Kenyan farmers embrace improved sorghum cultivars and explore its use as fish feed

Farmers in eastern Kenya are taking to sorghum cultivation to tide over poor harvests of maize. Since many of the farmers are also into aquaculture, they are evaluating sorghum varieties which are suitable as fish feed.

Most farmers experience food shortages due to their reliance on maize. But farmers who plant sorghum and pearl millet always get a harvest even with the lightest rains. These observations made over a period of time were confirmed by Mr Kyalo Mwengi and a group of farmers during a sorghum field day held on Mr Mwengi’s farm at Kiboko along the Kiboko River.

Apart from growing sorghum for food, Mr Mwengi and his group are members of the Kenya Aquaculture Association and own several fish ponds. However, they have experienced a shortage of fish feed and want to use sorghum in their fish feed formulations. The group which has already received a feed pelleting machine from the national government will work with ICRISAT and Kenya Agricultural and Livestock Research Organization (KALRO) to identify a variety suitable for fish feed.

Mr Onesmus Kithoka, a sorghum and pearl millet farmer from Mtito Andei, a neighboring sub-county said, “I had to seek ICRISAT’s intervention after having a series of maize crop failures in my farm. I have more than 10 bags of pearl millet and sorghum at the moment, which makes my family food secure and healthy. In the grinding mill my neighbors mill 2 kg or less of maize each, even as I mill more than 10 kg of sorghum. I have managed to put my children through secondary school and college from the sales of sorghum and pearl millet.”

Mrs Anna Kilonzo, a farmer, said, “Food aid is not good hence I have opted to go for drought tolerant crops like sorghum to be food secure.”

The objective of the field day in Kibwezi sub-county of Makueni was to expose farmers to the new sorghum varieties and hybrids developed for the semi-arid lowlands. The demonstration had eight open pollinated varieties, six hybrids and two local varieties as checks.

After evaluation farmers selected the varieties Macia, IESV 91104 DI and Gadam el Hamam and hybrids ATX 623 x
Boosting agriculture to achieve double digit growth

Achiving double digit growth for the state of Andhra Pradesh can be achieved by changing the mindset of all players involved and converging schemes and departments. The five pillars for achieving double digit growth are: drought proofing, digital agriculture, climate resilience, mechanization and skill development.

The important decisions emerging from the meeting are as follows:

- The AP Primary Sector Mission has been rechristened as ‘Raithu Kosam’.
- Joint Collector has been nominated for each district to ensure convergence of schemes, funds and personnel.
- Awareness building amongst all stakeholders to be undertaken in a mission mode with immediate effect.
- Government has set up a ‘Krishi Cabinet’ (Agricultural Cabinet), which will meet every month to take necessary decisions for successful implementation.
- Drought proofing and soil health improvement along with digital agriculture through skill development.
- Public Private Partnerships for providing efficient end-to-end value chain approach.

Dr Suhas Wani, Director, ICRISAT Development Center (IDC), explained the strategy for increasing productivity, production, processing and profits for farmers by adopting innovative institutions, technologies, policies and partnerships.

In his opening remarks Mr Naidu stressed the need to operationalize strategy on ground and ensure achieving the planned double digit growth during 2015-16 to achieve the goal of Swarnandhra Vision 2022 in all the sectors.

Dr SP Tucker, Additional Chief Secretary, Planning, and Agricultural Production Commissioner, indicated the institutional arrangements at district level as well as availability of additional funds at district level for achieving convergence. Under the guidance of the District Collector a Joint Collector will coordinate and converge the Primary Sector Mission in each district.

The review meeting was held at Vijayawada, Andhra Pradesh on 25-26 June. IDC team of 15 scientists led by Dr Wani participated in the meeting. More than 500 participants, largely district officials from all the line departments of the Primary Sector Mission, ministers of the concerned line departments, other senior government officials, as well as representatives of state universities, research institutions, and private companies participated in the meeting.

Ms Doreen Marangu, Project Coordinator, AHBFI, encouraged farmers to take up sorghum for food and nutritional security due to its high resilience to drought considering the harsh climatic conditions in the area and high micronutrient value.

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Macia and IESH 22012 based on yield potential, earliness and grain color. Also on display from Africa Harvest Biotechnology Foundation International (AHBFI) and ICRISAT were several value added products from sorghum.

Mr John Maluki Munyao, Agribusiness and Marketing Development Officer, Kibwezi Sub County, Ministry of Agriculture, Livestock and Fisheries, urged farmers to form producer-marketing groups which will enhance sorghum production and increase their bargaining power. He also emphasized that for enhanced utilization farmers need training in value addition. ICRISAT together with other partners will provide seeds of the selected varieties and technical support for enhancing yields.

The research teams from ICRISAT - Dr Henry Ojulong, Scientist - Breeding (Dryland Cereals), Dr Eric Manyasa, Scientist - Cereals Breeding (Dryland Cereals), Mr Patrick Sheunda, Research Technician and Joseph Kibuka, Research Technician; KALRO - Dr Clement Kamau, Country Sorghum Coordinator and Ms Rachael Kisilu, Sorghum Breeder; and
Women encouraged to take up pigeonpea cultivation

In a region where pigeonpea had completely disappeared, farmers, especially women, are being encouraged to again grow pigeonpea for enhanced incomes and improving soil fertility.

In Jagmalpura and Rampuravas villages of Rajasthan, India, farmers have been convinced to grow early-duration pigeonpea varieties on 200 ha. At a training-cum-planning workshop, Dr Anupama Hingane, Special Project Scientist, Pigeonpea Breeding, ICRISAT, gave detailed information about benefits of pigeonpea crop, and requested men to support their wives and daughters to actively participate not only in farm activities but also in post-harvest processing and marketing of pigeonpea. She also encouraged women groups to participate in initiatives like mini dal mills, making baskets from pigeonpea stalks, post-harvest processing and making products like pakodas (fritters) from pigeonpea flour.

A group of 50 young women from Rampuravas led by village head Ms Ghyani Devi, expressed their willingness to take up pigeonpea cultivation and seed production on their farms. Dr Hingane shared the success story of Padasoli village where women farmers participate in activities like dal processing and other post-harvest processing activities.

Earlier this region used to produce pigeonpea, but local varieties were susceptible to diseases and took 160 days to mature. As a result farmers could not prepare the land in time for rabi (post-rainy) sowing. Another problem was availability of quality seed. Over time pigeonpea cultivation vanished from these regions.

Dr SJ Singh, Local Coordinator, Rajasthan Agricultural Research Institute (RARI), Durgapura, briefed farmers about a package of practices, inter-cropping and crop rotation, which will help farmers achieve better profit by growing both pulses as well as cereals.

Mr Uttam Chand, Scientific Officer, ICRISAT, informed participants about the suitable short duration pigeonpea varieties for Rajasthan like ICPL 88039, ASJ 105 and Pusa 992 maturing in 120-130 days.

The training program, held on 10-11 June, had around 150 farmers including 50 women participants, and was organized by RARI, Durgapura and ICRISAT.

Project: Enhancing the livelihoods of resource-poor farmers of Rajasthan through the introduction of ecofriendly pigeonpea varieties
Investor: Directorate of Agriculture, Government of Rajasthan in collaboration with Swami Keshwanand Rashtriya Krishi Vikas Yojana
Partners: Swami Keshwanand Rajasthan Agricultural University, Bikaner and ICRISAT
CGIAR Research Program: Grain Legumes

New publication

Short-Duration Chickpea Technology: Enabling Legumes Revolution in Andhra Pradesh, India. Research Report No. 23
Authors: Cynthia Bantilan, Deevi Kumaracharyulu, Pooran Gaur, Moses Shyam Davala and Jeff Davis.

Abstract: The study presents the success story of the adoption and diffusion of improved chickpea short duration varieties in southern India. New chickpea varieties adapted to warmer, short-season environments have brought increasing prosperity to southern India and is offering hope for farmers elsewhere in the semi-arid tropics. The direct welfare benefits accrued to Andhra Pradesh due to adoption of short-duration cultivars was estimated at US$ 358.9 million. Farmers who adopted the short-duration improved cultivars received the principal share of benefits.

The experience in the state particularly exemplifies evidences that adoption of technologies significantly enhanced agricultural productivity and total welfare gains in both traditional and non-traditional chickpea growing regions. This specific success story is positive evidence that adoption of technologies can enhance production of chickpea in other regions of South Asia and sub-Saharan Africa.
Training young Indian scientists in advanced techniques for legume crop improvement

Five newly recruited scientists of Agricultural Research Service (of Indian Council of Agricultural Research, India) are undergoing professional attachment training for a period of three months with the Research Program – Grain Legumes, ICRISAT. The scientists are from: Indian Institute of Pulses Research (IIPR), Indian Agricultural Research Institute (IARI) and Directorate of Groundnut Research (DGR).

While welcoming the group to ICRISAT on 23 June, Dr Rajeev Varshney, Research Program Director, Grain Legumes said that it creates a win-win situation and maintains symbiotic relationships between ICAR institutions and ICRISAT and aids in strengthening the breeding, genomics and other research pipelines.

The trainees will be guided by Dr CV Sameer Kumar, Senior Scientist - Pigeonpea Breeding, Dr Mamta Sharma, Senior Scientist - Legumes Pathology, Dr P Janila, Senior Scientist - Groundnut Breeding, Dr Manish Pandey, Scientist - Groundnut Genomics and Dr Vikas Kumar Singh, Special Project Scientist - Applied Genomics.

ICRISAT at ‘Advantage Mahabubnagar’

At an event ‘Advantage Mahabubnagar’ to showcase Mahabubnagar district of Telangana as an attractive investment destination, ICRISAT demonstrated various technologies for sustainable management of natural resources as well as for increasing the agricultural productivity and production in the district through efficient management of water.

Dr TK Sreedevi, District Collector, Mahabubnagar, appreciated ICRISAT’s work in the district of establishing a model watershed supported by the Rural Electrification Corporation Limited under its CSR activities.

ICRISAT team comprising Mr G Pardhasaradhi, Mr Sudi Raghavendra Rao and Mr DS Prasada Rao participated in the event organized on 19 June.

Farewell

Dr Wenda K Bauchspies, Senior Scientist - Gender Research (WCA), CGIAR Research Program on Dryland Cereals, Mali, concludes her assignment with ICRISAT effective 3 July after over 1 year of service.

Dr Thomas Henry Noel Ellis, Director - CGIAR Research Program on Grain Legumes, India, concludes his assignment with ICRISAT effective 7 July after about 2 years of service.

We wish them all success in their future endeavors.