



Studies on effect of growth regulators on flowering, fruiting and quality of sapota

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Abstract : The results of experimentation confirmed the efficiency of the growth regulators for better flowering, fruit set, fruit retention reduced fruit drop and quality of sapota variety Kalipatti. The study revealed that CCC at 450 ppm significantly increased the number of flowers and number of fruits per tree. Treatment NAA 200 ppm proved better for reducing flower and fruit drop and ultimately increasing fruit set and fruit retention, respectively. The treatment GA₃ at 150 ppm was effective for weight of fruit, highest per cent of mean total sugar.

Key Words : Sapota, Flowering, Fruiting, Quality, CCC, NAA, GA₃

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INTRODUCTION

Sapota [*Manilkara acharas* (Mill) Forsberg] popularly known as chiku in India, is an evergreen fruit tree native of tropical America and probably originated in the southern Mexico (Papenoe, 1974). How and when this fruit was introduced into India is not very well known but Ghlowad village in Thane district of Maharashtra state has the evidence of first sapota plantation in 1898 (Cheema *et al.*, 1954).

India is considered to be the largest producer of sapota in the world. It is mainly cultivated in the coastal areas of Maharashtra, Gujarat, Andhra Pradesh, Karnataka, Tamil Nadu, Kerala, West Bengal, Uttar Pradesh, Punjab and Haryana. India is leading producer of sapota and area under sapota is estimated to be 156 lakh ha with a production of 1308 million tonnes (Anonymous, 2009). In Maharashtra area under sapota is about 65.4 lakh ha with a production of 298.7 million tonnes (Anonymous, 2009).

Sapota is cultivated for its delicious sweet fruits. The fruits are good source of digestible sugar (12 to 18 per cent). Sapota also ingredient of fruit salad and milk shakes. The milky latex secreted by unripe sapota fruits, known as Chuckle forms the base for making chicklet and ice cream.

The another major problem regarding sapota crop is heavy flower and fruit drop (Patil and Narwadkar, 1974; Farooqui and Rao, 1976; Kawadiwale, 1988). Sapota produces large number of flowers thrice in a year with different flushes. But flowers and fruits tend to drops down at different stages of development right from its setting to maturity. However, fruit drop at later stages of development drastically reduces the yield causes the losses to farmers. In recent years considerable attention has been given to increase fruit set and to check fruit drop of many fruit crops with the help of plant growth regulators. Different group of plant growth regulators like auxins, gibberlins and growth retardants at various concentrations have been reported to influence flowering, fruit set, retention, development and quality characters of several fruit crops (Singh, 1961; Maiti *et al.*, 1972; Das and Mahapatra, 1975). Hence, the objective was to study the effect of growth regulators on flowering, fruiting and quality of sapota cv. KALIPATTI.

MATERIALS AND METHODS

The present investigation was undertaken during the year 2009-10 at the Department of Horticulture, Marathwada

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