

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)
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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.

Commodities

Forage grasses

Sustainable Development Goals

Categories

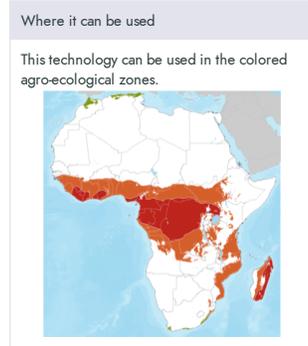
Production, Improved varieties



Key points to design your project

Megathyrus maximus forage technology boosts livestock production by enabling farmers to produce high-yielding, drought-tolerant forage instead of relying on low-productivity natural pastures. This is a climate-smart solution to improve feed security, farmer income, soil restoration, and livestock system resilience nationwide. To integrate into your project,

- Support national livestock and agricultural programs to train extension agents and farmers on proper establishment, grazing management, and forage conservation practices.
- Allocate public funding or incentives to strengthen certified forage seed production and scale local multiplication and distribution systems for adapted cultivars such as Mombasa, Tanzania, and Massai.



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

IP
Open source / open access

Target groups

Breeders, Development institutions, Farmers, Governments, Seed companies, Sellers, + 5 more