

# 13<sup>th</sup> EUROPEAN MULTICOLLOQUIUM OF PARASITOLOGY

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changing climate  
changing parasites




Programme  
& Abstract  
Book

Belgrade, Serbia  
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PROGRAMME  
&  
ABSTRACT BOOK

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research to accelerate delivery of disease control tools and strategies against infectious diseases and has constructed generic research roadmaps for the development of candidate vaccines, diagnostic tests, therapeutics, and control strategies for priority animal diseases. The Livestock Helminth Research Alliance (LiHRA) in collaboration with the COST Action COMBAR established different working groups to complete these road maps for gastrointestinal nematode and liver fluke infections in ruminants.

**Results.** Six different roadmaps were created, spanning different fields of helminth research from diagnostics to control strategies. The road maps are published at <https://roadmaps-public.star-idaz.net/#/WjW9Q>. Recent and ongoing research projects are being mapped over the roadmaps, to identify research gaps and underfunded areas.

**Conclusion.** The developed roadmaps inform funders of research in targeting new research projects towards the pressing needs to address current challenges in helminth control. In particular, they underpin the development of integrated helminth control strategies considering local epidemiology, anthelmintic resistance, climate change and farm management.

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### COMBATING ANTHELMINTIC RESISTANCE IN RUMINANTS: A SERBIAN PERSPECTIVE

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Heavy reliance on anthelmintics to control gastrointestinal nematodes (GIN) of grazing ruminants, led to the emergence of anthelmintic resistance (AR), a well known global problem to sustainable animal production, health and welfare. Ruminant producers in Serbia are seldomly aware of the serious losses that GIN can cause. Although resistance of *Trichostrongylus* spp. to ivermectin (IVM) was detected earlier in sheep, they rarely know about the existence of AR. To address the AR issue in a new manner, several Serbian researchers attended COMBAR training schools (TSs) and short term scientific missions (STSMs) in order to acquire new skills for improved diagnostics and control of GIN, such as the application of the Mini FLOTAC technique and the conduct of faecal egg count reduction tests (FECRTs) for monitoring anthelmintic efficacy. Using Mini FLOTAC, a set of small scale surveys was performed, to monitor GIN in grazing cattle (50 animals from 5 herds) and assess anthelmintic efficacy in sheep (11 farms tested for IVM, 3 farms tested for levamisole (LEV)) and goats (one farm tested for IVM, eprinomectin (EPR) and albendazole (ALB)). Results showed low levels of GIN infection in cattle (average 13 eggs per gram (epg), range 5-95 epg). In the goat farm, resistance to EPR and IVM was detected (percentage of egg reductions= 83 and 92%, respectively), while ALB retained full efficacy. Regarding sheep, AR to IVM was established in 8 farms (73%), with egg reductions ranging from 55 to 92%, while LEV showed full efficacy against GIN. An STSM supported the evaluation of essential oils from Serbian native plants against GIN using *in vitro* studies and showed promising results. Overall, COST Action COMBAR is contributing to sustainable parasite control in Serbia through training researchers in new research practices.

**Funding source:** This study is based upon work from COST Action COMBAR CA16230, supported by COST (European Cooperation in Science and Technology).