FarmLens Ltd

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Crop details

Tea

Camellia sinensis

Family: Theaceae

Categories

Oil & Industrial | Beverages

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Quick stats

Family	Theaceae
Typical harvest	2.4 t/ha
Varieties	3
Pests and diseases	8
Seasons	3

Crop profile

Growth habit	perennial
Days to harvest	365
Main uses	Young shoots processed into black, green, oolong and specialty teas; prunings used as mulch or fuelwood.
Pollination	insect
Origin and where it grows	Evergreen shrub grown in humid highlands and cool subtropical to tropical regions with regular rainfall or mist.

Weather, soil and spacing

Best temperature	18 - 22 °C
Rainfall	1500 - 2000 mm/yr
Altitude	1200 - 2200 m
Best pH	4.8 - 5.2
Soil type	Wide range; best in well-drained soils
Row spacing	120 cm
Plant spacing	60 cm
Planting depth	20 cm
Seed rate	kg/ha (check local recommendation)
Nursery days	240

Simple notes for farmers

About the crop: This crop is perennial; once planted it can keep producing for many years. Harvest typically starts about 365 days after planting.

Main use: Farmers mostly grow this crop for young shoots processed into black, green, oolong and specialty teas; prunings used as mulch or fuelwood..

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

Where it grows: Evergreen shrub grown in humid highlands and cool subtropical to tropical regions with regular rainfall or mist.. Grouped under: Oil & Industrial, Beverages.

Best climate: 18 - 22 °C; 1500 - 2000 mm/yr; up to about 2200 m a.s.l.

Soil: Best at pH 4.8 - 5.2; fertile, well-drained soils.

Farmer guide (Mwongozo wa Mkulima)

Planting	Plant well-rooted clonal cuttings or seedlings into deep, well-prepared pits or trenches on contours. Mix topsoil with compost and, where needed, phosphate fertilizer. Establish shade trees or temporary shade in exposed sites.
Transplanting	Transplant at the start of rains. Firm soil around the root ball, avoid bending tap roots, and mulch immediately around plants to conserve moisture.
Irrigation	In rainfed systems, protect young tea from drought through mulching and shade. Under irrigation, maintain consistent soil moisture, especially in the dry season to sustain flushes.
Fertigation	Where drip/sprinkler fertigation is used, apply N and K in small, frequent doses with supplemental P as required by soil tests. Avoid high chloride sources on sensitive clones.
Pest scouting	Scout regularly for mites, tea mosquito bug, leafhoppers, scales, aphids and caterpillars. Monitor for blister blight, root diseases and red rust on leaves. Pay close attention to new flush and plucking tables.
Pruning and training	Form young bushes to a flat plucking table through formative pruning. Thereafter, prune cycles (light and medium prunings) are used every few years to rejuvenate bushes and maintain plucking height.
Harvest	Pluck the standard “two leaves and a bud” (or as guided by factory) at regular intervals. Do not allow bushes to overgrow between pluckings as this reduces quality and future flush.
Postharvest	Deliver fresh leaf to the factory as soon as possible after plucking—ideally within a few hours. Avoid rough handling, compression and contamination; keep leaf shaded and well-ventilated during transport.

Nutrient schedule (Mbolea kwa Hatua)

#	Stage	DAP	Product	Rate	Targets (kg/ha)	Notes
1	Basal (young tea or after pruning)	0	NPK 25-5-5 or similar high-N tea blend	160 kg/ha	N: 40, P?O?: 8, K?O: 8	Apply at planting of young tea or soon after pruning in a band along the row, lightly forked into topsoil.
2	Early flush topdress	60	NPK 25-5-5 or urea + MOP blend	200 kg/ha	N: 50, P?O?: 10, K?O: 10	Apply before main rains/flush period in a narrow band on either side of the row; avoid contact with stems.
3	Mid-season N+K split	150	NPK 26-0-26 or urea + SOP blend	180 kg/ha	N: 47, P?O?: 0, K?O: 47	Use a low-chloride K source (e.g. SOP) where possible, especially for sensitive clones.

Nutrient requirements

Nutrient	Stage	Amount	Unit

N	Basal	40	kg/ha
P?O?	Basal	25	kg/ha
K?O	Basal	40	kg/ha
N	Early_flush	60	kg/ha
P?O?	Early_flush	0	kg/ha
K?O	Early_flush	60	kg/ha
N	Mid_season	60	kg/ha
P?O?	Mid_season	0	kg/ha
K?O	Mid_season	60	kg/ha
N	Late_season	40	kg/ha
P?O?	Late_season	0	kg/ha
K?O	Late_season	40	kg/ha

Field images

Varieties

Name	Country	Maturity (days)	Traits
High-yielding black tea clone	KE	730	Suited to high altitude with good cup quality and strong plucking recovery.
Mid-altitude tea clone	TZ	730	Adapted to mid-altitude estates with good yield and acceptable quality under warmer conditions.
Smallholder-adapted tea selection	UG	730	Performs well in mixed smallholder tea zones, good recovery under variable management.

Fertilizer recommendations

Stage	Product	Rate	Notes
Basal/after pruning	NPK 25-5-5 (tea blend)	160	Apply around bushes and lightly fork in, especially on young or newly pruned tea.

Stage	Product	Rate	Notes
Early flush	NPK 25-5-5 or urea + MOP	200	Apply before heavy flush period with onset of rains.
Mid-season	NPK 26-0-26 or urea + SOP	180	Use where frequent plucking and good rainfall/irrigation justify maintaining high N and K supply.

Pests and diseases

Name	Type	Symptoms	Management
Tea red spider mites / other mite complexes	pest	Fine stippling and bronzing on upper leaf surfaces, reduced vigour and smaller flush leaves; heavy infestations can defoliate shoots.	Avoid drought and dust stress, maintain shade/windbreaks where appropriate, and use IPM including predatory mites and selective controls when necessary.
Tea mosquito bug / leafhoppers	pest	Brown lesions and “shot holes” on young leaves and buds, deformed shoots and reduced flush quality.	Timely pruning and sanitation of old, infested wood; maintain field hygiene and use monitoring to guide targeted interventions.
Scale insects	pest	Small, immobile insects on stems and leaves, honeydew and sooty mould; gradual decline in vigour.	Encourage natural enemies, avoid unnecessary broad-spectrum insecticides and manage ants that tend scales.
Caterpillars/loopers	pest	Chewed leaves and defoliation of shoots; presence of frass (droppings) on bushes and ground.	Regular scouting, hand-picking in small blocks, and selective measures when economic thresholds are exceeded.
Blister blight (on young leaves)	disease	Small, translucent blisters on young leaves that turn brown and necrotic; loss of quality leaf for plucking.	Use tolerant clones, maintain open canopy and airflow through pruning, and apply protective measures in known hotspot conditions.
Root and collar rots	disease	Patchy bush death, wilting, discoloured bark at collar, rotted roots in poorly drained or compacted zones.	Avoid waterlogging, improve drainage, avoid heavy compaction and replant with healthy planting material after removing affected stumps.
Red rust and other leaf spots	disease	Rusty-orange to brown spots on leaves, premature defoliation in severe cases.	Prune to maintain a young, healthy canopy, avoid excessive shade and maintain overall bush vigour.
Nutrient disorders (N/K deficiency, pH issues)	disorder	Pale, yellow or bronzed leaves, poor flush, short internodes or dieback; sometimes uneven growth across field.	Use soil and leaf analysis to guide fertilizer and liming; maintain appropriate pH and nutrient balance.

Yields

System	Typical	Min	Max	Notes
Rainfed smallholder (made tea, dry)	1.2	0.7	1.8	Typical smallholder yields converted to made tea; corresponds roughly to 8–15 t/ha green leaf depending on conversion ratio.
Managed estate (made tea, dry)	2.5	1.5	3.5	Good clones, regular fertilizer, frequent plucking and careful pruning cycles on well-managed estates.
Intensive irrigated/high-input (made tea, dry)	3.8	3	4.5	High-yielding clones, well-fertilized and irrigated fields with optimal plucking and pest/disease management.

System	Typical	Min	Max	Notes
estate	2.2	1.5	3	Made tea equivalent varies.

Season calendars

Country	Region	Planting	Harvest
KE	High rainfall highlands (major tea belts)	At onset of main rains for young tea or immediately after pruning in mature fields, ensuring moisture for recovery.	Plucking
TZ	Southern and northern highland tea zones	Plant young tea with onset of the rainy season to secure establishment before dry periods.	Multiple
UG	Western and south-western highland tea areas	At onset of reliable rains on deep, acidic soils; avoid very dry or waterlogged periods.	Regular

Region suitability

Country	Region	Suitability
KE	Central and Rift highlands, western highland tea belts with cool, humid conditions	High
TZ	Southern highlands (e.g. Njombe/Rungwe) and northern highland tea estates	High
UG	Western and south-western highland tea-growing regions with deep acidic soils	High