

Research Roundup: Highlights from the 10th European Equine Health & Nutrition Congress

The European Equine Health & Nutrition Congress is an international meeting of equine professionals that takes place every two years. The 10th Congress has the theme 'Fibre First' and is taking place virtually over five separate dates throughout 2021 and 2022. The first two days took place on 25th and 26th March this year, with the first day focusing on forage and the second day focusing on parasite control. After presentations there was plenty of discussion, and with delegates from 39 countries in attendance, views and experiences varied widely.

The need for forage to be the foundation of all equine diets was cemented in the first presentation delivered by Professor Harris (WALTHAM Petcare Science Institute), with the term forage referring to whole plants (except roots) of grass or legume species, in either fresh form as grass or preserved as hay or haylage. This definition supports the points emphasised in the article *Fuel or filler? What is the real nutrient content of grass for horses?* that grass, as well as preserved forages, are important sources of energy and nutrients that need to be accounted for in our horses' diets. Indeed, Professor Harris demonstrated that forage only diets can provide adequate energy for horses performing high levels of exercise but emphasised that the variability in nutrients within forages means the horse's other nutrient requirements are unlikely to be met from forage alone. Forage nutritional analysis is the key to balancing the diet and selecting a suitable feed or supplement, although it was acknowledged that there is variability in analytical methods and standards used by labs meaning owners should select analytical services that use labs with good in-house quality control systems.

The next presentation by Professor Hesta (Ghent University) shared findings from a study into the feeding practices of horse owners in Belgium and Netherlands.

This study wanted to find out if the recommendation that forage should form the foundation of all equine diets is being put into practice by owners. Overall, 63% of owners were feeding the minimum recommended amount of forage (1.5% body weight as dry matter) which is an encouraging result, however this still meant that over a third of owners were not feeding adequate forage that we know is needed for gastrointestinal and mental health of our equines. Owners were also asked if they viewed forage as important for their horse's health and all survey participants stated it was important, indicating that there is discrepancy between what people value in theory, and the choices they make when managing their horses. These results are similar to previous studies undertaken in other countries and indicate that more needs to be done to support owners in providing suitable diets.

The final presentation of day one was very useful for providing such support to owners as it reviewed what we know about managing our horses' grass intake. Dr. Longland (Equine and Livestock Nutrition Services) discussed the effects of grazing time, grass height, strip grazing and the use of muzzles on grass intake. Many of the points of this presentation are covered in detail in the article *Managing our horse's grass intake*. The take home messages are that many horses, ponies and donkeys will consume high volumes of grass if permitted which often leads to weight gain, and for some animals can trigger health issues such as laminitis, therefore a suitable method of controlling that intake is likely to be required. A combination of approaches is most likely required as equines have shown great ability to adapt to grazing practices and compensate for periods when grass intake is limited. Finding out what works best for your horse, pony or donkey and with your facilities may take some trial and error, but it is important to be able to manage their grass intake.

Day two of the congress began with Professor Claerebout (Ghent University) providing a comprehensive review of the different parasite species affecting horses, their life cycles, and monitoring techniques available. Key to reducing parasite infections is breaking the parasite's life cycle, which for horses with access to pasture, means reducing the number of parasite eggs and larvae in the grass, so horses cannot be reinfected, and the life cycle cannot continue. The most effective way of achieving this is to monitor horses to identify those who shed eggs and larvae, and therefore need treatment with anthelmintics (wormers), and identify those who are not shedding eggs/larvae and therefore do not require treatment. By only treating those that shed, the levels of anthelmintic resistance will be reduced. This is extremely important as no new anthelmintic treatments are being developed. Monitoring is straightforward with faecal egg counts, saliva tests and blood tests. Professor Claerebout explained that the amount of testing performed should reflect the potential risks, so for premises where field groups are relatively stable, testing 3-4 times in the grazing season is likely to be suitable, and composite samples, where faecal samples from multiple horses (maximum 10 samples) are put together and a subsample taken and tested, are an option.

On premises where field groups change frequently, more frequent testing of individual animals is recommended. Testing younger horses more regularly is also recommended as they are more susceptible to parasite infections. In some countries testing for parasite infections is not widely practiced, however the high level of uptake in the UK, Denmark and Netherlands was highlighted as a success. In the UK the high level of testing may be due to the availability of advice and testing services from vets and Suitably Qualified Persons (SQP's, a UK specific qualification).

The following two presentations gave overviews of parasite issues and control in North-Western Europe (Dr. D. van Doorn, Utrecht University) and Southern Europe

(Professor Meana Mañes, University Complutense of Madrid) to reflect differences in the climate of these two areas (temperate vs Mediterranean). Dr. van Doorn explained that development of small strongyle (*cyathostominae*) eggs into larvae on the pasture requires an environmental temperature of approximately 10°C, and that optimum egg-larvae development is achieved with warmer temperatures (20-25°C), leading to higher levels of larvae on pasture during late spring and summer. However, the cooler temperatures of most North-Western European winters do not necessarily kill eggs as is sometimes believed, instead the eggs remain viable during these colder periods and then as temperatures rise, they develop into larvae. It is actually high temperatures that reduce strongyle egg and larvae development, as explained by Professor Meana Mañes. In hotter climates eggs and larvae are more prevalent on pasture during the autumn and reduce over the summer months due to the hot, dry weather. The hot summers however result in high numbers of bot flies, which were the most prevalent parasite reported in the study during this season. These differences highlight how climate should be considered when developing parasite control plans.

The final sessions of the congress discussed nutritional options for controlling parasite infections. This is a relatively new and exciting area of equine research that has potential to help support other parasite monitoring and treatment practices. Dr. Paz-Silva (University of Santiago de Compostela) explained the concept of biological control which is defined as the use of living organisms to control pests, and how certain fungi have the potential to reduce some parasite infections in equids through their effect on eggs and larvae. Spraying the fungi onto pasture or faecal piles is one method of administration, or another option is to coat feed or treats with fungi, so they are administered direct to the horse where they pass through the gastrointestinal tract undigested and then act within the faeces to disrupt the parasite life cycle. This is a new

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concept being applied to equine parasite control however results for small strongyles egg shedding by horses, ponies and zebra show reduced faecal egg counts so there is potential to integrate such methods with other parasite control practices. Dr. Pellikaan (Wageningen University) explained another possible approach to reducing parasite infections in horses, which has been taken from research in ruminants. Tannins are complex compounds found in some plant species. Tannins were previously thought to have harmful effects when consumed by animals, but research has now shown that some tannins have anti-inflammatory, antioxidant, and antimicrobial properties. Dr Pellikaan explained that some tannins are able to bind to

parasite larvae within the gastrointestinal tract, preventing the parasite life cycle from continuing. Legume plants such as Sainfoin are potential sources of such tannins, or feeding a supplement or feed containing tannin extracts is another potential option. Although these new methods of controlling parasite infections are still in the experimental stages, it is excellent to see research into this important area. As the research continues and more knowledge and evidence is gained it is hoped such practices will integrate with the monitoring and management practices already utilised, with the overall aim of reducing parasite resistance to anthelmintics, and consequently parasite infections in our horses.

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