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The occurrence, associated factors and impact of liver fluke, rumen fluke and abomasal pathology associated with *Ostertagia* spp. in slaughter cattle in the UK.

Camille Bellet¹, Martin J. Green¹, Andrew Forbes², Mary Vickers³, Elizabeth Berry⁴, Jasmeet Kaler¹, ¹The University of Nottingham, Sutton Bonington, United Kingdom; ²The University of Glasgow, Glasgow, United Kingdom; ³EBLEX, Kenilworth, United Kingdom; ⁴BCVA, Quedgeley, United Kingdom. Contact: camille.bellet@nottingham.ac.uk

Purpose:

Helminth infections are a major obstacle for livestock production efficiency, particularly considering the difficulty of clearly identifying the relationships between infected animals' parasite burdens and insidious subclinical production losses. The study aim was to determine the occurrence of 3 important parasites infections in slaughter cattle in the UK, along with their associated factors and impact.

Methods:

Specific viscera from slaughter cattle were examined quarterly at post-mortem on 4 occasions within a year in an abattoir in England. Lesions due to *Ostertagia* spp. (scores 0-3), presence of rumen fluke (0-4) and ruminal surface colonisation (0-3), as well as presence of liver fluke and its associated lesions (0-2) were examined and scored. The scoring was done by the same operators and abattoir records were collected. Factors and carcass impact associated with parasites occurrences were investigated by multinomial and linear mixed models respectively, with herd as a random effect.

Results:

Eighty-nine per cent (830/935) of abomasa presented signs of ostertagiasis, among which 40% had more than 1000 related lesions. Twenty-five (232/938) and 29% (274/953) of the carcasses had rumen and liver fluke, respectively. Thirty-nine per cent of the total cattle carcasses (353/974) were co-infected with at least 2 parasites. After controlling for other factors, there were significant differences in the distribution of helminth specific gross lesions among cattle by type of breed, animal category, age, weight and season. Presence of only rumen fluke was significantly associated with a decrease in cold carcass weight. Both abomasal lesions and presence of rumen fluke were significantly associated with decrease in the conformation grade. There were no significant associations between parasite presence/lesions and carcass fat coverage.

Conclusions:

This is the first UK study with evidence and prevalence of cattle polyparasitism infections and their associated negative impact on carcass performances.

Relevance:

Study results emphasize the importance of developing sustainable parasite control strategies on cattle farms.