FarmLens Ltd

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Crop details

Sunflower

Helianthus annuus

Family: Asteraceae

Categories

Oil & Industrial

Generated: 2025-12-16 02:17

Quick stats

Family	Asteraceae
Typical harvest	2.2 t/ha
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Crop profile

Growth habit	annual
Days to harvest	110
Main uses	Oilseed (crushing for edible oil and cake), grain for feed, confectionary seed and bird feed.
Pollination	insect
Origin and where it grows	Originally from North America; widely grown in semi-arid to sub-humid regions as an oilseed field crop.

Weather, soil and spacing

Best temperature	18 - 28 °C
Rainfall	500 - 800 mm/yr
Altitude	0 - 2200 m
Best pH	6 - 7.2
Soil type	Deep, well-drained loam or sandy loam with good water-holding capacity and moderate fertility.
Row spacing	75 cm
Plant spacing	25 cm
Planting depth	4 cm
Seed rate	5 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 110 days after planting.

Main use: Farmers mostly grow this crop for oilseed (crushing for edible oil and cake), grain for feed, confectionary seed and bird feed..

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

Where it grows: Originally from North America; widely grown in semi-arid to sub-humid regions as an oilseed field crop.. Grouped under: Oil & Industrial.

Best climate: 18 - 28 °C; 500 - 800 mm/yr; up to about 2200 m a.s.l.

Soil: Best at pH 6 - 7.2; deep, well-drained loam or sandy loam with good water-holding capacity and moderate fertility..

Farmer guide (Mwongozo wa Mkulima)

Planting	Direct seed into a fine, firm seedbed at the start of the rains or under irrigation. Aim for 40,000–55,000 plants/ha depending on variety and rainfall.
Transplanting	Transplanting is not common; direct seeding is preferred to avoid root damage.
Irrigation	Sunflower is relatively drought-tolerant but needs enough moisture at germination, early vegetative stage and flowering/grain filling.
Fertigation	Under drip or sprinkler, split N and K applications up to flowering; avoid heavy late N that delays maturity.
Pest scouting	Scout for cutworms, stalk borers, leaf spots, downy mildew and head rots. Watch for bird damage as heads mature.
Pruning and training	No pruning; maintain uniform stands and keep fields clean of weeds, especially during the first 6–8 weeks.
Harvest	Harvest when back of head turns yellow to brown and most bracts are dry. Seeds should be hard and have low moisture.
Postharvest	Cut heads or entire plants, dry on clean tarpaulins or raised racks. Thresh carefully and dry grain to safe storage moisture (?9–10%).

Nutrient schedule (Mbolea kwa Hatua)

#	Stage	DAP	Product	Rate	Targets (kg/ha)	Notes
1	Basal at planting	0	NPK 17-17-17	100 kg/ha	N: 17, P?O?: 17, K?O: 17	Band or spot apply 5–7 cm beside and below seed line, not in direct contact with seed.
2	Vegetative topdress	25	CAN 26% N	90 kg/ha	N: 23, P?O?: 0, K?O: 0	Apply along rows on moist soil when plants are knee-high; lightly ridge or cover.
3	Pre-flowering K boost	45	MOP (KCl)	60 kg/ha	N: 0, P?O?: 0, K?O: 36	Apply before visible bud formation to support head and grain development.

Nutrient requirements

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

Varieties

Name	Country	Maturity (days)	Traits
Medium-maturing oilseed hybrid	KE	105	Good oil content and yield; suited to medium rainfall areas.
Drought-tolerant sunflower selection	TZ	100	Adapted to drier zones with stable yields under variable rainfall.
Local sunflower (oilseed) type	UG	110	Farmer-selected type for smallholder systems, used for oil and home consumption.

Fertilizer recommendations

Stage	Product	Rate	Notes
Basal	NPK 17-17-17	100	Apply at planting in bands 5–7 cm from the seed row.
Vegetative	CAN 26% N	90	Apply at 3–5 weeks after emergence when plants are knee-high.
Pre-flowering	MOP (KCl)	60	Apply before flower bud formation in fields with low K or high yield potential.

Pests and diseases

Name	Type	Symptoms	Management
Cutworms	pest	Young seedlings cut at or just below soil level, causing gaps in rows.	Well-prepared, weed-free seedbeds before planting; spot treat or replant badly affected patches.
Stalk borers	pest	Boring into stems causing wilting, broken stems and reduced head size.	Rotate crops, destroy crop residues, monitor early and manage host weeds like maize and sorghum volunteers.
Downy mildew	disease	Stunted plants with pale leaves, white downy growth on underside, deformed heads.	Use resistant varieties, treat seed with recommended fungicide, avoid poorly drained fields.
Leaf spots/rust	disease	Brown, reddish or black spots on leaves, premature leaf drop reducing grain fill.	Good rotation, residue management, and improved airflow; use clean seed.
Head rot	disease	Rotting of head tissues, mouldy seeds and foul smell, especially in wet conditions.	Avoid overhead irrigation at flowering, maintain good spacing, harvest heads promptly once mature.
Bird damage	pest	Seeds pecked or removed from heads, shredded bracts and scattered seed.	Synchronise planting to reduce exposure, use simple deterrents and harvest promptly when mature.

Yields

System	Typical	Min	Max	Notes
Low-input rainfed (grain)	1	0.6	1.5	Minimal fertilizer, basic weeding and smallholder seed; suited to drier areas.
Managed rainfed (grain)	2	1.2	2.8	Improved varieties, timely planting, balanced NPK and weed control.
Intensive with good fertility & water	3.5	2.5	4.5	Hybrid cultivars, optimum plant population, good fertility and reliable moisture.

Season calendars

Country	Region	Planting	Harvest
KE	Semi-arid and sub-humid mid-altitudes	Early in the rainy season (long or short rains) so flowering avoids severe drought.	About 3.5–4 months after planting once h
TZ	Central and northern semi-arid zones, southern highlands	At onset of main rains or under conserved soil moisture after early showers.	Dry season harvest when heads and stalks
UG	Drier mid-altitude belts and well-drained uplands	Onset of main rains, especially where maize or beans also grown.	3.5–4 months after planting; timing may s

Region suitability

Country	Region	Suitability
KE	Eastern, Rift and parts of Central semi-arid zones	High
TZ	Central corridor, Lake zone margins and southern highlands	High
UG	Northern and eastern mid-altitude drylands	High

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