

# FarmLens Ltd

Website: [farmlens.africa](http://farmlens.africa) | App: [app.farmlens.africa](http://app.farmlens.africa) | Headquarters: Nairobi, Kenya



Crop details

## Black Pepper

*Piper nigrum*

Family: Piperaceae

Categories

Spices & Condiments

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### Quick stats

<b>Family</b>	Piperaceae
<b>Typical harvest</b>	0.9 t/ha
<b>Varieties</b>	48
<b>Pests and diseases</b>	96
<b>Seasons</b>	48

### Crop profile

<b>Growth habit</b>	climber
<b>Days to harvest</b>	1095
<b>Main uses</b>	Dry peppercorns (black/white); fresh green spikes for pickles; some leaf/stem use for extracts.
<b>Pollination</b>	insect
<b>Origin and where it grows</b>	Thrives in warm, humid tropics with regular rainfall and shade/support; niche pockets along East African coast/high rainfall zones.

### Weather, soil and spacing

<b>Best temperature</b>	23 - 30 °C
<b>Rainfall</b>	1800 - 3000 mm/yr
<b>Altitude</b>	0 - 1500 m
<b>Best pH</b>	5.5 - 6.5
<b>Soil type</b>	Deep, well-drained loam or lateritic soils with high organic matter; good mulching essential.
<b>Row spacing</b>	250 cm
<b>Plant spacing</b>	250 cm
<b>Planting depth</b>	5 cm
<b>Seed rate</b>	kg/ha (check local recommendation)
<b>Nursery days</b>	90

### Simple notes for farmers

**About the crop:** This crop has a growth habit described as "climber". Harvest typically starts about 1095 days after planting.

**Main use:** Farmers mostly grow this crop for dry peppercorns (black/white); fresh green spikes for pickles; some leaf/stem use for extracts..

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

**Where it grows:** Thrives in warm, humid tropics with regular rainfall and shade/support; niche pockets along East African coast/high rainfall zones.. Grouped under: Spices & Condiments.



#	Stage	DAP	Product	Rate	Targets (kg/ha)	Notes
1	Basal at planting/onset of rains	0	NPK 15-15-15 + compost	150 kg/ha (plus 6–10 t/ha compost)	N: 22, P?O?: 22, K?O: 22	Ring-apply in basins away from stem; mulch afterwards.
1	Basal at planting/onset of rains	0	NPK 15-15-15 + compost	150 kg/ha (plus 6–10 t/ha compost)	N: 22, P?O?: 22, K?O: 22	Ring-apply in basins away from stem; mulch afterwards.
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2	Vegetative topdress	90	CAN 26% N	120 kg/ha	N: 31, P?O?: 0, K?O: 0	Moist soil; cover lightly and re-mulch.
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#	Stage	DAP	Product	Rate	Targets (kg/ha)	Notes
3	K boost at spike set	150	Sulfate of potash (SOP)	120 kg/ha	N: 0, P <sub>2</sub> O <sub>5</sub> : 0, K <sub>2</sub> O: 60	Improves berry filling and quality.
3	K boost at spike set	150	Sulfate of potash (SOP)	120 kg/ha	N: 0, P <sub>2</sub> O <sub>5</sub> : 0, K <sub>2</sub> O: 60	Improves berry filling and quality.
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### Nutrient requirements

Nutrient	Stage	Amount	Unit
N	Basal	30	kg/ha
P <sub>2</sub> O <sub>5</sub>	Basal	30	kg/ha
K <sub>2</sub> O	Basal	60	kg/ha
N	Vegetative	30	kg/ha
P <sub>2</sub> O <sub>5</sub>	Vegetative	10	kg/ha
K <sub>2</sub> O	Vegetative	40	kg/ha
N	Flowering_fill	20	kg/ha
P <sub>2</sub> O <sub>5</sub>	Flowering_fill	0	kg/ha
K <sub>2</sub> O	Flowering_fill	50	kg/ha
N	Basal	30	kg/ha
P <sub>2</sub> O <sub>5</sub>	Basal	30	kg/ha
K <sub>2</sub> O	Basal	60	kg/ha
N	Vegetative	30	kg/ha
P <sub>2</sub> O <sub>5</sub>	Vegetative	10	kg/ha

<u>Nutrient</u>	<u>Stage</u>	<u>Amount</u>	<u>Unit</u>
K?O	Vegetative	40	kg/ha
N	Flowering_fill	20	kg/ha
P?O?	Flowering_fill	0	kg/ha
K?O	Flowering_fill	50	kg/ha
N	Basal	30	kg/ha
P?O?	Basal	30	kg/ha
K?O	Basal	60	kg/ha
N	Vegetative	30	kg/ha
P?O?	Vegetative	10	kg/ha
K?O	Vegetative	40	kg/ha
N	Flowering_fill	20	kg/ha
P?O?	Flowering_fill	0	kg/ha
K?O	Flowering_fill	50	kg/ha
N	Basal	30	kg/ha
P?O?	Basal	30	kg/ha
K?O	Basal	60	kg/ha
N	Vegetative	30	kg/ha
P?O?	Vegetative	10	kg/ha
K?O	Vegetative	40	kg/ha
N	Flowering_fill	20	kg/ha
P?O?	Flowering_fill	0	kg/ha
K?O	Flowering_fill	50	kg/ha
N	Basal	30	kg/ha
P?O?	Basal	30	kg/ha
K?O	Basal	60	kg/ha
N	Vegetative	30	kg/ha
P?O?	Vegetative	10	kg/ha
K?O	Vegetative	40	kg/ha
N	Flowering_fill	20	kg/ha
P?O?	Flowering_fill	0	kg/ha

<u>Nutrient</u>	<u>Stage</u>	<u>Amount</u>	<u>Unit</u>
K?O	Flowering_fill	50	kg/ha
N	Basal	30	kg/ha
P?O?	Basal	30	kg/ha
K?O	Basal	60	kg/ha
N	Vegetative	30	kg/ha
P?O?	Vegetative	10	kg/ha
K?O	Vegetative	40	kg/ha
N	Flowering_fill	20	kg/ha
P?O?	Flowering_fill	0	kg/ha
K?O	Flowering_fill	50	kg/ha
N	Basal	30	kg/ha
P?O?	Basal	30	kg/ha
K?O	Basal	60	kg/ha
N	Vegetative	30	kg/ha
P?O?	Vegetative	10	kg/ha
K?O	Vegetative	40	kg/ha
N	Flowering_fill	20	kg/ha
P?O?	Flowering_fill	0	kg/ha
K?O	Flowering_fill	50	kg/ha
N	Basal	30	kg/ha
P?O?	Basal	30	kg/ha
K?O	Basal	60	kg/ha
N	Vegetative	30	kg/ha
P?O?	Vegetative	10	kg/ha
K?O	Vegetative	40	kg/ha
N	Flowering_fill	20	kg/ha
P?O?	Flowering_fill	0	kg/ha
K?O	Flowering_fill	50	kg/ha
N	Basal	30	kg/ha
P?O?	Basal	30	kg/ha

<u>Nutrient</u>	<u>Stage</u>	<u>Amount</u>	<u>Unit</u>
K?O	Basal	60	kg/ha
N	Vegetative	30	kg/ha
P?O?	Vegetative	10	kg/ha
K?O	Vegetative	40	kg/ha
N	Flowering_fill	20	kg/ha
P?O?	Flowering_fill	0	kg/ha
K?O	Flowering_fill	50	kg/ha
N	Basal	30	kg/ha
P?O?	Basal	30	kg/ha
K?O	Basal	60	kg/ha
N	Vegetative	30	kg/ha
P?O?	Vegetative	10	kg/ha
K?O	Vegetative	40	kg/ha
N	Flowering_fill	20	kg/ha
P?O?	Flowering_fill	0	kg/ha
K?O	Flowering_fill	50	kg/ha
N	Basal	30	kg/ha
P?O?	Basal	30	kg/ha
K?O	Basal	60	kg/ha
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P?O?	Vegetative	10	kg/ha
K?O	Vegetative	40	kg/ha
N	Flowering_fill	20	kg/ha
P?O?	Flowering_fill	0	kg/ha
K?O	Flowering_fill	50	kg/ha
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P?O?	Vegetative	10	kg/ha

<u>Nutrient</u>	<u>Stage</u>	<u>Amount</u>	<u>Unit</u>
K?O	Vegetative	40	kg/ha
N	Flowering_fill	20	kg/ha
P?O?	Flowering_fill	0	kg/ha
K?O	Flowering_fill	50	kg/ha
N	Basal	30	kg/ha
P?O?	Basal	30	kg/ha
K?O	Basal	60	kg/ha
N	Vegetative	30	kg/ha
P?O?	Vegetative	10	kg/ha
K?O	Vegetative	40	kg/ha
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P?O?	Flowering_fill	0	kg/ha
K?O	Flowering_fill	50	kg/ha
N	Basal	30	kg/ha
P?O?	Basal	30	kg/ha
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N	Vegetative	30	kg/ha
P?O?	Vegetative	10	kg/ha
K?O	Vegetative	40	kg/ha
N	Flowering_fill	20	kg/ha
P?O?	Flowering_fill	0	kg/ha
K?O	Flowering_fill	50	kg/ha
N	Basal	30	kg/ha
P?O?	Basal	30	kg/ha
K?O	Basal	60	kg/ha
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P?O?	Vegetative	10	kg/ha
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N	Flowering_fill	20	kg/ha
P?O?	Flowering_fill	0	kg/ha

<u>Nutrient</u>	<u>Stage</u>	<u>Amount</u>	<u>Unit</u>
K?O	Flowering_fill	50	kg/ha
N	Basal	30	kg/ha
P?O?	Basal	30	kg/ha
K?O	Basal	60	kg/ha
N	Vegetative	30	kg/ha
P?O?	Vegetative	10	kg/ha
K?O	Vegetative	40	kg/ha
N	Flowering_fill	20	kg/ha
P?O?	Flowering_fill	0	kg/ha
K?O	Flowering_fill	50	kg/ha

### Field images



### Varieties

<u>Name</u>	<u>Country</u>	<u>Maturity (days)</u>	<u>Traits</u>
Karimunda-type selection	TZ	1095	Adapted to humid coastal/island zones; good spike set.
Panniyur-type selection	TZ	1095	High-yielding where adapted; needs good support and moisture.
Local coastal black pepper	KE	1095	Locally adapted selection for coastal belts/live standards.
Karimunda-type selection	TZ	1095	Adapted to humid coastal/island zones; good spike set.
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### **Fertilizer recommendations**

<u>Stage</u>	<u>Product</u>	<u>Rate</u>	<u>Notes</u>
Basal	NPK 15-15-15 + compost	150	Apply with heavy organic mulch.
Vegetative	CAN 26% N	120	Supports vine growth; split if rainy season is long.
Spike set/filling	SOP (K?SO?)	120	Improves berry size and quality.
Basal	NPK 15-15-15 + compost	150	Apply with heavy organic mulch.
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### **Pests and diseases**

<u>Name</u>	<u>Type</u>	<u>Symptoms</u>	<u>Management</u>
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Pollu beetle / spike borers	pest	Bored spikes, premature drop, shrivelled berries.	Sanitation of infested spikes; shade regulation; recommended targeted controls if needed.
Thrips & mites	pest	Silvering/bronzing on leaves and spikes.	Maintain humidity via mulch; conserve natural enemies; spot sprays if severe.
Mealybugs/scales (at nodes/roots)	pest	Sticky honeydew, sooty mould, poor vine vigour.	Control ants, prune and destroy heavily infested parts; oils/soap sprays when required.
Foot rot / quick wilt (Phytophthora)	disease	Sudden vine wilt, leaf/fruit drop, collar rot especially in waterlogged beds.	Excellent drainage, mounded basins, sanitation, and prevent standing water.
Anthrachnose/leaf spots	disease	Brown/black lesions on leaves/spikes.	Improve airflow and shade balance; protectants during long wet spells if advised.
Root-knot nematodes	pest	Stunting, poor root systems; vine decline.	Use clean planting material, organic amendments, and crop rotation; solarise nursery media.
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Mealybugs/scales (at nodes/roots)	pest	Sticky honeydew, sooty mould, poor vine vigour.	Control ants, prune and destroy heavily infested parts; oils/soap sprays when required.
Foot rot / quick wilt (Phytophthora)	disease	Sudden vine wilt, leaf/fruit drop, collar rot especially in waterlogged beds.	Excellent drainage, mounded basins, sanitation, and prevent standing water.
Anthrachnose/leaf spots	disease	Brown/black lesions on leaves/spikes.	Improve airflow and shade balance; protectants during long wet spells if advised.
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## Yields

<u>System</u>	<u>Typical</u>	<u>Min</u>	<u>Max</u>	<u>Notes</u>
Smallholder rainfed (live standards)	0.6	0.3	1	Bearing from year 3; peaks around years 6–10 with good care.
Managed plantations (mulch + manuring + irrigation)	1.2	0.8	2	Good clones, staking, shade and pest control.
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### Season calendars

<u>Country</u>	<u>Region</u>	<u>Planting</u>	<u>Harvest</u>
TZ	Coastal humid belt & islands	Onset of main rains; provide shade/supports.	Picking in seasonal flushes; dry season preferred for drying.
KE	Coastal belt (Kilifi/Kwale pockets)	Start of long rains; ensure drainage and mulch.	Flush harvests depending on rainfall pattern.
UG	Humid lakeshore/mid-altitude pockets	Onset of reliable rains with live standards.	Seasonal pickings as spikes mature.
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### **Region suitability**

<u>Country</u>	<u>Region</u>	<u>Suitability</u>
KE	Coastal humid pockets	High
KE	Cool highlands	Low
TZ	Zanzibar & coastal humid zones	High
UG	Humid lakeshore pockets	Medium

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