

Dual-purpose Millet Varieties for Crop and Livestock Integration

Harvest More, Feed Better, Farm Smarter

"Dual-purpose Varieties for Crop and Livestock Integration" involves developing millet and sorghum varieties for both human food and animal fodder in African drylands, addressing challenges like overgrazing and soil degradation worsened by increasing livestock populations.



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✓ This technology is **TAAT1 validated**.

7•8 Scaling readiness: idea maturity 7/9; level of use 8/9

Gender assessment **4**

Climate impact **7**

Problem

- Declining productivity of pastures and rangelands in African drylands due to overgrazing, soil degradation, and climate change.
- Growing livestock population exacerbating the demand for animal feed resources.
- Traditional millet and sorghum varieties unable to meet the dual requirements of human food and high-quality animal feed.
- Common millet and sorghum lines have higher lignin content, making them less digestible, and may contain bitter-tasting tannins.

Solution

- Ideal grain-to-stover ratios for human and animal nutrition
- Reduced lignin and tannin content for enhanced digestibility and palatability
- Greater fodder availability, especially during the dry season
- Increased manure availability for soil fertility management
- Survives dry spells and resumes growth quickly after moisture returns
- Sweet stover with high sugar concentration (around 15%)
- Suitable for syrup or bioethanol production
- Provides more metabolizable energy per unit of land area compared to traditional varieties

Technology originally documented by
ProPAS

Commodities
Sorghum/Millet

Sustainable Development Goals

+ 1 more

Categories
Production, Improved varieties, Quality improvement

- Best used with
- [Proactive Management of Striga Infestation >](#)
 - [Fertilizer Micro-Dosing to Enhance Yield and Use Efficiency >](#)
 - [Motorized Crop Residue Processing for Animal Feed >](#)

Cost: \$\$\$ 204 USD		ROI: \$\$\$ 31 %		
Production cost for seed, fertilizer, and labor per Ha		increase in yield		
204 USD	2.5—4 tons	10—15 tons	15 %	IP
Per hectare for seed, fertilizer, and labor	Sorghum grain yield per Ha	Sorghum stover yield per Ha	Sugar concentration	No formal IP rights

Tested/adopted in

Where it can be used
This technology can be used in the colored

