

## Green Manures No. TGM11

Velvetbean, *Mucuna pruriens*

*Green manures are plants which are grown mainly for the benefit of the soil. They can be grown as part of a rotation or in an intercropping system to build soil fertility, or as a cover crop to protect bare soil from erosion. Full details on the benefits and practice of using green manures can be found in HDRA's booklet 'Green manures/Cover crops'.*



### Growing conditions

- Annual rainfall: Velvetbean requires 650mm to 2500mm rainfall. It does not tolerate being too wet.
- Altitude: It grows up to 2100m.
- Temperature: It prefers 18° C to 30° C and is sensitive to cold weather. Exposure to temperatures below 5° C for longer than 24-36 hours may be fatal.
- Soil type: It grows in soils from pH 4.5 to 7.7. It adapts to well-drained sandy soils to clay soils although it does not like cold, wet soils.

### Nitrogen fixation

Velvetbean is a legume. This means that it has nodules on its roots which contain bacteria. These bacteria take nitrogen from the air. This is known as nitrogen fixation. The plant uses this to grow and when the legume is dug into the soil, the extra nitrogen is made available to the next crop.

### Cultivation

Sow velvetbean 15 to 90cm apart in rows 90 to 180cm apart in a well prepared seedbed. Broadcast velvetbean seeds at a rate of 40 to 90 kg per hectare, onto ploughed land. Dig in at any time up to flowering.

If grown alone plants will form a deep, 60cm, mat which smothers weeds. This does not produce many seed pods. If interplanting, using strong upright crops such as corn, millet or sorghum, seeds will be produced. In this case sow at the same rates as if sown alone.

## **Growth form**

Velvetbean is a strong-growing, annual bush or climbing plant.

## **Recommended application**

Grow velvetbean as a cover crop or green manure to suppress weeds, add fertility and control erosion. It is often used to protect the soil through the wet monsoonal season. It is very efficient in outcompeting weeds.

## **Human food**

Velvetbean is generally not used as human food, although the beans are eaten in some areas after much preparation and cooking. Immature pods and leaves are said to be boiled as vegetables.

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