

Africa Rising: Integrating Orange-fleshed Sweetpotato Scaling Out in Zambia

We trained 214 decentralized vine multipliers in Lundazi, Chipata, Katete, and Petauke districts in preparation for the rainy season. These multipliers received 88,700 vine cuttings from the national research program (ZARI) screen house for further multiplication. Vines were distributed to 8,795 beneficiary households to expand root production.

What is the problem?

The Ministry of Agriculture through the Zambia Agricultural Research Institute (ZARI) in partnership with the International Potato Center (CIP) developed improved orange-fleshed sweetpotato (OFSP) varieties (Table 1) that met the consumer preferences and preferred agronomic characteristics of farmers (Table 2). These varieties, which are conventionally bred, complement the food-based approach adopted by the Republic of Zambia to combat micronutrient deficiency. Due to their high levels of pro-vitamin A, these varieties contribute to the reduction of Vitamin A deficiency (VAD) among children under the age of five, pregnant and lactating mothers. However, the non-availability of sufficient quantities of clean planting materials limits adoption and, therefore, their immediate utilization by communities. Drought and poor soil nutrition together with diseases such as sweetpotato virus disease, which remains endemic in growing areas, adversely affect the quantity and quality of planting materials. Commercializing vine multiplication within communities will sustain vine production and availability for timely and easy access by farmers. Through media involvement, field days and demonstrations, we will create more demand for both OFSP roots and vines.

Table 1. Varietal attributes and year of release of OFSP

Variety	Plant Type	Maturity (Months)	Yield t/ha*	% Dry Matter	Root Shape	Root Skin Color	Beta-carotene (mg/100g)	Color of Boiled Roots	Year of release
Olympia	Erect	4 – 5	25.5	30.6	Round elliptic	Cream	4.9	Orange	2014
Kokota	Erect	5 – 6	19.6	29.5	Ovate	Cream	4.9	Orange-yellow	2014
Chiwoko	Erect	4 – 5	20.0	34.1	Narrow Ring Cortex	Cream	6.1	Deep orange	2014
Chumfwa	Erect	4 – 5	19.9	31.1	Long elliptic	Pink	10.5	Dark orange	2014
Zambezi	Spreading	5 – 6	15.1	28.5	Round elliptic	Pink	10.9	Dark orange	1993

Source: Orange-fleshed Sweetpotato for Africa. Catalogue 2014, Second edition and Variety release documents under SCCI 2014 and 1993

Table 2. On-farm Root Yield (ton/ha) of OFSP varieties released in Zambia

Variety	2012	2014
Olympia	35.4	25.5
Chumfwa (Twatasha)	21.7	19.9
Kokota	14.4	19.6
Chiwoko (Orange Chingovwa)	13.4	20.0
Zambezi	7.8	15.1

Source: CIP annual reports, 2014 and 2012

What do we want to achieve?

With funding from the United States Agency for International Development (USAID), CIP, through Africa Rising/International Institute of Tropical Agriculture (IITA) is scaling up the dissemination of the OFSP varieties and associated production technologies to reach 8,000 farming households in the Eastern Province of Zambia in the 2015/16 season. Through the scale-up of the integrated agriculture-nutrition-marketing approaches to address VAD, we are using OFSP to contribute towards an overall goal of improving diet diversity, increasing vitamin A intakes, and reducing food insecurity.

Where are we working?

We are working in four districts of the Eastern Province, Zambia, namely Lundazi, Chipata, Katete and Petauke.

How are we going to make it happen?

We have adopted an innovative approach, in which Africa Rising/CIP and partners will scale up vine multiplication, dissemination and demonstration of associated technologies that have been developed and validated from 2011 to 2015 under the Feed the Future Zambia Project and involving a model which integrates agriculture, nutrition behaviour change and marketing. The activities include:

- Vine propagation and maintenance of nuclear seed in a screen house at ZARI Msekera for further multiplication before use in root production.
- Training of stakeholders and selected farmers on rapid vine multiplication and preservation in communities through a model called *decentralized vine multiplication*.
- Support for some DVMs to establish agro-dealership within communities and linking them to other DVMs through a clustering approach. This is anticipated to sustain vine availability within communities.
- Awareness creation on nutrition information and marketing, we have erected billboards in designated places in Chipata and Petauke (Fig. 1) and aired nineteen radio programmes on Radio Breeze to ensure knowledge dissemination about the varieties, production and nutrition.
- Sign posts have been put up to inform potential buyers and provide directions to nearby vine multipliers (Fig. 2).

Who are we working with?

CIP/Africa Rising is working with partners such as ZARI and Rural Initiative for Children's Hope Foundation (RICH) to recruit and train vine multipliers. CIP/Africa Rising is working with partners such as PROFIT+ and SAIOMA to empower some of the vine producers as agro-dealers and linking vine multipliers to agro-dealers for the supply of vines to their shops upon demand/booking to ensure that their vine supplies are fresh. Other partners who are involved in OFSP production and nutrition are: Community Markets for Conservation Agriculture (COMACO), Catholic Relief Services (CRS)/Mawa, CARE, GIZ, Total Land Care (TLC), Carol Trust and the Department of Extension through District and Camp officers.

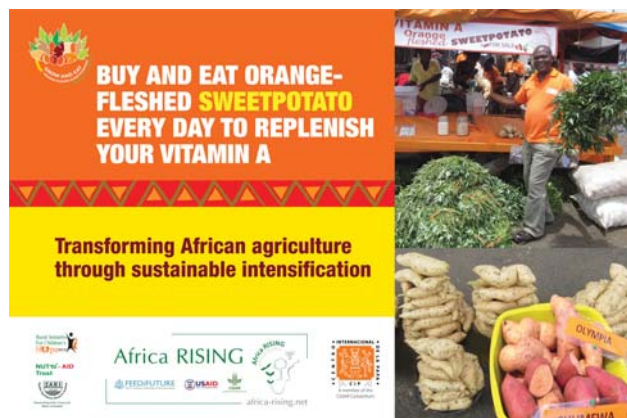


Fig 1. Bill boards for awareness on nutrition information and marketing in designated places in Chipata and Petauke



Fig 2. A signpost providing directions to vine multipliers as source of planting materials

What have we achieved so far?

We partnered with RICH to train and recruit 214 decentralized vine multipliers (DVMs) in Lundazi, Chipata, Katete, and Petauke districts in preparation for the rainy season. These DVMs received 88,700 vine cuttings from ZARI screen house for further multiplication. A total of 8,795 bundles were produced distributed to 8,795 beneficiary households to expand root production and consumption.

To sustain access to OFSP vines within communities, we partnered with SAIOMA to empower agro-dealers to stock vines. Twenty-one points linking agro-dealers to vine suppliers have been established. Fifty-three DVMs in the working group have been trained and clustered.

What's next?

We will continue to support and strengthen vine production by agro-dealers and to link vine suppliers to agro-dealers. We will undertake promotional activities to inform farmers of the availability of vines through agro-dealer outlets. This will be followed by an evaluation of the success of this initiative in Zambia in the 2016/17 season.

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