

Abstract

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Title of diploma thesis: Effect of albendazol on the expression of selected enzymes in *Haemonchus contortus*

Haemonchus contortus is the dominant gastrointestinal pathogen of small ruminants that can cause weakening or even death of the host organism. Losses are mainly recorded in young animals, which subsequently reflects on the farm economy itself. Therefore, prevention and therapy still play the most important role. On the other hand, the increased ability of worms to survive this treatment poses a serious problem. One of the possibilities that might be causing this problem is the increased activity of enzymes responsible for the metabolism of xenobiotics. The aim of this master's thesis was to investigate the effect of albendazole (ABZ) on the gene expression of selected biotransformation enzymes; UDP-glycosyltransferases (UGTs). For this purpose, two strains of *H. contortus* – anthelmintics-susceptible ISE (*Inbred Susceptible Edinburgh*) and anthelmintics-resistant WR (*White River*) were selected. One group of the parasites was cultivated for 12 hours in a media containing albendazole, the other group, which served as control, was cultivated in a drug-free medium. Subsequently, the gene expression of 12 selected UGT enzymes was measured by quantitative PCR. The results showed a significantly increased gene expression in 2 samples of the resistant WR strain after ABZ treatment, namely: in the females the gene encoding UGT365B6 and in the males the gene encoding UGT365B3 were affected by ABZ.