

SUGAR CANE *Saccharum officinarum* L. (POACEAE)

Sugar cane has its origin in tropical South Asia and Southeast Asia and its current production amounts to 1½ mil. tons. The world's largest producer of sugar cane by far is Brazil followed by India.



PLANTaGLOBE is your partner in sugar – cane business

Uses

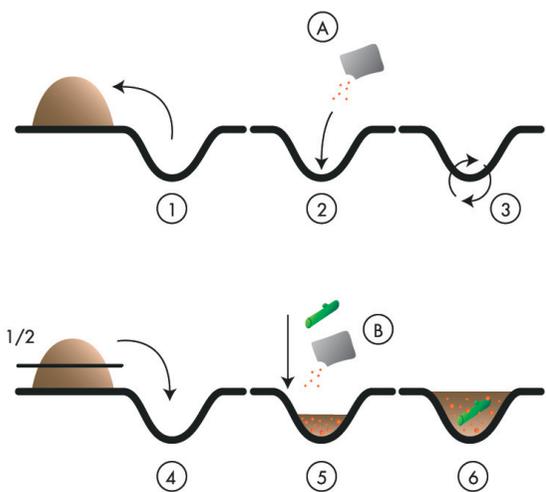
Uses of sugar cane include the production of sugar, Falernum, molasses, wax, rum, soda, cachaça (the national spirit of Brazil) and ethanol for fuel. Molasses is used as a sweetener, in industrial alcohol, for explosives, synthetic rubber, and in combustion engines. Freshly extracted juice is a popular drink and the young unexpanded inflorescence of 'tebu telur' is eaten raw, steamed or toasted, and prepared in various ways. The bagasse that remains after sugar cane crushing may be burned to provide both heat – used in the mill, and electricity – typically sold to the consumer electricity grid. It may also (for its high cellulose content) be used as raw material for paper.

Ecology & Planting

Sugar cane cultivation requires a tropical or subtropical climate, with a minimum of 600 mm of annual rainfall. It requires a hot humid climate alternating with dry periods and thrives best at low elevations on flat or slightly sloping land. Sugar cane is propagated from cuttings. Each cutting must have at least one bud, a stand of cane can be harvested several times; after each harvest, the cane sends up new stalks, called ratoons. It typically takes about 12 months to reach maturity although the time varies widely around the world. Usually, each successive harvest gives a smaller yield and, eventually, the declining yields justify replanting. Depending on agricultural practice, two to ten harvests may be possible between plantings.

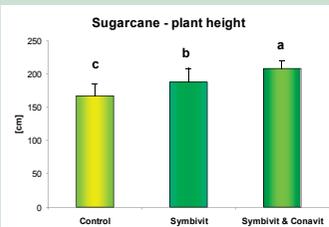
Mycorrhiza & Bio-fertilizers

Inoculation of sugar cane is just being tested in Pakistan. Sugar cane has been reported as a highly mycorrhiza dependent species and the expected yield increase is minimum 20% of total biomass. Lack of mycorrhiza was reported from the southern part of USA as a cause of decreased yields of sugar cane fields. Reintroduction of mycorrhiza can positively influence yield stability of monocrop fields and prolong the time when full production of the field is secured. Mycorrhiza increases resistance to soil borne pathogens and reduces vulnerability of crop to drought stress.



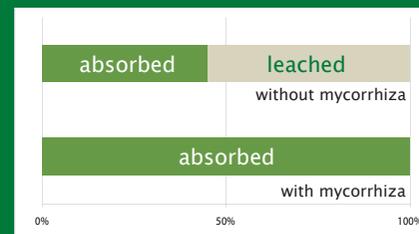
- ① dig a hole;
- ② add biofertilizer Conavit® (A);
- ③ mix with the bottom soil;
- ④ add half of the original soil;
- ⑤ Add Symbivit® (B) and place the cutting in direct contact with Symbivit®;
- ⑥ Cover the cutting with the resting soil;

Application of Symbivit and Conavit proved 20% increase in total plant height and significant increase in sugar content compared to control within a field trial in Pakistan.

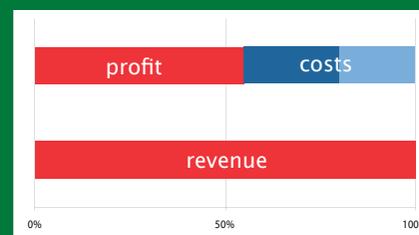


your current yield

potential yield with the use of mycorrhiza



potential efficiency of conventional fertilizers



potential profit and costs of bio-products

potential revenue

Make new progress in your sugar – canea business

Products store in a cool, dry place; can be used for 2 years from production date if stored properly. Contains occurring fungi and is not toxic or harmful to the environment. Does not contain genetically engineered organisms, does not leave toxic residue in the soil. Recommendation is to refrain from using systemic fungicides within 3 following mycorrhizal inoculations. Majority of conventional herbicides, insecticides and non systemic fungicides do not inhibit development of mycorrhiza. Excessive application of superphosphates can reduce mycorrhiza efficacy.

PLANTaGLOBE®

Learn from Nature, be part of it

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Recommended products:

Symbivit® – is an inoculating product improving growth and yield of majority of plant species. It is based on endomycorrhizal (arbuscular) fungi.

Conavit® – is ecological, long term, slow release fertilizer composed 100% natural components. Its high calcium content predestines the fertilizer to be used particularly in acid soils.