QUESTION: Does an oral supplement containing Melissa Officinalis extract and L-Theanine reduce stereotypic behaviour in horses?

Background

- Stereotypic behaviours (a repetitive behaviour that has no discernible function) are commonly seen in domesticated horses with a reported prevalence of 2.1-10.5% for crib-biting/windsucking[1-3].
- Stereotypic behaviours have been associated with an increased prevalence of gastric ulceration[4], poor body condition and weight loss[5] and colic[6,7]. Crib-biting/windsucking behaviour has also been reported as a specific risk factor for simple colonic obstruction and distention colic[8] and epiploic foramen entrapment[9-11].
- Lemon balm[12] (*Melissa Officinalis*) and L-theanine[13-15] have been shown to have anxiolytic and behaviour modifying properties in multiple species.

Aim of Study

To investigate if a calming supplement containing lemon balm and L-theanine (ProKalm, Science Supplements) reduced stereotypic behaviours of horses.

Study Design

- *Prospective clinical case series* = a group of horses selected for a particular reason (stereotypic behaviour in this study) was followed over several days**.**

Study Outline

Eighteen horses exhibiting chronic (over 6 months) stereotypic behaviour were recruited. Owners completed a questionnaire categorising the stereotypic behaviour and rating the severity on a scale with 0 being no stereotypical behaviour and 10 being most severe stereotypical behaviour seen by that horse. Horses were fed 64 g ProKalm split equally in morning and evening feeds for 3 days. Owners repeated scoring of stereotypic behaviour once daily.

Study Results

- Fourteen horses displayed one stereotypic behaviour, three horses displayed two behaviours and one horse showed three (Table 1). Wind-sucking was the most frequently reported stereotypic behaviour (Table 1).

Stereotypic Behaviour	Number of Horses
Wind-sucking	9
Crib-biting	5
Weaving	6
Box-walking	3

Table 1: Stereotypic behaviours demonstrated by 18 horses. Note that four horses exhibited more than one behaviour.

- All horses ate supplement in feed without palatability issues. Two owners anecdotally reported improvement but did not return scoring sheets and therefore two horses were excluded from further analyses.
- Behaviour scores decreased from day 1 to day 3 in 12/16 (75%) of horses with 7/16 (44%) showing a decrease of 50% or greater. Two horses completely stopped exhibiting stereotypic behaviour by day 3, one of which had exhibited 3 stereotypic behaviours on day 1.
- Mean severity score decreased significantly across the study (Fig. 1). Scores were significantly decreased from day 1 at day 2 and day 3.

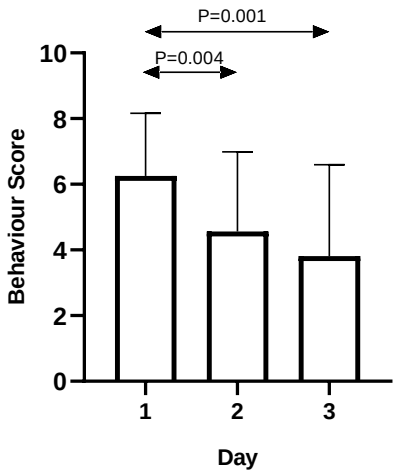

Figure 1: Mean (±SD) severity score of stereotypic behaviour in 16 horses during 3 days of ProKalm supplementation. Median score decreased significantly from Day 1 to Day 2 (0.004) and from Day 1 to Day 3 (0.001).

Take Home Message

- Feeding 64 g ProKalm for 3 days significantly decreased severity of stereotypic behaviour in 75% of horses. Approximately half of responding horses showed a 50% or greater reduction in severity score and two ceased exhibiting stereotypic behaviour completely.
- The dose of *Melissa Officinalis* extract and L-Theanine used in this study is considered low-medium. Feeding a higher dose or for a longer period may be of additional benefit to non-responsive or poorly responsive horses.

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