Animal Health Session

Prevalence and diversity of gastrointestinal parasite in small ruminants under two different rearing systems in Jenin district of Palestine

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Abstract:

This study was undertaken to investigate the prevalence of gastrointestinal parasites (GIP) in goats and sheep kept under extensive and intensive management systems in the district of Jenin, Palestine, during the period from January to December 2010. Factors affecting diversity, distribution and intensity of infection by GIP were investigated. Data about farm history and breeding management were collected by means of a questionnaire. A total of 810 faecal samples from small ruminants composed of 285 and 525 samples from intensive and extensive rearing systems, respectively, were collected from eight villages (Yamoun, Bet qad, Merkah, Talfeet, Kfaret, Tarem, Jab`a and Aneen).. GIP species diversity (proportion of each species in the community) was investigated. A total of thirteen genera of the GIPs, included (eleven nematodes, one cestode (*Moniezia spp*) and one protozoan (*Eimeria spp*) were recovered. The results showed fewer diversity of GIP in intensive rearing system. The prevalence of GIPs in animals reared under extensive system (26.5%) was significantly higher ($P<0.01$) than those reared under intensive system (7.9%). The prevalence values of GIPs differed significantly ($P<0.01$) between some villages. The highestprevalence of infection (30.8%) was in Tarem with a proportion of (21.1 %) and the lowest (7.7%) in Betqad with a proportion of (5.3%). The dominant parasite was Eimeria spp (81.1% prevalence and 34.2% proportion) of total parasites in the area. This was followed by Dictyocaulus spp (49.1% prevalence, 20.7% proportion) and Haemonchus spp (23.1% prevalence and 9.7% proportion). Results showed that, animals kept under intensive grazing system had lower prevalence of GIP with low diversity (Eimeria spp, Dictyocaulus spp, Trichostrongylus spp, Neoscaris spp, and Ascaris spp than animals kept under extensive grazing system with a higher diversity (Eimeria spp, Dictyocaulus spp, Haemonchus spp, Moniezia spp, Trichostrongylus spp, Strongylus spp, Neoscaris spp, Nematodirus spp, Strongyloides spp, Ascaris spp, Cooperia spp, Chabertia spp and Trichuris spp). The occurrence of parasites with zoonotic significance (Eimeria spp, Dictyocaulus spp and Haemonchus spp) is also discussed.

Key words: Gastrointestinal parasite, Prevalence, Extensive rearing system, Intensive rearing system, Species diversity, Small ruminant.