



Delivery of Vitamin A Cassava in Democratic Republic of Congo (DRC)

Sylvain Bidiaka (CIAT – HarvestPlus)

Staple Food	Daily Per Capita Consumption (all age groups, grams/day) ¹	Total Annual Production (thousand metric tons) ²
Cassava	1,240 g/d (fresh weight)	16,000
Maize	Data not available for DRC	1,200
Rice		350
Sweet Potato		265
	Daily Per Capita Consumption (grams/day) ³	Provitamin A Density
Cassava	Children (4-6 years): 200 g/d Women: 400 g/d	White Cassava: 0 parts per million (ppm) Provitamin A Target Increment: +15 ppm Biofortified Cassava Target: 15 ppm
		At the target level, biofortified cassava provides about 50% of the Estimated Average Requirement (EAR)

¹FAO 2000; ²FAO Stat 2012; ³Estimated

Current Vitamin A Status

Prevalence of Vitamin A Deficiency in Study Area (1)	Children under five: >50%
--	---------------------------

Varietal Release: One variety with 70% of the provitamin A target, released in DRC in 2008, was selected for first-wave dissemination. Stem multiplication began in late 2011, and planting materials were disseminated to 25,000 farming households in 2013, initially focusing on four provinces: Kinshasa, Bas-Congo, Orientale, and Kivu. Second-wave varieties with the full target level for high per capita consumption areas are expected to be fast-tracked for release by 2014.

Fast-track Variety Released in 2008 (First Wave), 70% target increment

Variety Name	Origin	Total Carotenoid Content (FW)*	Provitamin A Content (FW)*	Fresh Root Yield	Dry Matter
I011661	IITA (Nigeria)	9.4 ppm	7.6 ppm	34.9 t/ha	30%
<i>Butamu (Check)</i>	IITA (DRC)/INERA	4.4 ppm	3.9 ppm	35.0 t/ha	35%

* Provitamin A content is approximately 80% of Total Carotenoid Content (fresh weight – FW); measured with spectrophotometer.

Strategic Factors Driving Delivery: As in Nigeria, the adoption of vitamin A cassava is expected to be driven by the demand for its processed products like *gari*, *chikwangue*, and *fufu*. Promotion plans are, therefore, designed to increase consumption of these processed products toward achieving food security and improved income. The cassava market is still largely informal, with markets for cassava stems and processed products just emerging. However, this situation is changing as small and medium enterprises (SME) in cassava processing are entering the market.

Seed Commercialization: Stem dissemination channels include the National Extension Service (SNV), direct marketing, nongovernmental organizations (NGOs), and farmers associations; partners are also trained in promotion. The National Seed Service (SENASEM) is in charge of seed control and certification in the multiplication fields and approves the quality of planting materials being disseminated, while the SNV assists in identifying beneficiary households and farmers. NGOs and farmers associations have been identified in the selected provinces for stem multiplication at secondary levels and distribution of planting materials to individual and group farmers. Other actors in the vitamin A cassava market in DRC include: 1) low-volume traders who specialize in marketing cassava stems and products within short distances, mostly within villages; and 2) higher-volume wholesalers who buy and warehouse stems and products before selling them in urban or distant markets.

Marketing: Awareness and demand for yellow cassava are created by educating household decisionmakers on the health benefits associated with consuming vitamin A cassava. Building product acceptance is further facilitated by the agronomic superiority of recently released vitamin A varieties compared to older varieties currently farmed. HarvestPlus initially focused on stem production. With increasing market presence after 2013, HarvestPlus is initiating demand creation for yellow cassava tuberous roots and products. Market testing examines which messages and product benefits resonate best, communication channels and their effectiveness, and the selection of the brand name and specific promotional messages, activities, and advertising. Trader and retailer product incentives for segregated display of yellow and white cassava will be examined, and lessons learned from the promotion of vitamin A cassava in Nigeria will be applied in DRC.

Stakeholders: Partnerships are extremely important to the delivery efforts in DRC, and HarvestPlus works closely with Ministry of Agriculture (national and provincial levels) and Ministry of Health (through PRONANUT, the National Nutrition Program), National Agriculture Research System (NARS) and extension services in DRC, and the Food and Agriculture Organization of the United Nations (FAO), as well as a number of local NGOs and farmers associations.

Potential Impact: At the end of 2013, a cumulative total of 25,000 farming households in DRC had been reached with vitamin A cassava. The long-term objective is to develop sustainable markets for stems and tuberous roots, develop a long-term brand for tuberous roots, and integrate vitamin A cassava into NARS/extension and school feeding programs. The goal is to reach a market share of >7% of cassava by 2018 with 750,000 farming households having access to vitamin A cassava.

Cost: HarvestPlus will spend an estimated total of US\$1.05 million for cassava delivery activities, 2013–2018.

Delivery Challenges and Recommendations:

- Significant increases in awareness of the benefits of vitamin A cassava of farmers and consumers is critical to success.
- While HarvestPlus-DRC has focused largely on varietal development and stem/seed multiplication in its initial years of operation, advocacy efforts are a critical component to address in the next phase.
- The branded market for cassava products in DRC is essentially unknown due to culture, tradition, and income limitations. Therefore, HarvestPlus's emphasis will be on finding more tactical yet creative sales approaches for vendors of these products to differentiate them in the marketplace.
- Further encouragement of private sector participation in multiplication, processing, and marketing of products is needed.