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LETTER TO THE EDITOR

# Response to letter to editor regarding ECEIM consensus statement on equine metabolic syndrome

Dear Editors,

We would like to offer the following explanation and clarification regarding the points raised by Ms McLeod concerning the recent ECEIM consensus statement on equine metabolic syndrome.

Specific guidance on representative figures for diets high or low in non-structural carbohydrate (NSC) is offered in section 7.1 of the article, with figures of <10% and >18% NSC, respectively.

Regarding the classification of carrots and apples as high NSC feed items, it is both logical and customary in animal nutrition to compare feeds based on their dry matter content and as such, carrots and apples have frequently more than half of their dry matter represented by NSC, and invariably far more than 18%. Comparison of feeds "as fed," such as in Ms McLeod's letter, can lead to confusing paradoxes. For example, 100 g of pure glucose would be regarded as a low NSC feed if given along with a liter of water. We are aware that the actual glycaemic load of a single carrot may be small, but we still regard the feeding of even small quantities of high-NSC feeds as suboptimal practice that demonstrates poor discipline of the horse carer as well as offering no nutritional benefit to a well-balanced diet as described in the statement.

Ms McLeod suggests that the article fails to mention forage energy content, although in section 7.1 we recommend total digestible energy intake to be 64%-94% of maintenance requirements. In cases where digestible energy content of forage is known, then a simple calculation can be made based on total dry matter fed to result in the total recommended forage digestible energy intake. We feel that it is self-evident that feeding a forage with lower digestible energy content should follow failure to observe weight loss.

We would also like to clarify the basis for the recommendation that haylage should not be fed to EMS cases. This view is entirely consistent with current best evidence and we did not feel able to speculate on what might or might not be the case with lower NSC haylages whether fed alone or mixed with straw. It remains unclear exactly what the insulinemic components of equine feeds are. Evidence in other species indicates that it is not only glucose that stimulates insulin release, with other important factors including aminoacids, fatty acids, and incretins, for example. The concerning finding in the study referenced was that haylage appeared to have a disproportionately high insulinemic effect compared to hay with a similar NSC content and raises the possibility of further insulinemic factors associated with haylage.[1] This, along with the generally higher palatability of haylages inevitably, leads to caution against haylage feeding in EMS cases pending any further evidence.

Regarding hay soaking, Ms McLeod's question misrepresents what is actually written in the article. Section 7.1 of the manuscript details the beneficial effect of soaking forage for 7-16 hours. Because of concerns about microbial growth in warm water,[2] the article then goes on to recommend that in warm conditions the soaking time is limited to 1-2 hours. Although, clearly longer soaking times will have the greatest effect on reducing water soluble carbohydrates (WSC) in forage, soaking hay for as little as 15 minutes has been shown to have a significant effect on WSC in hay.[3,4]

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