

# High-biomass Megathyrus (Panicum) forage cultivars for cut-and-carry and grazing

High-biomass, drought-tolerant forage for reliable feed all year

Megathyrus maximus cultivars (Mombasa, Tanzania, Massai) are high-yielding, drought-tolerant forage grasses producing 10–20 t DM/ha/year under tropical conditions. With good nutritional quality and rapid regrowth after cutting or grazing, they ensure reliable year-round feed supply while improving soil structure through their deep root systems.



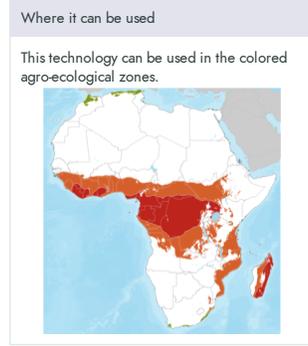
Alliance

**The Alliance of Bioversity International and the International Center for Tropical Agriculture (CIAT)**  
Solomon Mwendia

Commodities  
Forage grasses

Sustainable Development Goals

Categories  
Production, Improved varieties



Target groups  
Breeders, Development institutions, Farmers, Governments, Seed companies, Sellers, Researcher center, Soil scientists, Advisory and Extension Services, Seed Regulators, ...  
+ 5 more

This technology is **pre-validated**.

Scaling readiness: idea maturity 9/9; level of use unknown

Inclusion assessment **5**

Climate impact **6**

- ### Problem
- Seasonal feed shortages reduce milk yields and livestock weight gain, while traditional pastures produce only 2–4 t DM/ha/year, limiting year-round productivity.
  - Climate variability and prolonged drought weaken conventional forage species, increasing feed insecurity in smallholder livestock systems.
  - Overgrazing and shallow-rooted native grasses accelerate soil erosion and land degradation, undermining long-term pasture sustainability.

- ### Solution
- Higher Productivity:** Increased biomass yield (10–20 t DM/ha/year) ensures year-round feed supply.
  - Drought Resilience:** Tolerates low rainfall (500–600 mm/year), reducing seasonal feed shortages.
  - Improved Nutrition:** High crude protein (8–12%) and digestibility (55–65%) support better livestock performance.
  - Soil Sustainability:** Deep roots improve soil structure, reduce erosion, and enhance nutrient retention.

## Key points to design your program

Megathyrus maximus forage cultivars are a game-changing innovation for sustainable livestock feed systems boosting year-round forage availability, improving animal productivity, and reducing losses from seasonal feed shortages. They directly support livestock productivity, climate resilience, and inclusive agribusiness development in smallholder systems. To integrate it in your program,

- Fund training, starter seed, and outreach to build capacity in forage establishment, seed multiplication, and rotational harvesting at farmer and institutional levels.
- Embed Megathyrus maximus within ongoing livestock development, climate-smart agriculture, and forage seed system strengthening programs.

<b>2616 USD</b>	<b>20400 USD</b>	<b>17784 USD</b>	<b>680 %</b>
Cost Per hectare over 10 years	Revenue Per hectare over 10 years	Net income Per hectare over 10 years	ROI Over 10 years

Open source / open access