thoroughly with the soil. Also apply 2 bags TSP or DAP fertilizer per hectare during heavy rains. After every cut, apply manure in a furrow and cover with soil.

Weeding
Keep the plot weed free, especially during the early stages of establishment. Once desmodium is fully established, it forms a complete groundcover that smothers the weeds, thus reducing the labour and cost of weeding the Napier plot.

Pests
Common pests are aphids and the amnemus weevil, both of which can be controlled with insecticides. Be careful to strictly observe use and safety instructions on the pack. If aphids are not controlled, they may transmit a viral disease known as little-leaf. A fungal disease, anthracnose, can affect desmodium, especially in poorly drained soil.

Harvesting
Desmodium pure stand: Start harvesting after at least 4 months. The best harvesting schedule is to cut at 12-week intervals, cutting 10 cm or higher above soil level.

Desmodium-Napier mixture: Wait at least 4 months after the desmodium is established, or when the Napier is about 1 m high, to cut first harvest. Cut at an interval of 4 to 10 weeks thereafter. Cut the desmodium and Napier together. Leave stumps 10 to 15 cm above the ground for both crops.

Harvest only what is needed and spread it in the sun for a few hours to wilt. Chop and mix thoroughly with other forages, such as maize stover or Napier grass, then feed. Excess desmodium may be cut, dried and baled into hay, and used as a protein supplement. It can also be mixed with grass when making hay.

Three to 6 kg of green desmodium is equivalent to 1 to 2 kg of commercial concentrate. Desmodium is a good-quality supplementary forage with high protein content. Give in quantities less than 30% mixed with basal fodders.

The scientific name of greenleaf is Desmodium intortum and of silverleaf, Desmodium uncinatum. The climatic range is similar for both species, but silverleaf desmodium is more frost tolerant than greenleaf desmodium because it flowers about a month earlier. Greenleaf generally gives better yields (7–15 t/ha) than silverleaf (4–7 t/ha). Silverleaf is more tolerant to acid soils but less tolerant to drought than greenleaf.

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This information is meant as a guide and must be adapted to suit local conditions.
About desmodium

Desmodium is a trailing or climbing perennial legume with small leaves and deep roots. In favourable conditions it forms dense ground cover. Most common of numerous varieties are greenleaf and silverleaf. Greenleaf desmodium is leafier, with reddish brown to purplish spots on the upper surface of the leaves and reddish brown stems. Silverleaf desmodium has stems and leaves covered in dense hairs, which make them stick to hands and clothing. It has green and white leaves, light green underneath. Desmodium is popular in cut-and-carry feeding systems. It can be intercropped with fodder crops such as maize or Napier grass and can help control weeds.

Advantages

- It is a high-quality, protein-rich forage.
- It can be grown between or under other crops.
- Because it fixes nitrogen, it can increase yields of intercrops or reduce the need for nitrogen fertilizer.

Disadvantages

- It requires fertile soil with good moisture-holding characteristics.
- It suffers from continuous heavy grazing.
- It takes longer to establish than most tropical legumes.
- Its twining and climbing habit could compete with other crop species when intercropped.

Cultivation

Climate

Desmodium does well in warm, wet regions at altitudes of 800 m to 2500 m that receive at least 875 mm of rainfall per year.

Soil

Adapted to a wide range of soils from sands to clay loams and tolerates slight acidity but not salinity. Acidic soils can be improved by applying manure at the rate of 8 tonnes per hectare before sowing or planting.

Preparation

Desmodium can be grown as a pure stand or as a mixture with Napier grass in cut-and-carry plots. It can be grown under a maize crop or even as a cover crop under banana or coffee. It can be established by either seeds or cuttings. Desmodium seed is relatively expensive and very small. The seedlings can be swamped by weeds, so it is best sown in a weed-free, well-prepared nursery seedbed with fine-textured soil. A seedbed 3 m by 3 m, raised 15 cm, requires about 100 g of seed.

Desmodium needs to grow with beneficial rhizobia bacteria. These bacteria, which live in the roots of desmodium and other legumes, can fix nitrogen from the air. The nitrogen is then available as a free fertilizer to the desmodium plants. Obtain packs of rhizobia inoculant if available. Mix the contents with the desmodium seed and carefully following the instructions on the pack. If not available, mix the seed with a handful of soil from another good desmodium plot.

Planting

The best time to plant is at the start of rains. For areas with two rainy seasons, sow seeds during the short rains but plant cuttings during the long rains. Sow the seed immediately after adding the inoculant, either by drilling or by broadcasting. For drilling, make shallow furrows about 5 cm deep spaced 30 cm apart. Cover the seed with 1 cm of soil and press softly. For broadcasting, spread the seed evenly over the seedbed. Water the nursery bed carefully and often. If the bed is shaded, remove the shade soon after germination.

Get cuttings from an established nursery or from desmodium in the field. Compared with seed, cuttings are bulky, but they can be obtained at little or no cost from a neighbour and they compete well with weeds during establishment. Desmodium cuttings should be vines 60 cm long with soil still attached to the new roots. Make furrows 30 cm apart and 10 cm deep; plant the vines 30 cm apart.

Desmodium can be grown between rows of Napier grass. Plant the Napier grass at a spacing of 1 m between plants and 2 m between rows, which is wider than usual. Make holes between rows of the newly planted Napier. Plant desmodium cuttings 30 cm apart, as you would sweet potato vines. When desmodium is grown with Napier, the nitrogen it adds to the soil benefits the Napier and reduces the amount of nitrogen fertilizer required for topdressing.

Fertilizer

Apply 500 g of phosphate fertilizer, TSP (45% P) or DAP (46% P, 18% N) to the 3-m by 3-m plot before sowing and mix thoroughly with soil. Alternatively, add 15 kg dry farmyard manure to the seedbed before planting. When growing desmodium with Napier grass, add one handful of farmyard manure per hole at planting and mix...