

ABSTRACT (EN)

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Title:

The effect of parasitosis on the host's biotransformation enzymes

Parasitic diseases cause significant economic losses in livestock, domestic and wild animals. World-wide spread species *Haemonchus contortus* parasiting in gastrointestinal tract of ruminants exhibits relatively high degree of pathogenity. To treat haemonchosis the benzimidazole anthelmintics are used. Altered activity of the enzymes participating in biotransformation of these drugs can affect the treatment. The induction of host's enzymes can contribute to the resistance of the worms to the available anthelmintics. This project studies influence of haemonchosis to the activity of sheep's biotransformation enzymes. Oxidative, conjugation and reductive enzymes have been studied both in healthy and sick sheep. Cytosolic and microsomal fractions of liver and small intestine have been used for determination of enzymatic activities. In the most of monitored oxidative enzymes the inhibition of activity has been observed. On the contrary, parasitosis has caused enzymatic induction of conjugation enzymes. The results in group of reductive enzymes don't offer unambiguous conclusion. The comparison of results between separate groups of sheep enables to sum up the influence of the parasitosis on enzymatic activity. This phenomenon is indirectly related to drug resistance development in parasites.