RESEARCHERS UNVEIL CLIMATE RESILIENT SEED AT EXPO

By Prossy Nandudu

Farmers, prospective farmers and members of the business community accessed the latest seed varieties for crops, fish and livestock at the Harvest Money Expo held from February 27 to March 1, at Kololo Independence Grounds in Kampala.

To help farmers cope with climate change, improve nutrition and support commercial agriculture, the Ministry of Agriculture Animal Industry and Fisheries, through its research arm the National Agricultural Research Organisation (NARO), showcased new seed and livestock varieties at the expo.

These were developed to meet nutrition needs, improve income opportunities and strengthen resilience against erratic weather conditions. The varieties included purple-fleshed sweet potatoes, sorghum, millet, rice, maize, beans, groundnuts and improved cattle and goat breeds.

Farmers being trained during the 2026 Harvest money expo at Kololo Independence Grounds

ACCESS TO SEED

To ensure that farmers access seed, NARO is doing so through the Public Private partnership model where NARO produces the first seed also known as early generation seed that is free from disease causing organisms before it is multiplied to get basic seed.

The basic seed is then given to seed farming groups distributed in different parts of the country to sell to farmers nearer to them. Some of the groups include Buseko in Busoga region, Sospa in Easter Uganda and then in Gulu, there is a farmer called Peter Omondi, who is multiplying seed. Other sweet potato seed groups are in Western Uganda, Bunyoro region among others.

"So, farmers can actually access seed, which is high quality, from those seed cooperatives. We work with them, we ensure that they get the right quality of seed, and then they multiply in large quantities, where farmers can be able to buy the seed or vines, and then can be able to produce the roots for food, for the market, for industry," he explained further.

LIVESTOCK IMPROVEMENT

Under livestock, NARO introduced new cattle breeds that are resilient to climate change while producing more milk and beef. These included the Boer from South Africa, the Indigenous Zebu, Boran and Sahiwal.

Farmers were also exposed to improved goat breeds that support government goals of food security and agro industrialisation. This included high performing goats from South Africa.

Uganda's goat population is dominated by the Mubende, Small East African and Kigezi breeds. The Mubende reaches about 35 kilogrammes in two years and the Small East African reaches 25 kilogrammes. In comparison, the Jinzhou Big Ear goat attains 45 kilogrammes in one-and-a-half years which makes it superior in growth performance.

NEW SWEET POTATOES FOR NUTRITION AND HEALTH

Explaining the importance of the new sweet potatoes, Dr Benard Yada, a sweet potato breeder and head of the Root Crops Programme at the National Crop Resources Research Institute, said the three purple varieties address three needs that include food security, income generation and health. The varieties include NAROSPOT 10 Purple, NAROSPOT 9 Purple and NAROSPOT 8 Purple.

According to Dr Yada, "the three sweet potatoes varieties address food security, income security through value addition and health, especially the management of cancers."

Dr Yada added that sweet potatoes are tolerant to prolonged dry spells when planted at the start of the rainy season. This makes them reliable under changing weather patterns.

He added that all three varieties are rich in beta carotene which contributes to Vitamin A and also contain high levels of anthocyanin. "They are all purple in flesh which contains high anthocyanin in the purple flesh which boosts the body's immunity to fight all kinds of cancers and cardiovascular diseases including hypertension and high blood pressure, among others."

Dr Yada explained that the purple varieties benefit everyone. "But for now adults need this more because they are the ones who have cases of hypertension, cardiac diseases and cancer," he said.

To support value addition, Dr Yada explained that the potatoes can be eaten in different forms. "The potatoes can be boiled, roasted and fried."

He added that they can be mixed with soybean for children's porridge or processed into flour to make confectionary products including cakes, 'daddies' and biscuits.

"The good thing is the purple colour does not fade when you process it meaning the nutrients are retained in the processed products. So, farmers are going to make additional incomes through processing and value addition when using these sweet potato varieties," he said.

NEW SOYBEAN VARIETY

The expo also featured Maksoy 7N, the latest soybean variety. Prof Phineas Tukamuhabwa, the soybean breeder, said the variety contains 40% protein and 20% oil. It is resistant to prolonged dry spells and suitable for both human and animal consumption.

According to Prof. Tukamuhabwa, the high protein content will attract strong markets and generate good income for farmers. He added that soybeans improve soil health and contribute to climate mitigation. "It is a crop that can contribute to reducing green gases in the atmosphere. And it is a very smart and very resilient crop."

He explained that soybeans fit well in crop rotation because they disrupt pest cycles. They also suppress the striga weed. "The other advantage is that soybeans have the ability to destroy striga weeds because it causes abortion to striga hence terminating its growth and multiplication in the garden," he added.

To access the seed, Tukamuhabwa said these are currently being multiplied, and that will be ready in the next planting season.

The seed will be accessed at the Makerere University Agricultural Research Institute (MUARIK) Kabanyoro and then at the Soybean Africa Limited, in Gayaza. Research on the new Soybean was supported by the International Fund for Agricultural Development (IFAD), National Oil Seeds Project (NOSP) and Makerere University.

To ensure that the varieties are accepted by farmers, field trials were carried out with farmers in Nakabango in Jinja district, Ngetta in Lira, Westnile, Bulindi in Hoima and then Mubuku in Kasese district.

IMPROVED SORGHUM VARIETIES

For sorghum, Dr Ephraim Nuwamanya, a plant physiologist working with breeders at Naseco Seed Company, said the varieties NS1 and NS5, also known as Tongo and Tara, are designed to support both food and feed needs.

He explained that NS1 has high starch and protein while NS5 is mainly used for brewing and animal feed production. According to Dr Nuwamanya, the varieties are drought tolerant and perform well in semi-arid regions.

"Ideally, they are not susceptible to drought that is why they can be produced in semi-arid places. It means when taken to areas with adequate rainfall they produce optimally hence complementing existing crops."

He added that Uganda produces about 2.3 million metric tonnes of sorghum which is consumed locally.

Other seed varieties showcased

The expo also showcased drought tolerant maize, striga tolerant maize, iron and zinc rich beans, early maturing bananas, vegetables, improved pastures and animal feeds.

Under agroforestry, farmers were introduced to tree species that provide food, medicine and environmental protection. Vegetable seed varieties were also made available to support nutrition and household health.

REACTIONS FROM FARMERS

During the expo, farmers demand assurance from the research team on potatoes, whether the new releases will be readily available in the market, noting that even the previous varieties are still expensive and sometimes not easily found.

Farmers also wanted to know if the seed is readily available, for the current planting season, others wanted to know if there is a ready market for soybean and the sorghum varieties.