

RESPONSE OF OLIVE HARD WOOD CUTTINGS TO DIFFERENT HORMONAL STIMULATION

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Abstract

This study was conducted to assess the influence of different concentrations of 1-Naphthaleneacetic Acid (NAA), Indol Butyric Acid (IBA), and the interaction of 6-Benzylaminopurine (BAP) and IBA on root induction in *Olea Europea L.* Leafy semi-hard wood cuttings of var. "Kalinjot" (high rooting ability) and var. "Kokërrmadhi i Beratit" (low rooting ability) of both autochthonous varieties were obtained from one-year-old olive shoots, sampled in early April 2012. To improve the rooting of olive cuttings, different concentrations of IBA and NAA (0, 2000, 4000 and 6000 ppm) solution 50 % hydroalcoholic and different concentrations of BAP 100, 150, 200 and 250 ppm in combination with IBA 4000 ppm were tested. Then the experiment was conducted in a completely randomized design with four replicates in green house conditions at ATTC Vlore. After a growing period of 60 days, some parameters of the cuttings were measured (percentage of rooted cuttings, root number per cutting and root length). The better cuttings, considering rooting and leafing, were replanted for another 20 days, before taking the final parameters. Upon analysis of these final parameters, the var. "Kalinjot" exhibited better rooting ability than "Kokërrmadhi i Beratit", especially concerning the rooting time. The latter seems to root with difficulty and take considerably longer. IBA has given a better result compare to NAA, although both of them gave the best effect in 4000ppm treatments in both varieties. BAP inhibits adventitious root formation, but adding it to IBA in a small ratio (1:30-1:40) improved the rooting. The combination of IBA 4000ppm + 100ppm (40:1) and IBA 4000ppm+150ppm BAP modified significantly higher rooting of cuttings in var. "Kokërrmadhi i Beratit". The variety "Kalinjot" has reduced the percentage of rooting in combination of IBA + BAP.

Keywords: *olive, root, 1-Naphthaleneacetic Acid, Indol Butyric Acid, Benzylaminopurine.*