Pre-emergence herbicides for maize crops

Unlocking Maize's Full Potential

"Pre-emergence herbicides for maize crops" is an innovative technology in Sub-Saharan Africa that prevents weed seedling root development, enhancing maize crop growth and increasing grain yields cost-effectively.

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This technology is TAAT1 validated.

7·7 Scaling readiness: idea maturity 7/9; level of use7/9

Project adoption 1

Technology integrated in the ENSURE project.

Inclusion assessment 4

Climate impact 5 1

Problem

- High weed encroachment in Sub-Saharan Africa reduces grain yields and agricultural returns.
- Manual or mechanical weed removal is labor-intensive and costly.
- Other weed control methods may spread weed seeds, leading to long-term issues.
- Multiple herbicide applications are often needed throughout the growing season.
- Herbicide formulation and timing vary based on regional factors.

Solution

- Pre-emergence herbicides control weeds early, boosting maize yields.
- They improve fertilizer efficiency and crop resilience to drought.
- Prevent weed seed dispersal, reducing future encroachment and herbicide use.
- Combined with post-emergence herbicides, they optimize weed control.
- Adaptable to various climates with customizable formulations.

Key points to design your program

Pre-Emergence Herbicides can be integrated into food security, maize development, sustainable crop management, and climate resilience programs to improve weed control, increase productivity, and reduce labor requirements. Its adoption contributes to SDG 1 (No Poverty), SDG 2 (Zero Hunger), SDG 5 (Gender Equality), and SDG 8 (Decent Work and Economic Growth).

To integrate this technology into your project, plan and budget for the following activities and prerequisites:

- Facilitate access to pre-emergence herbicides, spraying equipment, and advisory services.
- Build partnerships with IITA, agro-input suppliers, extension services, research institutes, cooperatives, and private sector actors.
- Train farmers on safe herbicide application, integrated weed management, and environmental stewardship.
- Promote women's and youth participation in agricultural service provision and spraying enterprises.
- Monitor weed infestation levels, maize yields, weeding costs, fertilizer-use efficiency, and technology adoption.

0.7 - 1.6 Ton per hectare	**349** USD	IP
Grain yield increase	Gross margin per hectare	Open source / open access

Technology from

ProPAS

Commodities

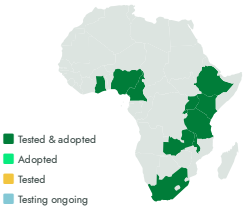
Maize

Sustainable Development Goals

Categories

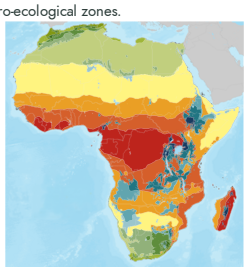
Production, Pre-production, Inputs, Fertilizer

Tested/adopted in



Where it can be used

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



Target groups

Farmers