

Promotion of dehydration and freezing industry for vegetables and fruits.

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Dehydration:

The study was conducted to evaluate the effect of different dehydration technologies such as sun drying, solar drying, vacuum drying and freeze for one hour followed by drying in mechanical drier at 55°C and drying using lab scale air oven for dehydration of fruits and vegetables. Bael (Aegle marmelos), Palmyra (Borassus flabellifer), Sour Soup (Annona muricata), Sweet potato (Ipomoea batata), Pumpking (Cucurbita maxima), and Hibiscus (Hibiscus rosa-sinensis) were dehydrated and the proximate composition, chemical and antioxidant properties, microbial quality were evaluated in prepared fruit powders. Different products were formulated such as ready to bake vegetarian cake mix, instant herbal drink, and instant jelly mix. The products were evaluated for it physical, chemical, microbial and sensory quality characteristics. According to the results obtained, vacuum drying can be recommended as effective drying treatment by protecting chemical characteristics and retention of antioxidant properties of fruit powders. Among three different treatments of instant herbal drink; Beal powder 60g + sugar 40g + ginger powder 2g were able to protect its proximate composition and sensory properties. Among three formulas of instant ready to bake vegetarian cake mixes the treatment containing wheat flour, rice flour, beal powder and pumpkin powder in 10%, 17%, 3%, and 15% respectively was most suitable combination with other minor ingredients could be stored for 90 days without any quality deteriorations. Prepared jelly product using pectin and gelatin as a gelling agents; jelly product prepared from the mix containing 2.36% of gelatin was most preferred by protecting all sensory quality characteristics evaluated.

Freezing:

Some preliminary trials were conducted to evaluate the effect of blast freezing to extend the shelf life of vegetables such as Thibbatu and Jack bulbs. The blanching time temperature, freezing time and temperature, freeze storage conditions were evaluated.