

Green Manures No. TGM12

Lima bean, *Phaseolus lunatus*

Green manures are plants that 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'.

Phaseolus lunatus is also known as sieva, butter, madagascar sugar or towe bean.



Growing conditions

- Annual rainfall: Lima bean grows well with over 300mm rain, although in general it is drought resistant. It does not tolerate waterlogging.
- Altitude: It can grow up to 2400m.
- Temperature: It requires 10° C to 27° C or over. Germination is best at 21°C to 27° C. It does not tolerate frost and lower temperatures slow growth.
- Soil type: It requires pH 5.5 to 7.5. It requires well drained, well aerated soil. Some varieties are sensitive to high acidity.

Nitrogen fixation

The lima bean 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

Depending on the seed size, sow lima bean at a rate of 56 to 170kg per hectare, 5 to 20cm apart in rows 80cm apart, planted 2.5 to 5cm deep. The minimum temperature for germination is 15.5° C..

Growth form

The lima bean is an annual or perennial herb or bush growing to 0.6m tall. Climbing forms reach 4m high

Recommended application

If the lima bean is sown as an annual cover crop, it is best to sow during the rainy season and dig in any time up to flowering.

If it is grown as a perennial intercrop, the plants need a strong durable support such as cacao, coffee, sugarcane, maize, millet or sorghum.

Human food

Lima bean seeds are eaten cooked and seasoned or mixed with other vegetables. Green immature pods can be eaten as a green vegetable. Sprouts are also eaten and are very nutritious.

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