



Research Paper

Article history :

Received : 06.02.2012

Revised : 13.08.2012

Accepted : 13.09.2012

Studies on seasonal variations in developing fruits of Nagpur Mandarin (*Citrus reticulata* Blanco) under Jhalawar conditions

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ABSTRACT : The fruit weight and volume of Nagpur mandarin fruits increased rapidly up to first fortnight of October, 2009 and first fortnight of January, 2010 in Ambia and Mrig bahar, respectively. As the fruits attained maturity, total soluble solids content in juice increased, whereas acidity per cent in fruit juice decreased. The ascorbic acid content of the juice gradually declined with the progressive advancement of maturity of fruits.

KEY WORDS : Mandarin, Acidity percentage

HOW TO CITE THIS ARTICLE : Bhatnagar, Prerak, Singh, Jitendra, Jain, M.C., Singh, Bhim, Manmohan, J.R. and Dashora, L.K. (2012). Studies on seasonal variations in developing fruits of Nagpur Mandarin (*Citrus reticulata* Blanco) under Jhalawar conditions, *Asian J. Hort.*, 7(2) : 263-265.

Mandarin fruits are popular for their immense nutritive and medicinal values. Fruits are rich source of ascorbic acid (50-60 mg per 100 ml of juice) besides containing fair amount of vitamins and minerals. Mandarin fruits are rich in nutrients especially calcium and potassium. Its fruits, per 100 g contain moisture 82.6-90.2 g, protein 0.61-0.215g, fat 0.05-0.32g, TSS 6-12 per cent, fibre 0.3-0.7 g, ash 0.29-0.54 g, calories 32-45 k-cal, calcium 25-46.8 mg, phosphorous 11.7-23.4 mg, iron 0.17-0.62 mg, sodium 2 mg, potassium 127 mg, vitamin A 420 IU, thiamine 0.048-0.128 mg, riboflavin 0.014-0.041 mg, niacin 0.199-0.38 mg, ascorbic acid 13.3-54.4 mg and carotene 0.013-0.175 mg. It is the highest valued citrus fruits. It has developed a reputation as a healthy, easy to eat food and its demand is rising. As per available data of the year 2007-08, country wide mandarin covers 13.54 lac ha area and the production is 14.43 lac tonnes. As per available statistics of the year 2007-08, mandarin covers 3.9 per cent of total area and 2.4 per cent of total production under fruit crops in India. Maharashtra, Madhya Pradesh, Andhra Pradesh, Rajasthan, Assam, West Bengal, Mizoram, Arunachal Pradesh, Tripura and Nagaland are the major mandarin producing states in India.

Reflective changes in the physical characteristics as well as bio-chemical composition of Nagpur Mandarin fruits takes place since the inception of fruit set to its maturity during the development process. These developmental changes have a significant influence on the maturity of the fruits. The taste rating of citrus fruits are closely associated with chemical composition and stage of maturity; and the maturity standards for different citrus fruits have been fixed in various citrus growing regions of the world. The present investigation was aimed with a view to determine the appropriate time of harvesting of Nagpur Mandarin fruit in Jhalawar district for its commercial use in citrus industries and Jhalawar is synonymously popularized as 'Chhota Nagpur' in terms of production of Nagpur Mandarin.

RESEARCH METHODS

The present investigation was carried out at the orchard of private fruit grower at Jhalrapatan city under the aegis of College of Horticulture and Forestry, Jhalawar during 2009-10 selecting 10 year old healthy Nagpur Mandarin trees budded on Rough lemon rootstock. A sample of 10 fruits per tree was