Indian Journal of Hill Frmg 16 (1&2) : 109-110 (2003) *Short Communication*

EVALUATION OF DIFFERENT CULTIVARS ARS PEACH FRUITS SULTABLE FOR DEHYDRATED SLICES AND QUALITY DURING DIFFERENT STORAGE PERIODS

A. Nath, D.S. Yadav, A. K. Dubey and N. Rai
Division of Horticulture, ICAR Research Complex, Umiam- 793103, Meghalaya.

Peach is an important fruit crop of low mid-altitude of North Eastern region of India. Being a climacteric fruit it has short shelf life. In NEH Region, peach generally ripe in April-May when rain starts and due to rains at the time of harvesting it is very difficult to save the fruit for long duration. Moreover, due to poor transportation system in hilly region quick transportation of fruit becomes difficult. On the other hand dehydrated product not only stored for longer duration but also require less place for transportation. Drying of fruits and vegetables is the cheapest and oldest method of preservation. Many workers had reported preservation of fruits and vegetables by dehydration in different regions of the country and world (Attri and Vaidya, 1999; Wu Chung Hsing et al, 1997; Adesina and Aina, 1990; Koide et al 1996 and Ezekiel et al, 1992). But no work has been reported under Meghalaya condition for dehydration of peach fruits. Therefore, an attempt has made to screen suitable variety of peach for dehydration under Meghalaya condition.

The present study was conducted on peach Cvs. TA 170, Shan-e-Punjab and Flordasun in the laboratory, Division of Horticulture, ICAR Research Complex for NEH Region, Umiam, Meghalaya during 2000. Fruits were picked randomly from each variety at uniform maturity. Fruits were then peeled, destoned and sliced (3-6mm thickness). Two kg sliced pulp of each variety was taken for drying and blanched in hat water (100 0C) for 5 minutes, dipped in 1% potassium metabisulphite (KMS) solution for 20 minutes. Dehydration of slice was done by the home made drier as described by Girdhari Lal et al, 1998. Slices were placed in trays in uniform quantity of 0.5 kg in each tray. Slices were spread uniformly maintaining uniform thickness on trays. Trays were then kept in the hot air drier at 550C+ 20C. The experiment was replicated four times. Drying rate was recorded at an hourly interval for 8 hours. Final weight was recorded after complete dehydration for 8 hours. Slices were cooled at room temperature and packed in 200 gauge LDPE. Initial rehydration rate (RR) of the product was recorded at 15 minutes interval for a total period of two hours. Estimated dehydration ratio (DR) and storagibility of the product with respect to rehydration capacity (RC) which was calculated as the increase in weight or moisture content after equilibrium is reached at an interval of one month for a period of six months of storage. The organoleptic evaluation was done by panel of judges after six month of storage.

The pulp yield was found to be highest in Shan-e-Punjab (83.40%) which was close to TA170(82.50%) and lowest was in Flordasun (80.60%). The dehydrated product was found to be maximum in cultivars TA 170 (167.32 g) and lowest was in Flordasun (122.30 g). The highest dehydration ratio 8.40:1 was recorded in cultivar TA 170 whereas lowest dehydration ratio was found in Flordasun (6.10.1). Ezekiel et al (1992) and Attri and Vaidya (1999) also reported variation in dehydration ratio in different cultivars of potato and apples respectively. Cultivar TA 170 got the highest score for colour, flavour and texture I.e. 8.6, 8.2 and 8.0respectively followed by Flordasun and Shan-e-Punjab (Table1). Drying rate with respect to drying time showed that with the increase in time weight loss in all the cultivars increased proportionately with decreasing rate. Maximum weight loss 93.9% was recorded in Flordasun whereas minimum 91. 7% was in Shan-e-Punjab for 8 hours of drying. A increasing trend was noticed with respect of cumulative water hold up for two hours of

rehydration in all cultivars. The rate of rehydration (RR) was recorded maximum in initial 45 minutes, and the highest rate of rehydration was 17.64 ml per 5g dried product recorded in TA 170 and lowest 15.59 ml per 5g dried product in Shan-e-Punjab. (Table 2). The rehydration capacity (RC) of the product was decreasing continuously in all three cultivars for a period of six months of storage. However, maximum rehydrated product per g dried product was found in TA 170(3.83). Decrease in rehydration capacity with respect to storage time is due to absorption of moisture from the environment.

It can be concluded from the above findings that all three cultivars tested were found suitable for drying purpose but among all cultivars, TA 170 was found superior with respect of dehydration ratio, rehydration capacity, organoleptic score and most of the other parameters studied. Therefore, TA 170 may be recommended for dehydration purpose.

REFERENCES

Adesina, A.A. and Aina, J.O. (1990). *Tropical Science.* **30:** 249-253.

Attri, S. and Vaidya, D. (1999). *Haryana J. Hort. Sci.* **28 :** 201-202.

Ezekiel, R. Misra, J.B. and Verma, S.C. (1992). *J. of the Indian Potato Association.* **19:** 127-132.

Girdhari Lal, Siddappa, G.S. and Tandon G.L. (1998). Preservation of fruits and vegetable. Publication and Information Division, ICAR, New Delhi pp 287.

Koide, S. Murata, S., Uchino, T. and Amarantunga, K.S.P. (1996). *J. of the Faculty of Agriculture,* Kyushu University. **41:** 125-132.

Wu Chung Hsing, Davis D.C. and Chung, J.N. (1997). ASAE Annual International Meeting Minneapolis, Minnesota, USA, 10-14.

Table 1. Dehydration ratio, organoleptic score and other parameters of three peach cultivars

Cultivars	Pulp Yield (%)	Dehydrated Pulp Weight	Dehydration Ratio Colour	Mean organoleptic score after six month of storage Flavour	Texture	
TA 170	82.5	167.32	8.4:1	8.6	8.2	8.0
Shan-e-Punjab	83.4	165.9	8.3:1	7.2	6.5	6.2
Flordasun	80.6	122.3	6.1:1	7.8	7.6	7.4

Table 2. Rehydration rate (RR) of dehydrated products at 15 minutes interval for three Peach cultivars

Time (minutes)	TA170		Shan-e-Punjab		Flordasun	
	Average hold Up of water (ml/ 5gm. dried sample)	Cumulative water hold up	Average hold up of water (ml/ 5gm. Dried dried sample)	Cumulative water hold up 5gm. Dried	Average hold up of water sample)	Cumulative water hold up
0	0.00	0.00	0.00	0.00	0.00	0.00
15	9.77	9.77	8.13	8.13	9.73	9.73
30	5.67	15.44	5.83	13.96	5.37	15.10
45	2.20	17.64	1.63	15.59	1.87	16.97
60	1.00	18.64	0.87	16.46	0.63	17.60
75	0.40	19.04	0.43	16.89	0.43	18.03
90	0.23	19.27	0.23	17.12	0.23	18.26
105	0.06	19.33	0.13	17.25	0.06	18.32
120	0.00	19.33	0.03	17.28	0.00	18.32