FarmLens Ltd

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

Crop details

Apple

Malus domestica

Family: Rosaceae

Categories

Fruits & Nuts

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Quick stats

Family	Rosaceae
Typical harvest	22.7 t/ha
Varieties	48
Pests and diseases	96
Seasons	48

Crop profile

Growth habit	tree
Days to harvest	365
Main uses	Fresh fruit eaten as a snack, in salads, juices and desserts; also used for drying and processing.
Pollination	insect
Origin and where it grows	Apple (tufaha) is grown in cool highland and upper mid-altitude areas in East Africa where nights are cool and days are mild.

Weather, soil and spacing

Best temperature	12 - 24 °C
Rainfall	800 - 1200 mm/yr
Altitude	1500 - 2800 m
Best pH	6 - 6.8
Soil type	Deep, well-drained loam or sandy loam with plenty of organic matter. Apple (tufaha) prefers cool, moist but well-aerated soils.
Row spacing	400 cm
Plant spacing	400 cm
Seed rate	kg/ha (check local recommendation)
Nursery days	365

Simple notes for farmers

About the crop: This crop has a growth habit described as "tree". Harvest typically starts about 365 days after planting.

Main use: Farmers mostly grow this crop for fresh fruit eaten as a snack, in salads, juices and desserts; also used for drying and processing..

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

Where it grows: Apple (tufaha) is grown in cool highland and upper mid-altitude areas in East Africa where nights are cool and days are mild.. Grouped under: Fruits & Nuts.

Best climate: 12 - 24 °C; 800 - 1200 mm/yr; up to about 2800 m a.s.l.

Soil: Best at pH 6 - 6.8; deep, well-drained loam or sandy loam with plenty of organic matter. apple (tufaha) prefers cool, moist but well-aerated soils..

Farmer guide (Mwongozo wa Mkulima)

Planting	Plant Apple (tufaha) at the start of the rains while trees are still resting. Dig wide, deep holes, mix topsoil with manure and some P fertilizer, and plant the grafted tree at the same depth as in the nursery bag. Keep the graft union above the soil.
Transplanting	Use healthy, well-grafted trees. Remove the polythene carefully, spread roots in the hole and water thoroughly after planting.
Irrigation	Young apple trees need regular watering in dry spells. For bearing trees, avoid stress at flowering and during fruit swelling; but do not over-irrigate heavy soils.
Fertigation	Under drip, feed small amounts of nitrogen early in the season, and more potassium as fruits develop. Avoid very heavy nitrogen close to harvest to keep fruits firm.
Pest scouting	Inspect trees often for aphids, caterpillars, fruit borers and leaf spots. Check young shoots, the underside of leaves and developing fruits.
Pruning and training	Train Apple (tufaha) to a strong central leader or open-centre with 3–4 main branches. Prune each year to remove crossing, dead or diseased wood and to open the canopy for light and air.
Harvest	Harvest when fruits have reached full size and colour for the variety, and seeds inside have turned brown. Fruits should detach easily when lifted and twisted.
Postharvest	Pick carefully into padded crates, do not drop fruits. Keep in shade, cool them if possible and avoid rough handling during transport to maintain shelf life.

Nutrient schedule (Mbolea kwa Hatua)

#	Stage	DAP	Product	Rate	Targets (kg/ha)	Notes
1	Basal at planting	0	Well-rotted manure + P fertilizer (e.g., DAP or TSP)	15 kg/tree manure + 150 g P fertilizer	N: 0, P?O?: 0, K?O: 0	Thoroughly mix manure and P with topsoil in the planting hole for Apple (tufaha).
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2	Early growth topdress	120	CAN 26% N	150 g/tree	N: 0, P?O?: 0, K?O: 0	Apply in a ring under the canopy edge and lightly incorporate.
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3	Pre-flowering feed	365	Balanced NPK (e.g., 17-17-17)	250 g/tree	N: 0, P?O?: 0, K?O: 0	Applied at the start of rainy season before flowering.
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4	Fruit development high K	420	High-K fertilizer (e.g., SOP or 12-12-24)	250 g/tree	N: 0, P?O?: 0, K?O: 0	Improves Apple (tufaha) fruit size, colour and storage life.
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Nutrient requirements

Nutrient	Stage	Amount	Unit
N	Establishment	30	kg/ha
P?O?	Establishment	30	kg/ha
K?O	Establishment	30	kg/ha
N	Vegetative	50	kg/ha
P?O?	Vegetative	20	kg/ha
K?O	Vegetative	40	kg/ha
N	Bearing_maintenance	60	kg/ha
P?O?	Bearing_maintenance	25	kg/ha
K?O	Bearing_maintenance	80	kg/ha
N	Establishment	30	kg/ha
P?O?	Establishment	30	kg/ha
K?O	Establishment	30	kg/ha
N	Vegetative	50	kg/ha
P?O?	Vegetative	20	kg/ha

Nutrient	Stage	Amount	Unit
K?O	Vegetative	40	kg/ha
N	Bearing_maintenance	60	kg/ha
P?O?	Bearing_maintenance	25	kg/ha
K?O	Bearing_maintenance	80	kg/ha
N	Establishment	30	kg/ha
P?O?	Establishment	30	kg/ha
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P?O?	Establishment	30	kg/ha
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P?O?	Vegetative	20	kg/ha
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Field images



Varieties

Name	Country	Maturity (days)	Traits
Anna	KE	150	Low-chill variety suited to warmer highlands; early bearing with crisp fruit.
Top Red / Red Delicious–type	KE	170	Red-skinned apples for fresh eating; needs cooler sites.
Golden Dorset / similar	TZ	150	Yellow-skinned, sweet dessert apple suitable for some warmer highland zones.
Anna	KE	150	Low-chill variety suited to warmer highlands; early bearing with crisp fruit.
Top Red / Red Delicious–type	KE	170	Red-skinned apples for fresh eating; needs cooler sites.
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Anna	KE	150	Low-chill variety suited to warmer highlands; early bearing with crisp fruit.
Top Red / Red Delicious–type	KE	170	Red-skinned apples for fresh eating; needs cooler sites.
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Fertilizer recommendations

Stage	Product	Rate	Notes
Basal (at planting)	Well-rotted farmyard manure	10000	Incorporated in planting holes and along future root zone.
Young trees	CAN 26% N	60	Split into 2–3 small applications per year to encourage early growth.
Bearing trees base feed	NPK 17-17-17 or similar	200	Applied annually, often at start of rains.
Fruit quality	High-K fertilizer (e.g., SOP or 12-12-24)	80	Supports good colour and firm fruits.
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Pests and diseases

Name	Type	Symptoms	Management
Aphids	pest	Clusters of soft insects on young shoots and leaves, curling leaves and sticky honeydew with sooty mould.	Encourage natural enemies, prune heavily infested shoots and use selective insecticides or soaps when numbers are high.
Fruit borers / codling moth–type caterpillars	pest	Entry holes and tunnels inside fruits, frass and premature fruit drop.	Collect and destroy infested fruits, maintain orchard hygiene and use recommended control products and traps where available.
Mites	pest	Bronzed or yellowed leaves, fine webbing and reduced vigour.	Avoid dusty conditions, keep trees healthy and use specific miticides or biopesticides when needed.
Apple scab–like leaf and fruit spots	disease	Dark, scabby spots on leaves and fruits, fruits may crack or deform.	Prune for airflow, remove infected leaves and fruit, and apply fungicides/biopesticides during wet periods when disease risk is high.
Powdery mildew	disease	White powdery growth on young leaves and shoots, distorted leaves and poor fruit set.	Prune out infected shoots, avoid excessive nitrogen and spray with suitable fungicides or sulphur where needed.
Cankers and dieback	disease	Sunken, cracked areas on branches and trunk, with dieback of twigs.	Cut out cankers in dry weather, disinfect tools and avoid wounding the bark.
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Yields

System	Typical	Min	Max	Notes
Scattered homestead Apple (tufaha) trees	8	5	12	Few trees with limited pruning and fertilizer.

System	Typical	Min	Max	Notes
Managed smallholder apple orchard	20	10	30	Regular pruning, manuring/fertilizer and basic pest and disease control.
Intensive high-density apple orchard	40	25	50	Improved rootstocks, drip irrigation, fertigation and strong canopy management.
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Season calendars

Country	Region	Planting	Harvest
KE	Central and Rift Valley highlands (Apple belt)	Cooler rainy season, often at the onset of long rains.	Late cool season and early dry season, depending on variety and altituc
TZ	Northern and southern highlands with cool nights	Onset of main rainy season.	Late dry season or cool months after rains.
UG	High altitude apple-growing pockets	Start of rains in cool highland sites.	Once or twice per year depending on variety and management.

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Region suitability

Country	Region	Suitability
KE	Central and upper Rift Valley highlands (cool apple zones)	High
TZ	Northern and southern highlands above about 1500 m	High
UG	High altitude areas with cool temperatures	High

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