Precision Fertilizer Micro-Dosing for Millet and Sorghum Yield Enhancement

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.

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This technology is TAAT1 validated.

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

Gender 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 program

Micro-dosing applies small fertilizer amounts directly to the plant base, enhancing nutrient uptake and yields in millet and sorghum while reducing waste and environmental impact. In Niger, combining micro-dosing with inventory credit schemes increased household incomes by 34%, improving livelihoods and food security. The Enabling Sustainable Regional Agricultural Extension (ENSURE) project introduced micro-dosing in Burundi, the Democratic Republic of Congo, Kenya, Rwanda, South Sudan, Tanzania, and Uganda. In Zimbabwe, it's implemented under the Emergency Food Production Project.

Micro-dosing supports several Sustainable Development Goals like, SDG 2 (Zero Hunger), SDG 5 (Gender Equality), SDG 12 (Responsible Consumption and Production), SDG 13 (Climate Action).

As part of the Millet and Sorghum Toolkit, micro-dosing synergizes with innovations like Varieties for Better Nutrition and Stress Resistance, Dual-purpose Varieties for Crop and Livestock Integration, and Proactive Management of Striga Infestation, collectively enhancing the productivity and resilience of these farming systems.

Cost: $$$ **43 USD/ha**
Application without equipment

ROI: $$$ **15—108 %**
Increase in yield

IP
Open source / open access

Technology from

ProPAS

Commodities

Sorghum/Millet

Sustainable Development Goals

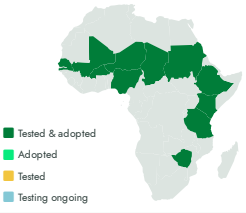
Categories

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 Striga Infestation ›

Tested/adopted in



Where it can be used

This technology can be used in the colored agro-ecological zones.