Summary of the Ph.D thesis No Faculty of Veterinary Medicine, Urmia University.
The academic year: 2018-2022
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Title of thesis: Evaluation of the efficacy of Ivermectin and Fenbendazole on intestinal nematodes in riding horses in some regions of Iran by FECRT method

Summary: This study aimed to evaluate the efficacy of fenbendazole and ivermectin on strongyles and *Parascaris* sp. infecting adult riding horses in three regions with different climates. During 2021 and 2022 fecal specimens were randomly collected from 483 horses older than three years in 31 equestrian clubs in Hamedan (*n* = 217), Yazd (*n* = 146) and Tabriz cities (*n* = 120). Eggs were counted by McMaster technique, and the strongyle larvae were identified using coproculture, PCR and sequencing. Horses with strongyles and *Parascaris* egg counts ≥150 were enrolled in fecal egg count reduction (FECR) examination following treatment with ivermectin or fenbendazole. In total, 26.5% of examined horses were positive with at least one parasite. Infection rates varied in three cities i.e., 25.8% in Hamedan, 28.8% in Yazd, 25% in Tabriz. Fifty-seven horses had FECR measured. FECR below <90% was observed for IVM-strongyle in two horses in Tabriz, for FBZ-strongyle in two horses in Tabriz and two horses in Hamedan, for IVM-*Parascaris* in one horse in all three cities, and for FBZ-*Parascaris* in one horse in Yazd. Furthermore, FECR 90–100% was observed in IVM-*Parascaris* and FBZ -*Parascaris* groups in Tabriz. Data herein presented demonstrate different degrees of resistance of strongyles and *Parascaris* infecting horses in Iran against both ivermectin and fenbendazole. Since non-principled use of anthelminthics is common among horse owners, urgency of test-and-treatment strategy should be educated and implemented by policy-making organizations. Evaluating efficacy of different anthelminthics and choosing the most effective treatment in each region is suggested.

Keywords: anthelmintic resistance, fenbendazole, FECR, horse, Iran, ivermectin, nematode, PCR