

COMBINATION OF DIFFERENT ANTHELMINTICS HAVE POTENTIAL VALUE FOR DETECTING OF ANTHELMINTIC RESISTANCE IN HORSE STRONGYLES

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Summary. Although faecal egg count reduction (FECR) is the most frequently test used to detect anthelmintic resistance, it is indirect way to estimate treatment efficiency. However, this test evaluates FECR without estimation the effect of treatment on worm burdens. The purpose of this study was to investigate the influence of repeated treatment with fenbendazol and ivermectin on horse strongyles, and to compare FECR and worm counts in order to determine the anthelmintic resistance.

The experiment was conducted at Lithuanian horse breeding farm “Vilniaus žirgynas”, where horse strongyles resistance to benzimidazoles was earlier detected by FECR test. The experiment included 4 horses, naturally infected with strongyles. The following anthelmintics were administered to three experimental horses: firstly Fenben (fenbendazole 7.5 mg /kg BW) and 13-14 days later – Eqvalan (ivermectin 0.2 mg/kg BW). One (control) horse was not treated. At the beginning of experiment mean number of strongyle eggs per gram (EPG) of faeces was 831, 13-14 days after treatment with Fenben mean EPG dropped to 78. After treatment with Fenben strongyle eggs were found in faeces of all horses, meanwhile on the third day after treatment with Eqvalan strongyle eggs were not detected. Elimination of strongyles started at 16-22 and 12-16 hours post treatment with Fenben and Eqvalan, and continued for 57-166 hours and 48-54 hours, respectively. Further, from faeces of horses treated with Fenben and Eqvalan were isolated 60 447 and 26 975 small strongyles (cyathostomes). Treatment with Fenben in each experimental horse reduced strongyle FECs on 86.3%, 94.5% and 83.1% (mean 90.7%), and strongyle worm burdens on 81.4%, 67.1%, 48.1%, respectively (mean 65.5%).

The results from this study indicate that use of two anthelmintics have potential value in detecting of anthelmintic resistance in horse strongyles and could be used as alternative to the necropsy, particularly taking into account the price of studhorses. However, this suggestion requires further investigations.

Keywords: strongyles, elimination, anthelmintics, resistance.