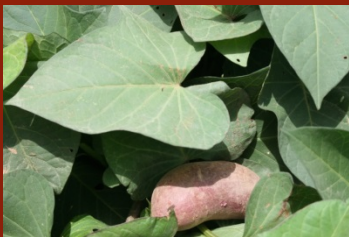




TUSKEGEE

UNIVERSITY

THE **S**USTAINABLE **T**ECHNOLOGIES FOR **O**RANGE AND
PURPLE **S**WEETPOTATOES (STOPS)



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STOPS

- **GOAL:**

- Use nutrition-based education to introduce new technologies in the sweetpotato value chain

- **FOCUS:**

- Integrating nutrition and production (horticulture) of OSP and PSP for nutritional health
- Bio-availability of nutrients to reduce vitamin A and Fe deficiencies



STOPS

- Target Audience
- **Women**
- Processing of sweetpotato puree & flour
- Reformulating traditional recipes with sweetpotatoes for home consumption
- Developing new sweetpotato products



STOPS

- Target Audience
- **Youth and Children**
- The concept of changing food behavior starts with children & youth – influence adults
- Elohim Senior High School
- St. Monica's Junior High School
- SOS Children's Village



STOPS

- Target Audience

- **Farmers**

➤ **Clean vine multiplication**



➤ **Improved cultural practices**



➤ **Improved postharvest handling**



STOPS

- Project Advantages
- Uses existing farming systems with similar crops - does not require additional land/labor
- Fosters community self-reliance through inclusion of all stakeholders, leading to sustainable development of orange and purple sweetpotato value chains
- Provides opportunities for enhanced incomes for farmers and value-added linkages such as processors and bakers



STOPS

- Project Advantages
- Sweetpotato as a "one stop shop" (roots and leave) for nutrition and health
- SP grown year round for both leaves and roots.
- Traditional leaves are sporadic and irregular. SP leaves are used to when the traditional leaves are scarce or unavailable.



STOPS

❑ **Interrelated factors directly affect nutritional outcomes**

- **Production**
- **Processing**
- **Consumption**

Technologies revolve around 5 broad areas:

Introduction of new more nutritious sweetpotato varieties (OSP, PSP)

Improved production practices to increase yields

New methods to increase value

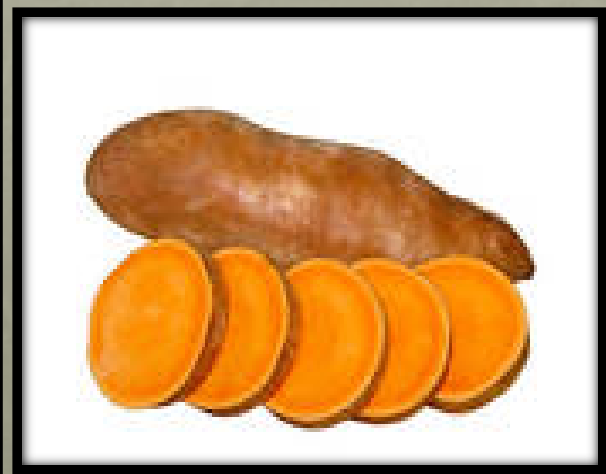
Reformulating traditional recipes with sweetpotato (flour, leaves) for nutritive value

Introduce new products with sweetpotato flour and puree to increase general consumption

Introduction of new more nutritious sweetpotato varieties (OSP, PSP)

Varieties and Breeding Lines

- TU-1-12 Jewel
- ❖ TU-2-12 TU Purple
- TU-3-12 B-63
- ❖ TU-4-12 Beauregard

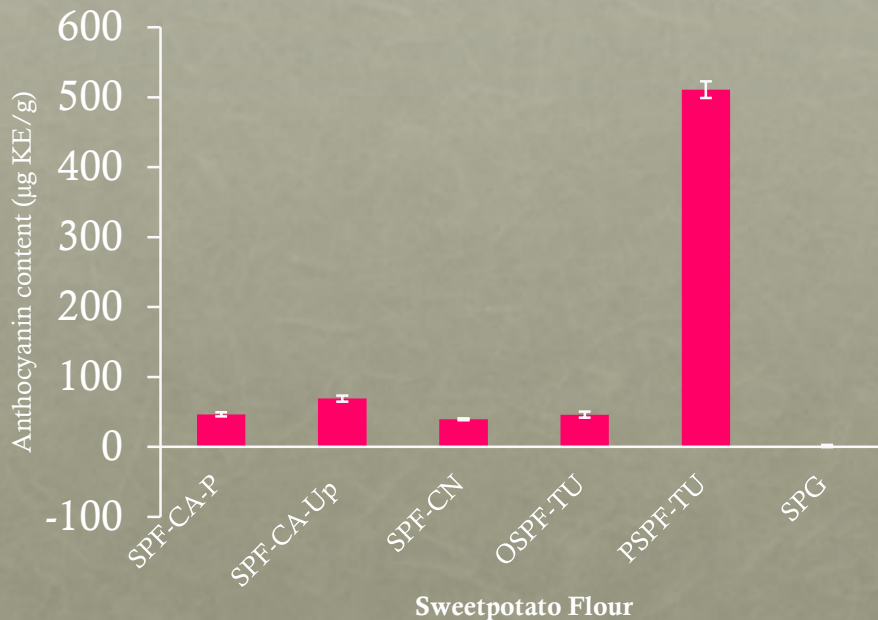


Introduction of new more nutritious sweetpotato varieties (OSP, PSP)

Varieties and Breeding Lines

- TU-2-12 TU Purple

Anthocyanin Content of Sweetpotato Flours

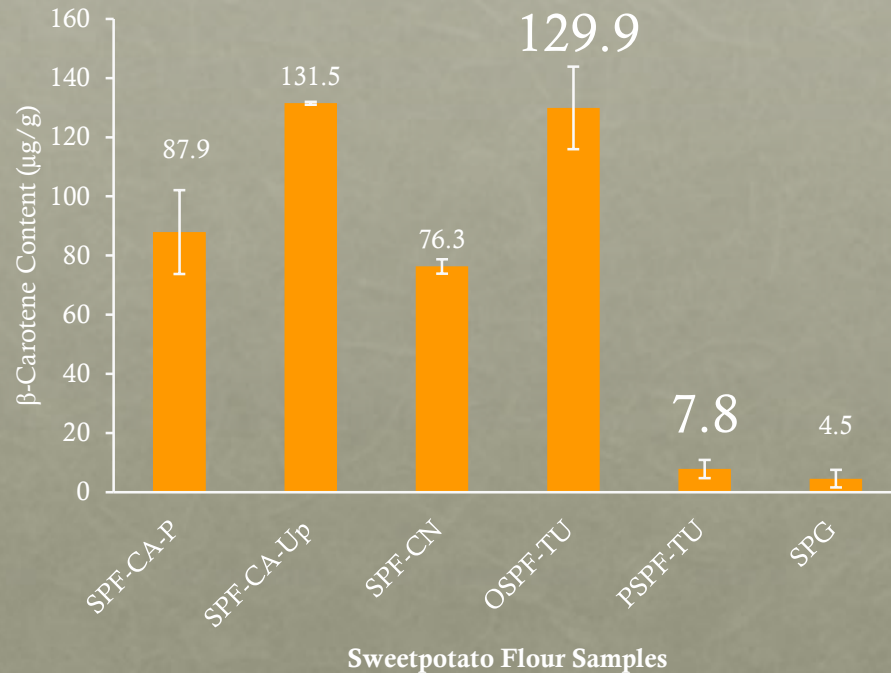


Introduction of new more nutritious sweetpotato varieties (OSP, PSP)

Varieties and Breeding Lines

- TU-2-12
- TU Purple

β -Carotene Content

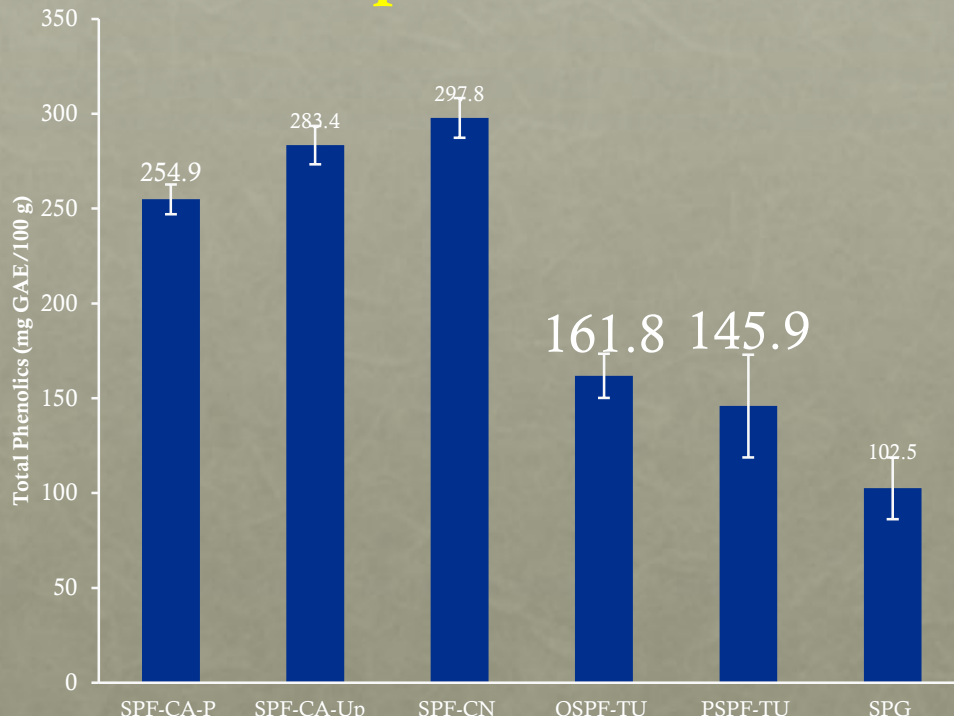


Introduction of new more nutritious sweetpotato varieties (OSP, PSP)

Varieties and Breeding Lines

- TU-2-12 TU Purple

Total Phenolics Content - Sweetpotato Flours



Introduction of new more nutritious sweetpotato varieties (OSP, PSP)

- **TU-3-12 B-63 (TU Orange)**
- **Minerals** – Ca, Fe, P (tips); K (2-400mg), P, Ca, Mn, Na, Fe, Cu, Mg, Zn (roots)
- **Starch** -16-25% (8-12% in tips = dietary fiber)
- **Protein** – 1-5% (4-6% leaves)
- **Vitamins** –
 - Betacarotene (5-15 mg/100g)
 - C – 10-20 mg (as ascorbic acid)
 - E – 4 mg
 - Thiamine
 - Riboflavin
 - Niacin

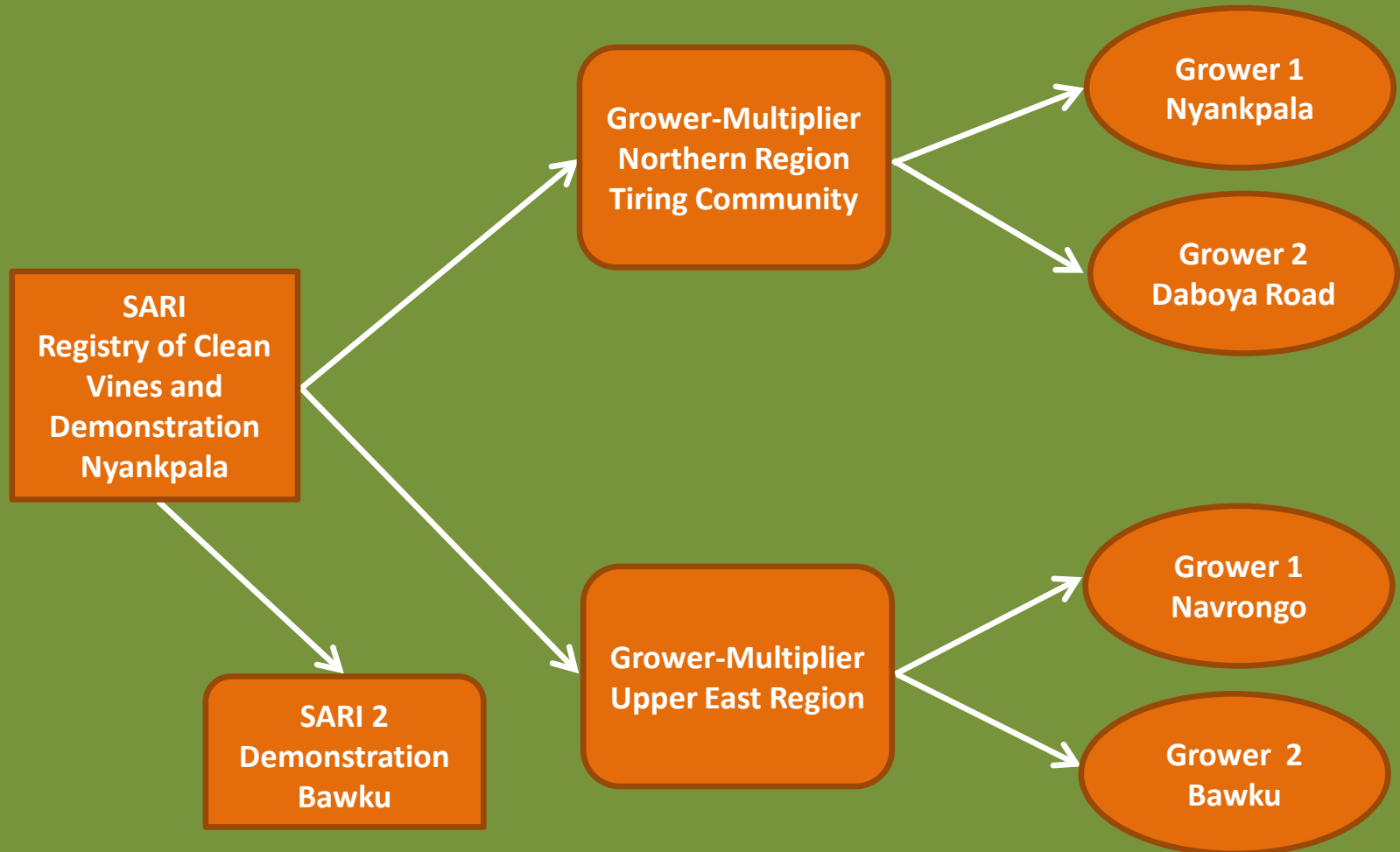


Introduction of new more nutritious sweetpotato varieties (OSP, PSP)

- **Vine Multiplication**
- **University of Ghana**
- **CRI**
- **SARI**
- **Farmer Leaders**
 - Joseph Apedo
 - Sena Ahiabor



HortCRSP STOPS Project Sweetpotato Clean Vine Distribution



Cultural - bed preparation and Improved bed preparation

Mounds



Ridges



Improved production practices to enhance yields

Harvesting/Post harvesting

- Cultural grading



Improved grading



Improved production practices to enhance yields

Harvesting/Post harvesting

- Cultural packaging, storage and marketing



Improved storage and marketing



New methods to increase value

- Processing of sweetpotato products
 - Chips (Solar Drying)
 - Flour
- Development of new products



Solar Dryers Use in SP Processing



Reformulating Traditional Recipes with sweetpotato

- Functional foods
- Bread
- **MAYVITA**
complementary
infant food



Introduce new products with sweetpotato flour and puree

- Tea, sugar, buns, butter bread)
- Golden Sika bread
- Purtopmopo (purple sweetpotato gruel)
- Potagourt



Outcomes

- Clean vine production, maintenance, and distribution established for successful demonstration and adoption by local farmers.
- Bakers are still very interested in producing orange sweetpotato bread and are in touch with farmers for sustained local production.



Outcomes

- Schools and organizations (SOS Children's Village and Shea Butter Women's Cooperative, St. Monica's; Elohim) have established and are maintaining sweetpotato gardens, and incorporating O & PSP into their menus and/or selling the roots at market.
- Have identified seed company to multiply vines for farmers at minimum fee
- Identifying pathways for adoption, from farmer/production to consumption

