

Role of fodder legumes in livestock production

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Importance and role of legumes in pasture improvement :

The chief objective of including legumes in the pasture is to increase livestock production which have no direct connection with nitrogen fixation. It is more likely to be a function of feeding value of the legume forage. Through selective grazing quite a small quantity of legume in the pasture can markedly improve the nutrition of live stock at critical times of the year (Christian and SHAW, 1952).

The functions of symbiotic nitrogen fixation by pasture legume can be summarized as follows:

The ability to fix nitrogen from the air gives the legumes a competitive advantage in association with grasses and weeds.

The presence of the legume in the forage provides a better diet for a livestock, because legumes in general have relatively high feeding value specifically because modulated legumes can maintain a high nitrogen concentration than grasses particularly in mature forage. Nodulated legumes do not show the rapid dilution of plant nitrogen concentration that occurs when unnodulated legume and non legumes are given with a limited nitrogen supply.

The legume contributes available nitrogen to non legume in the sward.

The legume contributes nitrogen that may be useful during a subsequent period of arable farming.

Morphology of legumes :

Fodder legumes belong to the family leguminosae.

***Desmodium intortum* (green leaf):**

Large trailing and climbing perennial roots at the nodes and has a deep tap root, long pubescent stems branch freely and are often reddish brown. Had shorter internodes than *desmodium uncinatum* and is leafier. Leaves usually have reddish brown to purple flecking on the upper surface. Leaflets 2-7 cm long and 1.5-5.5 cm broad with a length width ratio of 1.4 to 1 are shorter and more rounded than *desmodium uncinatum*. Terminal

raceme pect, reserves to the main rachis, adheres to animals and to clothing but not as tenaciously as that of *desmodium uncinatum* (Barnard, 1967)

***Centrosema pubescence* (Centro):**

Vigorous, trailing, twining and climbing perennial herbs in pure stands forms a compact dense cover 40 to 45 cm, high in 4 to 8 months from sowing. Very leafy; the slightly hairy stems do not become woody for at least 18 months. Leaves trifoliate leaflets dark green ellipse are ovate elliptic, obtuse or shortly obtusely acuminate, about 4 x 3.5 cm. Slightly hairy, especially on the lower surface stipules long persistent. Flowers large and showy born in axillary racemes. Each flower has two striate bracteoles. Flowers bright or pale lilac on either side of a median greenish yellow band with numerous dark violet strips or blotches. Pod linear with prominent margins 7.5 to 15 cm long flat, thick, straight or slightly twisted acuminate, dark brown when ripe containing up to 20 seeds septa between seeds. Seeds shortly oblong to squarish with rounded corners 4 to 5 x 3 to 4 mm brownish black mottled darker blotches with light coloured halo.

***Desmanthus virgatus* (L.):**

Prostrate, decumbent or erect herbaceous perennial shrub, typically to 0.7 m, occasionally to 1.5 m tall; strongly branched from the base, with a taproot to 0.5 m depth and 1 – 2 cm in diameter young stems green and hairless (or with sparse white hairs), angular with golden corky ridges. Older stems hairless, shiny red or brown. Bipinnate leaf 2.4 – 8.0 cm long, with 2 – 5 pairs of pinnae 11-30 mm long and 11-23 pairs of leaflets/ pinnae, 2.4-7.0 mm long and 0.7 – 1.6 mm wide.

Persistent stipules 2-9 mm long. Small flowering heads (condensed spikes) 0.5-0.9 cm long, occur singly in leaf axis on short peduncles (to 4.0 cm long). Heads contain 3-22 flowers that may be perfect, functionally male or sterile. Sterile flowers 0-8 occur at the base of the head. Male flowers usually absent, occasionally 1, occur towards the base of the head above the sterile flowers, but below the perfect flowers. Perfect flowers

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