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Chemical composition of thyme essential oil and its anthelmintic properties

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Thyme (*Thymus vulgaris* L.) is a well-known member of the genus *Thymus* with healing properties known since ancient times. Thyme has application in traditional medicine and pharmaceutical preparations, but also in the food and cosmetic industry. The aim of this study was to examine the chemical composition and *in vitro* anthelmintic potential of thyme essential oils from Serbia and compare it with sample from France[†]. Chemical characterization of the samples was done by GC-MS and anthelmintic potential of tested samples was evaluated using *in vitro* egg hatch test on sheep gastrointestinal nematodes (concentration range 0.049-50 mg/mL) for each sample. The most represented compounds in sample from Serbia were: p-cymene (41.72%), thymol (31.59%), α -terpineol (11.71%), linalool (4.37%) and α -pinene (2.47%) and it inhibited egg hatchability for 95.25-100% and in sample from France thymol (54.48%), p-cymene (21.01%), γ -terpinene (8.11%), carvacrol (3.95%) and linalool (2.77%) were the dominant compounds and inhibited egg hatchability for 98.5-100%. The results indicate that chemical composition of thyme essential oil is dependant on geographic origin but regardless it poseses anthelmintic potential and may be used in veterinary medicine as anthelmintic agent.

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References

1. Štrbac F, et al. Ovicidal potential of five different essential oils to control gastrointestinal nematodes of sheep. Pak Vet J 2021; doi: 10.29261/pakvetj/2021.026