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Redefining Food and Agriculture



SPINE GOURD



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Spine Gourd: An Introduction

Scientific name of spine gourd is *Momordica dioica*. Spine gourd is a cucurbitaceous vegetable which is closely related to bitter gourd. However, it is not bitter in taste as bitter gourd. As in case of other cucurbitaceous vegetables (cucurbits) which mainly include melons and gourds, spine gourd is also grown as a summer vegetable in tropical and subtropical countries. Spine gourd is called Kantola or kakrol in Hindi, mada hagalakai in Kannada, kadu peere in Tulu, and paagila in Konkani.

Origin

Spine gourd is believed to be originated in the tropics of the old world.

Nutritional Value per 100 gm of Edible Vegetable

Spine gourd has a high nutritional and medicinal value. It helps build natural immunity of a human body. Spine gourd contains 84.1% moisture, 7.7 g of carbohydrate, 3.1 g of protein, 3.1 g of fat, 3.0 g of fiber, 1.1 g of minerals and small quantities of essential vitamins like ascorbic acid, carotene, thiamin, riboflavin and niacin.



Growing Requirements

General : As in case of most cucurbits, spine gourd is a shallow rooted crop and hence shallow cultivation should be practiced.

Climate: Spine gourd is a warm season crop and can be successfully cultivated in the plains and hills of sub-tropical and tropical regions. Plenty of sunshine and low humidity are ideal conditions for its growth.

Soil: A well-drained sandy loam soil with a pH between 5.5 and 6.5 is the most ideal soil condition for spine gourd production.

Propagation: Propagation of spine gourd is via seeds as in case of any other cucurbits.

Sowing Time: Spine gourd can be grown both as a summer crop and a rainy season crop. Sowing time for the crop in tropical plains is January to February for summer crop. The best time for rainy season crop is July-August. Sowing time in tropical hills is April.

Seed Rate: Approximately, 1 to 2 Kg seeds are required for sowing one acre of area. Seeds may be extracted from good quality ripe fruits and dried and stored for further uses.

Field Preparation: Field is well prepared by 2 to 3 ploughing followed by tilling and levelling of the soil. Well-rotten organic manure or FYM (farm yard manure) @10-15 tonnes per acre is incorporated with the top soil during the last ploughing to enhance soil fertility. Ridges or raised beds are prepared in the field with furrows in between. Furrows are meant for flood irrigation and ridges are meant for sowing seeds on them.

Spacing: Recommended spacing to be followed (if staking is not practiced) is, 1-2 meter between two ridges and 60-90 cm between two plants. If staking is practiced, this spacing may be reduced according to your cultivation requirements.

Sowing Depth: Seeds are sown by placing two or three seeds deep into the pits prepared on raised beds at 1 to 2 cm in depth. If more seeds per pit are used, thinning should be done after the sprouting of seedlings.

Irrigation: First irrigation is done soon after sowing by watering the beds lightly to facilitate seed germination. Subsequent irrigations may be done depending upon the soil moisture level and prevailing weather conditions.

Disease Management: Fungal diseases such as anthracnose, downy mildew, and powdery mildew, bacterial diseases such as angular leaf spot, and viral diseases such as mosaic are major diseases found in spine gourd. Fungal disease may be controlled by the application of any of the recommended fungicides. Removal and destruction of mosaic affected plants may prevent further spread of this viral disease. Other disease control measures that can be adopted are crop rotation, effective weed control in the field, and seed treatment with recommended chemical before sowing. In organic production practices, seeds may be treated with a mixture of cow urine and cow dung (a biodynamic preparation) and then sun dried before using them for sowing. This seed treatment process completely eliminates the incidences of a majority of seed-borne diseases.

Weed Control: Weeding should be done regularly. Manual weeding and hand-hoeing is recommended.

Insect-Pest Management: Fruit flies are a major problem. Use of any of the recommended organic pesticides may eliminate this problem. Alternatively, any of the mechanical control methods such as use of baits and insect traps to catch and kill the adult flies may be used. Nematodes may also be a problem. Application of neem cake in the soil at the time of field preparation may eliminate this problem. Growing marigold, a nematode-repellent plant, as an intercrop may also be tried as a nematode control measure.

Harvesting: Spine gourd is harvested when their fruits are still young and tender. Frequent harvesting at every alternate day or at 2 to 3 days intervals is recommended to avoid losses due to over-sized and over-mature fruits. Fruits are allowed to ripen only if the grower wants to extract seeds from ripened fruits for propagation purposes. If that is the case, harvest the fruits only after the ripe fruit has changed colour from green to yellow to orange and the fruit pulp has entirely turned red in colour with mature seeds.

Yield: An average yield of 500 to 650 grams per plant is obtained under good cultural practices. That is, approximately 5000 Kg fresh produce may be obtained from one acre of area.

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