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Body development of five Thoroughbred foal generations naturally infected with cyathostominids

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Most horse breeders are extremely concerned about the impact of parasites on the healthiness of their animals. Although parasite control using systemic anthelmintics is very secure, drug resistance has been reported worldwide (Canever et al. 2013; Peregrine et al. 2014). This study aimed to determine the development of Thoroughbred foals related to sex, month and year of birth and parasite faecal egg counts (EPG). Data of five generations (2008-2012) was handled from a horse farm located in the city of Sao Jose dos Pinhais, South of Brazil. The animals were from birth to 18 months old (n=119 foals: 60 males and 59 females). The farm technical team provided monthly data on height and weight of the individuals. The body weight was measured with a mechanical scale and the withers height was measured using a depth measuring tape. For the individual animal EPG records, reports from 2009 to 2012 were used. EPG was performed using a modified McMaster technique (x25). During all the evaluation periods it was observed that females were taller (p=0.0065) and heavier (p=0.0091) than males at birth. Males born in November were lighter than the other animals born in other months (p=0.0002) at the age of six months. At the age of 12 months, females born in July and August were significantly heavier than females born in the other months, and those born in November were lighter compared to the others (p=0.03). EPG was divided in six categories: from 0 to 25, 50 to 100, 125 to 225, 250 to 350, 375 to 500, 525 to 800 and above 800, and the average frequency was 21, 11, 10, 11, 8, 13 and 26%, respectively for all years. There was no correlation of EPG and the other variables, indicating that the presence of high or low EPGs did not interfere with body development. This was possible because of the excellent farming system, which included balanced concentrate food and a high quality alfalfa and pasture. Thus, if EPG values had no influence evidencing anybody development impediment in young horses, we suggest that other phenotypic and/or genotypic diagnostic shall be developed for parasite monitoring when animals are raised in ideal conditions.

References


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Insights, experiences and scientific findings of a successful worm control in several European countries and the perspectives for the future

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It is now well accepted that the system of regularly administered anthelmintic treatments over years (without prior diagnosing, i.e. the so-called “strategic” or “interval-dose” treatment) has significantly contributed to the development and spread of anthelmintic resistance (AR) of horse helminths. The high frequency of AR of small strongyles against Benzimidazoles and partly also against Tetrahydropyrimidines together with an increasing spread of AR of P. equorum against macrocyclic lactones urgently require epidemiologically appropriate deworming approaches. The introduction of a selective (targeted) anthelmintic treatment schedule (SAT) in various European countries has revealed a series of new and most promising insights and scientific findings as presented in this overview: Since the introduction of SAT – mostly only about 5-6 years ago - already thousands of horses on hundreds of farms participate in this system in various countries incl. Germany, the Netherlands, Denmark, Sweden, Switzerland, etc., representing thus a very high compliance for such a treatment schedule. This high degree of compliance is particularly also important for two reasons: 1) It reflects a willingness of horse owners and vets for pre-treatment parasitological exams and 2) these exams are the basis and clearly manifest their readiness for an evidence-based, parasite-specific anthelmintic intervention. The SAT approach is fully in line with
the two published EU - directives (2001, 2006) which aim at performing diagnostic steps before treatment and reducing the use of drugs. Highly relevant are the findings that on average more than 40% of adult horses (>4 years) either do not show any strongyle egg output at all, or egg counts below the defined treatment threshold level of 200 EpG, i.e. the number of anthelmintic treatments could be significantly reduced. On some farms the reduction was more than 60% when compared to the previous strategic treatment schedules, since only those horses are treated which considerably contribute to the pasture contamination. Furthermore, the number of horses which had to be treated in the 2nd year of SAT - according to the threshold level - significantly decreased in a specifically designed study, suggesting that the number of treatments can possibly be further reduced with time. An appropriate SAT procedure includes at the same time the evaluation of the prevalence of Strongylus vulgaris and the status of AR, resp. In-depth spectrum analyses in Germany and Switzerland revealed S. vulgaris prevalences of < 2%. Preliminary results show that horses < 4 years cannot be treated according to the same schedule. However, preliminary data from monitoring programs on stud/foal keeping farms provide some indications that a SAT approach might be possible when considering a different threshold level, the occurrence of P. equorum and the additional work for sample collection. Analyzing more than 2500 fecal samples from 303 horses has clearly shown the existence of a repeatability of fecal egg counts (FEC) over time by the identification of so-called high and low egg-shedders. Statistical analyses have proven a significant within-horse-repeatability. This further supports the idea that FECs can be used as a solid basis for resulting treatment decisions in adult horses.

078 Parasite control on thoroughbred studs

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Intestinal nematode infections can result in substantial impact on health, welfare and performance of thoroughbreds (TB). Amongst these parasites are the cyathostomin, immunity to which is incomplete and Parascaris equorum, which can cause severe disease in youngstock; meaning life-long nematode control is required in horses. Control is primarily achieved by anthelmintic administration but decades of intensive anthelmintic usage, whilst reducing prevalence of some parasites (e.g Strongylus vulgaris) has promoted widespread resistance; particularly in cyathostomins and Parascaris equorum. The aim of this project is to identify parasite control practices on TB studs within the UK, assess comparative clinical impact between interval (intensive) and targeted (diagnostic based) deworming strategies and assess comparative clinical impact between interval (intensive) to identify parasite control practices on TB studs within the UK, and targeted (diagnostic based) deworming strategies and assess comparative clinical impact between interval (intensive) to identify parasite control practices on TB studs within the UK, and targeted (diagnostic based) deworming strategies and assess comparative clinical impact between interval (intensive) to identify parasite control practices on TB studs within the UK, and targeted (diagnostic based) deworming strategies and assess comparative clinical impact between interval (intensive) to identify parasite control practices on TB studs within the UK, and targeted (diagnostic based) deworming strategies and assess comparative clinical impact 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