

PP41. The composition of the essential oils of *Acorus calamus* L. rhizomes from different habitats

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Sweet flag rhizome (*Acorus calamus* L., Acoraceae) possesses various biological activities such as sedative, anticonvulsant, immunosuppressant, antidiabetic, antiinflammatory etc. [1]. The aim was to study the content and composition of essential oils from 24 rhizome samples of the cultivated sweet flag, their comparison with the samples from 5 natural habitats, and the influence of nitrogen fertilization on the composition of essential oils. Essential oils were analyzed using GC and GC/MS. Statistical analysis included the analysis of variance and cluster analysis. The content of essential oil was not significantly different between the samples from natural habitats (0.8-1.1%) and cultures (0.3-2.2%). All samples contained dominant oxygenated sesquiterpenes (24.5-32.6%), phenylpropanoids (5.7-22.5%), and oxygenated monoterpenes (4.4-19.2%). The main components were β -asarone (10.4-21.4%), camphor (3.5-15.2%), acorenone (9.3-14.1%) and cyperotudone (7.3-11.0%). The contents of β -asarone and aristolone were significantly higher ($p < 0.05$) in cultivated plants. The nitrogen fertilization during the cultivation did not have a significant influence ($p < 0.05$) on the content and composition of the essential oils.

References:

[1] Rajput, S.B. et al., 2014. *Phytomedicine* 21, 268–276.

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