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ABSTRACT BOOK



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Variation in the content of marker compounds, depending on the vegetation phase of *Lavandula angustifolia*

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Background: The phases of vegetation ensure both the morphological development of the plant and the composition and quantity of bioactive components (1). It can be caused by the redistribution of the plant's energy resources. Accordingly, the phases of vegetation regulate the corresponding harvest times. Therefore, the question of the influence of vegetation phase on the content of hydroxycinnamic acids, which are marker compounds of the antioxidant, neuroprotective and antimicrobial activity of *Lavandula angustifolia*, is still of a great interest (2, 3).

Aim: To investigate the influence of the lavender vegetation phases on the content of marker compounds, such as rosmarinic and chlorogenic acids.

Methods: Raw materials of *Lavandula angustifolia* were harvested in Lviv, Ukraine. The content of hydroxycinnamic acids was determined using HPLC method by Nexera X2 LC-30AD HPLC system (Shimadzu, Kyoto, Japan) at a wavelength of 350 nm, which is describe at (3).

Results: The study examined the content of rosmarinic and chlorogenic acids in samples from different phases of vegetation in the following order: beginning of budding, mass budding, flowering, mass flowering, fruiting, mass fruiting, and re-flowering. The highest levels of hydroxycinnamic acids were found in the flowering and mass flowering phases, at 243.2 µg/mL and 185.9 µg/mL for rosmarinic acid and 15.17 µg/mL and 15.14 µg/mL for chlorogenic acid, respectively. In turn, the lowest content of marker compounds was found at the stage of mass budding, namely 33.3 µg/mL for rosmarinic acid and 4.7 µg/mL for chlorogenic acid.

Conclusions: Hydroxycinnamic acids are secondary metabolites, the formation of which requires additional plant resources, in particular, to activate the phenylpropanoid pathway, which underlies their formation. Instead, during the stage of mass budding, the plant's main resources are directed towards the formation of buds, rather than metabolic processes, which explains the minimal concentration of marker substances.

References

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