

STEVIA



GENERAL INFORMATION

Stevia is also known as 'honey plant' because it is sweeter in taste. It is a natural sweetener which is given mainly to diabetic patient to balance insulin in their body. Its leaves are used for preparing various drugs. Drugs prepared from Stevia are used for treatment of diabetes, reduces tooth cavity, tonics, reduces calories from food etc. It is a perennial herb with average height of 60-70cm. Leaves are oppositely arranged and are green in color. Flowers are small and white in color. Punjab, Chhattisgarh, Karnataka, Maharashtra, Madhya Pradesh and Andhra Pradesh are major Stevia growing states in India.

CLIMATE

Temperature

25-30°C

Rainfall

1600-1800mm

Sowing Temperature

22-28°C

Harvesting Temperature

24-30°C

SOIL

It is grown in wide variety of soils. It gives best result when sown in sandy loam to loamy soil with good drainage system and high organic content. Avoid cultivation in saline soils as it is harmful for the Stevia. The pH ranging from 6-8 is best for plant growth.

POPULAR VARIETIES WITH THEIR YIELD

SRB-123: Grows well in Deccan plateau. The variety is mainly harvested 3-4 times in one year. It contains Glucoside content @9-12%.

SRB-512: Grows well in Northern latitudes. The variety is mainly harvested 3-4 times in one year. It contains Glucoside content @9-12%.

SRB-128: Grows well in South and North Indian climates. It contains Glucoside content @14-15%.

MDS-13 and MDS-14: Grows well in Indian climatic conditions. It requires high temperature and low or drought rainy season.

LAND PREPARATION

For Stevia plantation, it requires well prepared field. To bring the soil to fine tilth, plough land 2-3 times. At the time of ploughing mix trichoderma well with soil and at last ploughing FYM is mixed well with soil. Transplantation of Stevia is done on raised beds.

SOWING

Time of sowing

Optimum time for sowing is from February to March Month.

Spacing

Seedlings are planted at 18 inches distance and row spacing is 20-24 inches apart.

Method of Sowing

Crop is transplanted in field, 6-7 weeks after sowing.

SEED

Seed Rate

When seedlings are transplanted in main fields use plant density of 30,000 per acre.

Seed treatment

No seed treatment is required.

NURSERY MANAGEMENT AND TRANSPLANTING

Sow Stevia seeds indoors in containers for 6-8 weeks. After sowing cover beds with peat moss. Water should be given properly to retain moisture in soil. For bushier growth before transplanting pinch the tips of plant.

Transplanting of seedlings is done on raised beds of 60cm width and 15cm height. Seedlings are ready for transplantation in 6-8 weeks. Water seedling beds 24hours before transplanting so that seedlings can be easily uprooted and be turgid at transplanting time.

FERTILIZER

Fertilizer Requirement (kg/acre)

UREA	SSP	MURIATE OF POTASH
24	282	75

Nutrient Requirement (kg/acre)

NITROGEN	PHOSPHORUS	POTASH
11	45	45

At the time of land preparation, apply FYM@200qtl/acre, cow dung/urine and vermin compost and mix well with soil. Apply fertilizer dose of N:P:K @11:45:45kg/acre in the form of Urea@24kg, SSP@282kg and Potash@75kg/acre. Apply full dose of SSP as basal dose. Nitrogen and Potash are applied in 10 doses in every month.

Spraying of Boron and Manganese is done to give maximum dry leaf yield.

WEED CONTROL

Hand weeding is mainly done to remove weeds from the field. First weeding is mainly done after one month of planting and then subsequent weeding is done every two weeks. Inter cultural operations are mainly done to remove weeds because the crop is grown on raised beds and easy for labor.

IRRIGATION

Irrigation is mainly done by sprinkler system or by drip irrigation method. The plant does not require water in plenty so light irrigation is given at proper intervals. In summer, apply irrigation with interval of 8 days. Avoid stagnation of water in the field as it will harm the crop.

PLANT PROTECTION



- **Pest and their control:**

Aphids: These are nearly transparent, soft-bodied sucking insects. When present in sufficient numbers, aphids can cause yellowing and premature death of leaves.

For management of Aphid, use chrysoperla predators. 4-6 thousand/acre or use 50 gm/ltr neem concentrate.



- **Disease and their control:**

Septoria steviae: The symptoms are angular grey spot appear on leaves followed by chlorosis.



Sclerotinia sclerotiorum: The symptoms are brown spots appear on the stem of the plant and then withering of whole plant and then it eventually collapses.



Southern blight: it is caused by soil borne fungus *Sclerotium rolfsii*. Soil solarization is an effective way to kill Southern blight.

HARVESTING

Plant starts yielding in about 3 months after planting. Subsequent harvesting is done at the intervals of 90 days. It should be kept in mind that while harvesting 5-8cm of stem from ground level should left as such for regeneration. Four harvests is mainly done in one year. For processing, leaves are used.

POST-HARVEST

After harvesting, drying of leaves is done. The leaves are air dried and then extraction is done. Then the leaves are packed in air tight polybags for transportation purpose and to increase its self-life. From extract leaves various products such as powder, tonics and sugar free tablets are made after processing.

REFERENCES

1. Punjab Agricultural University Ludhiana
2. Department of Agriculture
3. Indian Agricultural Research Institute, New Delhi
4. Indian Institute of Wheat and Barley Research
5. Ministry of Agriculture & Farmers Welfare