RESEARCH COMMUNICATION

ROOTING RESPONSE OF GUAVA (*PSIDIUM GUAJAVA* L.) THROUGH CUTTING UNDER GARHWAL HIMALAYAN REGION

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Abstract: Rooting response of Guava (*Psidium guajava* L.) through cutting, experiment was done valley region in Garhwal Himalayan. The experiment was laid out in Randomized Block Design (RBD) with three replications. For preparing the rooting media, soil and farm yard manure (FYM) in ratio of 2:1 by v/v were mixed thoroughly, then the mixture was filled in root trainers. Properly prepared hardwood cuttings of about 15-20 cm in length during the month of August were treated with various concentrations of IBA viz., 2000, 3000 and, 4000ppm for 10 second by concentrated solution quick dip method with control, and planted in three different conditions namely Mist chamber, Shade house and open condition. The result shows mist house growing condition was found effective in increasing the rooting performance of the cuttings. The cuttings treated with 4000ppm IBA performed best in all aspects, Survival percentage of cutting, number of sprouts, number of leaves**,** shoot length, shoot diameter, number of primary root, number of secondary root, root length, root diameter, fresh weight of root, dry weight of root and rooting percentage. Overall treatment G_2C_3 (Mist chamber with 4000 ppm IBA) treatment combination was found best in all parameters taken.

Key words: Guava, IBA, Growing condition, Rooting percentage

REFERENCES

Abdullah, A.T.M.; Hossain, M.A.; Bhuiyan, M.K. (2006). Clonal propagation of guava (*Psidium guajava* L.) by stem cutting from mature stock plants. Journal of Forestry Research. 17(4): 301-304.

Carlson, M.C. (1929). Micro-chemical studies of rooting and non-rooting rose cuttings. *Bot. Gaz*., 87: 64.

Cochran, W. G., Cox, G. M., (1992). Experimantal Designs. John Wiley and Sons, Inc., New York.

El-Shazyl, S. M. and El-Sabrout, M. B. (1994). Root formation on hard wood cuttings of Leconte pear as influenced by auxin treatments and time of application. *Alexandria J. of Agric. Res*., 39 (3): 545-558.

Hartmann, H.T.; Kester, D.E.; Devies, F.T. and Geneve, R.L. (2007). Plant Propagation Principles and Practices. Seventh Edition, Prentice Hall of India Pvt. Ltd., New Delhi.

Hossen,S., Kabir, M.S., Uddin, M. B. , Rahman, A.K.M.L., and Mamun, M.R.A. (2009). Effect of different extractions of juice on quality and acceptability of guava jelly. *j. innov.dev.strategy*. 3(4): 27-35.

Junior, E.J.C., Jesus, N.D. and Martins, A.B.G. (2004). Rooting capacity of varieties of loquat. *Rev. Bras. Frutic.,* 26(1): 61-64.

K.K. Singh, J.M.S. Rawat and Y.K. Tomar (2011). Influence of IBA on Rooting Potential of Torch Glory *Bougainvillea glabra* During Winter Season. Journal of Horticultural Science & Ornamental Plants 3 (2): 162-165.

Khattak, M.S., M. Inayatullah, and S. Khan (1983). Propagation of guava from semi hard wood cuttings. Frontier J. Agri. Res. B (1) 81-92.

Kumar, A. and Jadhav, S. (2007). Studies on propagation of phalsa (*Grewia asiatica L.*) by cutting. *M.Sc. Thesis Uni. Agri. Sci., Dharwad (Karnataka).*

Langhans, R. W. (1955). Mist for growing plants. *Farm Res.* (Cornell Univ.) 21(3): 3.

Luis, A.S., S. Raul and T.J.C. Rodrigo (1986). Vegetative propagation of guava by different types of cuttings. *Hort. Sci*., 21: 663.

Nanda, K.K. and Kochhar, V.K. (1985). Vegetative propagation of plants, New Delhi, India, Kalyani Pub.

National Horticulture Board Data base - 2012 - 13, www.nhb.gov.in.

Ravindran, C., Jaganath, S. and Krishnamanohar, R. (2006). Effect of different propagating structures on rooting of hardwood cuttings of grape (*Vitis vinifera* L.) Varieties. *Acta Hort*., 710:313-316.

Selvarajan, M. and Madhava Rao V.N. (1982). Studies on rooting of patchouli cuttings under different environments. *South Indian Hort*., 30: 107-111.

Shafrir, M. and K. Mendel (1970). Effect of season and shoot maturity in Rooting. Washington Navel orange cuttings. *Pl. Propagator*. 16: 4: 9.

Singh, K.K., Choudhary, T. and Kumar, A. (2014). Effect of Various Concentrations of IBA and NAA on the Rooting of Stem Cuttings of Mulberry (*Morus Alba* L.) under Mist House Condition in Garhwal Hill Region. *Indian Journal of Hill Farming 27(1): 125-131*

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Tready, M.T. (1983). Effect of IBA on teh kiwi fruit and guava hard wood cuttings. Plant Propagation,28(4) 7-10. (Hort. Abst. 53(5): 3193, 1983).

Ucler, A. O., Parlak, S. and Yucesan, Z. (2004). Effects of IBA and Cutting Dates on the Rooting Ability of Semi-Hardwood Kiwifruit (*Actinidia deliciosa* A.Chev.) Cuttings. *Turk. J. Agri*. 28: 195-201.

Whitecomb, C.E. (1983). Rooting of cutting under wet tent. *Hort. Proc*., 32: 450-455.