

Research Paper :

## Effect of intermittent drying technique on effective drying time for preparation of *Anardana*

BIRADAR ANKUSH DADARAO, BHARADIA PRITAM S., BOBADE HANUMAN PANDURANG, AND MORKHANDE BASWARAJ ANNASAHEB

Accepted : November, 2009

See end of the article for authors' affiliations

Correspondence to:

**BIRADAR ANKUSH DADARAO**

Department of Food Engineering, Sau. K.S.K. alias 'Kaku' College of Food Technology, BEED (M.S.) INDIA

### ABSTRACT

Pomegranate arils with 2,3 and 4 per cent citric acid treatment were dried by using intermittent drying cycles viz., 1: 0.5, 1:1, 1.5 : 0.5, and 1.5:1 at temperature 50°C and 60°C. Cabinet tray drier was used for drying purpose. The pomegranate arils were dried from initial 400% (D.B) m.c. to final 6.75 to 7.50 % (D.B) m.c. The arils without pretreatment were taken as control. The effective drying time in intermittent drying was less as compare to continues drying. The maximum acceptability of *Anardana* was found in case of 3% citric acid treatment dried at 60 C for intermittent drying cycle 1.5 to 0.5h.

**Key words :** Effective drying time, *Anardana*, Intermittent drying, Pretreatments, Drying cycle, Tempering, Drying

The production of sweet pomegranate varieties is maximum in Maharashtra. But processing of this fruit such as juice, wine, anar-rub, jelly, squash, sherbet, concentrate, *Anardana* is not up to the mark. The present study was undertaken to prepare *Anardana* from sweet variety (Ganesh ) grown in M.S. The sweet varieties are treated with citric acid to increase acidity of *Anardana*. The *Anardana* has good keeping qualities along with certain advantages such as flavour and stability at room temperature over a long storage period, protection from enzymatic and oxidative spoilage, light weight for transport beside elimination of costly refrigeration. The *Anardana* is used as an acidulant in curries and chutneys in place of tamarind and Amchur in north India. *Anardana* is sold at various places throughout the country and is also exported for using in various industries like tannin, coloring etc. (Anonymous, 1969).

To prepare *Anardana*, the excess moisture must be removed by a drying process. Various methods have been used by many workers. However, suitable drying method has not yet been developed. An attempt was, therefore, made by using intermittent drying to obtain good quality *Anardana*. It also helps to save the power required for drying and improves quality of *Anardana*.

### METHODOLOGY

#### Sample preparation :

Fresh fruits of pomegranate (Ganesh) which were disease free, uniform size, fully mature and with good

appearance were procured from local market. The fruits were washed with water and the arils were manually separated. The sample was pretreated with citric acid of different concentrations i.e. 2,3 and 4% .The sample was weighed by using simple balance.

#### Moisture content:

Moisture content of pomegranate arils was determined on a wet basis by using standard oven method. A sample of 15 g was weighed by using electronic balance with three replications and was kept in electric oven for 24 h at 100°C ± 1°C. The sample was then taken out from the oven and kept in desiccator for 20 minutes. Then sample was weighed to determine the final bone dry weight of pomegranate arils.

The Moisture content was determined by using the formula given below. (Chakraverty, 2000)

$$\text{Moisture content \% (w. b.)} = \frac{W_1 - W_2}{W_1} \times 100$$

where,

$W_1$  = Weight of wet sample, g

$W_2$  = Weight of bone dry sample, g

Moisture content on dry basis was obtained by dividing moisture by bone dry weight and then multiplying it by 100.

To determine the moisture loss a separate sample of 25g was taken in mesh wire and the weight was taken at