

Efficacy of Plant Growth Regulators for Flower Thinning in Pomegranate

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Pomegranate (*Punica granatum* L.) is a commercial fruit crop of Maharashtra. It flowers in three seasons viz., January-February, June-July and October-November. The crop of only one flowering season is taken in a year. For this, fruits and flowers of earlier seasons are removed. The plants are subjected to water stress, then manured and irrigated to initiate the flowering. Once a new cropping has commenced, it continues to flower and set fruits for a prolonged period. It is recommended to retain the earlier set fruits, and remove the flowers afterwards to regulate the cropping (Rane *et al.* 1980). Thus, for one or the other purpose, pomegranate needs flower thinning. Plant growth regulators have effectively been used for flower thinning in many other crops (Roberts & Hooley 1988). However, no such studies have been reported in pomegranate. Therefore, the present experiment was conducted to see the possibility of using growth regulators to thin the flowers.

The investigation was conducted during amba bahar (January- February) flowering season of 1990 and 1991 and the pooled data have been presented. There were seven treatments replicated thrice with two plant unit in RBD. The growth regulators were sprayed on 45th day after the commencement of the cropping. At the time of spraying all the male and intermediate flowers were removed by hand and only hermaphrodite flowers, 50 in number, were retained on each tree. The dropped flowers were counted daily upto 10 days and the percentage of flower thinning was worked out.

It was observed that spraying of ethrel at 500 ppm was found to be significant in thinning the

flowers in pomegranate to an extent of 55% in 10 days followed by 250 ppm ethrel (17% flower drop), 500 ppm (NAA) naphthalene acetic acid (15%) and 250 ppm NAA (12%). The flower drop in control was about 5% while only 5% and 4% flower drop was observed with 0.7% carbaryl and 1000 ppm maleic hydrazide respectively. NAA (Gupta & Nijjar 1982), MH (Agnihotri & Bhullar 1979) and Carbaryl (Windle & Dam 1989) had been reported as effective flower thinners in guava and apple. However, these chemicals appear to be of little use in pomegranate. Ethrel has been widely known as flower thinner (Roberts & Hooley 1988) and at 500 ppm it was found effective in the present study also. Therefore it is suggested that ethrel at 500 ppm can be employed in thinning the flowers in pomegranate in order to improve the fruit yield and its quality.

References

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