

Studies on drying and dehydration of fenugreek leaves

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SUMMARY : An experiment was carried out to evaluate the drying and dehydration behavior of fenugreek leaves. The fenugreek leaves were dried by cabinet and sun drying using different pre-treatments. Out of these different pre-treatments and drying methods, blanched fenugreek leaves for 2 min. in water containing MgO 0.1 per cent +KMS 0.5 per cent + NaHCO₃ 0.1 per cent solution and dried in cabinet drying was found superior in maintaining minimum moisture and dehydration ratio, while maximum rehydration ratio, chlorophyll and ascorbic acid throughout the storage period as compared to sun drying.

Key Words : Fenugreek leaves, Cabinet drying, Sun drying, Pre-treatments

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Fenugreek is member of Leguminosae family having botanical name *Trigonella foenum graecum* L. It is popular green leafy vegetable in India. Fenugreek is highly seasonal and usually available in plenty at a particular part of the year.

Green leafy vegetables are extensively used in various cooked and processed form. It is gaining importance, mainly because of being good source of vitamins, minerals and dietary.

The art of drying food stuff especially of fruits and vegetable is very old and in modern times it is being done on improved scientific lines. There are various method of preservation of vegetables but dehydration is highly acceptable process for preservation and reduction in weight of raw materials and their product. Dehydration process should be done in such a way that the food value, natural flavour and characteristics cooking quality of the raw material may be retained after dehydration.

Dehydrated vegetables are good source of energy,

minerals and vitamins. Some provide moderate amount of protein to diet and they are concentrated nutrients(Thomas and Calloway, 1961). In the process of drying or dehydration, sufficient moisture is removed and thus the product is ensured against spoilage.

EXPERIMENTAL METHODS

The study was conducted in post harvest technology Laboratory at University Department of Horticulture, Dr. Panjabrao Deshmukh Krishi Vidyapeeth, Akola during 2010-2011.

Fresh matured, diseased free fenugreek leaves were washed in clean tap water and destalking was done with the help of sharp stainless steel knife and pieces of 3 to 5 cm length were made. Then subjected to various treatments viz., steeping solution of NaCl (2%), KMS (0.5%), NaHCO₃ (0.1%), MgO(0.1%) and MgO(0.1%)+KMS (0.5%) + NaHCO₃ (0.1%). Blanching was carried out in boiling water for 2 minute(Tandon and Virmani, 1980). Then allowed to dry in cabinet dryer (D₂) for 4 to 4½ hours hrs at 60°C (Bajaj *et al.*, 1993). and in open sun drying (D₁).

Dried fenugreek sample were immediately cooled to room temperature and packed in 200 gauge polyethylene bags, sealed and stored at ambient storage. During the storage observations

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