

# ABSTRACT

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Title of diploma thesis: Biotransformation of selected anthelmintics in *Haemonchus contortus*

Resistance to benzimidazole anthelmintics is one of the main problems of small ruminant producers. The most problematic parasite of goats and sheep is the bloodsucking barber's pole worm, *Haemonchus contortus*. This parasite is responsible for considerable losses every year. The goal of this thesis was an analysis of the metabolism of a few selected benzimidazoles (albendazole, ABZ; ricobendazole, RCB and flubendazole, FLU) in *H. contortus*. The metabolism of male and female worms and a susceptible ISE strain (Inbred Susceptible Edinburgh, MHco3) with a resistant IRE strain (Inbred Resistant Edinburgh, MHco5) were compared. For metabolite detection, ultra-high-performance liquid chromatography with mass spectrometry (UHPLC/MS) was used. 12 metabolites of FLU, 9 metabolites of ABZ and 7 metabolites of RCB were identified. From the identified metabolites, schemes of metabolism were proposed. In metabolism comparisons, significant differences between sexes and strains were found. Female worms metabolized tested anthelmintics more intensively than males. A few metabolites were only identified in the females of the resistant IRE strain. From these results, it is evident that increased metabolism of anthelmintics may play a part in the mechanism of resistance.