FarmLens Ltd

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

Crop details

Alfalfa (lucerne)

Medicago sativa

Family: Fabaceae

Categories

Forages & Fodder

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Quick stats

Family	Fabaceae
Typical harvest	9.0 t/ha
Varieties	3
Pests and diseases	6
Seasons	0

Crop profile

Growth habit	perennial
Days to harvest	365
Main uses	High-protein forage: grazed pasture, hay, silage and haylage; also soil-improving ley.
Pollination	insect
Origin and where it grows	Temperate to subtropical forage crop grown under irrigation or reliable rainfall, often in cooler, drier highlands.

Weather, soil and spacing

Best temperature	15 - 25 °C
Rainfall	500 - 800 mm/yr
Altitude	800 - 2600 m
Best pH	N/A
Soil type	Deep, well-drained loams or sandy loams with good structure; sensitive to high acidity and waterlogging.
Row spacing	20 cm
Plant spacing	5 cm
Planting depth	1.5 cm
Seed rate	15 kg/ha

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 forage: grazed pasture, hay, silage and haylage; also soil-improving ley..

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

Where it grows: Temperate to subtropical forage crop grown under irrigation or reliable rainfall, often in cooler, drier highlands.. Grouped under: Forages & Fodder.

Best climate: 15 - 25 °C; 500 - 800 mm/yr; up to about 2600 m a.s.l.

Soil: Best at pH 6.5 - ; deep, well-drained loams or sandy loams with good structure; sensitive to high acidity and waterlogging..

Farmer guide (Mwongozo wa Mkulima)

Planting	Sow into a firm, fine seedbed with good moisture. Drill shallow (1–2 cm) or broadcast and lightly cover. Ensure seed is inoculated with the correct Rhizobium strain.
Transplanting	Usually direct seeded, not transplanted. Avoid cloddy or fluffy seedbeds that bury seed too deep.
Irrigation	Maintain adequate moisture during establishment. Once established, alfalfa is drought-tolerant but yields best with regular moisture between cuts.
Fertigation	Focus fertigation on P, K and S; avoid excess N since alfalfa fixes its own nitrogen when well nodulated.
Pest scouting	Scout for leafhoppers, aphids, weevils and root rots. Check crown and taproot health in older stands.
Pruning and training	Manage by cutting/grazing. Avoid very close grazing that damages crowns; allow regrowth to reach early bud stage before repeated cutting where possible.
Harvest	For hay, cut at early bloom (10–20% bloom) balancing yield and quality. For high-quality dairy feed, cut at late vegetative to early bud.
Postharvest	Dry hay gently to preserve leaves (most of the protein is in leaves). Avoid over-curing and leaf shatter; bale at safe moisture and store under cover.

Nutrient schedule (Mbolea kwa Hatua)

#	Stage	DAP	Product	Rate	Targets (kg/ha)	Notes
1	Basal at planting	0	NPK 10-20-20 (or similar) + lime/compost as needed	150 kg/ha	N: 15, P?O?: 30, K?O: 30	Apply and incorporate into top 10–15 cm before sowing; adjust lime separately based on soil test.
2	First production topdress	90	NPK 0-20-20 or equivalent (PK blend)	100 kg/ha	N: 0, P?O?: 20, K?O: 20	Apply after first or second cut, ideally just before rainfall or light irrigation.
3	Mid-season K boost	150	MOP (KCl) or sulfate of potash (where Cl-sensitive mixes)	80 kg/ha	N: 0, P?O?: 0, K?O: 48	Apply to heavy-cut systems where many hay cuts remove large amounts of K.

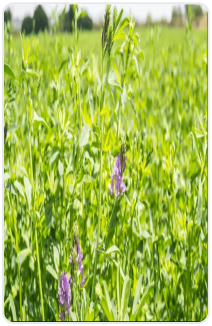
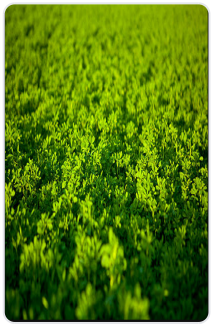
Nutrient requirements

Nutrient	Stage	Amount	Unit
N	Basal	10	kg/ha
P?O?	Basal	40	kg/ha
K?O	Basal	60	kg/ha
N	Mid_season	0	kg/ha

Nutrient	Stage	Amount	Unit
P?O?	Mid_season	20	kg/ha
K?O	Mid_season	60	kg/ha
N	Late_season	0	kg/ha
P?O?	Late_season	10	kg/ha
K?O	Late_season	30	kg/ha

Field images




Varieties

Name	Country	Maturity (days)	Traits
Multicut lucerne selection	KE	365	Good persistence under cutting, suited to irrigated highland dairies.
Dryland-tolerant alfalfa type	TZ	365	Better persistence and yield in drier mid-altitude sites.
Local lucerne/alfalfa landrace	UG	365	Adapted to smallholder dairies and mixed cropping systems.

Fertilizer recommendations

Stage	Product	Rate	Notes
Basal	NPK 10-20-20 (or similar)	150	Apply and incorporate before seeding; combine with lime or manure according to soil tests.
Production (between cuts)	PK blend (e.g. 0-20-20)	100	Apply after one of the early cuts once stand is well established.
K replenishment	MOP (KCl) or sulfate of potash	80	Use on intensively cut or hay-export fields with high K removal.

Pests and diseases

Name	Type	Symptoms	Management
Aphids	pest		Encourage natural enemies; avoid stress from drought or overgrazing; cut heavily infested stands earlier if needed.
Alfalfa weevils / leaf-chewing weevils (local complexes)	pest		Monitoring near early spring/flush growth, timely cutting, conserve predators and parasitoids.

Name	Type	Symptoms	Management
Leafhoppers	pest		Avoid mowing only very short stubble that stresses plants; rotate and maintain diverse swards; treat only severe outbreaks.
Root and crown rots	disease		Ensure good drainage, avoid waterlogging, allow recovery periods between cuts/grazing and rotate stands after several years.
Leaf spots / blights	disease		Promote airflow with appropriate cutting/stand density, avoid excessive late irrigation and remove very old, diseased stands from rotation.
Nodule failure / poor rhizobia	disorder		Use high-quality inoculated seed or peat inoculant, avoid acidic soils (lime where needed) and minimise unnecessary N fertilizer.

Yields

System	Typical	Min	Max	Notes
Low-input rainfed (hay, DM basis)	5	3	7	2–3 cuts per year, moderate stand density and limited fertilization on upland sites.
Managed irrigated or high rainfall (hay, DM)	8	6	12	3–6 cuts per year with good fertility and weed control.
Intensive dairy forage (hay/silage, DM)	14	10	18	High-density stands under irrigation with multiple cuts and strong fertility/stand management.

Region suitability

Country	Region	Suitability
KE	Highland dairy zones with irrigation or reliable rainfall and good drainage	N/A
TZ	Northern/southern highlands and irrigated dairy belts	N/A
UG	Highland and upper mid-altitude dairy regions with neutral soils	N/A