

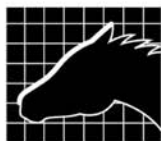
17th

PROCEEDINGS OF THE 2010 KENTUCKY EQUINE RESEARCH NUTRITION CONFERENCE

Feeding and Veterinary Management OF THE SPORT HORSE



APRIL 26-27, 2010
Lexington, KY



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3910 Delaney Ferry Road
Versailles, Kentucky 40383
Phone 859.873.1988
Fax 859.873.3781

Feeding Horses at the Winter Equestrian Festival: A Review of Common Practices

OLIVIA MARTIN

Performance Feeding Inc., Croton Falls, New York

INTRODUCTION

The Winter Equestrian Festival (WEF), held at the Palm Beach International Equestrian Center (PBIEC) in Wellington, Florida, is the site of world-class competition. Thousands of horses from around the world converge at this location for 12 weeks of competition in varied disciplines including show jumping, show hunters, pony hunters, dressage, and polo. The proximity of so many horses of different disciplines and management is unique to the WEF and affords an opportunity to collect data related to the rations of these horses.

A survey of common feeding practices in each of these disciplines was conducted during the WEF season of 2008. The discipline, actual body weights, and feed intakes were recorded for 181 horses and ponies. This paper summarizes the results of that survey and provides some insight into the feeding practices of certain elite performance horses.

Dry Matter Intake

Each horse was weighed with a portable digital scale, and every feed component for each ration was also weighed. Table 1 summarizes the average body weight and dry matter (DM) feed intake for each discipline.

Table 1. Average daily intake of DM as a percentage of body weight by discipline.

Discipline	Body Weight (kg)	% of BW as DM intake
Polo	472.1	1.69
Pony Hunter	352.1	2.23
Show Jumper	588.3	1.98
Show Hunter	598.0	1.82
Dressage	600.2	1.80

Dry matter intake averaged 1.90% of body weight. NRC (2007) guidelines for dry matter intake are between 2 and 2.5% of body weight for all classes of working horses. The pony hunters had the highest dry matter intake as a percentage of body weight at 2.23%, and the polo ponies had the lowest dry matter intake as a percentage of body weight at 1.69%.

The results in Table 1 illustrate one main difference in feeding practices between disciplines, and also explain the extreme differences in body condition scores between disciplines.

Body Condition Scores

During this survey, two evaluators employed a body condition score (BCS) system (Henneke et al., 1993) to assign scores between 1 (poor) and 9 (extremely fat) to all horses. Table 2 shows the average BCS for each discipline.

Table 2. Average body condition score (BCS) by discipline.

Discipline	Average Body Condition Score
Polo	5.0
Pony Hunter	7.3
Show Jumper	5.8
Show Hunter	6.3
Dressage	6.4

Table 2 shows that the higher the dry matter intake for horses in each discipline, the higher the resulting body condition score average for horses in that discipline. In addition, these numbers reinforce the pressures within each discipline, especially within show hunters and pony hunters, to have a horse that conforms to the type of horse that wins competitions.

Forage Intake

Forage intake is also correlated with higher body condition scores and is used in most disciplines as the source of the majority of calories and minerals. A common practice among caretakers of show hunters and pony hunters is to offer free-choice forage, often in hay nets in order to maximize intake. Show jumpers typically are offered portioned meals and polo ponies are restricted even further due to the belief that feeding forage before a match slows down the ponies. Table 3 shows the average forage intake for each discipline.

Table 3. Average forage intake by discipline.

Discipline	Average Forage Intake (kg)
Polo	3.93
Pony Hunter	5.99
Show Jumper	9.30
Show Hunter	9.70
Dressage	8.50

Ration Components

The most common type of forage used for all horses regardless of discipline was timothy. Timothy-alfalfa blends were used occasionally, most often when feeding polo ponies. Horses in most disciplines were fed appropriate amounts of forage per day, but there was considerable difference in the amount of forage fed to polo ponies. Of the polo ponies surveyed, 17 of 55 were being fed a ration containing as little as 30% forage.

Most of the horses in this survey were being fed a commercial feed with fortification. Seventeen of the horses surveyed were being fed a grain-based ration with no fortified feed included. In every case, feeds were fed by volume and not by weight.

About 85% of the horses surveyed were given some type of additional supplementation. The most common types of supplements used were for hoof quality, joint health, digestive conditioning, general vitamin and mineral fortification, and vitamin E and selenium. Of the horses being given supplements, only 15% had received supplement-specific advice from an equine nutritionist.

Nutrient Deficiencies

The components of each horse's diet were entered into MicroSteed, a ration evaluation program developed by Kentucky Equine Research, to determine nutrient content of each ration.

Only 17 of the 55 polo ponies experienced significant nutrient deficiencies in their rations, receiving amounts of calcium, magnesium, sodium, chloride, potassium, iodine, and copper far below the amounts recommended. These same 17 horses were also receiving suboptimal levels of forage (roughly 30%), and were eating a grain-based diet without any fortified feeds added. Of further interest is that these 17 horses were also receiving the most supplementation of all polo ponies surveyed. Due to adequate forage intake and high intakes of fortified feeds, all other polo ponies were receiving adequate nutrients from their rations regardless of supplements used.

All 22 pony hunters surveyed were stabled together and under the same management. All pony hunters were receiving adequate nutrients from their rations, and their handlers had received feeding advice from a nutritionist.

Twenty-one of the 26 show jumpers surveyed were stabled together and under the same management. These 21 show jumpers were receiving adequate nutrients from their rations and had received feeding advice from a nutritionist. Eighteen of the 26 show hunters surveyed were stabled together and under the same management. These 18 show hunters were receiving adequate nutrients from their ration, and their caretakers had also received feeding advice from a nutritionist. The remaining show jumpers and hunters were under varied management and all experienced some degree of nutrient deficiency in their rations. The mildest deficiencies were a lack of sodium and chloride due to no free-choice access to salt. The most severe deficiencies were of sodium, chloride, iodine, selenium, copper, zinc, and vitamins A, D, and E. The most severely nutrient-deficient rations were those of horses with low intakes of fortified feeds even though their rations also included supplements.

Dressage horses on the whole had higher intakes of fortified feeds than the pony hunters, show jumpers, and show hunters. For this reason, only 5 of the 39 dressage horses surveyed had significant nutrient deficiencies in their rations. Those with significant nutrient deficiencies had very low intake of fortified feeds and experienced these deficiencies regardless of supplementation.

Conclusion

The horses surveyed spend much of their time traveling and competing and are often under stressful conditions. At this level of performance, adequate nutrient balance and supplementation to the rations to prevent illness and enhance performance becomes even more important. Additionally, the pressures within each discipline, such as having the fastest polo pony or the quietest show hunter, drive managers to seek out quick fixes and alternative treatments.

This survey revealed that some of the fundamentals of feeding horses were understood; however, much of the decision-making surrounding feeding practices was based on folklore, tradition, and misinformation.

The information gathered reinforced the importance of using nutrition resources to improve and enhance performance of top-level horses. Ration balancing and optimizing current nutrition research should be placed alongside veterinary intervention in importance for all elite performance horses.

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