Research Paper | *The Asian Journal of Horticulture,* (December, 2009 to May, 2010) Vol. 4 No. 2 : 434-439

Effect of grafting dates and grafting materials on soft wood grafting in sapota [*Manilkara achras.* (Mill Fosberg)] under middle Gujarat agroclimatic conditions

S.S. WAZARKAR, H.C. PATEL, M.M. MASU, **A.B. PARMAR AND** H.H. SITAPARA

Accepted : *October, 2009*

ABSTRACT

The experiment was conducted at Fruit Nursery, Horticulture Research Farm, B. A. College of Agriculture, Anand Agricultural University, Anand during July 2007 to January 2008. The treatments comprised of five grafting dates and two different grafting materials. The experiment was laid out in Completely Randomized Design (CRD) with Factorial concept with ten treatment combinations. All treatments were replicated thrice and each treatment having 30 grafts in equal number in three replications. The results revealed that among the five grafting dates, date 30-7-2007 gave significantly maximum increment in length of scion (11.49 %) and (15.94 %) at 30 and between 31 to 60 DAG, numbers of sprouted graft (7.33) at 60 DAG, number of leaves per scion (4.66) and (7.15) at 30 and 60 DAG, respectively, lowest number of days for emergence of sprouting of grafts (15.33), the highest survival percentage (73.33) and (66.67) at 60 and 90 DAG followed by date 20-7-2007 and date 29-8-2007, respectively. Among two grafting materials polythene strip and degradable tape used for tying of grafts. Degradable tape gave significantly maximum increment in length of scion (10.45 %) and (14.26 %) at 30 and between 31 to 60 DAG respectively, number of fully opened leaves per scion (7.07) at 60 DAG where as significantly maximum increment in length of rootstock at 30 DAG (2.11 %) was recorded with polythene strip. In the interaction effect grafting dates and grafting materials, interaction between 30-7-2007 and degradable tape recorded significantly maximum increment in length of scion (16.20 %) between 31–60 DAG followed by date 30-7-2007 and polythene strip. Significantly the highest numbers of sprouted grafts (7.33) at 60 DAG, significantly maximum survival of grafts (76.67 %) and (70.00 %) at 60 and 90 DAG, respectively were obtained in interactions between 30-7-2007 and polythene strip. The highest net realization Rs. 6750 per 1000 grafts and CBR (1 : 1.63) was obtained with D_2T_1 (30-7-2007- Polythene strip)

See end of the article for authors' affiliations

Correspondence to :

A.B. PARMAR.
Department of Horticulture, B.A. College of Agriculture, Anand Agricultural University, ANAND (GUJARAT) INDIA

Key words : Grafting, Sapata, Grafting mateials

Sapota is tropical fruit crop and can be grown in a wide range of climate. It prefers a warm and moist weather and grows both in dry and humid areas. It can tolerate salinity and water stress to a great extent.

The most important problem in the rapid expansion of sapota plantation is lack of genuine planting material of improved varieties required in large quantity and lack of information on propagation. Through approach grafting and air layering methods are presently practiced but these methods have certain limitations and can not meet the increased demand. The success of grafting largely depends up on the climatic conditions prevailing at the place, the season of grafting varies from place to place depending upon the climatic conditions.

The tying and wrapping materials had a significant effect on scion sprouting, shoot growth and survival of grafts (Zenginbal *et al.*, 2006). Normally nurseryman uses 200 gauge white polythene for making strip for tying of grafts but sometimes they forget to remove it after the success of grafts which results in girdling of the grafts and may cause death of the grafts. Degradable tapes are easy to wrap and make more effective for contact between stock and bud stick and it automatically degrades after a period of time thus there is no need of removing it manually which also saves the labour required.

MATERIALS AND METHODS

The experiment was conducted at Fruit Nursery, Horticulture Research Farm, B.A. College of Agriculture, Anand Agricultural University, Anand during July 2007 to January 2008. The experiment was laid out in Completely Randomized Design (CRD) with Factorial concept with ten treatment combinations comprising of five different grafting dates and two wrapping materials. All treatments were replicated twice and each treatment having 30 grafts in equal numbers in three replications. The details of experimental treatments were as under: Date of grafting (D) – D_1 – 20-07-2007, D_2 – 30-07-2007, D_3 – 09-08-