

Chekurmanis : The Multivitamin Green

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ARTICLE ID: 020

Introduction

Chekurmanis (*Sauropus androgynus*) of the family Phyllanthaceae is a perennial small shrubby leafy vegetable growing wildly in South and Southeast Asia. The plant is native of India and Burma region. It is found in the Sikkim, Himalayas, Khasi and Akra hills at 1200m elevations and in the Western ghats of Kerala from Wynad northwards at an altitude of 300-1200m. It is reported to be introduced into Kerala from Malaysia in 1953 and is known in Malayalam as 'Madura keera'. Chekurmanis occupy a prominent place in almost all household kitchen gardens of Kerala but has not been cultivated on a large scale for commercial purpose. Hence, no data on area and production of this vegetable are available.



The plant is a slow growing glabrous perennial shrub and attain a height of 2-3.5m. Its main branches are terete and flaccid. Lateral branches are thin. Leaves are ovate, oblong, sessile, alternate, membranous and short stacked. The inflorescence is auxiliary with small reddish flowers. Flowers are monoecious, minute, auxiliary, pedicelled and clustered. Fruits sessile, white or pinkish-white, 0.2cm in diameter with a fleshy epicarp. The crop is highly cross

pollinated and entomophilous because of photogynous and monoecious nature of flower. As a leafy vegetable, it is usually maintained as a perennial plant at a height of 1-1.5m by frequent harvest of leaves and apical system.

Package of Practices

It comes up well in all types of soils. The growth and yield are high when they are grown in rich, well drained sandy loam or semi-laterite soils. A warm humid climate with good rainfall is best suited and it grows luxuriantly at a lower elevations at 500m above MSL though plants are found at higher elevations up to 1,200m above MSL. When the plants are raised under shade, it produces broader leaves. There are no distinct varieties or types available in this crop.

It is propagated by seeds and stem cuttings. Seed propagated plants come to harvest little later than cuttings. Herbaceous stem cuttings (6- 12 months old) may be collected with 5-6 nodes or 20-30cm length and planted in polybags containing manure mixture. Rooting can be harvested by dipping the cuttings in 50ppm IAA/ IBA before planting in polybag. It takes 20-25 days for rooting. Usually, it is grown as hedge or fence around vegetable plots or in kitchen gardens. For planting a hectare area, about one lakh cuttings are required. The cuttings are planted in shallow furrows at least 15 days earlier to the onset of monsoon during April-May. Cuttings are planted at a spacing of 60cm between the plants. If the crop is planted in pits (30cm³ size), 5 kg of farmyard manure is added in addition to 25g each of urea, superphosphate and muriate of potash. Application of 30g of 7:10:5 NPK mixture per plant supplemented with 1 % urea spray after each clippings enhances leaf yield considerably. When the plants are about one meter height, they are tipped to develop laterals. If left untrimmed in early age, the plant reaches the size of a small tree. It can be trained as hedge or even on bowers or on trellises.

The first clipping of succulent leaves can be done 3- 4 months after plantings, *i.e.*, when the plant reaches about 60-90cm height subsequently in every fortnight, another harvest is possible, if the plants are manured and irrigated. Plants are usually trimmed to 1- 1.5m height to facilitate easy harvest. The tender shoots and leaves are used for culinary purpose. The annual productivity is 30-50 tonnes/ha with a per plant yield of 1- 3kg leaves per year. The

plant is devoid of any serious pests and diseases except an occasional incidence of scale insects and aphids which can be controlled by spraying Malathion @1 ml/l. Caution should be taken not to pluck the leaves and tender shoots immediately after spraying insecticide.

Nutrient Profile

The leaves of chekurmanis are commonly consumed in Malaysia. Consumption of chekurmanis, however, is not very common in India, being restricted to certain parts of Southern India. The leaves of chekurmanis are highly nutritious, being a very rich source of β -carotene, vitamin E, vitamin C, thiamine, riboflavin, calcium, iron, zinc and protein. Thus, chekurmanis is an unusual green leafy vegetable having maximum number of nutrients. Being a rich source of several vitamins, minerals and protein, it is commonly called as “Multivitamin Green”. Chekurmanis leaves have been reported to possess strong antioxidant properties, probably owing to the vitamin C and E contents. In view of its rich nutrient composition, this shrub can be explored for the development of health beneficial food products, which can also help in the prevention of micronutrient deficiencies. Chekurmanis leaf, however, is reported to contain the alkaloid papaverine in considerable amounts. Excessive consumption of the leaves especially in raw form has been reported to cause drowsiness and respiratory disorders attributable to this alkaloid.

In view of the widespread micronutrient deficiencies in India, it is desirable to explore natural sources of micronutrients that can be easily grown and used in households. This easily available plant can therefore be exploited for use in the development of nutritious food products, at a low cost, after ascertaining its safety.

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