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RESEARCH PAPER

Studies of plant growth substances on the yield components of winter season guava cv. L–49 (Sardar)

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Abstract : The present investigation was carried out to work out the effect of plant growth regulators on the yield of winter season guava (*Psidium guajava* L.) cv. L–49 (Sardar). The study revealed that an application of NAA 40 ppm as well as NAA 20 ppm was found to be the most effective in increasing more number of fruits per tree (439.00 and 410.05, respectively). These treatments also increase the fruit weight (153.22 and 136.13 g), fruit volume (127.68 and 114.20 cc), fruit diameter (5.63 and 5.36 cm) and yield (66.39 and 59.90 kg tree^{-1}). The number of seeds per fruit was found to be non-significant. But minimum number of seeds per fruit was observed with GA_3 50 ppm (300.01).

Key Words : Guava, PGRs, Yield parameters

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INTRODUCTION

The Guava (*Psidium guajava* L.) is one of the most common and important fruit crop, cultivated all over India. It is a popular fruit among people primarily because of its moderate price in market and also being a rich source of vitamin 'C.' Botanically guava belongs to the large family of Myrtaceae. Guava is very hardy in nature and as such can grow in wide range of soils even with less attention. In India, most of the guava varieties produce medium to small, inferior quality fruits having more number of seeds, which are hard and difficult to chew.

MATERIALS AND METHODS

The present investigation entitled studies of plant growth substances on the yield components of winter season guava (*Psidium guajava* L.) cv. L–49 (Sardar)" was under taken during monsoon 2009 at the Horticultural Instructional Farm, Chimanbhai Patel College of Agriculture, Sardarkrushinagar Dantiwada Agricultural University, Sardarkrushinagar, District Banaskantha, Gujarat. The experiment was conducted in guava orchard-p9 planted at 6 x 6 m distance. The experiment was conducted in Randomized Block Design with nine treatments and four replications. The treatment consisted of T_1 (Control), T_2 (GA_3 50 ppm), T_3 (GA_3 100 ppm), T_4 (NAA 20 ppm), T_5 (NAA 40 ppm), T_6 (2,4-D 5 ppm), T_7 (2,4-D 10 ppm), T_8 (CCC 250 ppm) and T_9 (CCC 500 ppm).

RESULTS AND DISCUSSION

The data (Table 1) of guava trees revealed that the harvesting of fruits started late in the guava tree sprayed with NAA at 40 ppm (78 days), which was at par with NAA at 20 ppm (75 days), GA_3 100 ppm (70 days) and GA_3 50 ppm (68 days). The minimum days for first harvest were observed under control (59 days). Foliar application of NAA 40 ppm to the guava trees took the maximum days (96 days) for last harvest, which was at par with NAA 20 ppm (93 days), GA_3 100 ppm (91 days) and GA_3 50 ppm (88 days). The minimum days for last harvest was noticed under control (78 days). The results indicated that the difference in the total number of fruits per plant was found to be significant. Significantly the highest total number of fruits per plant (439.00) was recorded in T_5

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