

The 4th International Mediterranean Symposium on Medicinal and Aromatic Plants

ABSTRACT BOOK

APRIL 18-22, 2018
Antalya, TURKEY



The Fourth International Mediterranean Symposium on Medicinal and Aromatic Plants



POSTER PRESENTATION

CONTRIBUTION TO THE PHYTOCHIMIC STUDY AND THE ANTIOXIDANT ACTIVITY OF THE ESSENTIAL OIL OF THE WILD CARROT

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Objective / Purpose: This study is devoted to the phytochemical valorization of wild carrot originating from Algeria and Tunisia. This valorization consists of studying the main chemical constituents of the essential oil extracted from its flowering tops on the one hand, and highlighting its antioxidant effect on the other.

Material and Methods: The wild carrot arial plants (*Daucus carota* L) were harvested in full bloom during the month of May 2017. The extraction of essential oils was accomplished by steam distillation. The different organoleptic characteristics of the essence of *Daucus carota* L have been noted according to the AFNOR standards. Quantitative and qualitative analysis was performed by Fourier transform infrared spectroscopy (FTIR) and UV spectroscopy. For antioxidant activity, we used the technique of electron paramagnetic resonance (EPR). This method can be considered reliable and comparable with other methods for determining the antioxidant activity [1].

Results: At the end of this preliminary comparative phytochemical study conducted on wild carrot (*Daucus carota* L) from Algeria and Tunisia, we found that the yield of essential oil is low compared to that given for the wild carrot originating from Lebanon which is of the order of 3.47% [2]. Phytochemical tests reveal the presence of different families of chemical compounds in our oil such as aromatic compounds and terpene compounds, this variation may be due to one or the combination of the following factors: genetic background, age, plant environment and the presence of chemotype [3]. The DPPH radical inhibition test studied by EPR shows that *Daucus carota* L has a strong antioxidant activity. This fact is coherent with the previously reported antioxidant effect of wild carrot dichloromethane-methanol extract [4].

Conclusion / Discussion: The essential oil of the wild carrot extracted by steam distillation has organoleptic and antioxidant properties which are very appreciated in perfumery and very coveted in aromatherapy.

Key words: Essential oil, *daucus carota* L, wild carrot, antioxidant activity, phytochemistry, EPR.

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