

# Maize-legume rotation and intercropping

Maize-legume: Savings in Soil, Growth in Profit

This practice utilizes legumes' biological nitrogen fixation to boost maize productivity. It enhances soil fertility, reduces weed infestation, and mitigates soil erosion. Certain legumes also combat parasitic weeds in maize, while tall maize crops regulate soil temperature and improve water efficiency.



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This technology is **TAAT1 validated**.
 
 Scaling readiness: idea maturity 7/9; level of use 8/9

Gender assessment 4

Climate impact 7

Technology originally documented by  
**ProPAS**

Commodities  
Maize

Sustainable Development Goals

Categories  
Production, Practices, Soil fertility

- Best used with
- [Drought Tolerant Maize Varieties and Water Efficient Maize Varieties >](#)
  - [Pre-plant blended fertilizers and nitrogen topdressing for maize >](#)

## Problem

- Subsistence farming faces soil nutrient deficiencies, such as nitrogen, hampering crop growth and yields.
- Commercial farmers grapple with high costs associated with nitrogen-based fertilizers, impacting profitability.
- Weed infestation competes with crops for resources, reducing overall yields.
- Pest and disease outbreaks can cause significant damage to crops, affecting both quality and quantity, leading to financial losses.
- Crop failures due to factors like drought or pest attacks can result in food scarcity, impacting household nutrition and well-being.

## Solution

- Utilizes biological nitrogen fixation in legumes to enrich soil and promote healthier plant growth.
- Reduces dependency on expensive synthetic fertilizers through maize-legume rotation and intercropping.
- Effectively manages weed growth, minimizing infestation and enhancing overall crop productivity.
- Reduces harmful Striga weed infestations in maize crops through intercropping with specific legumes.
- Cultivating two complementary crops on the same land ensures a more reliable food supply and enhances food security for subsistence farmers.

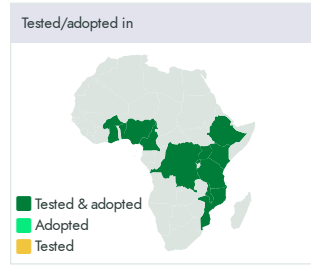
## Key points to design your project

This technology improves crop productivity, ensures food security, and promotes economic sustainability by optimizing nitrogen management, reducing reliance on synthetic fertilizers, and fostering healthier plant growth.

It also contributes to ecosystem preservation by effectively managing weeds and combating Striga weed infestations, all while promoting sustainable agricultural practices.

To integrate this technology, educate farmers, provide guidance on cultivation methods and seed selection, allocate funds for training and support, develop communication materials, and establish partnerships.

For enhanced optimization, consider associating with other complementary agricultural practices.



**ROI: \$\$\$ 0.5—1 tons**  
 maize grain yields increase in yield/ha

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**30—70 kilograms** IP  
 of nitrogen carried over from soybean to maize crops Unknown

