

Crop details

Categories

French beans

Vegetables

Phaseolus vulgaris (snap bean)

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Family: Fabaceae

Quick stats

Family	Fabaceae
Typical harvest	7.7 t/ha
Varieties	3
Pests and diseases	8
Seasons	3

Crop profile

Growth habit	annual
Days to harvest	65
Main uses	Young green pods picked while tender for home use and fresh export markets; eaten boiled, fried or in mixed dishes.
Pollination	self
Origin and where it grows	French beans are widely grown in East African high and medium altitude areas, especially around irrigation schemes and cooler zones supplying towns and export markets.

Weather, soil and spacing

Best temperature	18 - 28 °C
Rainfall	600 - 900 mm/yr
Altitude	1000 - 2200 m
Best pH	6 - 6.8
Soil type	Well-drained, fertile loam or sandy loam with good organic matter so French beans can root well and fix nitrogen.
Row spacing	40 cm
Plant spacing	10 cm
Planting depth	3 cm
Seed rate	60 kg/ha

Simple notes for farmers

About the crop: This crop is annual; it grows and is harvested in one season. Harvest typically starts about 65 days after planting.

Main use: Farmers mostly grow this crop for young green pods picked while tender for home use and fresh export markets; eaten boiled, fried or in mixed dishes..

Pollination: Mainly self; healthy flowers and pollinators improve fruit set.

Where it grows: French beans are widely grown in East African high and medium altitude areas, especially around irrigation schemes and cooler zones supplying towns and export markets.. Grouped under: Vegetables.

Best climate: 18 - 28 °C; 600 - 900 mm/yr; up to about 2200 m a.s.l.

Soil: Best at pH 6 - 6.8; well-drained, fertile loam or sandy loam with good organic matter so french beans can root well and fix nitrogen..

Farmer guide (Mwongozo wa Mkulima)

<u>Planting</u>	Plant French beans directly in the field in moist soil. Place 1–2 seeds per hole, cover well and keep weeds down in the first weeks.
<u>Transplanting</u>	French beans are usually not transplanted; sow directly where they will grow.
<u>Irrigation</u>	Keep soil moist during germination and early growth. Avoid water stress at flowering and pod filling and avoid standing water.
<u>Fertigation</u>	If drip irrigation is available, apply small, regular doses of NPK early and reduce nitrogen later, as French beans can fix some nitrogen with good nodulation.
<u>Pest scouting</u>	Scout French beans 2–3 times per week for thrips, aphids, bean flies and pod borers. Check young leaves, stems at soil level and developing pods.
<u>Pruning and training</u>	Bush French beans do not need pruning. For climbing types, provide stakes or trellis and guide vines early.
<u>Harvest</u>	Harvest pods when they are straight, firm and still tender, before seeds swell. Pick every 2–3 days to maintain quality and encourage continued production.
<u>Postharvest</u>	Handle pods gently, avoid piling them deep and keep in shade. Cool quickly if possible to maintain freshness and colour.

Nutrient schedule (Mbolea kwa Hatua)

#	<u>Stage</u>	<u>DAP</u>	<u>Product</u>	<u>Rate</u>	<u>Targets</u> <u>(kg/ha)</u>	<u>Notes</u>
1	Basal at planting	0	NPK 17-17-17 or 15-15-15	80 kg/ha	N: 14, P ₂ O ₅ : 14, K ₂ O: 14	Band or place fertilizer below and to the side of the seed, not in direct contact.
2	Early topdress	18	CAN 26% N	60 kg/ha	N: 16, P ₂ O ₅ : 0, K ₂ O: 0	Apply along rows between plants on moist soil.
3	Topdress at early flowering	30	NPK 12-12-24 or SOP-based mix	60 kg/ha	N: 7, P ₂ O ₅ : 7, K ₂ O: 14	Focus on potassium to improve pod quality and shelf life.

Nutrient requirements

<u>Nutrient</u>	<u>Stage</u>	<u>Amount</u>	<u>Unit</u>
N	Basal	20	kg/ha
P ₂ O ₅	Basal	40	kg/ha
K ₂ O	Basal	30	kg/ha
N	Topdress_early	20	kg/ha
P ₂ O ₅	Topdress_early	0	kg/ha

<u>Nutrient</u>	<u>Stage</u>	<u>Amount</u>	<u>Unit</u>
K ₂ O	Topdress_early	20	kg/ha
N	Topdress_flowering	10	kg/ha
P ₂ O ₅	Topdress_flowering	0	kg/ha
K ₂ O	Topdress_flowering	20	kg/ha

Varieties

<u>Name</u>	<u>Country</u>	<u>Maturity (days)</u>	<u>Traits</u>
Fine French bean (export type)	KE	55	Very fine pods, high picking frequency and good for export markets.
Medium French bean	KE	60	Slightly thicker pod for local fresh market and processing.
Climbing French bean selection	TZ	65	Requires staking, higher yield per area where labour and stakes are available.

Fertilizer recommendations

<u>Stage</u>	<u>Product</u>	<u>Rate</u>	<u>Notes</u>
Basal	NPK 17-17-17 or 15-15-15	80	Provides starter nutrients at planting for French beans.
Topdress (N source)	CAN 26% N	60	Single topdress, or split into two smaller doses depending on crop colour and vigour.
High K for quality	Sulfate of potash (SOP) or NPK with higher K	50	Given around flowering to improve pod firmness and shelf life.
Organic	Well-rotted manure or compost	5000	Apply before planting to improve soil structure and moisture holding.

Pests and diseases

<u>Name</u>	<u>Type</u>	<u>Symptoms</u>	<u>Management</u>
Bean fly	pest	Small punctures on stems near soil level, plants show yellowing, wilting and may break at the base.	Plant early in the rains, earth up around stems, avoid water stress and use recommended seed dressings or sprays when necessary.
Aphids	pest	Clusters of small insects on shoot tips and underside of leaves, causing curling, yellowing and sticky honeydew.	Encourage natural enemies, avoid heavy nitrogen and use selective insecticides or biopesticides when numbers increase.
Thrips	pest	Silvery streaks and brown scars on leaves and pods of French beans, leading to poor pod quality.	Monitor flowering crops closely and use recommended insecticides/biopesticides based on thresholds.
Pod borers and caterpillars	pest	Holes and frass on pods, chewed beans inside.	Timely sprays of recommended products, early harvesting of pods and good field sanitation.

<u>Name</u>	<u>Type</u>	<u>Symptoms</u>	<u>Management</u>
Leaf miners	pest	White winding mines inside leaves, which can dry and drop early.	Remove heavily damaged leaves on small plots and use targeted controls when necessary.
Bean rust	disease	Small raised brown-orange spots (pustules) on leaves and sometimes pods.	Use tolerant varieties, avoid overhead irrigation late in the day and treat with fungicides when needed.
Angular leaf spot / blights	disease	Angular or irregular brown spots on leaves and pods, sometimes with yellow halos.	Use clean seed, rotate crops and avoid working in the field when foliage is wet.
Root rots	disease	Stunting, yellowing and rotted roots in poorly drained patches.	Plant on well-drained soils or raised beds and avoid overwatering.

Yields

<u>System</u>	<u>Typical</u>	<u>Min</u>	<u>Max</u>	<u>Notes</u>
Smallholder French beans, low–medium input	5	3	7	Basic fertilizer, simple pest control and less frequent picking.
Well-managed open-field French beans	8	6	10	Recommended varieties, proper spacing, good fertilizer and regular harvesting.
Irrigated / export-standard French beans	10	8	14	Drip or sprinkler irrigation, fertigation and tight pest/disease control.

Season calendars

<u>Country</u>	<u>Region</u>	<u>Planting</u>	<u>Harvest</u>
KE	Highland and upper mid-altitude French bean zones	Main rainy seasons and under irrigation when temperatures are mild (not very hot).	First harvest around 7–8 weeks after sowing
KE	Irrigated export belts	Staggered plantings through the year to match contracts where climate allows.	Multiple harvests over 3–5 weeks depending on variety
TZ	Cooler highland and lake basin French bean areas	Cooler months with reliable rainfall or irrigation.	Harvests during cooler periods when possible

Region suitability

<u>Country</u>	<u>Region</u>	<u>Suitability</u>
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KE	Central and Rift Valley highland French bean zones	High
KE	Irrigated export-production schemes	High
TZ	Highland and lake basin vegetable belts	High
UG	Cooler highland vegetable zones	High

Source: **FarmLens Ltd** - farmlens.africa and app.farmlens.africa. Headquarters: Nairobi, Kenya. This guide was generated from the FarmLens database.