FarmLens Ltd

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Crop details

Yam (nga’ta)

Dioscorea spp.

Family: Dioscoreaceae

Categories

Roots & Tubers

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Quick stats

Family	Dioscoreaceae
Typical harvest	18.7 t/ha
Varieties	3
Pests and diseases	6
Seasons	3

Crop profile

Growth habit	climber
Days to harvest	300
Main uses	Boiled, pounded or fried tubers for main meals, flour and animal feed from peelings and small tubers.
Pollination	insect
Origin and where it grows	Yam (nga’ta) is grown in warm, humid and sub-humid areas, often on mounds or ridges, as a traditional root crop and food reserve.

Weather, soil and spacing

Best temperature	24 - 30 °C
Rainfall	1000 - 1500 mm/yr
Altitude	0 - 1800 m
Best pH	5.5 - 6.5
Soil type	Deep, loose, well-drained sandy loam or loam. Yam (nga’ta) forms straight, large tubers in friable soils and deep mounds.
Row spacing	120 cm
Plant spacing	100 cm
Planting depth	10 cm
Seed rate	2000 kg/ha

Simple notes for farmers

About the crop: This crop has a growth habit described as "climber". Harvest typically starts about 300 days after planting.

Main use: Farmers mostly grow this crop for boiled, pounded or fried tubers for main meals, flour and animal feed from peelings and small tubers..

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

Where it grows: Yam (nga’ta) is grown in warm, humid and sub-humid areas, often on mounds or ridges, as a traditional root crop and food reserve.. Grouped under: Roots & Tubers.

Best climate: 24 - 30 °C; 1000 - 1500 mm/yr; up to about 1800 m a.s.l.

Soil: Best at pH 5.5 - 6.5; deep, loose, well-drained sandy loam or loam. yam (nga’ta) forms straight, large tubers in friable soils and deep mounds..

Farmer guide (Mwongozo wa Mkulima)

Planting	Use healthy yam seed pieces or small whole tubers with at least one good bud. Plant Yam (nga’ta) on large mounds or ridges at the start of the rains, burying the seed piece about a hand deep.
Transplanting	Planted directly as setts or small tubers, not from a seedling nursery.
Irrigation	Yam (nga’ta) needs good moisture during sprouting, vine growth and early tuber bulking, but does not like standing water. Later it tolerates short dry spells better.
Fertigation	Where irrigation is available, split N and K into several small feeds early in the season. Avoid very heavy nitrogen which can give too much vine and fewer tubers.
Pest scouting	Check mounds and vines every 2–3 weeks for yam beetles, nematode damage, scale insects and leaf spots. Look for holes in tubers, yellowing patches and stunted hills.
Pruning and training	Give simple stakes or trellis for Yam (nga’ta) vines where possible. Do not remove many leaves because tubers depend on them for growth.
Harvest	Harvest when most leaves and vines of Yam (nga’ta) have naturally yellowed and dried (about 9–12 months after planting). Dig carefully to avoid cutting tubers.
Postharvest	Handle tubers gently, keep in shade, and store in a cool, dry, well-aerated place on racks or platforms. Remove rotten tubers quickly to protect the rest.

Nutrient schedule (Mbolea kwa Hatua)

#	Stage	DAP	Product	Rate	Targets (kg/ha)	Notes
1	Basal at planting	0	NPK 17-17-17 or 15-15-15	200 kg/ha	N: 34, P?O?: 34, K?O: 34	Mix into the top of mounds or ridges before placing Yam (nga’ta) seed pieces.
2	Early topdress	50	Urea 46% N + MOP (muriate of potash)	150 kg/ha combined	N: 30, P?O?: 0, K?O: 40	Apply around Yam (nga’ta) mounds when vines start to climb; cover lightly with soil.

Nutrient requirements

Nutrient	Stage	Amount	Unit
N	Basal	40	kg/ha
P?O?	Basal	40	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	40	kg/ha

Varieties

Name	Country	Maturity (days)	Traits
White yam type	KE	300	White flesh, good boiling quality and traditional taste.
Yellow yam type	TZ	300	Yellow flesh with pleasant flavour and softer texture.
Local nga’ta landrace	KE	330	Traditional Yam (nga’ta) variety adapted to local conditions; moderate yield.

Fertilizer recommendations

Stage	Product	Rate	Notes
Basal	NPK 17-17-17 or 15-15-15	200	Provides a balanced start for Yam (nga’ta) in poorer soils.
Topdress (N+K)	Urea + MOP	150	Supports vine growth and tuber bulking when applied early.
Organic	Well-rotted farmyard manure or compost	8000	Apply in planting mounds before placing Yam (nga’ta) seed pieces to improve soil structure and moisture.

Pests and diseases

Name	Type	Symptoms	Management
Yam beetles and tuber borers	pest	Holes and tunnels in Yam (nga’ta) tubers, chewed surfaces and entry points that later rot.	Rotate fields, destroy old yam pieces after harvest and, where available, use traps or targeted soil treatments.
Nematodes (root-knot and lesion)	pest	Knobbly, misshapen tubers and stunted plants with poor vines.	Use clean planting material, rotate with cereals and avoid continuous yam in the same spot.
Scale insects and mealybugs on vines	pest	Small bumps or cottony masses on Yam (nga’ta) stems and leaves, sticky honeydew and sooty mould.	Remove heavily infested vines and encourage natural enemies; use soft insecticides if needed.
Anthracnose and leaf spots	disease	Dark, sunken spots on leaves and stems, leaf drop and reduced tuber yield.	Use healthy planting material, provide good air flow with proper spacing and stakes, and rotate crops.
Yam rots (soft and dry rots)	disease	Soft, watery or dry, corky rots in stored or field Yam (nga’ta) tubers, often starting at wounds.	Avoid tuber injuries, cure tubers after harvest in shade and store on clean, raised platforms.
Rodents and other animals	pest	Partially eaten tubers and disturbed mounds.	Use traps, simple fencing and community control where damage is high.

Yields

System	Typical	Min	Max	Notes
Smallholder rainfed (low input)	8	5	12	Traditional Yam (nga’ta) varieties, few or no fertilizers and simple mounds.
Smallholder rainfed (improved management)	18	12	25	Good seed pieces, well-made mounds, manure or fertilizer and good weed control.

System	Typical	Min	Max	Notes
High input / good management	30	20	35	Fertile soils, improved Yam (nga’ta) types, staking, balanced fertilizer and strong pest and disease control.

Season calendars

Country	Region	Planting	Harvest
KE	Coastal and mid-altitude yam (nga’ta) zones (long rains)	Mar–Apr	Dec–Feb (following season)
KE	Western and lake humid zones	Mar–Apr	Dec–Jan
TZ	Coastal and southern humid belts	Nov–Dec	Aug–Oct (following year)

Region suitability

Country	Region	Suitability
KE	Coastal and low to mid-altitude humid zones	High
KE	Very dry, shallow or stony soils	Low
KE	Western and lake basin with deep soils	High
TZ	Coastal and southern yam (nga’ta) areas	High
UG	Humid mid-altitude zones with deep soils	Medium

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