# Current data on helminth prevalences in German horse farms using coproscopic, serological and molecular diagnostic tools

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Horses with access to pasture are permanently exposed to helminth infections, of which depending on the age of the horse *Parascaris*, strongyles and tapeworms represent the most prevalent and clinically relevant pathogens. The diagnosis of these infections is to date still mostly based on the coproscopic detection of developmental stages in the faeces. Depending on the respective parasite species, this is sometimes associated with a low sensitivity and/or specificity. Accordingly, serological and molecular tools have been developed to allow an improved detection and assessment of the prevalence of these parasites. This includes the *Strongylus vulgaris* ELISA developed based on recombinant *S. vulgaris*-antigen and real-time PCR assays for the species-specific of *Strongylus* species. Concerning tapeworms, serum as well as saliva ELISA-testing is commercially available. We have employed these tests to examine samples from nearly fifty German horse farms in association with farm management data to identify risk factors for infection. While coproscopic analysis with 0.6% positive samples provided only very low numbers of tapeworm infections amongst the 484 tested horses, serum and saliva testing gave 16.2% and 29.5% *Anoplocephala* spp. positive samples. This corresponded with a farm prevalence of 75.7% using the saliva test and thus in considerably higher rates than previously observed in the same geographical region. When using serological testing for *S. vulgaris*, a significantly higher prevalence of more than 20% compared with less than 1% positive *S. vulgaris* samples in the PCR was found. These data suggest that coproscopic testing alone leads to a major under estimation of major equine helminth infections. Particularly if new worm control approaches such as selective treatment are employed, more sensitive tools should be used.