

Studies on drying and dehydration of *ber* for preparation of sharbat

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Accepted : February, 2010

In the present investigation the physico-chemical composition of *ber* of the varieties Gola, Umran, Kadaka, local was studied. In the physical parameters length, breadth, weight, volume, pulp content and weight of seed were observed. In the chemical composition, the parameters like moisture percentage in pulp, total soluble solids, acidity, ascorbic acid, reducing and total sugars were estimated. The *ber* fruits were subjected to pre-treatments like blanching and sulphitation before drying by sundrying and cabinet drying. The organoleptic evaluation of *Sharbat* prepared from *ber* powder was compared with market sample. The organoleptic of score all the products was never below the acceptable limit.

Ber is one of the prominent fruit crops in India. *Ber* is King of Fruit of arids. It has been grown in India and China since 400 Years. The major growing states are Madhya Pradesh, Bihar, Uttar Pradesh, Punjab, Maharashtra and Andhra Pradesh. *Ber* fruits are exported to Europe under the name "Shabri Bore". At present the fruits are used as table fruit and very little is known about its uses in processing plants. It can also be presented in the form of juice, squash. *Ber* powder is prepared from ripe *ber*. Dried *ber* is used for preparation *Sharbat*.

The experiment was conducted during the year 2000 on four *ber* varieties viz., Umran, Kadaka, Gola planted at the Central Farm, Marathwada Agricultural University, Parbhani. The fruits of local variety were purchased from the fruit market. The physico-chemical composition of *ber* fruit was carried out. The sample of 20 *ber* fruits was used for physical characters and chemical analysis. The drying and dehydration was carried out by sun drying and cabinet drying. Before actual drying and

dehydration the pre-treatments blanching and sulphitation were given. The organoleptic evaluation of the *Sharbat* prepared from *ber* powder was done by a panel of 10 members and was scored on a 9 point hedonic scale (Amerine and Pangborn, 1965).

The data on physical parameters of different *ber* varieties are presented in Table 1. With regard to the fruit weight the variety Umran recorded maximum fruit weight (21.50 g). The minimum fruit weight was found in local variety (6.50 g).

The weight of seed was found maximum in Umran (2.40 g) followed by variety Kadaka (2.0) and minimum seed weight (1.0 g) was recorded in variety Gola. The per cent fruit pulp in Umran and Kadaka varieties was practically similar. The local variety has minimum percentage of pulp in the fruit. The maximum length of fruit was found Kadaka fruit (4.52 cm), whereas the breadth of Umran fruit was found to be maximum (3.12 cm). The maximum shape index was found in Kadaka. The volume of Umran fruit was found to be the maximum in variety Umran (35 ml) followed by Kadaka, Gola and minimum volume (4.70 ml) was recorded in local variety.

Chemical components of fruits:

Data presented in Table 2 indicated that there were differences among the chemical parameters of *ber* fruit of different varieties.

As regards the moisture content in the variety Kadaka it was recorded maximum (82.5%) and minimum moisture was recorded in local variety (79.2%). Total soluble solids in Gola variety was found more than Umran, Kadaka and local. As regards the acidity in fruit pulp the local variety had higher

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Key words : Drying,
Dehydration, Physical
parameters, *Ber*,
Sharbat

Table 1 : Physical parameters of ber fruits

Cultivar	Wt. of fruit (g)	Seed wt. (g)	Pulp wt. (g)	Length (cm)	Breadth (cm)	Shape index	Volume (ml)
Gola	11.25	1.00	10.25 (91.11)	3.24	2.65	1.22	13.00
Umran	21.50	2.40	19.10 (88.83)	4.12	3.12	1.32	35.00
Kadaka	17.00	2.00	15.00 (88.23)	4.52	2.64	1.71	27.00
Local	6.50	1.75	4.75 (73.07)	2.72	2.50	1.08	4.70

Figures in parentheses represent per cent value

Table 2 : Chemical composition of ber fruit

Particulars	Gola	Umran	Kadaka	Local
Moisture (%)	80.00	81.20	82.50	79.20
TSS (°brix)	26.40	19.30	18.60	14.20
Acidity (%)	0.31	0.36	0.37	1.24
Vit. C (mg/100g)	32.41	45.58	51.64	53.12
Reducing sugar (%)	11.67	4.62	3.69	3.69
Total sugar (%)	15.32	10.71	11.88	9.10

percentage (1.24) than Kadaka, Umran and Gola. The ascorbic acid content was found maximum in local variety (53.12 mg) followed by Kadaka, Umran and Gola. The Gola variety recorded more reducing sugar (11.67%) than Umran, Kadaka and local variety. The total sugars were found higher in variety Gola (15.32%) followed by Kadaka, Umran and Local variety of *ber*.

Sharbat was prepared from sulphited *ber* powder sample of different *ber* varieties and was compared with market sample. In organoleptic evaluation the *Sharbat*

prepared from variety Umran had a better overall rating as compared to the rest of the samples. The score for the taste was maximum in local sample followed by Umran cultivar. The lowest score was recorded by Gola and market sample. However, the overall score of *Sharbat* was never below the acceptable limit.

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