

Green Manures No. TGM8

Soya, *Glycine max*

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'.

Glycine max is also known as soyabean.



Growing conditions

- Annual rainfall: Soya grows best in areas with over 800mm of rainfall.
- Temperature: It needs temperatures of 6° C to 28° C. It does not withstand excessive heat or cold.
- Soil type: It tolerates a wide range of soils from pH 4.3 to 8.4.

Nitrogen fixation

Soya 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 the soya seeds 2.5cm apart in rows 45cm to 90cm wide. Sow at a depth of 2.5cm. Dig in the green manure at onset of flowering or allowed it to die naturally after the bean harvest.

It may need inoculation with nitrogen-fixing bacteria, unless this bacteria, which persist for several years, are known to be in the soil. Inoculants from other legumes are not effective on soya.

Growth form

Soya is a bushy, rather coarse annual herb with stems growing up to 1.8m in height.

Recommended application

Use soya as a green manure to add fertility and control erosion, in rotation with a main crop. Dig in at any time up to flowering.

Alternatively sow with main crop. In this case the soya beans will mature after the main crop. Soya remain an be cut up and dug into the soil.

Human food

Soya is suitable for human consumption. Seeds are among some of the world's most important source of oil and protein. Unripe seeds are eaten as a vegetable and dried seeds eaten whole, split or sprouted (which is highly nutritious).100g of soya seeds has been reported to contain 13g protein.

The vegetative parts are also good for animal fodder.

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