STOPS: Sustainable Technologies for Orange and Purple Sweet Potatoes in Ghana

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STOPS

STOPS is a two-year project led by Tuskegee University in collaboration with Penn State University and several Ghanaian research centers and institutions of higher education.

The goal is to facilitate adoption and scaling up of best practices for enhancing the resilience of orange and purple sweet potato varieties and farming systems to improve nutritional status, food security and income generation.

Rationale

The prevalence of Vitamin A deficiency among children and pregnant women in Ghana is quite high, as more than 70% of children under five are Vitamin A deficient. While white sweet potatoes are commonly consumed in Ghana, they are low in beta-carotene, the precursor to Vitamin A. There is limited production and consumption of Vitamin A–rich orange and purple sweet potatoes due limited awareness of its value by both consumers and producers and limited availability of clean planting materials. STOPS seeks to strengthen the value chain in three sweet potato growing regions in Ghana to improve food security, agricultural productivity and economic value

Survey Goals and Methodology

A survey of 540 sweet potato-producing households was carried out in northern Ghana May-June 2013 to explore current sweet potato (SP) production and practices; attitudes, practices and knowledge of SP production and consumption; SP seed systems; dietary diversity and food security, and access to markets, among others.

Three regions, Nothern, Upper East and Upper West, were identified for inclusion in the study. In these, 60 SP-growing communities were selected, distributed among 10 districts. Nine SP households were randomly selected from each community.

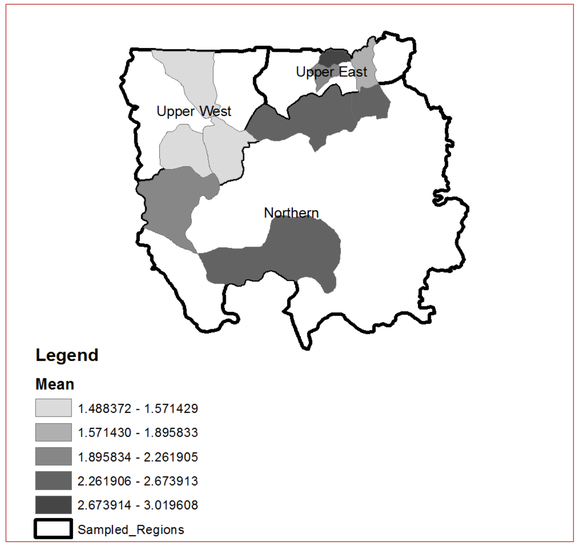

Figure 1. Percentage of Orange SP growers per district

Overall Specific Objectives

1) Gain a better understanding of traditional sweet potato production, indigenous knowledge systems, and key drivers of food insecurity;
2) Catalyze the adoption, and assess the social, economic and environmental impacts, of sweet potato innovations prioritized by value chain actors: farmers, processors and consumers;
3) Increase household consumption of the new sweet potato varieties and improve levels of nutrition and health, especially among micronutrient deficient women and children;
4) Strengthen farmers' links to local and regional markets to diversify household incomes through increased production and integration into an extended value chain of markets, processing and new product development;
5) Contribute to the formulation of sweet potato products to enhance nutritional status, food security, and incomes.

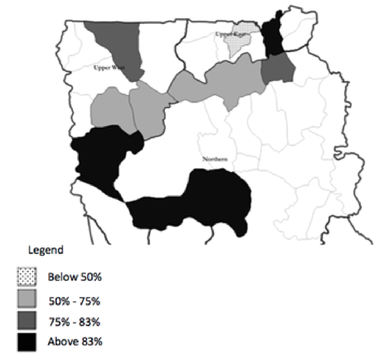

Figure 3. Percentage of Growers using Vines from their own Farm.

Percentage of Red Skin/Orange Flesh Growers per District

Overall 40% of households produce orange SP; however, a one-way ANOVA test found production varied significantly (p,.001) by district. The Upper East had the highest rate of orange SP production with 48%, while in both Northern and Upper West 37% of growers produce orange SP.

Perceptions of Relative Nutrient Benefits

Nearly half (48%) of respondents did not have an opinion of the relative health benefits of orange versus white sweet potatoes. Overall, 21% agreed or strongly agreed with the statement that orange SP are healthier than white SP. A one-way ANOVA test found a significant difference (p<.001) between districts as seen on the right. This shows the potential for greater awareness of the nutritional benefits of orange SP.

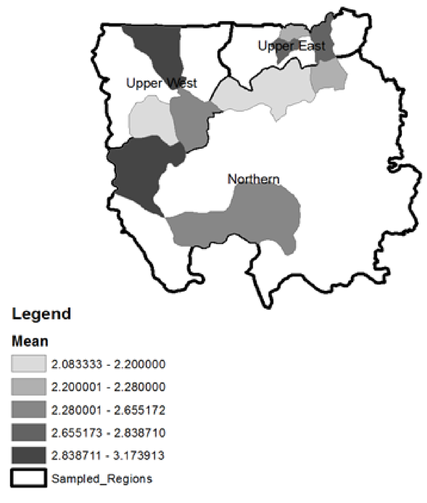

Figure 2. Orange Flesh Sweet Potatoes are Healthier than White

Source of Vines

Sweet potato vines plays a crucial role in the production system, as obtaining healthy vines for propagation can be a challenge. Overall 75% of growers use vines from their own farm. However, a one-way ANOVA test found the regional variation among districts is significant (p<.001). Two districts in the Upper East rely on their own vines just more then half the time as farm groups, distant vine growers and relatives play a more significant role.

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