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Research Paper :

Consumption pattern of dehydrated bottle gourd, brinjal and tomato in rural areas

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ABSTRACT

The present study is attempt to observe the level of acceptance of dehydrated vegetables among children and adults and to study the consumption pattern of dehydrated bottle guard, brinjal and tomato among rural people. To full these objectives, 100 families were selected from rural areas of Kashmir through random sampling technique, using interview schedule. The data were analyzed through percentage, chi-square analysis, degree of freedom and p-value. The study depicts that as compared to other foods, rural families consume dehydrated vegetables in larger quantity and higher frequency during winter seasons. The acceptance of dehydrated bottle gourd and tomato have shown significant impact on rural children and adults.

Key words : Dehydration, Bottle gourd, Brinjal, Tomato, Acceptability

The preservation of foods by drying is one of the oldest methods used by man. Drying is the method nature resorts to preserve foods. Grains in the field dry sufficiently on the stalk by exposure to for the sun, which requires no further drying for preservation. This is also true of legumes, innumerable seeds and some spices. The observation of natural drying adopted by early man to dry fruits, fish and meat by exposing them to the sun. Sun drying is still in use in many parts of the world for preserving certain foods, such as fruits and nuts. However, it is limited by the fact that it is feasible only under climatic conditions of high heat and low humidity. Drying of food involves complete removal of water under controlled conditions in such a way that the food is not altered and results in minimum changes by the drying process. Dried foods contain moisture to the extent 1-5 per cent, and they have storage stability at room temperature of a year or longer. On reconstitution with water dried foods are very close to and virtually indistinguishable from the original foods used in their preparation. Removal of moisture from a solid with minimum change in food material is not an easy problem. Removal of only a part of water of foods, perhaps 1/3 to 2/3 of the water as in the preparation of syrups, evaporated milk, tomato paste, condensed soups, etc. is not considered as drying. Partial removal of water is known as concentration (Manay and Shadaksharaswamy, 2001).

Drying, in addition to preservation, helps decrease the weight and bulk of food e.g. 237ml of orange juice on dehydration yields just 28 gm of solids. In some cases the drying process may be chosen to retain the original shape and size. However, in such a case the volume may not be affected but there is reduction in weight. Drying thus results in great economy in storage, packaging and transport of food. Drying also results in the production of convenience foods, such as instant coffee, instant rice etc. In these cases cooking steps are completed before the products are dried (Manay and Shadaksharaswamy, 2001).

Dehydration reduces the moisture content of vegetables below the required level for the growth of micro-organisms and at the same time preserves the flavour, aroma and appearance. The dehydrated vegetable on the addition of water regains the original shape and appearance. Significant changes in the composition of nutrients occur due to dehydration. Concentration of proteins, carbohydrates and minerals occur along with some chemical changes. Fats are oxidatively degraded, accompanied with decrease of odour and flavour. Millard reaction is facilitated resulting in darker color and development of new aroma substances. Vitamin level decrease and original volatile flavour and aroma compounds is lost to a major extent.

Singh and Sager (2008) examined influence of packaging and storage leafy vegetables. Three leafy vegetables *viz.*, amaranth (Amaranth us sp), fenugreek (Trigonella foenum-graecum) and palak (Beta vulgaris var. bengalensis) were dried in cabinet at 58±2^{0}C and packed in Low Density Polyethylene (200 gauge and 400 gauge), high Density Polyethylene (HDPE 200 gauge) and Polyethylene (150 gauge) and stored at ambient (25-35^{0}C) and low temperature (7±1^{0}C) for 3 months to