International Journal of Agricultural Sciences
Volume 8 |Issue 1| January, 2012 | 161-164

RESEARCH PAPER

# Prolongation of harvesting period in Kinnow mandarin

**NIRMALJIT KAUR* AND P.K. MONGA**
Regional Research Station (P.A.U.), ABOHAR (PUNJAB) INDIA
(Email : nirmal_physio@rediffmail.com)

***Abstract*** **:** Foliar application of different chemicals, *viz*., gibberellic acid (50 ppm), 2,4- dichlorophenoxyacetic acid (20 ppm) and calcium nitrate (1.0 %) prolong the harvesting period of kinnow mandarin without affecting fruit yield and quality in the successive year. Fruit yield increased significantly with the application of different chemicals in comparison to control and maximum fruit yield was obtained with 2,4 – D (20 ppm) application. With the prolongation of harvesting period, fruit yield declined and minimum decline (16.25 %) was observed with 2,4-D (20 ppm). Fruit quality parameters, *viz*., fruit size, fruit weight, juice, TSS, acidity and vitamin C varied significantly with the prolongation of harvesting period and improved with the foliar application of 2,4-D (20 ppm).

***Key Words*** **:** Tree storage, Kinnow, Gibberellic acid, 2,4 - D, Calcium nitrate

***View Point Article*** **:** Kaur, Nirmaljit and Monga, P.K. (2012). Prolongation of harvesting period in Kinnow mandarin. *Internat. J. agric. Sci.*, **8**(1): 161-164.

***Article History*** **: Received :** *09.06.2011;* **Revised :** *26.09.2011;* **Accepted :** *15.11.2011*

## INTRODUCTION

Since citrus fruits are non climacteric, the commercial harvest of any particular variety can occur over a prolonged period in the same orchard. Delayed citrus fruit harvest has earlier been reported to influence fruit quality variables during a current season and affect the next years yield (Papadakis *et al*., 2008). After attaining the harvest maturity, Kinnow fruits have been found to lose their firmness within 2-4 weeks thereby reducing the marketability of the fruit to a greater extent (Sandhu, 1992). Loose skinned fruits such as Satsumas, Mandarin and Ponkan easily puff up and loose quality during storage at high humidity (Murata, 1981). However, growth regulators have been reported to delay maturity and prolong shelf life in citrus (Coggins, 1973). The present investigations were, therefore, carried out to study the effect of different chemicals in prolonging the harvesting period in Kinnow mandarin without affecting the fruit yield and quality.

## MATERIALS AND METHODS

To study the effect of chemicals in prolongation of the harvesting period of Kinnow mandarin fruits, $GA_3$ (50 ppm), 2,4-D (20 ppm), and $CaNO_3$ (1.0 %) were sprayed during mid-October and mid-November on twelve year old Kinnow mandarin trees planted at spacing of 25' x 25', having uniform growth and vigour during the fruiting seasons 2004-07. Each treatment was replicated thrice with single tree unit per replication. The fruit samples were collected starting from mid January to end March at an interval of 15 days each and analyzed for their physico – chemical characteristics using standard methods (AOAC, 1990). The fruit yield was recorded at each date of sample collection.

## RESULTS AND DISCUSSION

The data presented in Table 1 indicates that fruit size varied significantly with the foliar application of different chemicals at different intervals of harvesting period. Fruit length increased significantly in all the treatments over control and maximum mean fruit length (6.64 cm) was observed in the fruits harvested from trees treated with gibberellic acid (50 ppm ). Inconsistent variations ( increase / decrease) of fruit breadth observed at different intervals of harvesting period of fruits, but maximum mean fruit breadth (7.61 cm) was observed with 2,4 – D (20 ppm) treatment.

*** Author for correspondence.**