

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**.

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

Gender 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 project

To integrate this technology into your project, follow these steps:

- Facilitate the marketing of pre-emergence herbicides by agro-input dealers in regions where prevalent weed species pose challenges.
- Conduct awareness campaigns among farmers to highlight the benefits of chemical control methods for food production and risk mitigation.
- Provide financial support to local suppliers and smallholder farmers to encourage investments in pre-emergence herbicides.
- Ensure compliance with national pesticide regulations and obtain necessary authorizations from relevant authorities.
- Estimate the required quantity of technology, considering delivery costs and potential import fees across multiple countries.
- Budget for herbicides and labor costs, with rates specified for different blends and active ingredients.
- Allocate funds for training and post-training support to ensure effective utilization of the technology.
- Develop communication materials to promote technology adoption.
- Collaborate with agricultural development institutes, fertilizer suppliers, and agricultural service companies to implement the technology nationally.

Technology originally documented by

ProPAS

Commodities

Maize

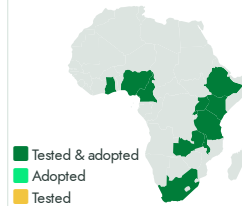
Sustainable Development Goals



Categories

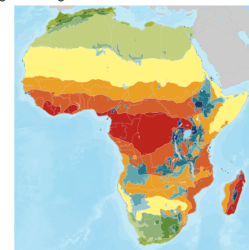
Production, Practices, Weed management

Tested/adopted in



Where it can be used

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



Target groups

Farmers

Cost: **27 USD**

Application of pre-emergence herbicide/Ha

ROI: **61–80 %**

Reduction in weeds

0.7 - 1.6 Ton per hectare

Grain yield increase

349 USD

Gross margin per hectare



Open source / open access



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<https://e-catalogs.taatafrica.org/gov/technologies/pre-emergence-herbicides-for-maize-crops>

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