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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, and 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 an enzymatic hydrolysis of glycosidic 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: Das S, Dhananjaya BL, Desiraju S. 2016. "Trigonella foenum-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