

3RD GLOBAL FOOD SECURITY, FOOD SAFETY & SUSTAINABILITY CONFERENCE

May 21-22, 2018 | New York, USA

‘Positive selection’ a simple technique to reduce high virus incidence and seed yam degeneration in Ghana

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Seed yams previously (in 2015) selected from symptomless or mildly infected plants (positive selection), as well as those purchased from the market (farmer saved) and those selected from field diseased plants were established in field trials in 2016 and 2017 at Ejura (forest-transition zone) and Fumesua (forest zone) in a randomized complete block 3 x 3 factorial design. The performances of the three seed sources were compared for their reaction to yam mosaic virus infection and tuber yield. The varieties used were ‘Dente’, ‘Pona’ and ‘Larabrako’. Plants established from positive selection performed significantly ($P < 0.05$) better with least virus percentage infection and disease severity scores. Tuber yield was also significant ($P < 0.05$) for plants established from positive selection. With farmers’ current practice of recycling seeds from one season to another, this study clearly shows that positive selection is a good approach to reduce virus load in farmers’ fields as well as reducing seed yam degeneration while maintaining fairly good yields.

Biography

Marfo E A is pursuing her MPhil from Kwame Nkrumah University of Science and Technology (KNUST), under the CAY-Seed project in Ghana reading Crop protection (Plant Virology). She works at the CSIR-Crops Research Institute as a Laboratory Technician in the Virology laboratory. She has her expertise in laboratory plant virus diagnostics using PCR and ELISA (PAS, DAS, TAS, ACP and NCM ELISA) and field disease assessment to determine the percentage virus disease incidence and severity. This helps to determine disease prevalence among plant populations and specific crop growing area.

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