Research Paper

Effect of different planting distance on growth and yield of Aonla cv. GUJARAT AONLA- 1

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ABSTRACT : A field experiment was conducted to see the effect of different planting distance on growth and yield of Aonla cv. GUJARAT AONLA- 1 during the years 2003-04, 2007-08 and 2008-09 at Horticultural Research Farm, B. A. College of Agriculture, Anand Agricultural University, Anand. The experiment was laid out in Randomized Block Design (RBD) with five treatments. In different planting distances the treatment T_1 (8.0x8.0 m) recorded the highest values of growth parameters *viz.,* plant height, trunk girth and tree canopy during the years 2003-04, 2007-08, 2008-09 and in pooled analysis as compared to other planting distance treatments. While treatments T_1 recorded significantly highest fruits yield in year 2003-04.

KEY WORDS : Aonla, Planting distance, Growth, Yield

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Aonla or Indian gooseberry *(Emblica officinalis* Gaertn) is an important indigenous fruit crop of India, which belongs to family Euphorbiaceae*;* subfamily phyllanthoideae*, is* native of Tropical South-East Asia*.* Its commercial cultivation is common in India, particularly in Uttar Pradesh, Haryana, Punjab and Gujarat etc. Gujarat occupies 12481 ha area with 121514 M.T. productions, Where as in Middle Gujarat cover 7197 ha area with the production of 75559 M.T., respectively (Anonymous, 2011).

In Gujarat, Kheda and Anand districts are excellent pockets for aonla cultivation. It is one of the important fruits with respect to its medicinal as well as nutritive values. It has been recognized as *"Amritphal"* in ancient literature. *Trifala* and *chyavanprash* preparations of aonla are well known indigenous medicines in Ayurveda. It is one of the richest source of vitamin-C (600 mg/100g) among fruits after barbados cherry. It also contains essential minerals and sugars. The plant is very hardy and can be grown successfully in sodic soil and gaining popularity particularly in marginal soil and various kind of wastelands. High density planting with combination of planting systems has been successfully demonstrated in mango (Singh *et al.,* 2011), litchi (Rathore *et al.,* 2003) and guava (Mahajan *et al.,* 2005). Considering the

condition, planting geometry and manipulation in the spacing seems to be an important tool to obtain higher production and productivity. Keeping this in view, an attempt was made to see the performance of different planting distances on growth and yield of aonla.

RESEARCH METHODS

A field experiment was conducted at the Horticultural Research Farm, Department of Horticulture, B. A. College of Agriculture, Anand Agricultural University, Anand during the years 2003-04, 2007-08 and 2008-09. Details of treatments were $T_1 = 8.0 \times 8.0$ m; $T_2 = 8.0 \times 6.0$ m, $T_3 = 8.0 \times 4.0$ m, $T_4 = 6.0 \times 6.0$ m and $T_5 = 6.0 \times 4.0$ m embedded in a RBD design with three replications. The observations were recorded on plant height, tree canopy, number of fruits per plant and yield of fruit t/ha.

RESEARCH FINDINGS AND DISCUSSION

The results of fruit yield t/ha were influenced by different planting distance are presented in Table 1. In individual year 2003-04 the fruit yield was found significantly maximum with T_5 - 6.0 x 4.0 m *i.e.* 9.71 t/ha while it was found non-significant with year 2007-08, 2008-09 and in pooled analysis. However, in pooled analysis numerically the highest fruit yield *i.e.* 8.99 t/