

FarmLens Ltd

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Crop details

Soybean

Glycine max

Family: Fabaceae

Categories

Legumes & Pulses

Generated: 2026-04-11 10:16

Quick stats

Family	Fabaceae
Typical harvest	2.1 t/ha
Varieties	3
Pests and diseases	6
Seasons	3

Weather, soil and spacing

Best temperature	20 - 30 °C
Rainfall	500 - 900 mm/yr
Altitude	0 - 1800 m
Best pH	6 - 7
Soil type	Wide range; best in well-drained soils
Row spacing	45 cm
Plant spacing	5 cm
Planting depth	3 cm
Seed rate	60 kg/ha

Crop profile

Growth habit	annual
Days to harvest	110
Main uses	Grain for whole beans, flour, soya milk and animal feed; also used for oil and cake.
Pollination	self
Origin and where it grows	Soybean is grown in medium to high rainfall and irrigated areas in East Africa, often in rotation with maize or cereals.

Simple notes for farmers

About the crop: This crop is annual; it grows and is harvested in one season. Harvest typically starts about 110 days after planting.

Main use: Farmers mostly grow this crop for grain for whole beans, flour, soya milk and animal feed; also used for oil and cake..

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

Where it grows: Soybean is grown in medium to high rainfall and irrigated areas in East Africa, often in rotation with maize or cereals.. Grouped under: Legumes & Pulses.

Best climate: 20 - 30 °C; 500 - 900 mm/yr; up to about 1800 m a.s.l.

Soil: Best at pH 6 - 7; fertile, well-drained soils.

Farmer guide (Mwongozo wa Mkulima)

<u>Planting</u>	Plant Soybean at the start of reliable rains. Place 2–3 seeds per hole along the row, then thin to one strong plant per station for good spacing.
<u>Transplanting</u>	Soybean is direct seeded, not transplanted.
<u>Irrigation</u>	Soybean needs moisture at germination, flowering and pod filling. Avoid long dry spells at flowering and early pod fill.
<u>Fertigation</u>	Use a small amount of starter phosphorus and inoculate seed with the right rhizobium where available so the crop fixes its own nitrogen.
<u>Pest scouting</u>	Scout weekly for aphids, caterpillars, pod-sucking bugs and leaf spots. Treat early when fresh damage appears.
<u>Pruning and training</u>	No pruning needed. Ensure early and thorough weeding, especially during the first 30–40 days.
<u>Harvest</u>	Harvest Soybean when most leaves have fallen and pods are dry and brown, but before they shatter easily.
<u>Postharvest</u>	Dry plants or pods on clean tarpaulins, thresh gently, dry grain until hard and store in dry, airtight bags to avoid mould and insects.

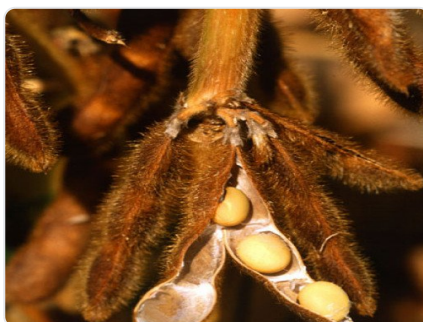
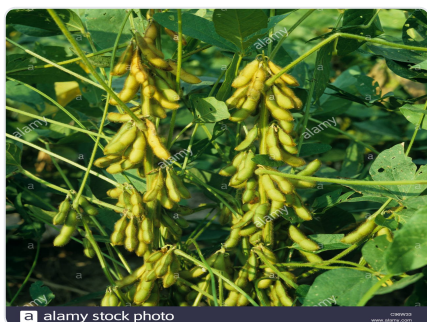
Nutrient schedule (Mbolea kwa Hatua)

#	Stage	DAP	Product	Rate	Targets (kg/ha)	Notes
1	Basal at planting	0	NPK with P (e.g., 0-23-19) or TSP + K source	80 kg/ha	N: 0, P?O?: 30, K?O: 20	Band fertilizer 5 cm away from the seed row; inoculate Soybean seed before planting where needed.
2	Optional K topdress (early podding)	40	Muriate of potash (MOP)	30 kg/ha	N: 0, P?O?: 0, K?O: 18	Use mainly where Soybean straw is removed and soils test low in potassium.

Nutrient requirements

Nutrient	Stage	Amount	Unit
N	Basal	0	kg/ha
P?O?	Basal	30	kg/ha
K?O	Basal	20	kg/ha
N	Topdress_early	0	kg/ha
P?O?	Topdress_early	0	kg/ha
K?O	Topdress_early	20	kg/ha

Field images



Varieties

<u>Name</u>	<u>Country</u>	<u>Maturity (days)</u>	<u>Traits</u>
Medium-maturing soybean variety	KE	110	Good grain yield, suited to medium rainfall zones and rotations with maize.
Early soybean variety	TZ	95	Early harvest, fits short seasons and double cropping.
Local soybean type	KE	115	Traditional taste and cooking quality, moderate yield.

Fertilizer recommendations

<u>Stage</u>	<u>Product</u>	<u>Rate</u>	<u>Notes</u>
Basal	NPK with P (e.g., 0-23-19) or TSP + K	80	Supplies phosphorus and potassium for Soybean root growth and nodulation.
Topdress (optional K)	Muriate of potash (MOP)	30	Use in K-deficient fields to support pod fill and standability.

Pests and diseases

<u>Name</u>	<u>Type</u>	<u>Symptoms</u>	<u>Management</u>
Soybean aphids	pest	Clusters of small insects on new leaves and stems; leaves curl and plants may look sticky or sooty.	Encourage natural enemies and use selective insecticides only when aphid numbers are very high.
Defoliating caterpillars	pest	Chewed leaves and leaf holes; in heavy attacks, plants of Soybean may be almost bare.	Scout regularly and spray with recommended products when damage exceeds acceptable levels.
Pod-sucking bugs	pest	Shriveled or flat seeds, brown feeding spots on pods.	Avoid very late planting, keep field edges clean and spray if many bugs are present during pod fill.
Rust	disease	Small brown to orange spots on leaves that later drop, leaving bare stems.	Use tolerant Soybean varieties and apply fungicides where rust pressure is high and economic.
Bacterial pustule and leaf spots	disease	Small raised spots or larger dead patches on leaves; premature leaf drop.	Use clean seed, rotate crops and avoid overhead irrigation late in the day.
Storage beetles and weevils	pest	Holes and powder in stored Soybean grain; live beetles in bags.	Dry well, cool grain before storage and use airtight or treated bags.

Yields

<u>System</u>	<u>Typical</u>	<u>Min</u>	<u>Max</u>	<u>Notes</u>
Smallholder rainfed (low input)	1.2	0.7	1.8	Local or mixed seed, little fertilizer, basic weed control.
Smallholder rainfed (improved management)	2	1.5	2.5	Improved varieties, inoculation, starter P, timely weeding and pest control.
High input / irrigated	3	2.5	4	Good varieties, inoculation, balanced nutrients and reliable water.

Season calendars

<u>Country</u>	<u>Region</u>	<u>Planting</u>	<u>Harvest</u>
KE	Medium to high rainfall Soybean areas (long rains)	Mar–Apr	Jul–Aug
KE	Medium rainfall areas (short rains)	Oct–Nov	Feb–Mar
TZ	Southern highlands and lake zones	Nov–Dec	Apr–May

Region suitability

<u>Country</u>	<u>Region</u>	<u>Suitability</u>
KE	Medium to high rainfall maize–Soybean belt	High
KE	Very dry lowlands	Low
TZ	Southern highlands and lake Soybean areas	High
UG	Medium rainfall mixed farming zones	High

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