



## Research Paper

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# Physico-chemical, yield and yield attributing characteristics of Nagpur Mandarin (*Citrus reticulata* Blanco) orchards surveyed in Jhalawar district of Rajasthan

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**ABSTRACT :** Variations were observed in Nagpur Mandarin (*Citrus reticulata* Blanco) fruit at different locations for physico-chemical characters viz., fruit weight, fruit diameter horizontal and vertical, peel thickness, number of segments per fruit, total number of seeds per fruit, organoleptic score, juice content, rag content, total soluble solids, total titratable acidity, TSS: Acid ratio, ascorbic acid content, total sugars, reducing sugars and non reducing sugars. The overall mean values of fruit weight (115.25 g), fruit diameter horizontal (5.38 cm) and vertical (5.78 cm), peel thickness (0.31 cm), number of segments per fruit (9.47), total number of seeds per fruit (7.44), organoleptic score (7.52), juice content (40.11 %), rag content (19.59 %), total soluble solids (10.04 °Brix), total titratable acidity (1.00 %), TSS : Acid ratio (10.19), ascorbic acid content (38.31 mg/100ml), juice pH (3.84), reducing sugars (4.88 %), non reducing sugars (2.63 %), total sugars (7.50 %), number of fruits per plant (952.28), estimated yield (108.93 kg/plant) and estimated yield (43.50 t/ha.) were recorded.

**KEY WORDS :** Nagpur' mandarin, Orchards, Physico-chemical

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**N**agpur Mandarin (*Citrus reticulata* Blanco) cultivation has become quite popular for more than three decades in Jhalawar district of Rajasthan state. Jhalawar district is one of the major Nagpur Mandarin growing belt producing one of the finest quality of mandarin in Rajasthan state over an acreage of 17000 hectares and is synonymously referred to as 'Chhota Nagpur' of our country. Owing to its high nutritive value, prolific and profuse bearing and its cultivation is on increase in every part of Jhalawar district. It is a value added horticulture crop which has bright prospects for export. Leaf nutrient status in fruit crops is an indication of growth, production and productivity of fruit crops as leaf is the principal site of plant metabolism which clearly reflects mineral nutrient content changes with regards to uptake, absorption and utilization for the plant metabolism. Jhalawar district has three major mandarin growing tehsils viz., Jhalrapatan, Pirawa and PachPahar. Studies on nutritional survey of Nagpur Mandarin in Rajasthan are scanty in spite of their great importance and relevance. Therefore, the present investigation was conducted

during December, 2008 to June 2009 with a view to gain information about their nutrient status.

## RESEARCH METHODS

Studies were conducted in eighteen orchards of Nagpur Mandarin selected at different locations in Jhalawar district of Rajasthan. Nagpur Mandarin fruits were studied with respect to different characters. Fruit sampling was done according to the availability of fruits in the district.

## RESEARCH FINDINGS AND DISCUSSION

The results obtained from the present investigation as well as relevant discussion have been summarised under following heads:

### Physical characteristics of Nagpur Mandarin fruits:

The fruit weight ranged from 86.33 g (at the orchard of Mahoria) to 137.88 g (at the orchard of Junakhera). Average