FarmLens Ltd

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Crop details

Macadamia

Macadamia integrifolia

Family: Proteaceae

Categories

Fruits & Nuts

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Quick stats

Family	Proteaceae
Typical harvest	2.6 t/ha
Varieties	17
Pests and diseases	18
Seasons	1

Crop profile

Growth habit	tree
Days to harvest	365
Main uses	Nut crop for high-value domestic and export markets.
Pollination	insect
Origin and where it grows	Commercial orchard crop in Kenyan and regional highland zones.

Weather, soil and spacing

Best temperature	14 - 26 °C
Rainfall	800 - 1600 mm/yr
Altitude	0 - 2600 m
Best pH	6 - 7
Soil type	Deep, fertile, well-drained soil with good organic matter.
Row spacing	500 cm
Plant spacing	500 cm
Planting depth	30 cm
Seed rate	kg/ha (check local recommendation)
Nursery days	180

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 nut crop for high-value domestic and export markets..

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

Where it grows: Commercial orchard crop in Kenyan and regional highland zones.. Grouped under: Fruits & Nuts.

Best climate: 14 - 26 °C; 800 - 1600 mm/yr; up to about 2600 m a.s.l.

Soil: Best at pH 6 - 7; deep, fertile, well-drained soil with good organic matter..

Farmer guide (Mwongozo wa Mkulima)

Planting	Plant healthy Macadamia seedlings or grafted plants at onset of rains in prepared pits.
Transplanting	Handle Macadamia rootballs carefully and water well after planting.
Irrigation	Maintain steady moisture during establishment and fruit development of Macadamia.
Fertigation	Split nutrients through active growth and fruit development in Macadamia.
Pest scouting	Scout Macadamia regularly for fruit flies, scales, borers, and foliar diseases.
Pruning and training	Prune Macadamia to maintain canopy light, height, and sanitation.
Harvest	Harvest Macadamia at the right maturity stage for fresh-market quality.
Postharvest	Keep Macadamia shaded and cool after harvest to preserve market quality.

Nutrient schedule (Mbolea kwa Hatua)

#	Stage	DAP	Product	Rate	Targets (kg/ha)	Notes
1	Planting or season start	0	Well-rotted manure	8000 kg/ha	N: N/A, P?O?: N/A, K?O: N/A	Improve rooting environment for Macadamia.
1	Year 1	0	NPK 12-24-12	120 kg/ha	N: N/A, P?O?: N/A, K?O: N/A	N/A
1	Year 1	0	NPK 12-24-12	120 kg/ha	N: N/A, P?O?: N/A, K?O: N/A	N/A
1	Year 1	0	NPK 12-24-12	120 kg/ha	N: N/A, P?O?: N/A, K?O: N/A	N/A
1	Year 1	0	NPK 12-24-12	120 kg/ha	N: N/A, P?O?: N/A, K?O: N/A	N/A
1	Year 1	0	NPK 12-24-12	120 kg/ha	N: N/A, P?O?: N/A, K?O: N/A	N/A
1	Year 1	0	NPK 12-24-12	120 kg/ha	N: N/A, P?O?: N/A, K?O: N/A	N/A
1	Year 1	0	NPK 12-24-12	120 kg/ha	N: N/A, P?O?: N/A, K?O: N/A	N/A
1	Year 1	0	NPK 12-24-12	120 kg/ha	N: N/A, P?O?: N/A, K?O: N/A	N/A
1	Year 1	0	NPK 12-24-12	120 kg/ha	N: N/A, P?O?: N/A, K?O: N/A	N/A
1	Year 1	0	NPK 12-24-12	120 kg/ha	N: N/A, P?O?: N/A, K?O: N/A	N/A
1	Year 1	0	NPK 12-24-12	120 kg/ha	N: N/A, P?O?: N/A, K?O: N/A	N/A
1	Year 1	0	NPK 12-24-12	120 kg/ha	N: N/A, P?O?: N/A, K?O: N/A	N/A
1	Year 1	0	NPK 12-24-12	120 kg/ha	N: N/A, P?O?: N/A, K?O: N/A	N/A

#	Stage	DAP	Product	Rate	Targets (kg/ha)	Notes
1	Year 1	0	NPK 12-24-12	120 kg/ha	N: N/A, P?O?: N/A, K?O: N/A	N/A
1	Year 1	0	NPK 12-24-12	120 kg/ha	N: N/A, P?O?: N/A, K?O: N/A	N/A
2	Pre-fruiting	90	NPK 17-17-17	200 kg/ha	N: 34, P?O?: 34, K?O: 34	Balanced nutrient support for Macadamia.
2	Year 2	365	Urea	80 kg/ha	N: N/A, P?O?: N/A, K?O: N/A	N/A
2	Year 2	365	Urea	80 kg/ha	N: N/A, P?O?: N/A, K?O: N/A	N/A
2	Year 2	365	Urea	80 kg/ha	N: N/A, P?O?: N/A, K?O: N/A	N/A
2	Year 2	365	Urea	80 kg/ha	N: N/A, P?O?: N/A, K?O: N/A	N/A
2	Year 2	365	Urea	80 kg/ha	N: N/A, P?O?: N/A, K?O: N/A	N/A
2	Year 2	365	Urea	80 kg/ha	N: N/A, P?O?: N/A, K?O: N/A	N/A
2	Year 2	365	Urea	80 kg/ha	N: N/A, P?O?: N/A, K?O: N/A	N/A
2	Year 2	365	Urea	80 kg/ha	N: N/A, P?O?: N/A, K?O: N/A	N/A
2	Year 2	365	Urea	80 kg/ha	N: N/A, P?O?: N/A, K?O: N/A	N/A
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2	Year 2	365	Urea	80 kg/ha	N: N/A, P?O?: N/A, K?O: N/A	N/A
2	Year 2	365	Urea	80 kg/ha	N: N/A, P?O?: N/A, K?O: N/A	N/A

Nutrient requirements

Nutrient	Stage	Amount	Unit
N	Basal	40	kg/ha

Nutrient	Stage	Amount	Unit
P?O?	Basal	30	kg/ha
K?O	Basal	40	kg/ha
N	Topdress	40	kg/ha
N	Basal	40	kg/ha
P?O?	Basal	20	kg/ha
K?O	Basal	60	kg/ha
N	Topdress	40	kg/ha
N	Basal	40	kg/ha
P?O?	Basal	20	kg/ha
K?O	Basal	60	kg/ha
N	Topdress	40	kg/ha
N	Fruiting	40	kg/ha
K?O	Fruiting	50	kg/ha
N	Basal	40	kg/ha
P?O?	Basal	20	kg/ha
K?O	Basal	60	kg/ha
N	Topdress	40	kg/ha
N	Basal	40	kg/ha
P?O?	Basal	20	kg/ha
K?O	Basal	60	kg/ha
N	Topdress	40	kg/ha
N	Basal	40	kg/ha
P?O?	Basal	20	kg/ha
K?O	Basal	60	kg/ha
N	Topdress	40	kg/ha
N	Basal	40	kg/ha
P?O?	Basal	20	kg/ha
K?O	Basal	60	kg/ha
N	Topdress	40	kg/ha
N	Basal	40	kg/ha

Nutrient	**Stage**	**Amount**	**Unit**
P?O?	Basal	20	kg/ha
K?O	Basal	60	kg/ha
N	Topdress	40	kg/ha
N	Basal	40	kg/ha
P?O?	Basal	20	kg/ha
K?O	Basal	60	kg/ha
N	Topdress	40	kg/ha
N	Basal	40	kg/ha
P?O?	Basal	20	kg/ha
K?O	Basal	60	kg/ha
N	Topdress	40	kg/ha
N	Basal	40	kg/ha
P?O?	Basal	20	kg/ha
K?O	Basal	60	kg/ha
N	Topdress	40	kg/ha
N	Basal	40	kg/ha
P?O?	Basal	20	kg/ha
K?O	Basal	60	kg/ha
N	Topdress	40	kg/ha
N	Basal	40	kg/ha
P?O?	Basal	20	kg/ha
K?O	Basal	60	kg/ha
N	Topdress	40	kg/ha
N	Basal	40	kg/ha
P?O?	Basal	20	kg/ha
K?O	Basal	60	kg/ha
N	Topdress	40	kg/ha
N	Basal	40	kg/ha
P?O?	Basal	20	kg/ha
K?O	Basal	60	kg/ha

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

Field images

Varieties

Name	Country	Maturity (days)	Traits
EMBRAPA/HAES selection	KE	1460	High kernel recovery
EMBRAPA/HAES selection	KE	1460	High kernel recovery
EMBRAPA/HAES selection	KE	1460	High kernel recovery
Murang'a 20	KE	365	Commercial nut cultivar with strong kernel recovery.
EMBRAPA/HAES selection	KE	1460	High kernel recovery
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Name	Country	Maturity (days)	Traits
EMBRAPA/HAES selection	KE	1460	High kernel recovery

Fertilizer recommendations

Stage	Product	Rate	Notes
Planting	Well-rotted manure	8000	Organic matter for Macadamia establishment.
Pre-fruiting	NPK 17-17-17	200	Balanced fertilizer ahead of major Macadamia crop load.

Pests and diseases

Name	Type	Symptoms	Management
Nut borer	pest	Bored nuts; drop	Sanitation; monitoring
Nut borer	pest	Bored nuts; drop	Sanitation; monitoring
Nut borer	pest	Bored nuts; drop	Sanitation; monitoring
Fruit flies	pest	Stings, larval feeding, and rotting fruits.	Field sanitation, trapping, and timely harvest.
Anthracnose and fruit rots	disease	Lesions on flowers, leaves, or fruits reducing quality.	Prune for airflow, keep orchards clean, and protect during wet periods.
Nut borer	pest	Bored nuts; drop	Sanitation; monitoring
Nut borer	pest	Bored nuts; drop	Sanitation; monitoring
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Yields

System	Typical	Min	Max	Notes
orchard	2.5	1	4	In-shell nuts

System	Typical	Min	Max	Notes
orchard	2.5	1	4	In-shell nuts
orchard	2.5	1	4	In-shell nuts
Managed orchard production	3.5	2.1	5.6	Typical orchard yield for Macadamia under practical management.
orchard	2.5	1	4	In-shell nuts
orchard	2.5	1	4	In-shell nuts
orchard	2.5	1	4	In-shell nuts
orchard	2.5	1	4	In-shell nuts
orchard	2.5	1	4	In-shell nuts
orchard	2.5	1	4	In-shell nuts
orchard	2.5	1	4	In-shell nuts
orchard	2.5	1	4	In-shell nuts
orchard	2.5	1	4	In-shell nuts
orchard	2.5	1	4	In-shell nuts
orchard	2.5	1	4	In-shell nuts
orchard	2.5	1	4	In-shell nuts
orchard	2.5	1	4	In-shell nuts

Season calendars

Country	Region	Planting	Harvest
KE	Managed Orchard Zones	Mar-Apr or Oct-Nov	Depends on variety and agroecology

Region suitability

Country	Region	Suitability
KE	Highlands	High
KE	Managed Orchard Zones	Medium