

Effect of Planting Media and Cultivation Method in the Offshoots Growth of Date Palm *Phoenix Dactylifera* L. Hillawi cv.

Abdul Samad A. Abdullah^{1*}, Hassan A. Faisal¹, Khairullah M. Awad¹

¹Date Palm Research Center, Basrah University, Iraq.

* Corresponding author: Abdul Samad A. Abdullah (abdulsamad.abbood@uobasrah.edu)

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Abstract:

Objective: The study aimed to explore the effects of different planting medium on the growth of date palm Hillawi cv. offshoots.

Methods: The experiment included two main factors: the first factor was planting media, consisting of three treatments: field soil, zeolite + field soil (in a 2:1 ratio), and zeolite + sand (in a 2:1 ratio). The second factor was cultivation method, comprising three methods: traditional planting, container planting (using pots), and planting in lined holes with a layer of agricultural polyethylene (nylon).

Results: Planting medium significantly influenced the growth of the offshoots. Specifically, planting media with zeolite and sand exhibited significant improvements in leaf length, dry matter content, leaf area, root count, root length, and diameter compared to the control group. Conversely, the zeolite-field soil combination exhibited a marked increase in moisture content. Additionally, electrical conductivity (EC) within the planting media was notably higher in the control condition featuring only field soil. The study also found that the chosen cultivation method significantly influenced the growth of the offshoots. The lined holes method displayed significant advantages in leaf length, dry matter content, leaf area, root count, root length, root diameter, and moisture content within the planting media, compared to the traditional approach. Conversely, the traditional method resulted in higher EC within the planting media.

Conclusions: The study reveals significant effects of cultivation medium, method, and their interaction on various growth parameters of date palm offshoots. This study recommends the lined-hole planting method and zeolite-infused medium for enhanced offshoot growth.

Keywords: EC; lined holes; moisture content; offshoots; zeolite.