Kichawi Kill: Striga Bioherbicide

Mitigating Africa's worst pest threat to food security by revolutionizing crop protection with a biological and sustainable weed control alternative.

The Toothpick Project uses a specific strain of Kenyan fungus, Fusarium oxysporum f.sp. strigae, to protect crops from Striga. Applied as a seed coating, this innovative bioherbicide kills Striga without harming maize, effectively increasing crop yields. It is one of the first bioherbicides to be commercialized, combining amino acid inhibition with fungal pathogens for optimal crop...

Toothpick Project, Toothpick Company Ltd.
Claire Baker

This technology is validated.

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

Gender assessment 3

Climate impact 2

Problem

- Striga, an invasive parasitic weed, reduce crop yield by 20–100%.
- 50 million hectares of croplands (40 million farms) in sub-Saharan Africa show Striga infestation, causing 9+ billion USD in crop loss annually.
- Striga plants produce over 50,000 seeds per season, adding to the soil seed bank.

Solution

- Using this herbicide, has resulted in a 42-56% increase in crop yields..
- The fungi seed coating product was approved, significantly reducing the price and increasing the shelf life.
- Kichawi Kill is a safe, effective, affordable alternative to traditional chemical herbicides.

Key points to design your project

The Striga bioherbicide targets a parasitic weed that reduces yields in maize and sorghum. It improves crop productivity and food security, benefiting smallholder farmers and contributing to poverty reduction.

To integrate this technology, projects should;

- Raise farmer awareness,
- Provide access to seed treatment, and link producers to financial support and markets.

Training is essential for proper and safe use, and communication materials should be developed. Combining this technology with other agricultural practices can further optimize results.

3.1 USD
Retail prices to treat 2kg of maize seed

ROI: $$$ **42—56 %**
Yield increased

Commodities

Maize, Sorghum/Millet, Rice

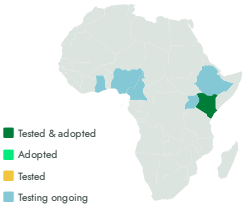
Sustainable Development Goals

+ 1 more

Categories

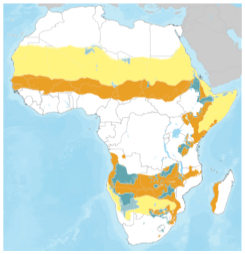
Production, Inputs, Herbicide

Tested/adopted in



Where it can be used

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



Target groups

Farmers, Seed companies