

FarmLens Ltd

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



Crop details

Black Pepper

Piper nigrum

Family: Piperaceae

Categories

Spices & Condiments

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Quick stats

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

Crop profile

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

Weather, soil and spacing

Best temperature	23 - 30 °C
Rainfall	1800 - 3000 mm/yr
Altitude	0 - 1500 m
Best pH	5.5 - 6.5
Soil type	Deep, well-drained loam or lateritic soils with high organic matter; good mulching essential.
Row spacing	250 cm
Plant spacing	250 cm
Planting depth	5 cm
Seed rate	kg/ha (check local recommendation)
Nursery days	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.
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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 ₂ O ₅ : 0, K ₂ O: 60	Improves berry filling and quality.
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Nutrient requirements

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

<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
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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

<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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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.
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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 and app.farmlens.africa. Headquarters: Nairobi, Kenya. This guide was generated from the FarmLens database.