

FarmLens Ltd

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Crop details

Carrot

Daucus carota subsp. sativus

Family: Apiaceae

Categories

Vegetables

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Quick stats

Family	Apiaceae
Typical harvest	25.0 t/ha
Varieties	3
Pests and diseases	6
Seasons	3

Crop profile

Growth habit	annual
Days to harvest	120
Main uses	Roots eaten raw, cooked in stews, mixed vegetables, juices and salads.
Pollination	insect
Origin and where it grows	Carrot is widely grown in cool and medium-altitude areas of East Africa, especially highland vegetable zones.

Weather, soil and spacing

Best temperature	15 - 22 °C
Rainfall	600 - 800 mm/yr
Altitude	1200 - 2600 m
Best pH	6.2 - 6.8
Soil type	Deep, loose, stone-free loam or sandy loam so Carrot roots can grow straight without forking.
Row spacing	30 cm
Plant spacing	5 cm
Planting depth	1.5 cm
Seed rate	4.5 kg/ha

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 roots eaten raw, cooked in stews, mixed vegetables, juices and salads..

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

Where it grows: Carrot is widely grown in cool and medium-altitude areas of East Africa, especially highland vegetable zones..
Grouped under: Vegetables.

Best climate: 15 - 22 °C; 600 - 800 mm/yr; up to about 2600 m a.s.l.

Soil: Best at pH 6.2 - 6.8; deep, loose, stone-free loam or sandy loam so carrot roots can grow straight without forking..

Farmer guide (Mwongozo wa Mkulima)

<u>Planting</u>	Prepare a fine, deep seedbed. Drill Carrot seed in shallow rows and cover lightly with soil or sand. Keep the bed moist until seedlings emerge.
<u>Transplanting</u>	Carrots are best direct seeded; transplanting can lead to bent or forked roots.
<u>Irrigation</u>	Keep soil evenly moist during germination and early growth. Avoid long dry periods followed by heavy watering, which can cause cracking.
<u>Fertigation</u>	With drip, use small, frequent doses of balanced fertilizer early, then focus more on potassium as roots bulk.
<u>Pest scouting</u>	Inspect weekly for leaf pests, cutworms and signs of nematodes. Check leaves, crowns and root tips by pulling a few sample plants.
<u>Pruning and training</u>	Carrots do not need pruning. Control weeds early so they do not shade small seedlings.
<u>Harvest</u>	Harvest when roots are of good size and colour. Loosen soil with a fork and pull carefully to avoid breaking the Carrot.
<u>Postharvest</u>	Remove tops, brush off excess soil and keep roots in a cool, shaded place. Do not leave Carrots in the hot sun.

Nutrient schedule (Mbolea kwa Hatua)

#	<u>Stage</u>	<u>DAP</u>	<u>Product</u>	<u>Rate</u>	<u>Targets (kg/ha)</u>	<u>Notes</u>
1	Basal before sowing	0	NPK 17-17-17 or 15-15-15	120 kg/ha	N: 20, P?O?: 20, K?O: 20	Spread and mix into the topsoil before forming beds and sowing Carrots.
2	Early topdress	25	CAN 26% N	80 kg/ha	N: 21, P?O?: 0, K?O: 0	Apply between rows on moist soil after first weeding and thinning.
3	Root bulking topdress (high K)	45	NPK 12-12-24 or SOP-based high K mix	100 kg/ha	N: 12, P?O?: 12, K?O: 24	Apply along rows to support Carrot root filling and sweetness.

Nutrient requirements

<u>Nutrient</u>	<u>Stage</u>	<u>Amount</u>	<u>Unit</u>
N	Basal	40	kg/ha
P?O?	Basal	60	kg/ha
K?O	Basal	80	kg/ha
N	Topdress_early	30	kg/ha
P?O?	Topdress_early	0	kg/ha
K?O	Topdress_early	30	kg/ha
N	Topdress_root_bulking	20	kg/ha
P?O?	Topdress_root_bulking	0	kg/ha
K?O	Topdress_root_bulking	40	kg/ha

Varieties

<u>Name</u>	<u>Country</u>	<u>Maturity (days)</u>	<u>Traits</u>
Nantes-type Carrot	KE	110	Cylindrical, smooth roots with good colour and sweetness.
Kuroda-type Carrot	KE	100	Thicker, more tapered root; tolerant to some stress and common in local markets.
Chantenay-type Carrot	TZ	115	Shorter, broader root suited to some heavier soils.

Fertilizer recommendations

<u>Stage</u>	<u>Product</u>	<u>Rate</u>	<u>Notes</u>
Basal	NPK 17-17-17 or 15-15-15	120	Balanced starter fertilizer for Carrots at land preparation.
Topdress (early growth)	CAN 26% N	80	Supports leaf growth after thinning and first weeding.
Topdress (root bulking, high K)	NPK 12-12-24 or SOP-based blend	100	Improves root size, colour and storage quality.
Organic	Well-rotted manure or compost	8000	Apply and mix before planting, but avoid fresh manure which can cause forked roots.

Pests and diseases

<u>Name</u>	<u>Type</u>	<u>Symptoms</u>	<u>Management</u>
Cutworms	pest	Young Carrot seedlings cut at or near soil level, leaving gaps in rows.	Keep the field weed-free before planting, avoid heavy crop residues on the surface and replant missing spots early.
Aphids	pest	Clusters of soft insects on leaves and stems, causing curling and yellowing.	Encourage natural enemies and use selective insecticides or biopesticides when populations increase.
Root-knot nematodes	pest	Swollen, knotty Carrot roots with poor shape and reduced size.	Rotate with non-host crops, use organic matter and where possible plant on fields with low nematode pressure.
Leaf blights (Alternaria / Cercospora)	disease	Brown spots and blighting of Carrot leaves; foliage dies back and roots stay small.	Use clean seed, avoid overhead irrigation late in the day and use recommended fungicides when needed.
Powdery mildew	disease	White powdery growth on Carrot leaves, leading to early leaf death.	Improve airflow and use fungicides/biopesticides where disease is severe.
Soft rots	disease	Soft, watery rotting of roots especially in very wet soils or during storage.	Avoid waterlogging, handle roots gently and store only sound Carrots.

Yields

<u>System</u>	<u>Typical</u>	<u>Min</u>	<u>Max</u>	<u>Notes</u>
Smallholder Carrots, low–medium input	15	10	20	Basic manure or fertilizer and moderate weed control.

<u>System</u>	<u>Typical</u>	<u>Min</u>	<u>Max</u>	<u>Notes</u>
Well-managed open-field Carrots	25	18	35	Good land preparation, recommended fertilizer and close weed control.
Irrigated intensive Carrots	35	25	45	Drip or sprinkler irrigation, fertigation and strict pest and disease management.

Season calendars

<u>Country</u>	<u>Region</u>	<u>Planting</u>	<u>Harvest</u>
KE	Central and Rift Valley highland Carrot zones	Cooler months and main rainy seasons when temperatures are moderate.	Main harvest from about 3–4 months after sowing
KE	Irrigated highland vegetable belts	Most of the year where strong heat and frost are avoided.	Staggered Carrot harvests for continuous supply.
TZ	Northern and southern highland vegetable areas	Cooler seasons with reliable rainfall or irrigation.	Roots lifted when they reach preferred market size

Region suitability

<u>Country</u>	<u>Region</u>	<u>Suitability</u>
KE	Central and Rift Valley highlands	High
KE	Highland irrigation schemes	High
TZ	Northern and southern highland vegetable belts	High
UG	Cooler highland smallholder vegetable zones	High

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