FarmLens Ltd

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Crop details

Calliandra

Calliandra calothyrsus

Family: Fabaceae

Categories

Forages & Fodder

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Quick stats

Family	Fabaceae
Typical harvest	11.0 t/ha
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Crop profile

Growth habit	perennial
Days to harvest	365
Main uses	High-protein fodder tree for cut-and-carry or hedgerows, fuelwood, green manure and soil conservation.
Pollination	insect
Origin and where it grows	Multipurpose fodder tree legume used across humid and sub-humid tropics, especially in East African highlands and mid-altitudes.

Weather, soil and spacing

Best temperature	20 - 28 °C
Rainfall	1000 - 3000 mm/yr
Altitude	0 - 2000 m
Best pH	5.5 - 7
Soil type	Prefers light to medium-textured, slightly acidic, well-drained soils but tolerates many low-fertility tropical soils.
Row spacing	100 cm
Plant spacing	50 cm
Planting depth	2 cm
Seed rate	5 kg/ha
Nursery days	60

Simple notes for farmers

About the crop: This crop is perennial; once planted it can keep producing for many years. Harvest typically starts about 365 days after planting.

Main use: Farmers mostly grow this crop for high-protein fodder tree for cut-and-carry or hedgerows, fuelwood, green manure and soil conservation..

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

Where it grows: Multipurpose fodder tree legume used across humid and sub-humid tropics, especially in East African highlands and mid-altitudes.. Grouped under: Forages & Fodder.

Best climate: 20 - 28 °C; 1000 - 3000 mm/yr; up to about 2000 m a.s.l.

Soil: Best at pH 5.5 - 7; prefers light to medium-textured, slightly acidic, well-drained soils but tolerates many low-fertility tropical soils..

Farmer guide (Mwongozo wa Mkulima)

Planting	Use scarified or hot-water soaked seed to improve germination. Raise seedlings in a nursery or sow directly in lines or pits at onset of rains on a well-prepared, moist seedbed.
Transplanting	Transplant bag-raised seedlings when 20–30 cm tall. Plant at same depth, firm soil around roots and water immediately; mulching helps early survival.
Irrigation	Maintain good moisture during establishment; once roots are deep, calliandra can bridge dry spells but grows best with regular rainfall or supplementary irrigation.
Fertigation	Emphasise P and K rather than N (legume fixes N). Split small PK dressings over the first year on poor soils to support root and nodule development.
Pest scouting	Check nurseries and young hedgerows for damping-off, termites, browsing damage and leaf-feeding caterpillars. On older trees, watch for psyllids on young flushes.
Pruning and training	For fodder, cut back to 0.5–1 m height to encourage leafy regrowth. Do not let plants become tall and woody where regular forage is needed.
Harvest	First light cut 8–12 months after planting. Thereafter harvest leafy shoots every 6–10 weeks depending on growth and rainfall, leaving some foliage for regrowth.
Postharvest	Feed fresh or wilt briefly and mix with grasses to reduce bloat risk. For hay, dry in thin layers and avoid rough handling that causes leaf shatter.

Nutrient schedule (Mbolea kwa Hatua)

#	Stage	DAP	Product	Rate	Targets (kg/ha)	Notes
1	Basal at planting	0	NPK 10-20-20 (or similar P-rich blend)	100 kg/ha	N: 10, P?O?: 20, K?O: 20	Place in planting pits or along rows and mix with soil before seeding/transplanting to avoid root burn.
2	Post-establishment PK support	90	NPK 0-20-20 or PK blend	80 kg/ha	N: 0, P?O?: 16, K?O: 16	Apply once plants are established and before the first heavy cutting, especially on light soils.
3	K replenishment (intensive cut-and-carry)	180	MOP (KCl) or sulfate of potash	60 kg/ha	N: 0, P?O?: 0, K?O: 36	Use where repeated harvesting exports large amounts of biomass from the field.

Nutrient requirements

Nutrient	Stage	Amount	Unit
N	Basal	0	kg/ha

Nutrient	Stage	Amount	Unit
P?O?	Basal	25	kg/ha
K?O	Basal	20	kg/ha
N	Mid_season	0	kg/ha
P?O?	Mid_season	10	kg/ha
K?O	Mid_season	30	kg/ha
N	Late_season	0	kg/ha
P?O?	Late_season	0	kg/ha
K?O	Late_season	20	kg/ha

Field images



Varieties

Name	Country	Maturity (days)	Traits
Highlands calliandra selection	KE	365	Adapted to coffee/dairy highland zones, good leaf yield and regrowth under frequent cutting.
Mid-altitude calliandra line	TZ	365	Performs well in mid-altitude fodder tree systems and alley cropping.
Local calliandra type	UG	365	Farmer-spread material used on boundaries, contour lines and around homesteads for fodder and fuelwood.

Fertilizer recommendations

Stage	Product	Rate	Notes
Basal	NPK 10-20-20	100	Apply in planting lines or pits before sowing or transplanting to support early establishment.
Mid-season (intensive systems)	PK blend (e.g. 0-20-20)	80	Use where calliandra is cut frequently for stall feeding and soils are low in P and K.
K replenishment	MOP (KCl) or sulfate of potash	60	Apply periodically on sandy or highly leached soils under intensive biomass removal.

Pests and diseases

Name	Type	Symptoms	Management
Calliandra psyllid and other sap-suckers	pest	Yellowing, curling leaves, honeydew and sooty mould on new flushes, reduced regrowth after cutting.	Use tolerant material where available, avoid very dense, shaded stands and maintain plant vigour to recover after attacks.
Termites	pest	Attack on roots and lower stems, ring-barking, wilting and death of young trees especially in dry periods.	Reduce large termitaries near fields, avoid heavy piles of woody debris at bases and maintain good soil moisture at establishment.
Defoliating caterpillars	pest	Chewed leaves and partial defoliation of shoots; slower regrowth between cuts.	Scout after rains when flushes appear; encourage birds and natural enemies; prune and remove heavily damaged shoots if needed.
Damping-off / nursery diseases	disease	Seedlings collapse at the soil line, patches of missing seedlings in beds or containers.	Use well-drained nursery media, avoid overcrowding and overwatering, and rogue out diseased seedlings early.
Root and collar rots (waterlogging)	disease	Stunted, yellow plants in wet spots, blackened collar tissues and rotted roots.	Plant on well-drained sites or raised ridges; avoid prolonged waterlogging and compaction.
Nutritional/bloat issues in livestock	disorder	When fed in high amounts alone, some animals may show bloat or reduced intake due to high protein and tannin content.	Introduce calliandra gradually, always mix with grasses or other forages and avoid feeding very large amounts to hungry animals at once.

Yields

System	Typical	Min	Max	Notes
Low-input hedgerows (DM)	5	3	7	Scattered lines on contours or boundaries with minimal fertilizer; used as supplementary fodder and green manure.
Managed fodder strips (DM)	10	6	14	Dense strips or blocks cut regularly for zero-grazing systems, with some PK fertilization and good moisture.
Intensive irrigated fodder (DM)	18	12	22	High-density plantings on fertile or manured soils with irrigation and frequent cutting for dairy feed.

Season calendars

Country	Region	Planting	Harvest
KE	Coffee/dairy highlands and mid-altitude fodder zones	At onset of long or short rains so seedlings establish before the dry season.	First light cut about 8–12
TZ	Northern, southern highlands and central corridor dairy areas	Early rainy season on well-drained soils; avoid planting into very dry or waterlogged periods.	Regular cut-and-carry th

Country	Region	Planting	Harvest
UG	Cattle corridor and mid-altitude mixed crop–livestock zones	At onset of main rains on homesteads, contours and field borders.	Green fodder available r

Region suitability

Country	Region	Suitability
KE	Highland and mid-altitude dairy/coffee zones, and suitable warm slopes with good drainage	High
TZ	Highlands and central corridor areas with 700–2000 mm rainfall and moderate temperatures	High
UG	Cattle corridor and highland dairy regions on well-drained soils	High