

Response of plant growth regulators on stem cuttings of grape (*Vitis vinifera* L.) cv. Perlette

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ABSTRACT : A field experiment on Response of Plant Growth Regulators on stem cuttings of grape (*Vitis vinifera* L.) cv. Perlette, was conducted at the Horticultural Farm, C.C.R. (P.G.) College, Muzaffarnagar during the spring season of 2006. The experiment was conducted in a factorial randomized block design with three replications including all the possible treatment combinations as a result of two factors *i.e.* cuttings hard wood (M_1) and semi hard wood (M_2) and plant growth regulators IBA ($I_1, I_2, \& I_3$) and NAA ($N_1, N_2, \& N_3$) at three levels *i.e.* 1000, 1500 and 2000 ppm of each. The result revealed that various treatments of PGR and type of cuttings significantly influenced length of shoots per cutting, number of leaves per cutting, number of roots per cutting, length of the longest roots, rooting and survival percentage. The significantly maximum length of shoots per cutting (9.60, 18.24, 27.00 and 37.29cm) and number of leaves per cutting (1.92, 3.97, 7.10 and 10.22) were found in the hard wood cutting treated with IBA (1500 ppm) in comparison to semi hard wood cutting treated with NAA and control all the successive stages of growth *i.e.* 45, 60, 75 and 90 days after planting. The root forming characters such as number of roots per cutting (12.91), rooting percentage (55.24%) and survival percentage (59.84%) were found significantly maximum in the hard wood cutting treated with IBA (1500ppm) over all the other treatments and control, while maximum length of longest root (14.52cm) was recorded in the hard wood cutting when treated with IBA (2000ppm) in comparison to control, semi hard wood cutting and other treatments. Among the different treatments combination, maximum length of shoots per cutting (36.78), number of leaves per cutting (10.91), number of roots per cutting (13.66), rooting percentage (57.59%) and survival percentage (59.84%) recorded in I_2M_1 (IBA, 1500ppm+HWC) treatment combination, while length of longest root (15.50cm) was maximum reported in I_3M_1 (IBA, 2000ppm+HWC) treatment combination.

Key Words : Hard wood cutting, plant growth regulators NAA, IBA, root, shoot, planting.