PRAKRUTI PRODUCTS PVT LTD

FENUGREEK

SCIENTIFIC NAME: *Trigonella foenum-graecum L.*

Family: Leguminosae or Fabaceae

Trigonella foenum-graecum (Fabaceae) is a medicinal plant. It is traditionally used in the treatment and prevention of several ailments. Pharmacological investigations showed anti-bacterial, anti-diabetic, anticancer, anti-diarrheal, anti-inflammatory activities [1].

Phytoconstituents: The seeds also contain the saponin fenugrin B, coumarin compounds, alkaloids (trigonelline, gentianine, carpaine). A large portion of the trigonelline is degraded into nicotinic acid and pyridines, which is responsible for the flavor of the seed. Several C-glycoside flavones have been identified in the seeds of fenugreek. These include vitexin, vitexin glycoside, and an arabinoside of orietin (iso-orientin), minor steroidal sapogenins (smilagenin, sarsasapogenin, yuccagenin), and up to 50% of mucilaginous fiber [2].

Medicinal uses: Fenugreek is used for digestive problems such as loss of appetite, constipation, gastritis. Fenugreek is also used for diabetes, dysmenorrhoea, polycystic ovary syndrome, and obesity. It has a role in prevention of atherosclerosis and dyslipidemia [3]

Mechanism of Action:

- The antidiabetic effect of Fenugreek was thought to be due to formation of a colloidal-type suspension in the stomach and intestines when the mucilaginous fiber of the seeds is hydrated, therefore affecting gastrointestinal transit, slowing glucose absorption [4].
- The antilipidemic effects of Fenugreek was thought to be due to inhibition of intestinal cholesterol absorption due to saponin-cholesterol complex formation, increased loss of bile through fecal excretion due to saponin-bile complexes, thus increasing conversion of cholesterol to bile by the liver, and effects of amino acid pattern of Fenugreek on serum cholesterol [5].

Clinical Studies:

In a randomized, crossover metabolic study (n=10), 100 grams of defatted Fenugreek seed powder, divided into two equal doses, was given for 10 days to Type I diabetes patients resulted in a significant decrease in fasting blood sugar and improved the glucose tolerance test. 24-hour urinary glucose excretion was reduced by 54%. However, fenugreek administration did not significantly affect the serum insulin levels. Total serum cholesterol, LDL and VLDL cholesterol and triglycerides were also significantly reduced. The authors suggest that dietary intake of Fenugreek seed powder is useful in the management of diabetes [6].

Grades Available: 50% Sapponins

Specification:

Botanical/ Scientific name	***Trigonella foenum-graecum***
Identification	TLC
Heavy metal	Not more than 20 ppm
Arsenic	Not more than 1 ppm
Lead	Not more than 3 ppm
Microbiological profile	As per JPN Food Regulation

References:

1. Ritika "Trigonella foenum-graecum L. : A REVIEW OF ITS ETHNOBOTANY, PHARMACOLOGY AND PHYTOCHEMISTRY" IJARSE Issue no.09 Sept 2016
2. Blumenthal, Goldberg, Brinckman. Herbal medicine: expanded Commission E monographs. Integrative Medicine Communications, 2000.
3. Snehlata et.al "Fenugreek (Trigonella foenum-graecum L.): An Overview" International Journal of Current Pharmaceutical Review and Research, 2(4), ISSN: 0976-822X
4. Natural Medicines Comprehensive Database Web site. Available at: http://www.naturaldatabase.com/monograph.asp?mono_id=733&hilite=1 Accessed January 29, 2003.
5. Micromedex® Healthcare Series: MICROMEDEX, Inc., Englewood, Colorado (Edition expires [12/2002])
6. Sharma RD, Raghuran TC, Rao NS. Effect of fenugreek seeds on blood glucose and serum lipids in Type I diabetes. Eur J Clin Nutr; 1990;44:301-6.