

Foliar micronutrient addition for healthier rice

Targeted nutrients for stronger crops and richer grain

Foliar micronutrient addition involves spraying liquid fertilizers onto rice leaves and stems. This ensures quick nutrient absorption, improving yields and grain quality with smaller quantities than soil application. Farmers apply the solution at key growth stages. This method boosts crop resilience and productivity, especially in nutrient-deficient soils.



AfricaRice

Africa Rice Center
Sali Atanga Ndindeng

Technology from

ProPAS

Commodities

Rice

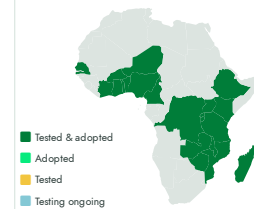
Sustainable Development Goals



Categories

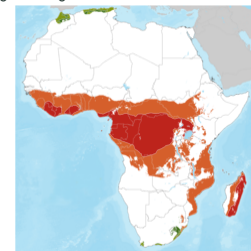
Production, Inputs, Fertilizer

Tested/adopted in



Where it can be used

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



Target groups

Farmers

✓ This technology is **TAAT1 validated**.

8-8

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

Cost: **41.1 USD**

Fertilizers

ROI: **7–30 %**

Yield increased

40 USD

Protective kits per person

30–45 USD

Knapsack sprayers with a tank of 20 liter



Open source / open access

Problem

- **Micronutrient Deficiencies and Low Yields:** Rice crops often lack essential micronutrients like zinc, copper, and boron, leading to low yields and poor grain nutrition.
- **Soil Nutrient Depletion:** Soils in Sub-Saharan Africa are increasingly depleted of vital nutrients, impacting crop health.
- **Inefficient Nutrient Uptake and Crop Vulnerability:** Traditional soil-based fertilizers result in inefficient nutrient absorption, making crops more susceptible to diseases and environmental stresses

Solution

- **Targeted Micronutrient Application and Efficient Uptake:** Spraying essential micronutrients like zinc, copper, and boron directly onto leaves addresses deficiencies, enhances nutrient availability, and maximizes absorption efficiency.
- **Increased Yields and Grain Quality:** Improved nutrient uptake results in higher rice yields and better nutritional quality.
- **Soil Health Improvement and Crop Resilience:** Supplementing with foliar micronutrients counteracts soil nutrient depletion and strengthens crops against diseases and environmental stress.

Key points to design your business plan

This technology addresses the challenge of low micronutrient content in rice, improving both grain yield and nutritional value.

- The cost structure includes various elements such as the price per kilogram of microelements in fertilizers, protective kits, knapsack sprayers, and renting tractor-mountable sprayers.
- Training is crucial for successful implementation, and collaboration with agro dealers is essential.
- The potential profit can be estimated based on positive outcomes observed in Brazil and Malaysia.

Gender assessment 4

Climate impact 7



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<https://e-catalogs.taatafrica.org/com/technologies/foliar-micronutrient-addition-for-healthier-rice>

Last updated on 2 October 2024, printed on 10 December 2024

Enquiries e-catalogs@taat.africa