

By Prossy Nandudu

Researchers endorse beans rich in iron, zinc



Nkalubo, Magezi and Mwambu checking on the bean seeds. Photo Prossy Nandudu

Researchers at the National Crop Resources Research Institute (NaCRRI) under the National Agriculture Research Organization (NARO) have released beans rich in zinc and iron to seed companies for multiplication. The aim is to fight malnutrition, especially among children and women. The 2013 Uganda Demographic Health Survey (UDHS) shows that one out of every three children has suffered from anaemia and have a general poor growth due to lack of the two nutrients.

The research was supported by USAID, Harvest Plus and the agriculture ministry, according to head of the bean programme at NaCRRI, Stanley Nkalubo.

The revelation was made during the release of the two types of beans to the public on Thursday, at NaCRRI in Namulonge.

Nkalubo said researchers decided to improve the nutrition content of beans because they are eaten by all age groups and professions; institutions and schools, almost on a daily basis.

The varieties
NARO Bean 1, 2 and 3 are bush beans (they grow without stakes or supporting poles). They are widely grown in low land areas across the country. The other two which include

NAROBAN 4C and 5C, are climbing beans, said to be having more iron and these

grow mainly in highland areas, with support of stakes or poles.

High iron and zinc beans

The new bush beans have high iron levels of between 65.8-69 parts per million (ppm) and Zinc is at between 31.4 to 38 parts per million, while the climbers have high iron of 77.4-72.2-80 ppm and zinc is between 32.1-34.5 ppm to 34.7ppm.

Available beans contain 50 parts per million of iron and 19-20 parts per million of Zinc. The required amount of zinc by children is 13.7 micro grammes per day, while adults require 17 to 19 micro grammes per day.

And yet, in a day, only 50 to 60 grammes of beans are consumed. Out of 100 grammes of beans, one can

BETWEEN THE LINES:

■ The 2013 Uganda Demographic Health Survey (UDHS) shows that one out of every three children has suffered from anaemia and have a general poor growth due to lack of the two nutrients.

only get 13.2 micro grammes.

"We need beans with a higher concentration of both nutrients so that when consumed in smaller amounts, one will still get the required amounts in the body," Nkalubo explained.

Maturity and yield

Bush beans, which include NAROBAN 1, 2 and 3, mature in a period of 60 to 68 days.

In one hectare, the yield is between 1,500kg to 2,000kg and grow best in low and mid altitude areas in all parts of the country.

The climbing beans, NAROBAN 4C and 5C, mature in a period of between 82 and 96 days and yield between 2,500kg and 3,700kg per hectare (which is two-and-half acres of land). They grow best in high land areas of eastern and Western Uganda.

Climate change

Because they take a short period, they have the ability to escape effects of climate change, especially drought and pests and diseases that come along, but plans are under way to breed beans that are tolerant to drought.

"We have plans of working on beans that can store some water for long such that during the dry season, they can use the stored moisture to survive until the rains start" Titus Alicai, the head of the root crops programme at NaCRRI, added.

Why zinc, iron

According to Sylvia Magezi, the country director of Harvest Plus, absence of iron and zinc in the body affects general body growth, poor development of bones, leads to anaemia, in some cases stunted growth, while male children could have the development of their sexual organs compromised.

"We believe bio-fortification is key in addressing malnutrition and reduction of anaemia among children, expectant and lactating mothers, but such programmes should be put in the strategic development plans of the ministries of health and agriculture," Magezi said.

Efforts by the agriculture ministry

To further address the challenge, the agriculture ministry with a grant from the World Bank, is promoting iron and zinc-rich beans plus orange-fleshed sweet potatoes in primary schools in 15 districts said to be having higher malnutrition levels over the next five years.

The grant worth \$27.6m is being channelled through the ministry's Uganda Multi Sectoral Food Security and Nutrition Project, explained Paul Mwambu, the project co-ordinator. It was secured through the World Bank's Global Agriculture and Food Security Programme.

"We are working with 100 primary schools in each of the first five districts, by setting up demonstration gardens of the two crops in addition to working with lead farmers to become seed multipliers," Mwambu added.

Participating districts include Bugiri, Namutumba, Kabale, Kyenjojo, Kabarole, Kasese, and Nebbi among others.

Appreciation



Late Georgina H. B. Rubombora
Jan 1923 - May 2017

God called your name so gently that you could only hear. No one heard the footsteps of the angel drawing near. Softly came a gentle call, you closed your eyes and went to sleep.

Dearly missed by your children, grandchildren and great grandchildren. Thank you for mothering us all and encouraging us to pray.

Special appreciation to the medical fraternity at Buhinga Regional Referral Hospital and Nsambya Hospital and to all those who stood with us financially, spiritually and physically when Adyeri went to be with the Lord

May God rest her soul in eternal peace

How farmers can get seeds

For farmers to access the seeds, two seed companies, Pearl seeds and CEDO, a community seed company based in Rakai, have been brought on the board to multiply the seed, bulk it and make it available for farmers, explained Sylvia Magezi, the country director of Harvest Plus.

Charles Katabalwa, of CEDO said they are already working with over 20,000 farmers to multiply the seed and add value to the beans.

Richard Masagazi from Pearl Seeds, said they have so far bulked 13,000kg from the first season and hope to bulk more the second season

that is on now.

He added that farmers are accessing the seeds from agro-dealers who sell on behalf of the seed companies.

A kilo of the seed at factory price goes for sh6,000, but the price varies from one agro-dealer to another.

"We hope to multiply more this season for bulking because there is growing demand from mainly UN agencies working with refugees mostly in Bidí Bidí Refugee Settlement in the West Nile region. We are also seeing more demand from individual farmers who know the value of beans," he said.