

Estimate the Content of Aromatic Oils in Pollen for Five Male Cultivars of Date Palm *Phoenix dactylifera* L. Treated by Fanphthyl Acetamide

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Received 22nd October 2024; Accepted 22nd February 2025; Available online 24th August 2025

Abstract: The university of Basrah will estimate the pollen content from aromatic oils for five male cultivars of date palms and five male cultivars of date palms to find their content of aromatic oils. Male cultivars were selected (Ghanami Akhdar, Ghanamiahmar, Khakri, Wardi and Semismi). The study included pollen treatment with growth regulator fanphthyl acetamide with concentrations (0, 0.1, 0.3 g. L⁻¹). The process of extracting aromatic oils from pollen was performed using the clavenger apparatus. The findings of the study indicated the preeminence of the Ghanami Akhdar. Male cultivar over the rest of the cultivars in all qualitative specifications of aromatic oils, the Wardi male cultivar had the minimal value of all such qualities. The study's results demonstrated the impact of the growth regulator fanphthylacetamidein on the qualitative attributes of volatile oils of pollen by improving all qualitative qualities of volatile oils of the percentage of essential oil (0.041. 0.039. 0.035. 0.030. 0.027) % respectively. The oil density (0.940. 0.915. 0.885. 0.860. 0.810) ml⁻¹ sequentially and of essential oil (0.92,0.9,0.87,0.85, 0.82) respectively and PH essential oil (5.94,5.90,5.85,5.81,5.81) respectively number for crucial oil (178.76, 174.63, 171.87, 168.98, 165.34) respectively and all the male varieties under consideration.

Keywords: Aromatic oils, Essential oils, Ghanami, Growth regulator, Pollen grain.

Introduction

The date palm is a significant species within the Arecaceae family, with over 200 genera and 2,500 species. The most advantageous plant family for humans, after the Gramineae family, is also noted. The date palm is classified under the genus *Phoenix* and the species *dactylifera* (Saleh *et al.*,2023; Jain *et al.*, 2011; EL-Hadrami & EL-Hadrami, 2009). The palm of date is dioecious and unisexual,

indicating that male flowers are produced on one tree and female blooms on another, as pollen grains are crucial for fruit development (Abdul Qadir, 2021; Darhab, 2004). Interest in studying pollen has increased is a direct cause of date palm fruiting and because it contains good chemical compounds beneficial to humans thus, it is an integrated food substance. The chemical composition of pollen is a basic indicator for determining the