

Asexual Reproduction of *Juglans regia* L. by using Growth Regulators of IBA and 2,4-D

Zaker Bostanabad S¹, Bakhshi Khaniki Gh^{*2}, Mohsennejad F³

^{1, 2} Department of Biology, Faculty of Sciences, Islamic Azad University, Parand Branch, Tehran, Iran

³ Department of Biology, Faculty of Sciences, Payame Noor University, Malekan, Iran

Abstract

Aim and Background. The *Juglans regia* L. is a plant with difficulty in rooting, therefore, its asexual reproduction is almost impossible. The aim of this study was to conduct and improve the advantage of asexual reproduction by using growth regulators of IBA and 2,4-D.

Materials and Methods. In order to keep major characteristics, we studied the effects of treatments and growth regulators of IBA and 2,4-D in several concentrations on 40 plantlet in five groups.

Results. The results showed that application of IBA has important effects on root primordium initiating but application of 2,4-D does not show significant initiation. Both treatments of IBA and 2,4-D tend to increasing length of roots.

Conclusion. This research show that, treating of shoots with IBA have not important effect on shoot primordium initiation, but 2,4-D treatment are very important effects. Over all treatment with IBA and 2,4-D caused to increasing the rooting in survival of cutting.

Key words. *Juglans regia* L, asexual reproduction, rooting, IBA, 2,4-D

*** Corresponding Author:**

Address: Department of Biology, Faculty of science, Islamic Azad University, Parand Branch

Email: Bakhshi@pnu.ac.ir