IJPPHT International Journal of Processing and Post Harvest Technology
Volume 3 | Issue 2 | December, 2012 | 260-265
RESEARCH PAPER

Changes in some nutrients of fenugreek sprouts in response to natural food grade additives

■ ANWAR HUSSAIN, IMTIYAZ MURATAZA AND SHABIR HUSSAIN KHAN

SUMMARY : The paper focuses on the changes in some of the nutritive components of fenugreek varieties (Methi Local and Methi Shalimar Improved) due to sprouting and the effect of natural elicitors in enhancing these nutrients. The total sugar content increased from 6.3 per cent to 12.88 per cent, where as the reducing sugar increased from 0.72 per cent to 6.5 per cent in case of Methi Shalimar Improved after 5 days of germination. Chitosan (1500 ppm) was the most effective elicitor in increasing these parameters. Little change was observed in non reducing sugar content during sprouting. Calcium increased from 141 to 399.57 $mg100g^{-1}$ in case of Methi Shalimar Improved after 8 days of germination. Sprouting for 8 days also resulted in gain in iron content *i.e.*, from 12.5 to 15.56 $mg100g^{-1}$ in the cultivar Methi Local with a simultaneous increase in magnesium content from 73.14 to 158.86 $mg100g^{-1}$ in case of Methi Shalimar Improved. Folic acid (100 µM) resulted in maximum increase in the calcium and iron contents and chitosan (1500 ppm) resulted in maximum increase in magnesium content of the fenugreek sprouts as compared to the other treatments used. It is thus concluded that, the cultivar Methi Shalimar Improved is better as compared to the another variety regarding the change in most of the essential nutrients and chitosan 1500 ppm and folic acid 100 µM are the promising candidates among the elicitors used.

KEY WORDS : Fenugreek, Sprouts, Elicitors, Total sugar, Iron, Chitosan

How to cite this paper : Hussain, Anwar, Murataza, Imtiyaz and Khan, Shabir Hussain (2012). Changes in some nutrients of fenugreek sprouts in response to natural food grade additives. *Internat. J. Proc. & Post Harvest Technol.,* **3** (2) : 260-265.

Research chronicle : Received : 05.08.2012; **Revised :** 28.08.2012; **Accepted :** 30.10.2012

Fenugreek (*Trigonella foenum-graecum* L.) is a leguminous herb cultivated in India and North African countries. It belongs to the family *Fabaceae* and is variously called in different languages, *viz.*, *Greek hay* (English), Fenugrec (French), *Methi* (Hindi), *Bockshorklee* (German), *Fienogreco* (Italian), *Pazhitnik* (Russian), *Alholva* (Spanish), *Koroha* (Japanese), *Hulba* (Arabian), *Halba* (Malaya), and *K'u-Tou* (Chinese). The seeds are used as spices worldwide, whereas the leaves are used as green leafy vegetables in the diet. Fenugreek seeds are bitter to taste and are known for a long time for their medicinal qualities. Fenugreek seeds have been in use for over 2500 years. India is the major producer of fenugreek and its main consumer for culinary and medicinal uses. The seeds of fenugreek are used as a spice for seasoning, a flavouring agent and in comparatively larger quantities in making soups and pan cakes. Fenugreek emerges from food ranking system as an excellent source of essential nutrients, including vitamin A, vitamin C, and vitamin B_{12}. It is also a very good source of dietary fiber, calcium, iron and magnesium. This combination of vitamins, minerals, and phytonutrients makes fenugreek a health superstar. Fenugreek being rich in phytochemical has traditionally been used as a food, forage and medicinal plant. Fenugreek seeds contain lysine and L-tryptophan rich proteins, mucilaginous fibre and other rare chemical constituents such as saponins, comumarin, fenugreekine, nicotinic acid, sapogenins, phytic acid, scopoletin and trigonelline, which are thought to account for many of its presumed therapeutic effects.

MEMBERS OF THE RESEARCH FORUM

Author for Correspondence :
ANWAR HUSSAIN, Division of Post Harvest Technology, Sher-e-Kashmir University of Agricultural Sciences and Technology, (K) SRINAGAR (J & K) INDIA
Email : yokcan63101@gmail.com

Coopted Authors:
IMTIYAZ MURATAZA, Division of Post Harvest Technology, Sher-e-Kashmir University of Agricultural Sciences and Technology (K), SRINAGAR (J & K) INDIA

SHABIR HUSSAIN KHAN, Division of Olericulture, Sher-e-Kashmir University of Agricultural Sciences and Technology (K), SRINAGAR (J & K) INDIA