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Research Paper

Effect of structural conditions on softwood grafting success and survival of jamun grafts (*Syzygium cimini* Skeel)

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ABSTRACT

An experiment was carried out to study the effect of time on softwood grafting success and survival of jamun grafts (*Syzygium cimini* Skeel) was carried out at Horticultural Research Farm, Department of Horticulture, B.A. College of Agriculture, Anand during summer season in the year 2009.The treatments comprised of ten grafting dates (15th and 30th dates of each of April, May, June, and August months). The experiment was laid out in a Completely Randomized Design with 3 replications. The results revealed that among the three structural conditions open condition recorded significantly highest increment in length on scion *i.e.* 15.26%, length of rootstock *i.e.*6.12%, numbers sprouted grafts *i.e.* 13.2, minimum days required for sprouting of grafts *i.e.* 22.90, maximum number of full opened leaves *i.e.* 4.9 and there by maximum survival *i.e.* 75.32% at 90 DAG (days after grafting).

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Key words : Jamun, Softwood grafting, Survival of grafts, Open condition, Net house, Open vent green house

Jamun is a hardy fruit crop. It can tolerate drought conditions if occurs for some time as well as heavy rainfall conditions. The tree is evergreen and partially deciduous under drought condition. The tree bears flower and fruits profusely up to such an extent that many a times the branches/twigs loaded with heavy fruit load cause them to drop. The branches are brittle, *i.e.* they are not flexible. Jamun tree produce a large quantity of seeds, and freshly extracted seeds germinate up to 90%. Generally, seeds are sown in nursery and one year old seedlings are planted in the main field. Because of its medicinal values and suitability for planting as windbreak, its demand is increasing day by day that will require selected plants of superior quality and high yield potential. That is only possible when desirable mother trees are used for the propagation. Therefore, main objectives of the present study were to find out an appropriate time for softwood grafting in jamun and to find out the effective conditions for softwood grafting in jamun.

MATERIALS AND METHODS

The experiment was conducted at Horticulture Research-cum-Demonstration Farm, Anand Agricultural University, Anand during summer 2009. The design of experiment was Completely Randomized Design with 3 replications. Local seedlings of one year old raised in polythene bags (13 x 10 cm) were used as a rootstock for jamun soft wood grafts. Total 900 healthy jamun seedlings were used for this experiment. The softwood grafting of jamun was done at 15 days interval for 5 months started from 15th April to 30th August in three different structural conditions *i.e.* open condition, net house and open vent green house condition. Total treatments combinations were 30. Selected jamun plants were used for grafting and observations were recorded at initial stage of grafting, 30, 60 and 90 days after grafting. The values of data from these prepared grafts were computed and were used for statistical analysis. The data generated from the various observations will be used for statistical analysis. The data were analyzed in Complete Randomized Design (Factorial) according to procedure described by Panse and Sukhatme (1967) and treatments mean were compared by means of critical differences at 5% probability.

RESULTS AND DISCUSSION

The open structural condition (S_1) recorded significantly highest increment in length of scion *i.e.* 15.26%, length of rootstock *i.e.* 6.12%, number of sprouted grafts *i.e.* 13.2, minimum days took for