



Importance and uses for cultivation of stevia

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The plant is native to tropical and subtropical regions of North America and South America. There are near about 240 species of Stevia Genus there are about 90 varieties of Stevia Rebaudiana developed all around world. Basically all these varieties have been developed for different climatic requirements. Many times these varieties perform strangely in different climatic conditions. At the end of the day just like sugar cane it is the Steviocide and Rebaudiocide content in the Stevia leaves that determines the price and marketability of Stevia leaves. In many cases in south India it was observed that steviocide content was as low as 3.5 per cent which was below the minimum market requirement of 9 per cent. Stevia plant grows well in rich, well drained soils like red and sandy loam soils. The soil should be of fine tilt and natural ph. level. The land should be initially harrowed and then ploughed to break down the clods. The site should not be susceptible to flooding or puddling. The raised bed should be of 15 cm (height) and 60 cm (width). The distance between two rows should be 40 cm and that between each plant 30 cm. This would give a plant population of around 20,000 to 25,000/per acre. There are two popular varieties developed for Indian farmers suitable for Indian soils and Climates. Name of these successfully varieties are MDS-13 and MDS-14, developed for high temp./Low rain area.

Climate : Stevia is a semi-humid, subtropical plant and can grow in the temperature ranges between 04 – 48 C. An annual average temperature of 31°C with a rainfall of 140 cm per year has been found optimum for its good growth. It shows good seed germination when subjected to light and warm conditions. Hence, a long growing season, minimal frost, high light intensities and warm temperature favors higher leaf production. Stevia is a short day plant, but the concentration of stevioside in the leaves increases when the plants are grown under long day conditions. The day temperatures should not exceed 48°C and the night temperatures should not fall below 04°C.

Propagation : Stevia plants can be propagated from cuttings or seeds or by tissue culture. As the seed germination is very poor and seedlings are very slow to establish, it is generally propagated clonally through cuttings. For vegetative propagation, stem cuttings of 15

cm length taken from leaf axils of the current year's growth have been given better results. Treatment with Paclobutrazol @ 100ppm has been found to induce the root initiation in short time and IBA@500 ppm is also found to be effective. The best months for propagation are February-March. The cuttings will be ready for transplanting after 25-30 days of rooting.



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