

Precision Fertilizer Micro-Dosing for Millet and Sorghum Yield Enhancement



International Crops Research Institute for the Semi-Arid Tropics (ICRISAT)
Dougbedji Fatondji

Smarter Fertilizer, Stronger Crops: Maximize Growth with Minimal Input

The Fertilizer Micro-Dosing for Enhanced Yield and Efficiency Technology is a practice that involves applying small amounts of fertilizer in shallow holes at the base of each plant. This precise method is low-risk, affordable, and efficient.

This technology is **TAAT1 validated**.
 8·7
 Scaling readiness: idea maturity 8/9; level of use 7/9

Project adoption

The technology has been integrated in the **ENSURE project** in the region East Africa (Kenya and Tanzania), and in the **SSEFP-1 project** in the region East/Central Africa (South Sudan). It is also deployed through the **EFPP project** in Southern Africa (Zimbabwe).

Inclusion assessment **4**
 Climate impact **7**

Problem

- Nutrient deficiencies in millet and sorghum
- Inefficient and risky fertilizer application methods
- Insufficient nutrient replenishment and gradual soil fertility decline
- Crop failure risk due to drought discouraging fertilizer investment

Solution

- Addressing nutrient deficiencies in millet and sorghum
- Providing a low-risk and precise fertilizer application method
- Fostering rapid crop growth

Key points to design your project

Micro-Dosing addresses nutrient deficiencies in millet and sorghum with precise, low-risk fertilizer application, promoting rapid growth, reducing environmental impact, and benefiting women. It aligns with climate-smart practices, enhances agricultural efficiency, and reduces poverty.

To integrate Micro-Dosing:

- Identify suitable fertilizers: Millet (50 kg/ha, 16,666 plants), Sorghum (100 kg/ha, 26,666 plants). Use NPK (15-15-15) or DAP fertilizers.
- Plan logistics: Include delivery costs, import clearance, and distribution to project sites.
- Raise farmer awareness through training and communication tools (flyers, videos, radio).
- Combine with stress-resistant crop varieties and Striga management for better results.
- Partner with agricultural institutes and fertilizer distributors for implementation.

This technology is applicable in Chad, Ethiopia, Kenya, Sudan, Tanzania, Burkina Faso, Mali, Niger, Nigeria, Senegal, and Zimbabwe.

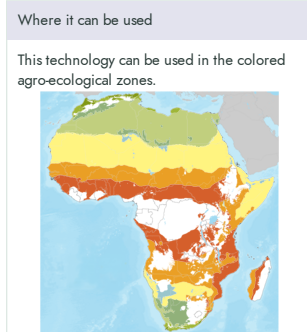
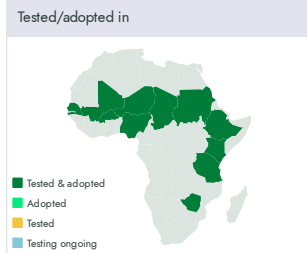
Technology from
ProPAS

Commodities
Sorghum/Millet

Sustainable Development Goals

Categories
Production, Practices, Fertilizer management

Best used with
Millet and Sorghum Varieties for Better Nutrition and Stress Resistance, Dual-purpose Millet Varieties for Crop and Livestock Integration, Proactive Management of Strig...
See all 3 technologies online



IP
Open source / open access

