



RESEARCH >

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The Effects of Purina® Outlast™ Gastric Supplement on Equine Gastric Health Parameters

A SUMMARY OF RESEARCH CONDUCTED BY PURINA ANIMAL NUTRITION EVALUATING THE EFFECTS OF A PROPRIETARY MINERAL COMPLEX ON GASTRIC HEALTH IN TRAVELING DRAFT HORSES.¹

< INTRODUCTION >

Horses exercising and traveling for long periods of time can be at greater risk for gastric discomfort. Confinement, meal feeding, new environments and the overall stress of travel can all contribute to this challenge. In addition, research has shown that gastric ulceration is related to low pH levels in the stomach.² Nutritional interventions that support optimal gastric pH may help to reduce this risk. Previous research has shown that Purina® Outlast™ Gastric Supplement supports an optimal gastric pH in multiple trials.^{3,4} Therefore, the objective of this study was to determine if feeding Purina® Outlast™ Gastric Supplement would alter gastric imbalance in horses during a 30-day course of exercise and travel.

< MATERIALS AND METHODS >

Fourteen mature, draft geldings (884 ± 14 kg) were initially screened for gastric ulcers via endoscopy. Horses were then assigned to CON (n=7; no added supplement) or OL (n=7; supplement), top-dressed at 227 g/head/d of active ingredient. Next, 9 horses (4 CON, 5 OL) traveled approximately 1610 km via tractor trailer over 3 days, were hitched 4 times over 6 days then returned home over another 3-day trip, covering an additional 1610 km. Housing for the trial varied between permanent and tie stalls. Horses were fed concentrate feeds (Purina® Omolene #100® at 0.9-1.8 kg/d, Enrich Plus® at 0.5 – 0.9 kg/d, Amplify® Supplement at 0.9 kg/d, n=12; Ultium® at 1.8 kg/d, n=1; Enrich Plus® at 0.9 kg/d, n=1) along with 15 kg grass hay/d to meet or exceed NRC requirements. On day 30, horses underwent a second endoscopy. All feed and forage were withheld for 16-18 hours prior to scopings. Findings were noted as: overall equine gastric ulcer score (EGUS), glandular ulcer number (GN), glandular ulcer severity (GS), non-glandular ulcer number (NGN), non-glandular ulcer severity (NGS), desquamation, hyperkeratosis and hyperemia. The veterinarian performing the procedures was blinded to treatment. Body weight was measured via electronic scale. Analysis of variance was done with mixed models using GLIMMIX procedure in SAS, and least squares means were compared using Fisher's least significant difference (P<0.05).

¹ Gordon, ME, Jerina, ML, Young, JK, Andrews, F. HR 229, 2016. Draft Horse Field Trial. (Published in abstract form in the 2017 Equine Science Society Proceedings as: *The effect of a natural-source mineral supplement on gastric ulceration in horses.*)

² Murray, M.J., Schusser, G.F., Pipers, F.S., et al., 1996. Factors associated with gastric lesions in Thoroughbred race horses. *Equine Vet J* 28, 368-374.

³ Gordon, ME, Vineyard, KR, Andrews, F. HR 198, 2015. LSU gastric pH study

⁴ Gordon, ME, Vineyard, KR, Andrews, F. HR 212, 2016. LSU titration study

< RESULTS

The control group showed an increase in NGN from day 0 to day 30 ($P=0.0375$), while no change occurred in the Outlast™ supplemented group ($P>0.05$, Figure 1.) There was also a trend for GN to increase in the control group by day 30 ($P=0.067$), but no change in the Outlast™ supplement group ($P>0.05$, Figure 2). There were no differences in EGUS, GS, NGS, desquamation, hyperkeratosis or hyperemia for treatment or time ($P>0.05$) for all horses overall. When data were analyzed for traveling horses only, an increase in EGUS became evident in the control group ($P=0.0474$) but not the Outlast™ supplemented group (Figure 3).

< IMPLICATIONS >

In conclusion, control horses with no added Purina® Outlast™ gastric supplement had an increase in non-glandular ulcer number and a trend for more glandular ulcers than horses receiving the supplement. Similarly, traveling horses in the control group had an increase in overall EGUS, while the treatment group did not. Providing at-risk horses this mineral complex supports gastric health during times of travel.

FIGURE 1

An increase in non-glandular ulcer number in control ($P=0.0375$) vs. no increase in Outlast™ horses.

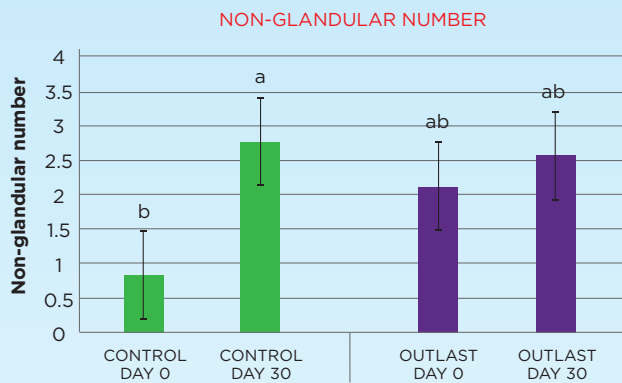


FIGURE 2

A trend for an increase in glandular ulcer number in control ($P=0.0666$) vs. no increase in Outlast™ horses.

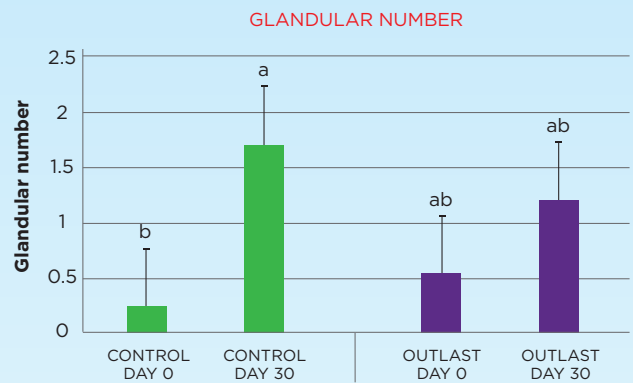
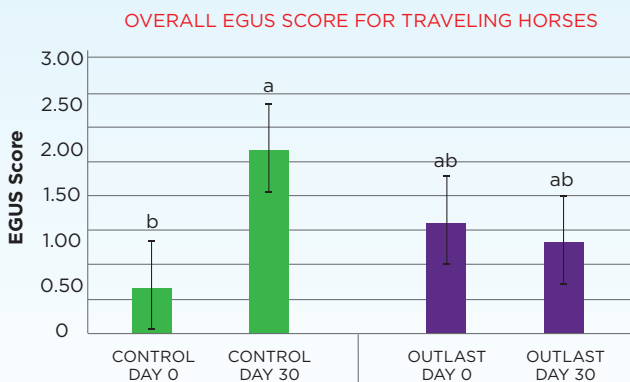


FIGURE 3

An increase in overall EGUS score for traveling horses in control group ($P=0.0474$) vs. no increase for traveling horses in Outlast™ group.



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