ABSTRACT

Charles University in Prague
Faculty of Pharmacy in Hradec Králové
Department of Pharmacology and Toxicology

Student: Pavel Zdeněk
Supervisor: prof. RNDr. Jiří Lamka, CSc.

Title of diploma thesis: Haemonchosis as a model parasitosis in sheep - the results of its control during experimental study

One of the current major issues with breeding domestic animals worldwide is anthelmintic resistance, which damages animals' health and reduces their production. Research workplaces want to identify the mechanisms of resistance development and find out the ways how to prevent it. The aim of this diploma thesis was to describe experimental infection by the model parasite *Haemonchus contortus*, which was established on Texel breed sheep. *H. contortus* is one of the important endoparasites; it lives in abomasum of ruminants and feeds with their blood. Faecal samples of all animals entering to the experimental studies were examined by the qualitative ovoscopic method and the animals were thoroughly dewormed by albendazole and monepantel. Then they were infected with larvae L_3 of different *H. contortus* strains. Three strains had been used - ISE (all anthelmintic sensitive), IRE (benzimidazole resistant) and WR (multi-resistant strain). Data of the egg amounts were collected in faecal samples obtained from infected sheep by quantitative ovoscopic method. The interval between infection of animals by L_3 larvae and first findings of eggs in faeces was 13 to 36 days. Multi-resistant WR strain parasites showed the best viability in our studies. Each study was finished by disposing the animals and isolating adult *H. contortus* from the abomasa. These adult parasites were further used to study anthelmintic resistance in cooperating laboratories.