



Beans

If undelivered please return to the Mediae Company, P.O. Box 215- 00502, Karen, Kenya.

Growing beans as a business

Before you start a business, find out if your soil is good for beans, and which variety will grow best. To find out if beans will grow well on your farm, you will need to do a soil test. A soil test will tell you the right type and amount of fertilizer to use on your farm. You will save money, and get a bigger and better crop.

Ecological requirements

Beans grow well under the following conditions:

Altitude	1000 - 2000m above sea level.
Temperature	Ideal temperature range is 18 - 27°C. They will not tolerate frost.
Rainfall	A well-distributed rainfall of 300 - 400mm, per growing season, is required.
Soil	Beans grow well in well-drained fertile soils that are rich in nitrogen. They cannot tolerate water-logged soils. They also don't tolerate acidic soils so the pH should be between 6.0 - 7.0.

Can you afford to start a beans business? Do you need a loan?

If you do not have enough money to cover the start-up expenses of your business, you may need to borrow money. Talk to banks and SACCOs. Some loans you can pay back using your mobile phone. Remember that loans are not free. You will have to pay back your loan with **interest**.

Site and seed selection

- Just before the rains start, select and prepare your fields and buy inputs for the season.
- Select fields with fertile soils, which are usually black. The fields should have deep soils.
- Avoid areas that are usually water logged during the rains.
- Avoid sites where beans had been planted in the last 2 years.
- Choose a suitable variety for your area and those with good market.

Non-climbing or bush varieties do well in lowlands.

Climbing beans grow well in highland areas such as Kabale, Kisoro and Mbale.



Climbing beans



Non-climbing beans

Always buy **certified seeds** from a known agro-dealer. Certified seeds:

- Have almost 100% germination
- Are resistant to diseases
- Grow fast and at the same rate
- Improved bean varieties will increase your yield.

There are new bean varieties, rich in Iron and Zinc, which help fight malnutrition especially among children and women.

Choosing a bean variety for your area

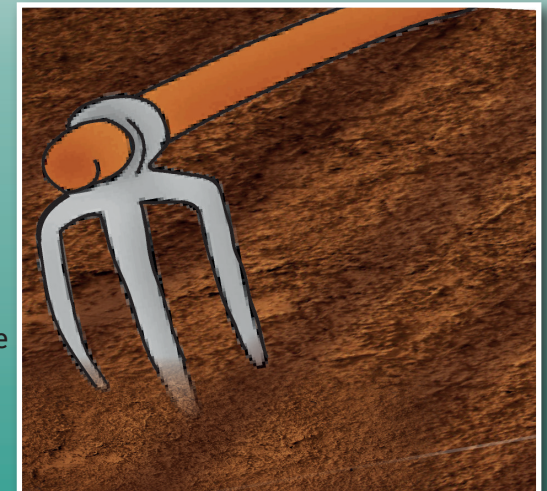
Variety	Type	Yield (kg/acre)	Maturity period (days)
Non-climbing/ bush beans	NAROBAN 1	1500 - 2000	60 - 68
	NAROBAN 2		
	NAROBAN 3		
Climbing beans	NAROBAN 4C	2500 - 3700	82 - 96
	NAROBAN 5C		

These fast maturing beans have the ability to beat bad weather changes such as drought and diseases.

Climbing beans yield two to three times higher than non-climbing beans. This is because when well supported, climbing beans bear more pods per plant.

Preparing your land

- Slash or spray with non-selective herbicides to remove weeds. Consult your agro-dealer for guidance.
- Apply well-rotted manure (compost or animal manure) during field preparation.
- Prepare your garden to a fine tilth for uniform germination.
- Determine if the seeds will germinate well by soaking 10 seeds in a wet cloth. Keep in a shade for 4-7 days. Count the germinated seeds. If there are less than 7, discard all and buy better seeds



Planting beans

1. Plant until the end of March to get high yields and to avoid pests and disease attack.

2. Plant 2-3 seeds per hole in rows. The spacing should be **50cm by 10cm** between rows and plants for non-climbing beans. The spacing for climbing beans should be **50cm by 20cm** between rows and plants.

3. To improve soil fertility, apply well-rotten manure and fertilizer. Mix it thoroughly with soil. The amount depends on your location, as shown below:

- *Lake Victoria Crescent, Lake Kyoga basin and Northern Moist Farmlands and Western AEZs:* Apply 25kg DAP/per acre at planting and 25kg urea per acre 3-4 weeks after germination.

- *For Mt. Elgon Farmlands:* Apply 25kg MOP/acre at planting and 25kg of urea per acre 3-4 weeks after germination.

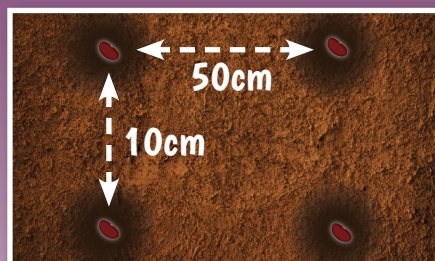
- *For Kapchorwa Farmlands:* Apply 20kg DAP/acre at planting and 20kg urea per acre 3-4 weeks after germination.

- *For South western Highlands:* Apply 20kg DAP/acre at planting and 20kg of CAN per acre 3-4 weeks after germination.

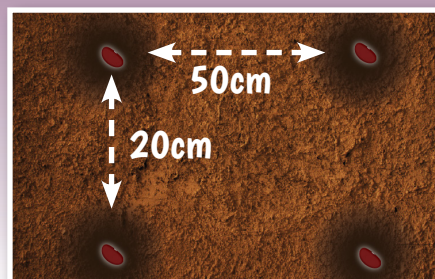
4. Then thinly cover with a layer of soil to cover the seeds.

5. Be sure to water your seeds if you sow before the on set of the rains.

6. Remember to **stake** your climbing beans.



Spacing for Non-climbing beans



Spacing for Climbing beans

Beans are excellent for intercropping with other food crops, such as maize. They also provide other crops with Nitrogen.

Weeds take water and nutrients from your crop. They also hide pests and diseases. Take out weeds when you see them.

During weeding, bring the soil closer to the plants to minimize stem damage by bean fly and avoid crop logging.

Pests and Diseases



Bean Fly attack signs include stem maggots, swollen stem base, wilting, yellowing and death of crop, 2-4 weeks after planting.

If spotted, cover the swollen stem base with soil during weeding or spray with cypermethrin & dimethoate chemicals.



During heavy rains, observe for **Bean anthracnose** signs such as: round sunken brown wounds on the stem, black injuries on veins underside the leaves.

To control, plant resistant varieties, disease free seed, avoid waterlogging fields & rotate beans with other crops.



Root rot signs include yellowing & death of bean plant, one week after germination.

To control, improve your soil fertility using manure or inorganic fertilizers. Plant treated seed and resistant varieties next season.

Harvesting

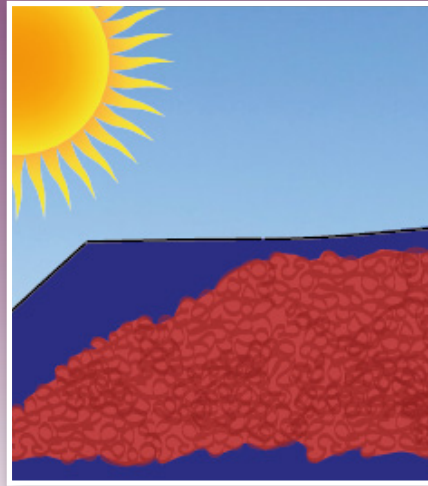
The pods are mature when the colour turns to golden yellow, before they start to open and grains drop. Do not wait too long to harvest.

Climbing beans mature in phases. Harvest the pods as they mature.



Post-harvest management

- **Dry** the beans immediately under the sun for 3-5 days to avoid moulding and for easy threshing.
- **Thresh** using proper machinery or by beating in open air on a tarpaulin or in a sack to avoid grain scattering and contamination.
- **Winnow & clean** to remove straw, stones, dirt, animal droppings & discolored grains
- **Dry** again. Spread the threshed seed under the sun for 3-5 days under the sun to fully dry to the required moisture content. Do this to avoid mould during storage.
- **Grading:** grade your grain according to size and colour for better prices. Ensure seed of the same sizes. Do not mix different varieties.



Storage

- Pack the beans in sacks and store on raised pallets.
- Use *Actelic Super Dust* at 50g for 90kg of seed before storing your beans. This will protect the beans from storage pests. Put the seeds on a clean surface and spread dust over seed and gently mix them. Dust again after every 6 months.

Transport your produce well and minimize loss from spillage.

Reducing post-harvest losses means more beans for you to sell at market, and more money for you and your business.

How will you market your beans?

- Survey the price before selling and only sell if the price will earn you a profit.
- If possible, store the beans until the price goes up.
- Do not be cheated with faulty scales. Ensure you weigh your grain using **UNBS** certified scales.

Why keep records?

Keeping good crop-growing records will help you run your business better. Keep records on field history, problems faced, major activities like planting, spraying, diseases, harvesting, etc.

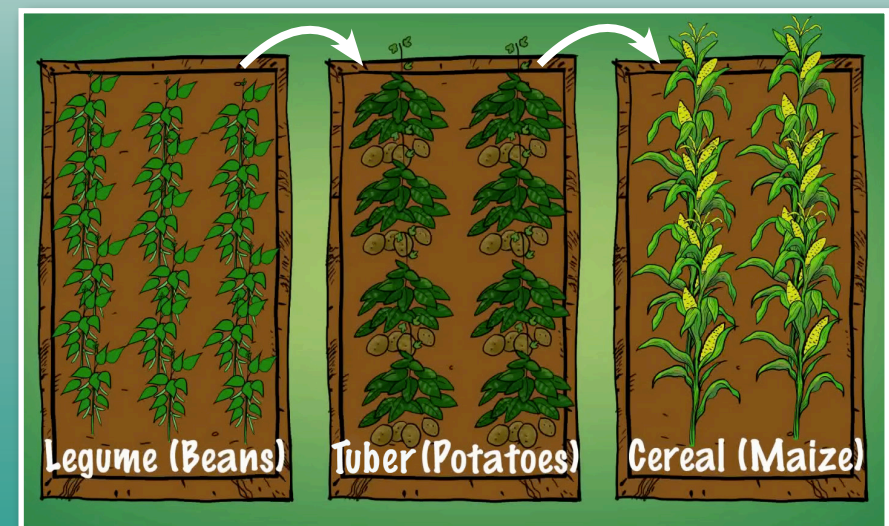
Date	Details	Action
21/05/18	Spotted bean flies	Sprayed with insecticide
23/05/18	Heavy rain today	
25/05/18	Saw some weeds	Removed and burnt weeds.

Rotate your crops

Different crops take different nutrients from the soil. They also have different pests and diseases. These can build up if you plant the same crop again and again.

To reduce pests and diseases and to keep your soil healthy, rotate your crops. This is where you plant a crop from a different family.



After your beans crop, try planting potatoes then maize.



For more information on Beans

Visit our website: www.mpeketown.com

Email us on: mpeketown@mediae.org

Follow us on:  www.facebook.com/MpekeTown/  [@mpeketown](https://twitter.com/mpeketown)

Produced by:



Watch us on:



Bukedde TV, Uganda on:
Tuesday at 8pm (Luganda)



Urban TV, Uganda on:
Saturday at 1pm (English)

In partnership with:

