

## Effect of some plant growth regulators (BA and IBA) on in vitro shoot proliferation of persian walnut (*Juglans regia* L.)

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Shoot proliferation is important part of in vitro walnut propagation. Therefore, to increase the proliferation rate of shoots, this research work was conducted in in vitro condition. Using cytokinin BA and auxin IBA (3- Indole Butyric acid). Statistical design of present study was factorial in a complete randomized design.

First of all, the in vitro grown shoots were divided to single node explants which then cultured on the DKW base medium with different levels of above mentioned hormones. Shoot proliferation was evaluated after two months. Results indicated that BA had positive effect on shoot proliferation when used only at 1 and 1.5 ppm concentrations, while the higher levels of that caused reduction in shoot proliferation with producing smaller leaves, shorter shoots and so on.

IBA showed different effect of that with BA and any increment in its concentration from 0.00 to 0.05ppm resulted in decreased shoot proliferation indices.

It can be concluded that shoot proliferation does not need any IBA used in medium but BA at 1 and 1.5 ppm increases shoot proliferation.