



## Package of Practices for Cultivation of Fenugreek or Methi

(\* Anisha Mathur and Surendra Kumar)

SRF, Agricultural Research Station, Mandor (Jodhpur)

\*Corresponding Author's email: [mathuranisha84@gmail.com](mailto:mathuranisha84@gmail.com)

### Abstract

In Indian households, herbs are highly valued as medicines. One of the most promising therapeutic plant, fenugreek (*Trigonella foenum L.*) belongs to fabaceae family found on the continents of Asia, Europe, Africa, and Australia have some magical properties. It is a traditional therapy for a number of ailments. Following several investigations on its chemical components, fenugreek's medicinal value has come to light, due to its high fibre content, seeds are good source of dietary fibres. Fenugreek includes volatile ingredients as well as gum, fibre, alkaloids, flavonoids, and saponin. It has a variety of medicinal uses, including anti-diabetic, anti-cancer antioxidant, antibacterial, hypoglycemic, stomach stimulant, and anti-anorexia agents are some examples of hypocholesterolemia-related drugs.

### Introduction

Fenugreek is mostly produced in India, specifically in the states of Rajasthan, Madhya Pradesh, Maharashtra, Punjab, Gujrat, and Uttar Pradesh. Fenugreek is mostly grown in the Rajasthani districts of Sikar, Chittorgarh, Jaipur, Pali, Nagour, and Alwar. The seeds have a strong therapeutic and nutraceutical value and are mostly utilised as a flavouring in numerous vegetable preparations. Fenugreek is used as vegetable as well as pulse. The leaves and young pods are used as vegetable and as condiments. It has also some medicinal value, it removes indigestion, stimulates the spleen and is appetizing and diuretic. The leaves are quite rich in protein minerals and vitamin C. Protein (9.5%), fat (10%), crude fibre (18.5%), carbs (42.3%), and several other trace elements and vitamins are all included in fenugreek seeds. Poor levels of knowledge about area-specific packages of practises among farmers, a lack of readily available high yielding and resistant varieties, and low adoption of plant protection and production technology are the main causes of low productivity.

### Origin and Distribution

Origin of fenugreek is southern Europe, the Mediterranean region and western asia. Fenugreek is also native to india as it is found growing in Kashmir, Punjab and the upper planes of ganga. The most common Indian name is methi. The genus *Trigonella* includes 50 species. Among these, eleven species are present in india, among which *Trigonella foenum-graecum L.* (common fenugreek) and *Trigonella corniculata L.* (kasuri fenugreek) are cultivated in india. India is the largest producer in the world. In india, Rajasthan, Gujrat, Madhya Pradesh are the major producing states. Rajasthan is the country's fenugreek bowl, contributing about 80% to the country's production.

### Climate

Fenugreek is a cool climate crop. Having greater adaptability, the crop can be grown successfully in both tropical and temperate regions. In india it is mainly grown as rabi crop but in southern parts it is also grown in rainy season. Kasuri fenugreek require longer

duration of cool weather, hence are grown more successfully in northern states during winter than in south india.

### Soil

Fenugreek can be grown in all types of soil with good drainage facility but grows best in well drained loamy soils. Sandy or gravel soil can not be considered for growing and for rainfed cultivation, black cotton soils are best suited. Although the crop can tolerate down to pH 8.4, but pH 6.5-7.5 gives higher yield with better leaf quality.

### Land Preparation

For better germination and plant growth, 3-4 ploughing are required. First ploughing should be done by soil turning plough followed by 2-3 ploughing with harrow to bring soil at fine tilth. At time of sowing there should be good moisture in soil for better seed germination.

### Variety

Variety	Characters
CO1	Duration of crop is 90 days. Dual purpose quick growing. suited for intercropping. High seed protein 20-23%. Yield per ha 685 kg grain production
Rajendra kanti	Duration of crop is 120 days. High yield, medium height, bushy, suited for pure as well as intercropping. Seed protein: 9.5%. yield per ha 1200-1400 kg grain.
RMt-1	Duration of crop is 145 days. Moderately branched, moderately tolerant to root rot and powdery mildew. Seed protein: 21% yield per ha 1500 kg grain
Lam Sel. 1	Duration of the crop is 68 days. High yielding bushy plant type. Seed protein 53%. Yield per ha 750 kg grain

### Sowing Time

It is sown from October to November in northern region while in hills it is sown from March to May, depending on altitude. Fenugreek for vegetable can be grown all round the year except for extremely hot months of summer and rainy season. In south Indian states it is sown twice a year.

### Seed Rate

The seed rate for fenugreek is 20-25 Kg/ha and for kasuri fenugreek type is 10-12 Kg/ha.

### Seed Treatment

Seeds should be treated with the local culture of *Rhizobium meliloti* before sowing, especially when the crop is sown in new field. Seeds should be treated with bavistine or thiram at 2 g/kg seed to control early fungal diseases.

### Manure and Fertilizer

To maintain a stable state of productivity, application of FYM (10 t/ha) has a beneficial effect on the vegetative growth and resulted higher production of fenugreek. Application of N, P and K at 20 kg/ha, 30-40 Kg/ha and 20 Kg/ha respectively recommended best for overall growth and increased yield of crop.

### Irrigation

Normally 6 to 7 irrigations are needed in light soil and 4 to 5 irrigations in heavy soils. Light irrigation should be applied after sowing and should be followed by another light irrigation on third day to facilitate rapid and even germination, later after interval of 12 to 15 days depending on soil type irrigations are given.

## Weed Management

Generally 2 to 3 hand weeding is necessary to keep crop weed free. Hoeing and weeding done at early stage of growth is essential to loosen the soil around roots to control weeds. Pre sowing application of pendimethalin at 1 kg/ha or pre sowing application of fluchlorine @ 0.75 kg/ha in 500 to 600 liters of water is suitable to suppress weed growth.

## Major Insects

- Aphids- The most common insect that attacks the fenugreek crop is aphid and it is found in colonies on tender leaves, stems etc. Both nymph and adult suck sap from tender leaves, flower etc. Its infestation affects leaf yield and quality. Excessive application of nitrogen fertilizer make plant luscious and hence a larger insect population. Spray of imidachlorpride (0.005%) or dimethoate (0.33%) 10 days apart help management.
- Leaf eating caterpillar- Numerous caterpillars appear and destroy the leaves, they feed voraciously causing defoliation of the plants and thus causing loss of yield and green quality. Spray of neem seed extract (5%) or neem oil 2% at the beginning of larval development can control the harm.

## Major Disease

- Root rot- It is caused by *Rhizoctonia solani*. This is soil borne disease and it reduces yield. Young plants are relatively more susceptible to this disease. Stunting of affected plants is observed. Fenugreek seeds treated with chitosan at 2 g/lit generally reduce root rot disease severity and also enhance yield parameters.

## Harvesting

Fenugreek becomes ready for cutting fresh green leaves and young shoots about 20 days after sowing while kasuri type fenugreek is ready in 25 to 30 days after sowing and subsequent cuttings can be taken at intervals of 15 to 20 days. The crop, when grown for dual purposes after taking a cut, which does not affect seed yield, is left for seed production.

## Yield

A yield of 1200 to 1500 kg of seeds and about 800 to 1000 kg of leaves may be obtained per hectare in crop grown for both the purposes.