FarmLens Ltd

Website: farmlens.africa | App: app.farmlens.africa | Headquarters: Nairobi, Kenya

Crop details

Maize

Zea mays

Family: Poaceae

Categories

Cereals & Pseudocereals

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Quick stats

Family	Poaceae
Typical harvest	5.3 t/ha
Varieties	3
Pests and diseases	5
Seasons	3

Crop profile

Growth habit	annual
Days to harvest	110
Main uses	Food grain, animal feed, green maize, flour and porridge
Pollination	wind
Origin and where it grows	Widely grown in East Africa in both high and medium rainfall areas

Weather, soil and spacing

Best temperature	18 - 30 °C
Rainfall	600 - 1000 mm/yr
Altitude	0 - 2500 m
Best pH	5.8 - 7
Soil type	Wide range; best in well-drained soils
Row spacing	75 cm
Plant spacing	25 cm
Planting depth	5 cm
Seed rate	20 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 food grain, animal feed, green maize, flour and porridge.

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

Where it grows: Widely grown in East Africa in both high and medium rainfall areas. Grouped under: Cereals & Pseudocereals.

Best climate: 18 - 30 °C; 600 - 1000 mm/yr; up to about 2500 m a.s.l.

Soil: Best at pH 5.8 - 7; fertile, well-drained soils.

Farmer guide (Mwongozo wa Mkulima)

Planting	Plant at the start of the rains. Put 1–2 seeds per hole, about one finger joint deep, and cover well.
Transplanting	Maize is usually planted directly in the field, not transplanted.
Irrigation	Keep soil moist during germination, tasseling and grain filling. Avoid long dry spells at flowering.
Fertigation	With drip, give small amounts of fertilizer many times instead of one big dose.
Pest scouting	Check the field every week. Look inside the whorl and on young leaves for worms and fresh damage.
Pruning and training	Remove only very weak extra shoots if they are too many. Keep the field clean and weed-free.
Harvest	For dry grain, harvest when husks are dry and kernels are hard. For green maize, harvest when kernels are milky.
Postharvest	Dry cobs on raised, clean platforms. Shell when dry and dry again. Store grain in dry, airtight bags or silos.

Nutrient schedule (Mbolea kwa Hatua)

#	Stage	DAP	Product	Rate	Targets (kg/ha)	Notes
1	Basal at planting	0	DAP 18-46-0 or similar P fertilizer	100 kg/ha	N: 18, P?O?: 46, K?O: 0	Put fertilizer a short distance from the seed and cover with soil.
2	Early topdress	21	CAN 26% N or urea	80 kg/ha	N: 21, P?O?: 0, K?O: 0	Apply when plants have 4–6 leaves; keep fertilizer away from the stem.
3	Late topdress	35	Urea 46% N	70 kg/ha	N: 32, P?O?: 0, K?O: 0	Apply before tassels appear and when soil is moist.

Nutrient requirements

Nutrient	Stage	Amount	Unit
N	Basal	60	kg/ha
P?O?	Basal	40	kg/ha
K?O	Basal	40	kg/ha
N	Topdress_early	40	kg/ha
P?O?	Topdress_early	0	kg/ha
K?O	Topdress_early	20	kg/ha
N	Topdress_late	30	kg/ha
P?O?	Topdress_late	0	kg/ha
K?O	Topdress_late	20	kg/ha
N	Topdress	60	kg/ha

Field images



Varieties

Name	Country	Maturity (days)	Traits
H614D	KE	150	High-yield hybrid for high rainfall areas.
Katumani composite	KE	90	Early maturing; good for low rainfall areas.
Local white maize	KE	120	Traditional taste, lower yield than hybrids.

Fertilizer recommendations

Stage	Product	Rate	Notes
Basal	DAP 18-46-0	100	Supplies phosphorus and some nitrogen at planting.
Topdress (early)	CAN 26% N	80	Safer than urea in dry or acidic conditions.
Topdress (late)	Urea 46% N	70	Apply when rain is expected so it can dissolve and move into the soil.

Pests and diseases

Name	Type	Symptoms	Management
Fall armyworm	pest	Leaves eaten from the centre (whorl), holes on leaves and brown droppings inside the leaf funnel.	Plant early, scout often, handpick where possible, and use safe biopesticides or recommended sprays when damage is fresh.
Maize stem borers	pest	Small holes on leaves, dead heart in young plants, weak stems that break easily.	Destroy stalks after harvest, plant on time and use tolerant varieties or push–pull where available.
Cutworms	pest	Seedlings cut near ground level, gaps in the row.	Keep field weed-free before planting and replant missing hills quickly.
Maize streak virus	disease	Fine yellow streaks on leaves, stunted plants and small cobs.	Use tolerant varieties and avoid very late planting.
Leaf blights	disease	Brown or grey spots on leaves; leaves dry early.	Use clean seed, rotate crops, and plant resistant varieties where possible.

Yields

System	Typical	Min	Max	Notes
Smallholder rainfed (low input)	2.5	1	4	Local seed, little fertilizer, one or two weedings.

System	Typical	Min	Max	Notes
Smallholder rainfed (good management)	5	3	7	Hybrid seed, recommended fertilizer and timely weed control.
Irrigated or high-input farms	9	7	12	Good hybrid, irrigation and well-planned fertilizer and pest control.
rainfed improved	4.5	3	6	

Season calendars

Country	Region	Planting	Harvest
KE	High potential zone (long rains)	Mar–Apr	Aug–Sep
KE	Medium altitude (short rains)	Oct–Nov	Feb–Mar
TZ	Southern highlands	Nov–Dec	May–Jun

Region suitability

Country	Region	Suitability
KE	High potential maize zone (Rift Valley)	High
KE	Medium altitude transitional areas	High
KE	Semi-arid lowlands	Medium
TZ	Southern highlands maize belt	High
UG	Lake Victoria crescent	High

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