

# FarmLens Ltd

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



Crop details

## Carrot

*Daucus carota subsp. sativus*

Family: Apiaceae

Categories

Vegetables

Generated: 2026-04-11 04:45

### Quick stats

|                           |           |
|---------------------------|-----------|
| <b>Family</b>             | Apiaceae  |
| <b>Typical harvest</b>    | 25.0 t/ha |
| <b>Varieties</b>          | 3         |
| <b>Pests and diseases</b> | 6         |
| <b>Seasons</b>            | 3         |

### Crop profile

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

### Weather, soil and spacing

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

|                                    |   |
|------------------------------------|---|
| <b><u>Planting</u></b>             | 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. |
| <b><u>Transplanting</u></b>        | Carrots are best direct seeded; transplanting can lead to bent or forked roots.   |
| <b><u>Irrigation</u></b>           | Keep soil evenly moist during germination and early growth. Avoid long dry periods followed by heavy watering, which can cause cracking.        |
| <b><u>Fertigation</u></b>          | With drip, use small, frequent doses of balanced fertilizer early, then focus more on potassium as roots bulk.                                  |
| <b><u>Pest scouting</u></b>        | Inspect weekly for leaf pests, cutworms and signs of nematodes. Check leaves, crowns and root tips by pulling a few sample plants.              |
| <b><u>Pruning and training</u></b> | Carrots do not need pruning. Control weeds early so they do not shade small seedlings.  |
| <b><u>Harvest</u></b>              | Harvest when roots are of good size and colour. Loosen soil with a fork and pull carefully to avoid breaking the Carrot.                        |
| <b><u>Postharvest</u></b>          | 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)**

| # | Stage                          | DAP | Product                              | Rate      | Targets (kg/ha)          | Notes   |
|---|--------------------------------|-----|--------------------------------------|-----------|--------------------------|---|
| 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**

| Nutrient | Stage                 | Amount | Unit  |
|----------|-----------------------|--------|-------|
| 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 |

| <u>Nutrient</u> | <u>Stage</u>          | <u>Amount</u> | <u>Unit</u> |
|-----------------|-----------------------|---------------|-------------|
| P?O?            | Topdress_root_bulking | 0             | kg/ha       |
| K?O             | Topdress_root_bulking | 40            | kg/ha       |

### Field images



### 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.                |

| <u>Name</u>                               | <u>Type</u> | <u>Symptoms</u>   | <u>Management</u>   |
|---|-------------|---|---|
| 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<br>(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.                             |
| 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 |

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Source: **FarmLens Ltd** - [farmlens.africa](http://farmlens.africa) and [app.farmlens.africa](http://app.farmlens.africa). Headquarters: Nairobi, Kenya. This guide was generated from the FarmLens database.