Int. J. Agricult. Stat. Sci. Vol. 18, No. 1, pp. 359-365, 2022
DocID: https://connectjournals.com/03899.2022.18.359
www.connectjournals.com/ijass
ISSN: 0973-1903, e-ISSN: 0976-3392
ORIGINAL ARTICLE

IMPACT OF CHITOSAN AND BENZYL ADENINE ON SHOOT MULTIPLICATION OF KUMQUAT PLANT (*CITRUS JAPONICA* THUMB.) *IN VITRO*

Hazim Sultan Safana, Majid Abdulhameed Ibrahim* and Abdulkareem Mohammed Abd

Department of Horticulture and Landscape Design, College of Agriculture, University of Basrah, Basrah, Iraq.
E-mail: majid.abdulhameedl@uobasrah.edu.iq

Abstract: The study aims to evaluate benzyl adenine (BA) and chitosan that were added to MS media on shoot multiplication of kumquat plant by culturing the shoot tips as explants. The interaction treatment between 15 mg L^{-1} chitosan and 2 mg L^{-1} BA significantly achieved the highest value in the number of shoots and shoot length that reached 5.20 shoots $explant^{-1}$ and 2.40 cm, respectively. The interaction treatment between 10 mg L^{-1} chitosan and 3 mg L^{-1} BA achieved the best value in a leaf area of 2.24 cm^2. The interaction treatment between 25 mg L^{-1} chitosan and 2 mg L^{-1} BA achieved the highest number of nodes that reached 3.60nodes $shoot^{-1}$ using MS media supplemented at 2 mg L^{-1} naphthalene acetic acid (NAA) and 15 mg L^{-1} chitosan for rooting. The plants were acclimatized and foliar spraying them with chitosan at 15 mg L^{-1}. At the end of the acclimatization stage, the percentage of plant survival was 80%.

***Key words*:** Plant tissue culture, Chitosan and cytokine, Micro propagation, Acclimatization.

Cite this article

Hazim Sultan Safana, Majid Abdulhameed Ibrahim and Abdulkareem Mohammed Abd (2022). Impact of Chitosan and Benzyl adenine on Shoot Multiplication of Kumquat Plant (*Citrus japonica* Thumb.) *in vitro*. *International Journal of Agricultural and Statistical Sciences*. DocID: https://connectjournals.com/03899.2022.18.359