FarmLens Ltd

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Crop details

Sword bean (Canavalia ensiformis)

Canavalia ensiformis

Family: Fabaceae

Categories

Legumes & Pulses

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Quick stats

Family	Fabaceae
Typical harvest	5.7 t/ha
Varieties	1
Pests and diseases	5
Seasons	1

Crop profile

Growth habit	climber
Days to harvest	120–180
Main uses	Green manure; forage; pulse (processed)
Pollination	insect
Origin and where it grows	Pantropical; adapted to warm humid/subhumid zones

Weather, soil and spacing

Best temperature	22 - 30 °C
Rainfall	900 - 1500 mm/yr
Altitude	0 - 1600 m
Best pH	5.5 - 6.8
Soil type	Light to medium soils; well-drained
Row spacing	100 cm
Plant spacing	50 cm
Planting depth	3 cm
Seed rate	25 kg/ha

Simple notes for farmers

About the crop: This crop has a growth habit described as "climber". Harvest typically starts about 120–180 days after planting.

Main use: Farmers mostly grow this crop for green manure; forage; pulse (processed).

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

Where it grows: Pantropical; adapted to warm humid/subhumid zones. Grouped under: Legumes & Pulses.

Best climate: 22 - 30 °C; 900 - 1500 mm/yr; up to about 1600 m a.s.l.

Soil: Best at pH 5.5 - 6.8; light to medium soils; well-drained.

Farmer guide (Mwongozo wa Mkulima)

Planting	Direct-seed at onset of rains; provide trellis or allow to sprawl as green manure.
Transplanting	Not transplanted.
Irrigation	Rainfed in humid zones; irrigate during dry spells to support flowering/pod set.
Fertigation	Minimal N (fixing legume); ensure P and K; add S/Ca if deficient.
Pest scouting	Scout for pod borers and beetles; maintain sanitation and timely picking.
Pruning and training	Train vines on supports where seed yield is the goal.
Harvest	For green manure, incorporate at flowering; for grain, harvest when pods brown and seeds hard.
Postharvest	Dry seed to ?12% moisture; store cool/dry; cook/process thoroughly before food use.

Nutrient schedule (Mbolea kwa Hatua)

#	Stage	DAP	Product	Rate	Targets (kg/ha)	Notes
1	Basal	0	NPK 15-15-15 (light)	50 kg/ha	N: N/A, P?O?: N/A, K?O: N/A	Or DAP+MOP equivalent; keep away from seed inoculant
2	Early pod set (opt.)	40	Sulfate of potash (SOP)	40 kg/ha	N: N/A, P?O?: N/A, K?O: 20	Skip if soil K is adequate

Nutrient requirements

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

Field images

Varieties

Name	Country	Maturity (days)	Traits

Local Canavalia	KE	150	Vigorous vine; dual purpose

Fertilizer recommendations

Stage	Product	Rate	Notes
Basal	NPK 15-15-15	50	Or banded P+K sources
Pod set	Sulfate of potash (SOP)	40	Apply only if K is low

Pests and diseases

Name	Type	Symptoms	Management
Pod borers	pest	Pod damage	Frequent picking; sanitation
Pod borers (Helicoverpa/Maruca)	pest	Bored pods; seed damage	Flower–pod scouting; threshold sprays; timely harvest
Leaf beetles	pest	Defoliation; shot-holes	Early control if severe; conserve natural enemies
Aphids	pest	Leaf curl; honeydew/sooty mold	Control ants; soft insecticides; encourage predators
Root rots (Rhizoctonia/Pythium)	disease	Damping-off; root lesions	Well-drained fields; seed treatment; avoid overwatering

Yields

System	Typical	Min	Max	Notes
green manure	8	4	12	Biomass (DM)
green manure (biomass DM)	8	4	12	Dry matter biomass
rainfed seed	1	0.6	1.8	Clean seed under good management

Season calendars

Country	Region	Planting	Harvest
KE	Humid lowlands	Mar–Apr	Jul–Nov

Region suitability

Country	Region	Suitability
KE	Humid lowlands	High
TZ	Coastal belt	High
UG	Lake Victoria basin	Medium