Lablab (Lablab purpureus) for livestock feed

Uses/applications
Lablab is a high yielding forage legume which can be grazed, harvested for hay or silage, or used as a green manure and break crop in sub-tropical and tropical farming systems (Chakoma et al., 2016). It is commonly used as a supplementary feed (Khaliil et al. 1994; Nsahlai et al. 1996; Tulu et al. 2018), for intercropping with cereal crops (Mpairwe et al. 2002) and is considered to have significant potential for the sustainable intensification of smallholder crop/livestock production systems (Ewanisha et al. 2007; Nord et al. 2020). It has been shown to be tolerant of acid soil conditions (Mugwira and Haque 1993) and to address soil fertility decline (Cook et al. 2020; Adebisi and Bosch 2004). Lablab is also used for the control of insect pests (Qureshi et al. 2016) and in ethnoveterinary medicine. Examples from Kenya show that it can be used to treat eye problems in sheep and lung problems in cattle, sheep and goats (Adebisi and Bosch 2004).

Annual lablab forage yields range 6–9 tonnes of dry matter (DM) per hectare. Forage has an average crude protein content of about 16% DM, which can vary from 8–33% in sub-Saharan Africa, depending on local conditions and stage of harvest (https://feedsdatabase.ilri.org/). The crude protein levels in the leaves ranges from 21–38%, in the stem 7–20%, and in the grain 20–28%. Digestibility of leaves ranges from 55–76% (Mudunuru et al. 2008; Linga et al. 2003).

Description
• Lablab is a summer growing annual, or occasionally short-lived perennial, forage legume.
• It is a twining, climbing, trailing or upright herbaceous plant that can grow to lengths of 3–6 metres.
• As a forage legume, lablab can restore soil fertility and is considered tolerant of drought and cool temperatures.

Environment
• Requires lower elevation and warm temperatures for best growth
• Best suited to regions with 600–2500 mm annual rainfall and predominantly summer distribution
• Grows in a wide range of soils from deep sands to heavy clays provided drainage is good. Will grow on acidic to alkaline soils (pH water 5.0–7.5).

Limitations
• Short-lived
• Poor frost tolerance
• Low salt tolerance
• Does not tolerate poor drainage or prolonged water logging
• Causes bloat if fed in large quantities as green fodder

Management
Field preparation: well prepared and ploughed field.

Establishment: broadcast seed at 30 kg/ha at 3 cm depth and cover.

Inoculant: Some sub-tropical soils may have suitable native rhizobia. However, inoculation with lablab rhizobia is recommended.

Fertilizer: commonly grown without fertilizer applications but, when grown in sandy soil, it may benefit from applications of Phosphorus and Sulphur.
Weeding: weeding after the third week of establishment is recommended to minimize competition with weeds at early seedling growth.

Major pests and diseases: lablab roots can be attacked by nematodes and the seeds by pod feeding and boring insects. Disease problems are rare; it is less susceptible to root diseases than cowpea.

Harvesting: at flowering, after three months of sowing/ planting.

Seed production

Flowering and pod and seed production often continues over an extended period, especially with good water availability. ‘Rongai’ is late flowering and seed production is often affected by frosts. ‘Highworth’ is earlier flowering and so avoids most frosts. Grain yields of 1–2.5 t/ha can be achieved, depending on cultivar, environment and management.

Released varieties and promising accessions

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Promising accession

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References
