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## To sensory evaluation & product development methi leaves based product

**Shreya Singh, Dr. Sarita Iraj, and Dr. Anvita Singh**

### Abstract

The objective of present investigation was "To Study a standardization and development of product of Methi leaves (Fenugreek)" was to standardize and develop the products using Fenugreek leaves and there Sensory evaluation. Polyunsaturated 23g, it is a complete protein essential amino acid provided in its typical supplement form as a dried powders, 100 gram amount of fenugreek leaves supplies 490 calories and is a rich source. Fenugreek leaves benefits are so amazing that taken on a daily basis they could restore and revitalize health such as promote digestive health, improve heart health, balance blood sugar, boost energy and exercise performance, build stronger bones, Aid in weight loss, fight cancer growth, developed product fenugreek leaves were pulao, sambar, kadhi, salad, raita. The organoleptic evaluation of product was done by using (9-point hedonic scale), the result of fenugreek leaves based product for pulao, sambar, kadhi, salad, raita (T1), (T2), (T3), were best in all treatment in case of all sensory attributes, The overall acceptability of experimental (T3) pulao, sambar, kadhi, salad, raita were 9, 8.7, 8.9, and 9 respectively developed product were accepted by panel members.

**Keywords:** Fenugreek leaves, (*Trigonella foenum-gracum* L), protein, herbal tea, nutrition, nutrient

### Introduction

As fenugreek is rich in several phytochemicals, alkaloids, carbohydrates, steroidal saponins, amino acids and minerals are present in fenugreek, it can be used for nutritional, nutraceutical, medicinal and therapeutic purposes. Fenugreek possesses several medicinal properties like antimicrobial, antidiabetic, hypocholesterolaemia, chemo preventive, gastro protective, anti-inflammatory, antipyretic, hepatoprotective, antioxidant, anticancer and good lactating aid in weaning mother etc. Latin name "foenum-graecum" means greek hay. In India, this plant is still grown for fodder. Green parts are highly aromatic and are used as a pot herb and spice. Fenugreek seeds are edible and used as condiments. They yield an oil that is used to flavour butterscotch, cheese, liquorice, pickles, rum, syrup and vanilla. The oil is used in perfume and cosmetic industries. The seeds are used as flavouring agents for maple syrup, cheese and curries. They contain diospenin, a drug used in the synthesis of hormones. Seed husks are a source of mucilage, oil, sapogenin and protein. Fenugreek has a high content of dietary fibre, vitamin and phenolic acids, alkaloids and saponins. It has multiple health benefits, such as, galactagogic, helps in digestion, regulatory functions, antioxidant properties, and works against anorexia, antilithogenic, ant pathogenic properties and several other medicinal properties. Due to the combined effects of numerous biotic and abiotic factors, fenugreek has a low yield. The major decisive disease causes for fenugreek productivity are Cercospora leaf spot (*Cercospora traversiana*), charcoal rot (*Macrophomina phaseolina*), powdery mildew (*Erysiphe polygoni* and *Leveillula taurica*), downy mildew (*Peronospora trigonellae*), rust (*Uromyces trigonellae*), root rot (*Rhizoctonia solani* and *Sclerotium rolfsii*), damping off (*Pythium aphanidermatum*), Fusarium wilt (*Fusarium oxysporum*), and yellow mosaic disease (bean yellow mosaic virus). Growing plants resistant to CLS not only will hinder the development of disease through internal (resistance genes) and external (leaf orientations, thick cuticle, etc.) Theysshana V, *et al*, (2022) [9]. According to Fenugreek is known to be one of the plants with these traits. It is a self-pollinating annual leguminous bean that aids in soil nourishment and nitrogen fixation. Muhammed S, *et al.*, (2023) [10]. To studied on Fenugreek is effectiveness in the diabetic population, several mechanism have been proposed.

Trigonelline and Fenugrecin present in fenugreek have been shown to have hypoglycemic activity, whereas soluble fibers such as glucomannan fiber and 4-hydroxyisoleucine amino acid stimulate the production of insulin from the pancreas.

**Materials and Methods**

The experimental “To Sensory evaluation & Product Development Methi Leaves Based Product” work will be carried out in the research laboratory.

The different material use in experiment and the techniques employed.

**Method**

- Collection of ingredients.
- Processing of raw material.
- Development of Fenugreek leaves based products.
- Sensory evaluation.
- Statistical analysis.

**Collection of ingredients:** The required material will be purchased from local market of Sultanpur.

**Development of Fenugreek leaves based product:** The best acceptable leaves were used for product development as follows.

**Result and Discussion**

The data were collected on different aspects per plan were tabulated and analyzed statistically, the result from the analysis presented and discussed chapter in the following sequence.

- Calculation of nutritive value of fenugreek leaves.
- Organoleptic evaluation of fenugreek leaves based product.

**Table 1:** Nutritive value of Fenugreek leaves per 100gm.

Nutrients	Total
Carbohydrates	50.20 g
Iron	8.74 mg
Calories	323 kcal
Protein	23 gm
Sodium	1376 mg
Calcium	473 mg
Fat	6.41 g
Dietary Fiber	7 g
Energy	380 kcal
Vitamin C	28.92 mg

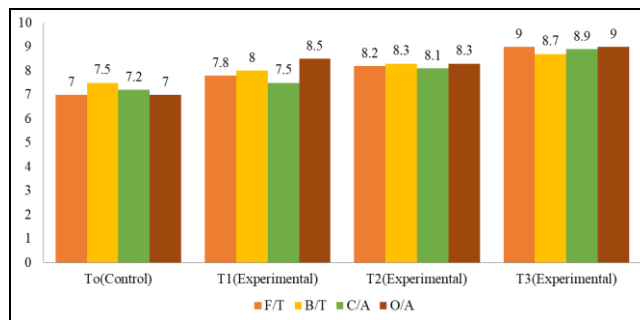
The nutritive value of Fenugreek leaves was calculated with the help of nutritive value of Indian food fiver given by ICMR (2010) Above the Table shows that the total carbohydrate, iron, calories, protein, sodium, calcium, fat, energy, vit C. Value of most acceptable methi leaves was 50.20g, 8.74mg, 323kcal, 23gm, 1376mg, 473mg, 6.41g, 7g, 380kcal, 28.92mg, respectively.

**Organoleptic evaluation of fenugreek leaves based product**

- Flavour and taste.
- Body and texture.
- Color and appearance
- Overall acceptability

**Table 1:** Organoleptic evaluation of Fenugreek leaves Pulao.

Product	Flavor taste	Body & Texture	Color & appearance	Overall acceptability
T0 (Controlled)	7	7.5	7.2	7
T1 (Experimental)	7.8	8	7.5	8.5
T2 (Experimental)	8.2	8.3	8.1	8.3
T3 (Experimental)	9	8.7	8.9	9



**Fig 1:** Over all acceptability of Fenugreek Pulao

The present investigation entitled “To study a standardization and development of product of Methi leaves” The experimental (T1) obtained maximum 7.8,8,7.5,8.5 for flavour and taste body and texture color and appearance and overall acceptability and experimental (T2) obtained 8.2,8.3,8.1,8.3 for flavour and taste body and texture color and appearance and overall acceptability; and experimental (T3) obtained 9,8.7,8.9, and 9 for flavour and taste body and texture color and appearance and overall acceptability; and (To) control obtained 7,7.5,7.2,7 for flavour and taste body and texture color and appearance and overall acceptability respectively. This indicates the experimental (T3) fenugreek leaves Pulao was found to be fallen under category of "Liked Extremely".

**Conclusion**

Fenugreek Methi leaves can also reduce inflammation, promote kidney health and support proper hydration. Fenugreek leaves are high calcium magnesium, phosphorus and all protein. Fenugreek leaves are a good source of omega-3 fatty acid, fiber, antioxidant, iron. It also contains amino acids responsible for inducing the production of insulin. Fenugreek having antidiabetic, antifertility, anticancer, and antimicrobial, antiphlastic, and lactation stimulant and hypocholesterolemia effects has been discussed in this review. Fenugreek has been found to have important bioactive compounds. From this review it was observed that fenugreek has been used as food stabilizer, food adhesive, food emulsifier and gum. Fenugreek can be recommended and must be taken as a part of our daily diet as its liberal use is safe and various health benefits can be drawn from this natural herb. The above-mentioned studies on fenugreek suggest that the functional, nutritional and therapeutic characteristics of fenugreek can be exploited further in the development of bakery product, extruded product and healthy products.

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