



**WAAVP  
2021**

**WAAVP 2021**

**Book of Abstracts**

**P-3022*****In vivo* potential of thyme (*Thymus vulgaris* L.) essential oil and synergistic combination of linalool:estragole to control sheep gastrointestinal nematodes**Filip Štrbac<sup>1</sup>, Antonio Bosco<sup>2</sup>, Alessandra Amadesi<sup>2</sup>, Laura Rinaldi<sup>2</sup>, Dragica Stojanović<sup>1</sup>, Nataša Simin<sup>3</sup>, Dejan Orčić<sup>3</sup>, Ivan Pušić<sup>4</sup>, Slobodan Krnjajić<sup>5</sup>, Radomir Ratajac<sup>4</sup><sup>1</sup>Department of Veterinary Medicine, Faculty of Agriculture, University of Novi Sad, Novi Sad, Serbia.<sup>2</sup>Department of Veterinary Medicine and Animal Production, University of Naples Federico II, CREMOPAR, Naples, Italy. <sup>3</sup>Department of Chemistry, Biochemistry and Environmental Protection, Faculty of Sciences, University of Novi Sad, Novi Sad, Serbia. <sup>4</sup>Scientific Veterinary Institute Novi Sad, Novi Sad, Serbia. <sup>5</sup>Institute for Multidisciplinary Research, University of Belgrade, Belgrade, Serbia**Abstract**

Economic losses caused by sheep gastrointestinal nematodes (GIN) are increasing nowadays due to the development of anthelmintic resistance, therefore requiring a search for alternatives. In doing so, field testing of new potential substances provides credible and realistic insight of current possibility of their use. The aim of this study was to evaluate the *in vivo* anthelmintic potential of thyme, *Thymus vulgaris* L. essential oil (EO) and synergistic combination of two compounds, linalool:estragole on days 7 and 14 post-treatment using the faecal egg count reduction test (FECRT). The experiment was conducted on two separate farms located in southern Italy, whereby the total number of sheep (n=96, n=48 per farm) was divided into four groups on each farm (n=12). Groups received the following treatments perorally: G<sub>1</sub> – 100 mg kg<sup>-1</sup> *T. vulgaris*; G<sub>2</sub> – 100 mg kg<sup>-1</sup> linalool:estragole; G<sub>3</sub> – standard dose of fenbendazole and G<sub>4</sub> – 50 ml per animal of sunflower oil. Main compounds of thyme EO identified by gas chromatography-mass spectrometry (GC-MS) analyses were p-cymene (41.72%), thymol (31.59%) and α-terpineol (11.71%), and the coproculture examination showed the presence of four genera of sheep GIN on tested farms: *Haemonchus*, *Trichostrongylus*, *Teladorsagia* and *Chabertia*. In total, results of the FECRT showed the following reductions of GIN eggs on day 7: 24.95% (*T. vulgaris*); 24.64% (linalool:estragole) and 82.49% (fenbendazole). On day 14, reductions of GIN eggs were: 23.72% (*T. vulgaris*), 25.91% (linalool:estragole) and 88.82% (fenbendazole). Furthermore, no toxic effects were observed in animals at these doses. The present study reveals the anthelmintic potential of tested substances. However, a new trial with modified conditions is needed to improve their effectiveness: increased dosage, a different way of administration or possible use of encapsulated or nanoencapsulated forms of these substances, especially if bearing in the mind anatomical-physiological specifics of the ruminant gastrointestinal tract.

Åbrink, Magnus	O-4048
Řeháková, Kristína	O-3011
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28th International Conference of the  
World Association for the Advancement of Veterinary Parasitology  
19th-22nd July 2021, Dublin Ireland

# CERTIFICATE OF ATTENDANCE

This is to certify that

**Filip Štrbac**

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attended the

**28th International Conference of the World Association for the  
Advancement of Veterinary Parasitology**

19th-22nd July 2021

*Grace Mulcahy*

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**Grace Mulcahy**

WAAVP 2021 Conference Chair