"STEVIA"

Commercial Cultivation & Contract Farming

NATURAL SUBSTITUTE OF SUGAR

CLICK-N-GROW
Agroventures Pvt Ltd
Farmer's e-Buddy

INTRODUCTION

Stevia is called by numerous names in various parts of India. Its most popular names are "Meethi Tulsi" and "Meethi Patti". In Hindi stevia is called 'Madhu Patrika". But in most of places, it is generally known as "Meethi Tulsi" because of its uncanny similarity to the Tulsi plant in stature, leaf shape, and other physical qualities.

Currently, India has about 30 million diabetic patients, which is expected to increase to 80 million by 2025. In this way, Indian farmers have also started to cultivate stevia to the next level trailing the huge demand for the diabetic market here. Presently India's total annual production of stevia is about 600 tons. The weather conditions in many parts of India are very good for stevia cultivation.

In the research of the Indian Agricultural University, it has been revealed that Stevia or Madhupatra leaves contain high amounts of protein and fiber. Apart from being rich in calcium and phosphorus, these leaves also contain many minerals. That's why they are used for diabetes patients. Apart from this, stevia leaves are in demand on a large scale in fish food, cosmetics and pharmaceutical companies. The government is giving a 20 percent subsidy to promote stevia cultivation. Farmers are also being made aware of this. Apart from health, it is also beneficial economically.

The sweetening components of Stevia are called steviol glycosides, with the most abundant and potent one being rebaudioside A (Reb A). Stevia extract is typically 200 to 300 times sweeter than sucrose (table sugar) but contains virtually no calories, making it an attractive alternative for people looking to reduce their sugar intake or manage their weight.

Stevia has gained popularity as a natural sweetener in recent years due to growing concerns about the health effects of consuming large amounts of sugar and artificial sweeteners. It is commonly used as a sugar substitute in a variety of products, including beverages, baked goods, and dietary supplements.

IMPORTANCE OF STEVIA:

Stevia which has gained immense importance in the commercial and medicinal world in recent years, is due to the quality of sweetness found in it. In addition to being 25 to 30 times sweeter than normal sugar, the specialty of stevia is that it is completely calorie-free, due to which it is completely safe to use as sugar for diabetic patients. Along with this, it is safe to use for people who are calorie-conscious and who are very conscious of increasing their weight. Because the various sweeteners currently being used are not completely safe for humans, so stevia used in this situation is a completely herbal product and free from all kinds of side effects and is becoming a suitable effective alternative to sugar.

At present, stevia extract has occupied 40% of the market of sweeteners in various eastern countries like Japan and Korea, etc., in which continuous growth is taking place.
It regulates high blood pressure and blood sugar, it also provides relief from skin disorders, is also anti-viral and anti-bacterial, and also provides relief from diseases of teeth and gums. Thus, it can be seen that Stevia is a plant of great medicinal and commercial importance, which can have a wide national and international market.

USES OF STEVIA

Stevia is a natural sweetener derived from the leaves of the *Stevia rebaudiana* plant. It is often used as a sugar substitute due to its zero-calorie content and high sweetness level. Here are some common uses of stevia:

1.Sweetening beverages: Stevia can be added to coffee, tea, lemonade, and other beverages as a sugar alternative. It provides sweetness without the calories of sugar.

2.Baking and cooking: Stevia can be used in baking and cooking to sweeten recipes. However, it's important to note that stevia is much sweeter than sugar, so need to add it in less amount.

3.Desserts and sweets: Stevia can be used to sweeten desserts such as cakes, cookies, and puddings. It can also be used to sweeten fruit salads or yogurt.

4.Condiments and sauces: Stevia can be added to homemade condiments and sauces such as ketchup, barbecue sauce, and salad dressings to add sweetness without the added calories of sugar.

5.Preserves and jams: Stevia can be used as a sweetener in homemade preserves and jams, allowing you to enjoy the sweetness of these treats without the added sugar.

6.Beverages and cocktails: Stevia can be used to sweeten alcoholic and non-alcoholic beverages, including cocktails, mocktails, and smoothies.

Overall, stevia is a versatile sweetener that can be used in a variety of ways to reduce sugar intake and create healthier versions of your favorite foods and drinks.

MEDICINAL USES OF STEVIA

1. Diabetes management: Stevia is a popular sugar substitute for people with diabetes because it doesn't affect blood sugar levels. It may even help lower blood sugar levels, making it a suitable option for those with diabetes or those looking to manage their blood sugar levels.

2. Weight management: Stevia contains zero calories, making it an attractive option for people looking to reduce their calorie intake and manage their weight. It can be used as a sugar alternative in beverages, desserts, and other foods without adding extra calories.

3. Blood pressure regulation: Some research suggests that stevia may have a beneficial effect on blood pressure levels. It may help lower blood pressure in individuals with hypertension, although more studies are needed to confirm these effects.

4. Anti-inflammatory properties: Stevia contains compounds like stevioside and kaempferol, which have anti-inflammatory properties. These compounds may help reduce inflammation in the body, potentially providing relief for conditions like arthritis and inflammatory bowel diseases.

5. Antimicrobial activity: Stevia extracts have been found to exhibit antimicrobial properties against certain bacteria and fungi. This may make it useful for preventing infections and promoting overall oral health when used in oral care products like toothpaste and mouthwash.

6. Skin health: Some studies suggest that stevia extracts may have benefits for skin health. They may help reduce inflammation, fight acne-causing bacteria, and promote wound healing when applied topically to skin.

CLIMATE REQUIREMENT

Stevia can be adopted in almost all areas except those areas where the minimum temperature goes below 9-10 degrees in winter. High temperatures in summer (above 45 degrees) can affect this plant and the growth of the plant stops, but if arrangements are made in advance and the same variety of stevia is planted it can be successfully grown in high temperatures. If it is possible to go and protect the plants from the high heat, if they are planted in between the plants of moringa, amla, etc., then there will be no effect of high temperature.

Many farmers also use polyhouse or greenhouse / net house in order to maintain thistype of temperature. Stevia is not a shade-loving plant, so it should be planted in the open because excessive shade/shade hinders the growth of plants and their stevioside content is also affected. Similarly, when the temperature goes below 7-8 degrees for centuries,then the roots of the plants are not able to absorb the nutrients properly, due to which their growth is affected. In both situations (in case of high temperature as well as incase of low temperature), the interval of irrigation should be reduced. In this way, in aclimate of 10 to 45 degrees, Stevia grows successfully without any binding, but if thetemperature is lower or higher than this, then it will be necessary to make properarrangements for its maintenance.

SOIL REQUIREMENT

Stevia plants grow most successfully in soils that are soft, not too clayey, rich in organic matter, and in which water does not stagnate for a long time. Thus, very clayey and heavy soils are not suitable for this. Generally, sandy loamy soils, light and red soils having pH between 6 to 8 would be suitable for its cultivation.

IRRIGATION REQUIREMENT

Stevia needs water throughout the year. The water should be of good quality. Its electrical conductivity is as per the prescribed parameters. Irrigation should be arranged through the drip method as much as possible because the possibility of the outbreak of various pests on the crop may increase in watering with sprinkler method.

IMPORTANT VARIETIES

Around 90 species of stevia have been developed around the world, which have been developed to suit the climate of the respective regions. It has been found that especially in southern India, there are varieties in which the percentage of stevioside is only 3.5%. Because the price of stevia is determined only by the amount of stevioside, therefore only such species should be cultivated which have a maximum amount of stevioside and which also suits the climate of their area. At present mainly the following species of Stevia are in vogue from the point of view of agriculture.

- Tissue Culture Plants - ST-13, ST-19, ST-20, ST-22
- MORITA- 1, 2, 3
- SRB- 123, 512, 125

SELECTION OF PLANTING MATERIAL

From the point of view of commercial cultivation of stevia, it is necessary that such suitable species are selected, which are suitable for the climate of the concerned region.

Because which species will be more suitable for which area and which will have how much glucoside content will depend on which species you have planted, the selection of the species should be done thoughtfully.

PRE-PLANTING PRECAUTIONS

Before buying Stevia plants, it will be mandatory for the farmers to consider the following points-

·Are your plants prepared by tissue culture method? Plants prepared by the tissue culture method are undoubtedly the best.

·The variety of stevia you are cultivating, is it suitable for your climate?

·What is the amount of stevioside in the variety you are cultivating?

It is necessary to prepare the field well. For this, first of all, the field is deeply ploughed, and organic fertilizers are added. To keep the field safe from soil-borne diseases and termites etc., 150 to 200 kg of ground neem cake per acre is also mixed in the field while preparing the field.

Planting on ridges/beds- Stevia is planted on ridges/beds. It is especially necessary to make beds so that in the event of rain or during irrigation, the water passes through the drains and does not create a situation of water logging. From this point of view for the development of the roots, making ridges/beds would be appropriate. With this in view, 1 to 1.5 feet high ridges are made in the field. The width of these ridges is kept at about 2 feet.

After making ridges, stevia saplings are planted on them. For this purpose, plants prepared by the tissue culture method of Stevia are obtained and planted keeping a distance of 15 to 20 cm between plants and 1 foot between rows. It can be spread on both sides of the ridge while planting. In this way, about 30000 stevia plants are planted on one acre.

PLANTING ON GROUND LEVEL

Stevia is also planted on level ground, this method is easier than the bed planting method and, in this method, planting time is reduced on flat prepared ground as compared to the bed method, but the number of plants is more.

IRRIGATION

Stevia crop requires continuous irrigation throughout the year. Although sprinklers can also be used for irrigation, the best medium for Stevia's irrigation is the drip method. Therefore, the drip method should be used for irrigation of stevia as much as possible.

WEEDING

Field should be free from weeds and whenever any type of weed is found in the crop, it should be uprooted. Weeding of the field should also be done at regular intervals. Weed control should be done manually and no chemical weed killer should be used for this.

FERTILIZER REQUIREMENT

Being a continuously growing crop, stevia requires a lot of nutrients. Along with the manure applied during field preparation, after each harvesting, 500 kg vermicompost and 30 kg PROM should be applied near the plants. Because stevia is consumed directly, as far as possible, no chemical fertilizers or tonics should be used in the cultivation of the crop.

PEST & DISEASES

Although outbreak of any particular disease or insect has not been seen on stevia, the deficiency of boron element is seen on crop, for this 6% borax can be sprayed. Also leaf spot is seen on crop. By the way, by mixing cow urine or neem oil in water and spraying it at regular intervals, the crop remains completely free from diseases or insects/worms. It should be kept in mind that, no chemical insecticide should be used for disease control. Because stevia is directly meant for human consumption, so effective steps should be taken to stop it before pest attack, for which regular monitoring is a precautionary measure. Spraying cow urine at regular intervals can be a good step.

HARVESTING

Stevia crop is ready for first harvesting after about four months of planting. The harvesting should be done before flowering, because after flowering, the amount of stevioside in the plant declines, due to which crop cannot fetch good prices in the market. The first harvesting is done after four months and subsequent harvesting is done every 3 months. Whether harvesting is first, second, or third, it is necessary to keep in mind that in any case harvesting should be done before flowering. The whole plant can be harvested or leaves can also be plucked. After plucking the leaves, they should be dried in the shade. The leaves become completely moisture-free after being dried in the shade for 3-4 days and after that, they are packed in sacks and sent for sale.

GOVERNMENT SUBSIDY

The stevia market is estimated to increase further by about Rs 1000 crore. Given this, the National Medicinal Plants Board (NMPB) has announced a 20-30 percent subsidy to farmers on stevia cultivation. In the research of the Indian Agricultural University, it has been revealed that stevia leaves contain high amounts of protein and fiber. Apart from being rich in calcium and phosphorus, these leaves also contain many minerals. That's why they are used for diabetics. Apart from this, there is a large demand for these leaves in fish feed, cosmetics, and pharmaceutical companies.

WAYS WILL ALSO OPEN FOR THE ESTABLISHMENT OF FOOD PROCESSING INDUSTRIES

Stevioside, a calorie-free, non-toxic sweet compound found in the stevia plant, is considered a boon for diabetic patients. It does not cause side effects similar to sugar. It is beneficial for diabetes, heart disease, and obesity. It is increasingly used as a flavor enhancer in herbal tea, and in pharmaceutical industry, food and beverage industry. With the increase in the area under its cultivation in the country, avenues will also open for the establishment of new food processing industry.

TOTAL COST PER ACRE- 5 YEARS

PARTICULARS	WORK	EXPENSES
Land Preparation	Ploughing, Levelling, Bed Preparation etc	4,000
Organic Fertilizers	Organic Fertilizers, Pesticides, Fungicides & Growth Boosters	20,000
Stevia Tissue Culture Plants (Varierties- ST-13, ST-19, ST-20, ST-22)	35000 Saplings @ Rs. 4.5/- per plant	157,000
Sowing	Labour Expenses for sowing	4,000
Electricity Bill	Irrigation	5,000
Weeding	Removing weeds by machnical method and labour	30,000
Harvesting	Labour Expenses for Harvesting	20,000
Shade Net	Drying of harvested leaves	5,000
Packing	PP bags and Polythene bags	3,000
Maintanance	General farm care and other	5,000
Transportation Cost	Transport of plants, fertilizers and harvested material	20,000
Total Expenses (5 Years)		**2,73,000/-**

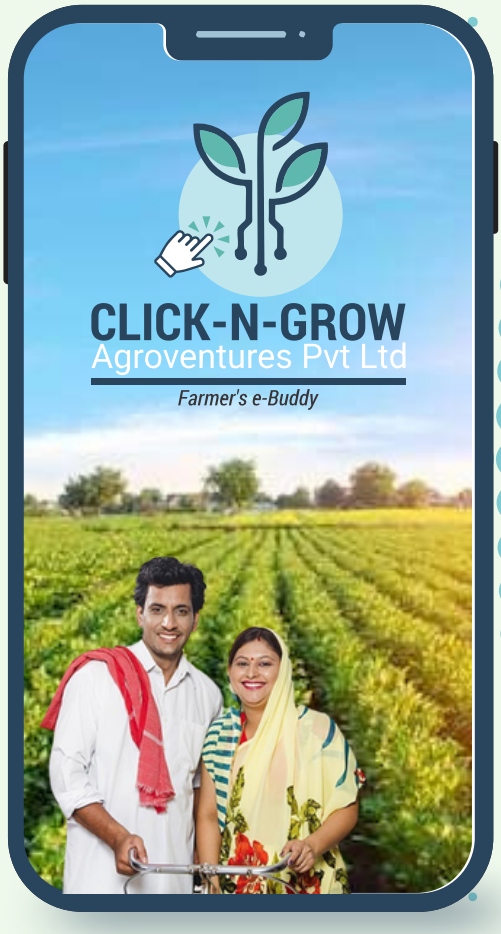
CLICK-N-GROW
Agroventures Pvt Ltd
Farmer's e-Buddy

TOTAL INCOME PER ACRE- 5 YEARS

PRODUCTION	DETAILS OF PRODUCTION				
Dry Leaves (Every Year)	2000 kg	2500 kg	3000 kg	3000 kg	3000 kg
Buy back price (per kg)	100/- per kg	100/- per kg	100/- per kg	100/- per kg	100/- per kg
Total Income per Year	200,000/-	250,000/-	300,000/-	300,000/-	300,000/-
Total Income 5 Year	**Rs.1,350,000/-**				
Total Expenditure 5 Year	**Rs.273,000/-**				
Net Profit/ Income 5 years	**Rs.1,077,000/-**				

CROP CULTIVATION GUIDE

Click-N-Grow Agroventures Pvt. Ltd.



CLICK-N-GROW
Agroventures Pvt Ltd
Farmer's e-Buddy

KisanZone Farmer's e-Buddy | MITCAD | Contract Farming | KisanSAT Agro Advisory Services | Agri Export Grow Farmer, Grow India

INTERLINKED FARM SOLUTIONS AT ONE PLACE

Click-N-Grow Agroventures Pvt. Ltd.

Corporate Address: C/17-18, Dakshata Nagar Complex, Sindhi Camp, Akola, Maharashtra- 444001
Registred Office: C/2, Matoshri Apt, Sane Guruji Nagar, Khadki, Akola, Maharashtra- 444004

Mobile: +91-7775008660, 7030281210, 9730951149

Email: ekisanzone.com | info.mitcad@gmail.com | ekisanzone1@gmail.com

Website: www.ekisanzone.com | www.kisansat.com