



Effect of cultural and chemical treatments on fruit set and fruit yield of custard apple (*Annona squamosa* Linn.) cv. SINDHAN

N.M. PATEL, D.K. PATEL, L.R. VERMA AND M.M. PATEL

See end of the article for authors' affiliations

Correspondence to :

N.M. PATEL

Polytechnic in Agriculture,
(S.D. Agricultural
University), Amirgadh,
BANASKANTHA

(GUJARAT) INDIA

Email:

nmpatel1953@yahoo.com

ABSTRACT

A trial was conducted to study the influence of wheat straw mulch and different plant growth regulators on fruit set, yield and quality of custard apple. Maximum flowering duration and fruit retention was observed with wheat straw mulch + GA₃ (5 t/ha + 50 ppm) treatments. Highest number of fruits, fruit yield, fruit diameter and fruit pulp were also recorded under same treatments. Wheat straw mulch gave 21% higher fruit yield of custard apple. However, application of 20 ppm NAA was at par with GA₃ (50 ppm). On economic basis, 50 ppm GA₃ + wheat straw mulch followed by 20 ppm NAA + wheat straw mulch gave highest net income.

Patel, N.M., Patel, D.K., Verma, L.R. and Patel, M.M. (2010). Effect of cultural and chemical treatments on fruit set and fruit yield of custard apple (*Annona squamosa* Lin.) cv. SINDHAN, *Asian J. Hort.*, 5 (2) : 498-502.

Key words : Custard apple, Mulch, Fruit yield, GA, NAA

Custard apple (*Annona squamosa* L.) is an arid fruit crop and hardy in nature requires dry climate with mild winter. It can grow successfully from sea level up to 100 m above the mean sea level elevation and also drought (Singh, 1992). Custard apple flowered during the period of April to August. Due to high temperature, low atmospheric humidity, lack of irrigation water and natural stress resulted less number of flower, poor fruit setting and low yield and degraded quality of fruit too. To control these problems only one solution is that, with mulch to procure the moisture within the periphery of the plant of custard apple. Several scientists have also reviewed this type of the cultural practices in Maharashtra and also in Gujarat. Studies have shown that mulching of even an evergreen tree like mango could ensure regular bearing. The techniques have been successfully tried in many orchards in Maharashtra. Among the various uses of growth regulators which have received wide spread acceptance and application in the field of horticulture in recent years, the use of plant growth regulating chemicals in grape, mango, mandarin have become a standard practice for increasing flowering, fruit setting, fruit size and control of post harvest losses. This paper describes the interference of mulch and plant growth regulators on yield

attributing characters and fruit yield of custard apple.

MATERIALS AND METHODS

Present investigation on the Effect of mulch and plant growth regulators on custard apple cv. SINDHAN were carried out on the nine year old trees having uniform growth with spaced at 6 m x 5 m at Fruit Research Station, Dehgam, Di: Gandhinagar (Gujarat) during the year 2002 and 2003. The experiment was conducted in Randomized Block Design with four replications with total sixteen treatment combinations. Mulch with wheat straw and no mulch were tested. Custard apple trees were sprayed with different plant growth regulators viz., GA₃ at 50 and 100 ppm, NAA at 20 and 30 ppm, 2,4-D at 15 and 30 ppm and water spray. The plant growth regulators were sprayed four times at twenty-one days interval. The first spray was done on 1st week of May in both the years. Irrigation was given one day before spray. All the cultural operations like weeding, interculturing and irrigation were adapted uniformly to all experimental plants. Observations of various yields attributing characters and fruit yield were recorded. Results thus obtained were subjected to statistical analysis.