



TAAT Technology: Bio-fortified sorghum & millet varieties

Link: <https://www.icrisat.org/africas-first-biofortified-pearl-millet-variety-aims-to-combat-anaemia/>

Technology

- Nutritious high yielding Sorghum and Millet varieties were developed with high Iron content (Fe: 45-79 ppm) and high Zinc content (Zn: 32-64 ppm), drought tolerant, early maturing, tolerant to diseases and heat
- A pool of cultivars composed of Open Pollinated Varieties (OPVs) and Hybrids with grain yield advantage of more than 30% over the local and improved checks of choice
- The OPV millet include GB 8735 (Gajera Mota), Chakti and ICRI-Tabi
- The OPV sorghum include mainly Jakunbe, Jiguikala, Soumba, Fambe B and Lata
- Sorghum Hybrids Pablo and Fadda, rich in iron and proteins has a yield advantage of 30% to 40% over the local check



Commodity

- Sorghum and Millet

Value Chain Position

- Production

Geographical Coverage

- Adapted to the sub-Saharan African regions agro-ecological conditions with rainfall between 400 mm and 1000 mm
- All the OPVs are registered in the ECOWAS/WAEMU/CILSS regional seed catalogue (2016-2018)c

Problems Solved and Benefits

- Child malnutrition, Adult health
- Adverse effect of striga weeds
- Effect of drought and heat
- Diseases

Licensing

- Classified as Public Goods and royalty-free for multiplication and sales by farmers seed growers and private companies/ enterprises; but may require certification following national guidelines

Commercialization

- The seeds are commercially available in many countries, particularly from the private seed companies and farmers' cooperatives

Production cost (Certified seed production)

- Foundation seed 4 kg/ha (millet); 8 kg/ha (sorghum)
- Fertilizer microdose → 60 kg NPK/ha; 20 kg Urea/ha
- Weeding two weeding
- Harvest – Local cost dependent.

Potential profitability

- Profitable as food grain and cash
- Provide better grain yield than the local landrace
- Offer significantly better food quality and quantity
- Have higher iron and zinc content, which is good against the malnutrition of children women
- Recent studies show that Millets can combat anemia, and reduced the risk of developing type 2 diabetes and were useful for managing type 2 diabetes

Associated Technologies

- The cultivation of Bio-fortified sorghum and millet cultivars for nutritious and high grain yield requires that farmers also invest in inputs (seed, fertilizer), and GAPs in order to achieve the desired yields in a profitable manner.
- Applying organic and mineral fertilizer microdose is the best option for profitable production of the bio-fortified sorghum and millet.