

Green Manures No. TGM13

Common bean, *Phaseolus vulgaris*

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'.

Phaseolus vulgaris is also known as kidney, french, haricot, snap or wax bean, caraota or frijol.



Growing conditions

- Annual rainfall: The common bean requires over 500mm of rain. It does not tolerate waterlogging.
- Altitude: It grows at 800m to 2000m.
- Temperature: It tolerates temperatures of 15° C to 27° C. Germinates well at temperatures above 18° C. Most varieties do not tolerate frost.
- Soil type: It requires a pH greater than 5.2. It grows best in well drained sand, silt or clay loams with high organic content.

Nitrogen fixation

The common 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

For use solely as a green manure sow the common bean 30cm apart in rows 30cm apart.

If you are allowing the plant to mature to collect beans, you will need to grow the plant up a pole. Sow at a rate of 20 to 115kg per hectare depending on the variety, seed size and width of row.

Growth form

The common bean is a climbing plant.

Recommended application

If the common 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. Chop up the plant before incorporating into the soil for use as a green manure.

Human food

Immature pods and mature beans are commonly eaten worldwide. Leaves are less commonly eaten but are good fodder for animals.

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