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Process Development for Industrial Manufacture of Soluble Fenugreek Powder for Diabetes Management

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Fenugreek is one of the popular spices in West and South Asia. It is also found in Northern Africa, North and South America, parts of Europe, Australia. Fenugreek's recognition as a medicinal plant with various health benefits makes it more important. Scientific evidences have proven that fenugreek can be used for diabetes and obesity management. Diosgenin, 4-hydroxy-isoleucine, trigonelline, galactomannan are the major active constituents which confers fenugreek its metabolic syndrome managing potentiality [Das et al. 2016].

In order to manufacture soluble fenugreek fibre, fenugreek seeds were wet, grinded and processed through anenzymatic hydrolysis ofglycosidic linkages between insoluble fibres [a patented method by Triphase]. This solution was spray dried into final product in powder form. The optimum condition for spray drying was found to be: 150°C inlet temperature, 60 Nm³/h aspirator flow rate, feed flow rate 4ml/min, total dissolved solid: approx. 4.5% in feed.

Key words: diabetes, obesity, blood sugar, fenugreek, soluble fibre, spray drying

Reference: DasS, Dhananjaya BL, Desiraju S. 2016. "Trigonellafoenum-graecum (Fenugreek) for Management of Diabetes" in special edition of 'Metabolic Disorders' vol-2 in 'Recent Progress in Medicinal Plants', Eds. Dr. J.N. Govil; Studium Press LLC. (In press)

US Patent Application No. 15115446; Indian Patent Application No. 4978/CHE2014— Desiraju A, Desiraju S, Sharieff I, Abhilash P. 2015