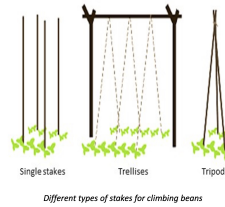


Low-Cost Staking for Climbing Beans

Empowering Beans, Sustaining Growth!

The Low-Cost Staking practice provides affordable solutions for supporting climbing bean cultivation, aiming to reduce reliance on wooden stakes and mitigate deforestation caused by their overharvesting.



Different types of stakes for climbing beans

This technology is **TAAT1 validated**.

8-8

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

Cost: **\$\$**

300 %

Increase in yields compared to bush beans

20,000—50,000

stakes per hectare

Staking density for highest yields

2 meters

Height of stakes for highest yields

~200,000

plants
Plant population per hectare

IP

Open source / open access

Problem

- Farmers face expense issues with plant support, leading to yield losses.
- Shortage of wooden stakes affects plant density and yield.
- Overharvesting of stakes harms forests and afforestation efforts.
- Knowledge of optimal density and stake length varies with method.

Solution

- Offers farmer-acceptable, lower-cost staking innovations.
- Utilizes tripod arrangements and string trellises to reduce wooden stakes.
- Recommends the use of agroforestry species and tall grasses for stakes.
- Improved yield and climbing bean production.

Key points to design your business plan

- The Low-Cost Staking for Climbing Beans technology reduces cultivation costs with innovative staking methods.
- It enhances bean yields, improving farmers' productivity and income.
- Job creation, particularly in rural areas, is promoted through increased bean cultivation.
- The technology advocates for eco-friendly practices, reducing the need for deforestation in stake production and supporting environmental conservation.
- Recommended species for staking include *Acacia angustissima*, *Alnus acuminata*, Bamboo, *Calliandra calothyrsus*, *Gliricidia sepium*, *Sesbania sesban*, *Vernonia amygdalina*, and Elephant Grass (*Pennisetum atropurpeum*).
- Accessible through agricultural extension services, research institutions, local farming communities, and organizations focused on sustainable agriculture and rural development.
- Integration with complementary technologies like Climbing Bean with High Yield and N Fixation can further enhance operational efficiency.

Alliance

The Alliance of Bioversity International and the International Center for Tropical Agriculture (CIAT)
Justin Mabeya Machini

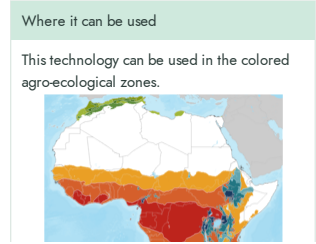
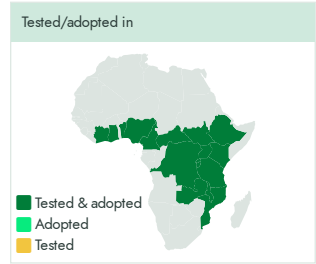
Technology originally documented by
ProPAS

Commodities
Common bean

Sustainable Development Goals

Categories
Production, Practices, Yield improvement, Production system

- Best used with
- [Climbing Bean with High Yield and N Fixation >](#)



Gender assessment 4

Climate impact 7

