

## VARIATION OF ESSENTIAL OIL COMPOSITION IN ALBANIAN *VITEX AGNUS CASTUS* L. FRUITS RELATING GEOGRAPHIC POSITION

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Received February 2021; Accepted March 2021; Published April 2021;

DOI: <https://doi.org/10.31407/ijeess11.216>

### ABSTRACT

This study investigates the variation of Albanian *Vitex Agnus Castus* L. essential oil chemical composition relating to geographic position. *Vitex agnus-castus* L. is widely distributed in the Mediterranean area, up to Central Asia, the Tropic, and south Europe. In Albania it is widespread in the western part of the Albanian coast, growing in marshes, damp places, lakes shores, and river banks. Sampling was done on different locations, from north to south Albania, during October 2017 the main harvesting period. At each location, fruits were collected randomly, from a large number of plants, representing the population of the sampling station. Samples were used for oil profiling with GC-FID/GC-MS/MS analysis and an overall of forty components were identified in all essential oils. Chromatograms of samples collected in different geographic locations show, that all of them were rich in 1, 8 cineol,  $\beta$ -caryophyllene epoxide,  $\beta$ -caryophyllene, spathulenol, terpineol,  $\alpha$ -pinene, terpinene-4-ol, and none of these chemical compounds which were most abundant, were found to miss or not be detected. Wild *Vitex agnus castus* L. show a higher concentration of 1, 8 cineole in Gjader /V5, 26.66%, and the lowest in Pishpore /V8, 17.04 %. Chromatographic profiles obtained, have a similar pattern to those reported in studies made for the Albanian *Vitex agnus castus* L, and more or less similar to those of the surrounding countries ecotype.

**Key words:** extraction, hydro-distillation, Lamiaceae, seeds, vitex.