific and Industrial Research (CSIR)-OPRI and a reviewer to quite a number of reputable scientific journals.