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Awareness and adoption of positive selection techniques in seed yam production among smallholder yam farmers in Ghana

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Yam (Dioscorea spp.) is an important staple providing employment to millions of the people of West African sub region. The crop plays a vital role as a cash and food security crop particularly in Ghana and Nigeria. However, one of the key constraints to yam production is the high cost of production, which results from the high cost of seed yam used in production. Subsequently, farmers are faced with the challenge of traditionally generating seed yams by milking their ware yam fields or cutting of small sized whole tubers into setts. This practice leads to high level of disease and pest infestation which leads to sub-optimal yields and deterioration of tuber quality in storage. To address this challenge, the Community Action for Improving Farmers saved Seed yam (CAY-Seed) project in West Africa introduced farmers to positive selection (PS) technique. PS refers to a visual selection process of saving disease-free tubers from disease-free plants in a crop for the following season's seed. This technique has the potential of increasing yield and reducing disease incidence and severity. This paper estimates the rates of awareness and adoption of PS and their determinants among smallholder yam farmers in Ghana. Using data from 678 yam farmers, the paper applies the average treatment effect methodology to examine the awareness and adoption rates and associated factors. The results indicate that adoption of PS techniques is 38.4 which fall below the potential adoption rate of 80.7%, hence resulting in an adoption gap of 42.3%. This shortfall was as a result of incomplete awareness of yam farmers to PS techniques. Participation in community demonstrations, trainings and access to training materials were found to enhance the adoption of positive selection. Efforts at promoting the positive selection technique should consider these factors to enhance awareness and subsequent adoption of positive selection for improving both seed yam and ware yam productivity in Ghana.

Biography

Asante B O is an Agricultural and Resource Economics Researcher and has expertise in the area of Applied Econometrics, Agricultural and Resource Economics and Development Economics. He has knowledge and expertise in quantitative and qualitative approaches and their applications to various aspects of agriculture, food security and development economics and has been involved in a number of development related projects in these fields in Ghana and across Africa. His research interests are in the areas of Applied Econometrics; Agricultural and Resource Economics; Development Economics; Efficiency and Productivity Analysis; Adoption Studies, Impact Evaluation and Value Chain Analysis. He has published articles both in international and regional journals. He has obtained his PhD in Agricultural and Resource Economics at the University of New England, Australia and is currently a Research Scientist at the CSIR-Crops Research Institute in Ghana.

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