

# FarmLens Ltd

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Crop details

## Tobacco

*Nicotiana tabacum*

Family: Solanaceae

Categories

Oil & Industrial

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### Quick stats

<b>Family</b>	Solanaceae
<b>Typical harvest</b>	2.4 t/ha
<b>Varieties</b>	3
<b>Pests and diseases</b>	7
<b>Seasons</b>	3

### Crop profile

<b>Growth habit</b>	annual
<b>Days to harvest</b>	120
<b>Main uses</b>	Cured leaf for cigarettes and other tobacco products; stalks and residues sometimes used as organic manure (handled carefully).
<b>Pollination</b>	self
<b>Origin and where it grows</b>	Warm-season crop grown in semi-arid to sub-humid regions, often in well-defined tobacco belts.

### Weather, soil and spacing

<b>Best temperature</b>	18 - 28 °C
<b>Rainfall</b>	700 - 1000 mm/yr
<b>Altitude</b>	0 - 2000 m
<b>Best pH</b>	5.8 - 6.5
<b>Soil type</b>	Light to medium-textured, well-drained sandy loams or loams with low to moderate fertility; sensitive to salinity.
<b>Row spacing</b>	90 cm
<b>Plant spacing</b>	45 cm
<b>Planting depth</b>	1 cm
<b>Seed rate</b>	0.5 kg/ha
<b>Nursery days</b>	45

### Simple notes for farmers

**About the crop:** This crop is annual; it grows and is harvested in one season. Harvest typically starts about 120 days after planting.

**Main use:** Farmers mostly grow this crop for cured leaf for cigarettes and other tobacco products; stalks and residues sometimes used as organic manure (handled carefully)..

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

**Where it grows:** Warm-season crop grown in semi-arid to sub-humid regions, often in well-defined tobacco belts.. Grouped under: Oil & Industrial.

**Best climate:** 18 - 28 °C; 700 - 1000 mm/yr; up to about 2000 m a.s.l.

**Soil:** Best at pH 5.8 - 6.5; light to medium-textured, well-drained sandy loams or loams with low to moderate fertility; sensitive to salinity..

### **Farmer guide (Mwongozo wa Mkulima)**

<b><u>Planting</u></b>	Raise seedlings in a fine, well-managed nursery or float trays. Transplant carefully when plants have 4–6 true leaves and a pencil-thick stem.
<b><u>Transplanting</u></b>	Transplant in the late afternoon or cloudy weather. Water seedlings before lifting, trim long roots if needed and irrigate after transplanting.
<b><u>Irrigation</u></b>	Provide sufficient moisture at establishment, rapid vegetative growth and early leaf expansion. Reduce irrigation as plants near maturity to aid ripening and curing quality.
<b><u>Fertigation</u></b>	Where drip is used, apply small, frequent doses of N and K up to topping; avoid excessive N which delays maturity and lowers leaf quality.
<b><u>Pest scouting</u></b>	Scout for aphids, whiteflies, hornworms/budworms, root-knot nematodes and leaf spots. Monitor regularly from nursery through field growth.
<b><u>Pruning and training</u></b>	Top plants (remove flower heads) to improve leaf size and quality; remove suckers (side shoots) promptly to concentrate nutrients into main leaves.
<b><u>Harvest</u></b>	Harvest leaves in several primings, starting from lower ripe leaves (yellowing and mature), moving upwards as they reach proper ripeness depending on tobacco type.
<b><u>Postharvest</u></b>	Cure leaves according to type (flue-curing, air-curing, sun-curing etc.) with careful control of temperature and humidity to develop colour and aroma; store in cool, dry, well-ventilated stores.

### **Nutrient schedule (Mbolea kwa Hatua)**

#	<b><u>Stage</u></b>	<b><u>DAP</u></b>	<b><u>Product</u></b>	<b><u>Rate</u></b>	<b><u>Targets (kg/ha)</u></b>	<b><u>Notes</u></b>
1	Basal at transplanting	0	NPK 17-17-17	90 kg/ha	N: 15, P <sub>2</sub> O <sub>5</sub> : 15, K <sub>2</sub> O: 15	Apply in bands 5 cm away from transplant line and 5–7 cm deep, or in planting holes mixed well with soil.
2	Early topdress	21	CAN 26% N	80 kg/ha	N: 21, P <sub>2</sub> O <sub>5</sub> : 0, K <sub>2</sub> O: 0	Side-dress on moist soil when plants are well established, then ridge lightly to cover fertilizer.
3	Pre-topping K boost	40	Sulfate of potash (SOP)	70 kg/ha	N: 0, P <sub>2</sub> O <sub>5</sub> : 0, K <sub>2</sub> O: 40	Use sulfate of potash (not MOP) to avoid chloride; supports leaf quality and burning characteristics.

### **Nutrient requirements**

<b><u>Nutrient</u></b>	<b><u>Stage</u></b>	<b><u>Amount</u></b>	<b><u>Unit</u></b>
N	Basal	30	kg/ha
P <sub>2</sub> O <sub>5</sub>	Basal	25	kg/ha
K <sub>2</sub> O	Basal	40	kg/ha
N	Topdress_early	30	kg/ha

<u>Nutrient</u>	<u>Stage</u>	<u>Amount</u>	<u>Unit</u>
P?O?	Topdress_early	0	kg/ha
K?O	Topdress_early	40	kg/ha
N	Pre_topping	10	kg/ha
P?O?	Pre_topping	0	kg/ha
K?O	Pre_topping	30	kg/ha

### Field images



### Varieties

<u>Name</u>	<u>Country</u>	<u>Maturity (days)</u>	<u>Traits</u>
Flue-cured tobacco selection	KE	120	Good leaf colour and texture for flue-curing, suited to contract schemes.
Air-cured tobacco type	TZ	115	Suited to burley or air-cured production systems in mid-altitude zones.
Local tobacco landrace	UG	130	Adapted to smallholder systems with local curing barns and mixed uses.

### Fertilizer recommendations

<u>Stage</u>	<u>Product</u>	<u>Rate</u>	<u>Notes</u>
Basal	NPK 17-17-17	90	Apply before or at transplanting, banded away from roots.
Early vegetative	CAN 26% N	80	Apply 3–4 weeks after transplanting when plants are actively growing.
Pre-topping	Sulfate of potash (SOP)	70	Apply before topping to enhance leaf quality and burning properties.

### Pests and diseases

<u>Name</u>	<u>Type</u>	<u>Symptoms</u>	<u>Management</u>
Aphids	pest	Clusters on underside of leaves and young shoots, honeydew and sooty mould, leaf curling and distortion.	Destruction of volunteer tobacco, control of weeds, conserve natural enemies and treat only when economic thresholds are exceeded.

<u>Name</u>	<u>Type</u>	<u>Symptoms</u>	<u>Management</u>
Whiteflies	pest	Small white insects on underside of leaves, honeydew and sooty mould; can transmit viruses.	Avoid overuse of insecticides that kill natural enemies, use yellow sticky traps and maintain field hygiene.
Tobacco hornworm/budworm (caterpillars)	pest	Large holes and defoliation on leaves, feeding damage near growing points and buds.	Hand-pick where practical, conserve natural enemies and monitor fields regularly to manage outbreaks early.
Root-knot nematodes	pest	Stunted, pale plants, galled roots and poor stand performance.	Rotate with non-host crops, use resistant/tolerant varieties where available, avoid planting in heavily infested fields.
Blue mould / downy mildew	disease	Pale-yellow lesions on upper leaf surface with bluish-grey mould underneath, rapid leaf blighting.	Good nursery hygiene, adequate spacing for airflow, avoid overhead irrigation late in the day.
Black shank / root and stalk rots	disease	Dark lesions at stem base, wilting and death of plants, brown decayed roots.	Rotate with non-host crops, improve drainage, avoid planting in low, wet spots.
Tobacco mosaic virus (TMV) and related viruses	disease	Mosaic mottling on leaves, distortion, reduced leaf size and yield.	Use healthy seedlings, avoid smoking or handling tobacco products in nurseries/fields without washing hands, destroy infected plants early.

## Yields

<u>System</u>	<u>Typical</u>	<u>Min</u>	<u>Max</u>	<u>Notes</u>
Low-input smallholder (cured leaf)	1.2	0.8	1.8	Basic fertilization, variable curing structures and pest management.
Managed contract grower (cured leaf)	2.5	1.8	3.2	Improved varieties, recommended fertilizer rates, good weed and pest control and company-curing protocols.
Intensive high-input (cured leaf)	3.5	2.8	4.2	High-yielding varieties on good soils with optimal water, nutrition and curing infrastructure.

## Season calendars

<u>Country</u>	<u>Region</u>	<u>Planting</u>	<u>Harvest</u>
KE	Warm mid-altitude and lowland tobacco belts	Nursery sowing 6–8 weeks before expected transplanting; transplant at onset of reliable rains or under irrigation.	Primings b
TZ	Western, central and southern tobacco zones	Nursery sowing before rainy season, transplant early in rains for good establishment.	Leaf priming

<u>Country</u>	<u>Region</u>	<u>Planting</u>	<u>Harvest</u>
UG	Northern and mid-altitude tobacco-growing areas	Nursery sowing timed so transplanting coincides with start of main rains.	Curing sea

### **Region suitability**

<u>Country</u>	<u>Region</u>	<u>Suitability</u>
KE	Designated tobacco belts in warm mid-altitude and lowland zones with defined dry seasons	High
TZ	Western, central and southern tobacco-growing zones with warm climate and seasonal rainfall	High
UG	Northern and some mid-altitude districts where tobacco is traditionally grown	High

Source: **FarmLens Ltd** - [farmlens.africa](http://farmlens.africa) and [app.farmlens.africa](http://app.farmlens.africa). Headquarters: Nairobi, Kenya. This guide was generated from the FarmLens database.