Distribution of infection with gastro-intestinal nematodes in different groups of dairy goats in Switzerland and its influence on milk production

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The aim of this field study was to investigate interactions between gastro-intestinal nematode (GIN) infection, milk performance and age in goats in order to identify animal groups with higher susceptibility to GIN. On 3 farms (farm A: n = 29, farm B: n = 33, farm C: n = 117 milking goats) fecal egg count reduction tests (FECRT) were performed in summer. All 179 milking goats were enrolled in FECRT and individual milk performance was recorded before and after FEC for FECRT. Furthermore, in early summer and autumn bulk fecal samples were cultured for every farm and GIN genera were determined.

Overall *Haemonchus contortus* was the dominating GIN genera (73% *H. contortus* and 19% *Trichostrongylus sp.*) in early summer. A shift towards less *H. contortus* and more *Trichostrongylus sp.* was observed in autumn (51% *H. contortus* and 39% *Trichostrongylus sp.*). FECRT showed low success of deworming on all farms (mean efficiency of eprinomectine: 40% (farm A, 1st FECRT), mean efficiency of benzimidazoles: 87% (farm B) and 59% (farm C). Only in one case FECRT was close to 100% (levamisole, farm A, 2nd FECRT). Overall there was no negative impact of GIN infection on milk yield ($p > 0.05$) and results for change in milk yield after deworming were equivocal. Influence of GIN infection on milk components (fat, protein) could not be found. There was a tendency of higher GIN infection in high producing goats (upper third of herd) than in low producing goats (lower third, mean EpG: 1560 vs. 876, $p = 0.1192$). Referring to age, multiparous goats showed significantly higher FEC than primiparous (mean EpG: 1542 vs. 735, $p < 0.0001$). Time of sampling and nutrient supplies seem to have had a considerable influence on intensity of GIN infection and its physiological impact under field conditions. Taken together we could not point to any host age differences with respect to GIN susceptibility. However, milk yield might be a suitable parameter for the identification of animals with high GIN infection.

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