Sorghum plays an important role in the diets and economy of the developing countries in the African continent. Micronutrient malnutrition, particularly among women and children is one of the greatest global challenges of our times since these are not produced in the body and must be derived from the diet. Deficiencies in micronutrients such as iron, iodine, vitamin A, folate and zinc can have devastating health consequences. Sorghum has been recommended for infants, the elderly, pregnant and lactating mothers because of its high caloric and nutritional value. Therefore, any improvement in grain Iron (Fe) and Zinc (Zn) concentration in sorghum would directly benefit the rural and urban poor lacking balanced diets.

Sorghum variety 12KNICSV-188 (IMPROVED DEKO) was developed through population improvement by crossing sorghum lines IS15401 X Deko followed by ear-row progeny selection. The improved open pollinated varieties were developed by a team of scientists from the Nigerian national system and the International Crops Research Institute for the Semi-Arid Tropics (ICRISAT) that was registered and released as SAMSORG 45 in 2016 by the national variety release committee of Nigeria.

Naturally bio-fortified new sorghum variety- 12KNICSV-188 has an iron content three times (128.99 ppm) higher than the traditionally grown sorghum with 40 ppm. Besides, this improved variety is also drought tolerant with average yields of 2.5-3.4 t/ha when compared to less than 1 t/ha from the local varieties. While this is a good progress towards enhancing the availability and accessibility of nutrient-dense foods in Nigeria, sorghum is consumed as staple by only a number of regions in Nigeria. There is a need to encourage consumption of sorghum as a food staple considering sorghum biofortification has seen great results and progress compared to other staple crops.

Being early maturing, the open pollinated improved variety can help overcome periods of drought especially terminal drought that is prevalent in the Nigerian (Sudan and Sahel) ecologies with 50% flowering in 67 days against an average of 90 days with the existing varieties.

Improved nutritional security amidst the rural communities and productivity per unit area (from 1.2 t/ha to 2.0 t/ha) was witnessed on farmers’ fields with about 35% adoption by rural farmers from a survey conducted on 1680 farmers distributed across 9 states across the three geopolitical zones of Northern Nigeria, including Jigawa, Sokoto Kano, Kebbi, Katsina, Niger, Adamawa, Bauchi and Gombe States of Nigeria.

The improved Deko variety also contributes to livestock feeds as the stalk has stay-green character, thereby sustaining the livestock feeding needs.

This innovative cultivar is contributing to SDG 2 “End hunger, achieve food security and improved nutrition and promote sustainable agriculture”, SDG 1 “To end poverty in all its forms, everywhere” in certain parts of the African continent. As a Stage 3 and a Maturity level 1 innovation, this improved variety is available for use by the public and CGIAR research and related activities have contributed to changed discourse and/or behavior among next users. Among others, this is evidenced by 35% adoption by rural farmers from a survey conducted on 1680 farmers distributed across 9 states across the three geopolitical zones of Northern Nigeria.