FarmLens Ltd

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

Crop details

Pomegranate

Punica granatum

Family: Lythraceae

Categories

Fruits & Nuts

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Quick stats

Family	Lythraceae
Typical harvest	16.0 t/ha
Varieties	48
Pests and diseases	64
Seasons	48

Crop profile

Growth habit	shrub
Days to harvest	365
Main uses	Fresh fruit (seeds/arils), juice, flavouring, and small-scale processing into concentrates and jams.
Pollination	insect
Origin and where it grows	Pomegranate (komamanga) fits warm, relatively dry to semi-humid areas. It does well in sunny, well-drained sites and can tolerate more drought than many other fruit trees.

Weather, soil and spacing

Best temperature	18 - 32 °C
Rainfall	500 - 700 mm/yr
Altitude	0 - 1800 m
Best pH	6 - 7.5
Soil type	Well-drained loam or sandy loam. Pomegranate (komamanga) tolerates slightly poor and stony soils better than many fruit trees but still responds well to organic matter.
Row spacing	500 cm
Plant spacing	400 cm
Seed rate	kg/ha (check local recommendation)
Nursery days	270

Simple notes for farmers

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

Main use: Farmers mostly grow this crop for fresh fruit (seeds/arils), juice, flavouring, and small-scale processing into concentrates and jams..

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

Where it grows: Pomegranate (komamanga) fits warm, relatively dry to semi-humid areas. It does well in sunny, well-drained sites and can tolerate more drought than many other fruit trees.. Grouped under: Fruits & Nuts.

Best climate: 18 - 32 °C; 500 - 700 mm/yr; up to about 1800 m a.s.l.

Soil: Best at pH 6 - 7.5; well-drained loam or sandy loam. pomegranate (komamanga) tolerates slightly poor and stony soils better than many fruit trees but still responds well to organic matter..

Farmer guide (Mwongozo wa Mkulima)

Planting	Use healthy seedlings or grafted Pomegranate (komamanga) plants. Dig wide holes and mix topsoil with manure and a little phosphorus fertilizer. Plant at the start of the rains or irrigate well after planting. Keep the plant at the same depth as in the nursery bag.
Transplanting	Avoid bending main roots. Firm the soil around the root zone and water immediately. Mulch the basin to keep moisture and reduce weeds.
Irrigation	Provide regular moisture during establishment, flowering and fruit filling. Pomegranate (komamanga) tolerates some drought but severe water stress causes flower and fruit drop and fruit cracking.
Fertigation	Under drip, apply small doses of nitrogen early in the season and more potassium from fruit set to harvest. Avoid very heavy nitrogen late in the season to reduce excessive vegetative growth.
Pest scouting	Inspect shoots, leaves and young fruits every 1–2 weeks for aphids, whiteflies, borers, fruit borers and fungal spots. Remove and destroy badly affected fruits.
Pruning and training	Train Pomegranate (komamanga) as a multi-stemmed bush or small tree. Remove dead, diseased and crossing branches and thin crowded shoots after harvest to allow light inside the canopy.
Harvest	Harvest when fruits are fully coloured, the rind is firm and the fruit gives a metallic sound when tapped. Over-ripe fruits may split, especially after heavy rain or irrigation.
Postharvest	Cut fruits with a short stalk instead of pulling. Handle gently to avoid cracking. Keep fruits in shade and well-ventilated crates; do not pile too high.

Nutrient schedule (Mbolea kwa Hatua)

#	Stage	DAP	Product	Rate	Targets (kg/ha)	Notes
1	Basal at planting	0	Well-rotted manure + P fertilizer	8 kg/hole manure + 100 g P fertilizer	N: 0, P?O?: 0, K?O: 0	Mix manure and phosphorus with topsoil in each Pomegranate (komamanga) hole.
1	Basal at planting	0	Well-rotted manure + P fertilizer	8 kg/hole manure + 100 g P fertilizer	N: 0, P?O?: 0, K?O: 0	Mix manure and phosphorus with topsoil in each Pomegranate (komamanga) hole.
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2	Early growth topdress	120	CAN 26% N	100 g/tree	N: 0, P?O?: 0, K?O: 0	Apply in a ring 30–40 cm from the stem and water in.
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3	Pre-flowering NPK	240	NPK 17-17-17	200 g/tree	N: 0, P?O?: 0, K?O: 0	Apply before main flowering to support bloom and fruit set.
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3	Pre-flowering NPK	240	NPK 17-17-17	200 g/tree	N: 0, P?O?: 0, K?O: 0	Apply before main flowering to support bloom and fruit set.
4	Fruit filling high K	330	Sulfate of potash (SOP) or high-K blend	250 g/tree	N: 0, P?O?: 0, K?O: 0	Split in 1–2 dressings during main fruit enlargement to reduce cracking.
4	Fruit filling high K	330	Sulfate of potash (SOP) or high-K blend	250 g/tree	N: 0, P?O?: 0, K?O: 0	Split in 1–2 dressings during main fruit enlargement to reduce cracking.
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4	Fruit filling high K	330	Sulfate of potash (SOP) or high-K blend	250 g/tree	N: 0, P?O?: 0, K?O: 0	Split in 1–2 dressings during main fruit enlargement to reduce cracking.
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Nutrient requirements

Nutrient	Stage	Amount	Unit
N	Establishment	25	kg/ha

Nutrient	Stage	Amount	Unit
P?O?	Establishment	25	kg/ha
K?O	Establishment	20	kg/ha
N	Vegetative	40	kg/ha
P?O?	Vegetative	15	kg/ha
K?O	Vegetative	30	kg/ha
N	Flowering_fruit_set	20	kg/ha
P?O?	Flowering_fruit_set	20	kg/ha
K?O	Flowering_fruit_set	40	kg/ha
N	Fruit_fill	10	kg/ha
P?O?	Fruit_fill	0	kg/ha
K?O	Fruit_fill	50	kg/ha
N	Establishment	25	kg/ha
P?O?	Establishment	25	kg/ha
K?O	Establishment	20	kg/ha
N	Vegetative	40	kg/ha
P?O?	Vegetative	15	kg/ha
K?O	Vegetative	30	kg/ha
N	Flowering_fruit_set	20	kg/ha
P?O?	Flowering_fruit_set	20	kg/ha
K?O	Flowering_fruit_set	40	kg/ha
N	Fruit_fill	10	kg/ha
P?O?	Fruit_fill	0	kg/ha
K?O	Fruit_fill	50	kg/ha
N	Establishment	25	kg/ha
P?O?	Establishment	25	kg/ha
K?O	Establishment	20	kg/ha
N	Vegetative	40	kg/ha
P?O?	Vegetative	15	kg/ha
K?O	Vegetative	30	kg/ha
N	Flowering_fruit_set	20	kg/ha

Nutrient	Stage	Amount	Unit
P?O?	Flowering_fruit_set	20	kg/ha
K?O	Flowering_fruit_set	40	kg/ha
N	Fruit_fill	10	kg/ha
P?O?	Fruit_fill	0	kg/ha
K?O	Fruit_fill	50	kg/ha
N	Establishment	25	kg/ha
P?O?	Establishment	25	kg/ha
K?O	Establishment	20	kg/ha
N	Vegetative	40	kg/ha
P?O?	Vegetative	15	kg/ha
K?O	Vegetative	30	kg/ha
N	Flowering_fruit_set	20	kg/ha
P?O?	Flowering_fruit_set	20	kg/ha
K?O	Flowering_fruit_set	40	kg/ha
N	Fruit_fill	10	kg/ha
P?O?	Fruit_fill	0	kg/ha
K?O	Fruit_fill	50	kg/ha
N	Establishment	25	kg/ha
P?O?	Establishment	25	kg/ha
K?O	Establishment	20	kg/ha
N	Vegetative	40	kg/ha
P?O?	Vegetative	15	kg/ha
K?O	Vegetative	30	kg/ha
N	Flowering_fruit_set	20	kg/ha
P?O?	Flowering_fruit_set	20	kg/ha
K?O	Flowering_fruit_set	40	kg/ha
N	Fruit_fill	10	kg/ha
P?O?	Fruit_fill	0	kg/ha
K?O	Fruit_fill	50	kg/ha
N	Establishment	25	kg/ha

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P?O?	Establishment	25	kg/ha
K?O	Establishment	20	kg/ha
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N	Flowering_fruit_set	20	kg/ha
P?O?	Flowering_fruit_set	20	kg/ha
K?O	Flowering_fruit_set	40	kg/ha
N	Fruit_fill	10	kg/ha
P?O?	Fruit_fill	0	kg/ha
K?O	Fruit_fill	50	kg/ha
N	Establishment	25	kg/ha
P?O?	Establishment	25	kg/ha
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N	Vegetative	40	kg/ha
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P?O?	Flowering_fruit_set	20	kg/ha
K?O	Flowering_fruit_set	40	kg/ha
N	Fruit_fill	10	kg/ha
P?O?	Fruit_fill	0	kg/ha
K?O	Fruit_fill	50	kg/ha
N	Establishment	25	kg/ha
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K?O	Establishment	20	kg/ha
N	Vegetative	40	kg/ha
P?O?	Vegetative	15	kg/ha
K?O	Vegetative	30	kg/ha
N	Flowering_fruit_set	20	kg/ha

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P?O?	Flowering_fruit_set	20	kg/ha
K?O	Flowering_fruit_set	40	kg/ha
N	Fruit_fill	10	kg/ha
P?O?	Fruit_fill	0	kg/ha
K?O	Fruit_fill	50	kg/ha
N	Establishment	25	kg/ha
P?O?	Establishment	25	kg/ha
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N	Vegetative	40	kg/ha
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P?O?	Fruit_fill	0	kg/ha
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P?O?	Flowering_fruit_set	20	kg/ha
K?O	Flowering_fruit_set	40	kg/ha
N	Fruit_fill	10	kg/ha
P?O?	Fruit_fill	0	kg/ha
K?O	Fruit_fill	50	kg/ha

Field images



Varieties

Name	Country	Maturity (days)	Traits
Red aril selection	KE	1095	Deep red arils, attractive fresh fruit and juice type.
Soft-seeded type	TZ	1095	Softer seeds, easier to eat fresh; good for home use and local markets.
Local Pomegranate (komamanga) selection	UG	1095	Mixed local types used mainly for home consumption and roadside sales.
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Fertilizer recommendations

Stage	Product	Rate	Notes
Basal	Well-rotted farmyard manure	6000	Applied in rings around Pomegranate (komamanga) trees once a year after pruning or before rains.
Vegetative	CAN 26% N	40	Split in 2–3 small dressings early in the growth season.
Flowering and fruiting	NPK 17-17-17 or high-K blend	80	Applied in split doses from flowering to early fruit development.
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Pests and diseases

Name	Type	Symptoms	Management
Aphids and whiteflies	pest	Clusters of small insects on young shoots and leaves, honeydew and black sooty mould.	Encourage natural enemies, avoid unnecessary broad-spectrum insecticides and use soaps or selective products when populations are high.
Fruit borers and fruit cracking (complex causes)	pest	Bored holes on fruits, internal feeding, rotting and cracking of the fruit skin.	Remove and destroy infested and cracked fruits, keep irrigation and rainfall patterns as even as possible and avoid sudden heavy watering after long dry periods.
Leaf and fruit spots (fungal diseases)	disease	Spots on leaves and fruits, premature leaf fall and blemished fruits.	Prune for better airflow, avoid overhead irrigation late in the day and apply recommended fungicides or biocontrols when necessary.
Root and collar rots	disease	Yellowing, wilting, bark rotting at the collar area and slow decline of Pomegranate (komamanga) plants.	Ensure good drainage, avoid waterlogging and keep mulch and soil away from direct contact with the stem.
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Yields

System	Typical	Min	Max	Notes

Low-input homestead Pomegranate (komamanga)	8	5	12	Scattered trees with little pruning or fertilizer; highly variable yields.
Managed smallholder orchard	15	10	20	Moderate pruning, manure/fertilizer and basic pest and disease management.
Intensive irrigated Pomegranate (komamanga) orchard	25	20	35	High-density or well-managed orchards under irrigation with planned nutrition and crop protection.
Low-input homestead Pomegranate (komamanga)	8	5	12	Scattered trees with little pruning or fertilizer; highly variable yields.
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Season calendars

Country	Region	Planting	Harvest
KE	Warm semi-arid and sub-humid zones	Start of rains or early in the irrigation season so Pomegranate (komamanga) establishes well.	Main harvest several months af
TZ	Central semi-arid and irrigated areas	Onset of rainy season or under irrigation according to water availability.	Fruits mature in the dry to cool
UG	Warm low to mid-altitude pockets	At the start of reliable rains or with irrigation support.	One main harvest and sometime
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Region suitability

Country	Region	Suitability
KE	Lower eastern, coastal hinterland and other warm semi-arid zones	High
TZ	Central and northern semi-arid to sub-humid belts with irrigation	High
UG	Warm low to mid-altitude regions with good drainage	Medium