



## Plant tissue analysis of Nagpur Mandarin (*Citrus reticulata* Blanco) orchards in Jhalawar district of Rajasthan

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**Abstract :** Analysis of Nagpur Mandarin leaf samples revealed that 22.22 per cent were found deficient, 33.33 per cent low, whereas 38.88 per cent were found optimum in nitrogen content. An examination of Nagpur Mandarin leaf samples revealed that 11.11 per cent were found optimum, 44.44 per cent in high range, however, 44.44 per cent of leaf samples were found in excess phosphorus content. Analysis of Nagpur Mandarin leaf samples revealed that 100 per cent samples of these plants were found optimum in potassium content. Analysis of Nagpur Mandarin leaf samples revealed that 16.66 per cent were in deficient range followed by 11.11 per cent in low range, 5.55 per cent were optimum, 5.55 per cent high and 61.11 per cent samples of these plants were found in excess Fe content. Analysis of Nagpur Mandarin leaf samples revealed that 33.88 per cent deficient, 44.44 per cent low and 16.66 per cent samples of plants were found optimum in Mn content. Analysis of Nagpur Mandarin leaf samples revealed that 16.66 per cent optimum, 5.55 per cent high and 77.77 per cent plant samples were found excess in Cu content. Analysis of Nagpur Mandarin leaf samples revealed that 22.22 per cent optimum and 77.77 per cent these leaf samples were found excess in Zn content. The nitrogen content in growing plants had significant and negative correlations with Mn and Cu. The Fe content in growing plants had significant and positive correlations with Mn and Cu.

**Key Words :** Nagpur Mandarin, Orchards, Deficient, Low, High, Excess

**View Point Article :** Verma, Shanker and Bhatnagar, Prerak (2013). Plant tissue analysis of Nagpur Mandarin (*Citrus reticulata* Blanco) orchards in Jhalawar district of Rajasthan. *Internat. J. agric. Sci.*, 9(1): 130-134.

**Article History :** Received : 29.06.2012; Revised : 13.09.2012; Accepted : 05.11.2012

### INTRODUCTION

Nagpur 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 inspite 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.

### MATERIALS AND METHODS

Studies were conducted in eighteen orchards of Nagpur Mandarin selected at different locations in Jhalawar district of Rajasthan. The locations are given in Table A.

In each orchard, three trees with uniform vigour and size were selected. The methodology for leaf sampling as suggested by National Research Centre for Citrus, Nagpur (2000) was followed. Composite leaf samples were taken in the month of December, 2008 from 5-7 months old leaves for Mrig flush.

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