PURINA

REVIEW >

< RESEARCH

Purina® WellSolve W/C® Horse Feed Can Support Weight Loss Both With and Without Added Exercise

A SUMMARY OF RESEARCH CONDUCTED AT THE PURINA ANIMAL NUTRITION CENTER, EXAMINING THE EFFECTS OF FEEDING WELLSOLVE W/C® HORSE FEED AS PART OF A DIET AND EXERCISE PROGRAM FOR HORSES.[1]

< INTRODUCTION >

Obesity is considered a risk factor for laminitis, insulin resistance and other medical problems in horses. More horses are being diagnosed as overweight or obese, and we understand the challenges in managing an overweight horse or "easy-keeper." To that end, Purina developed and tested WellSolve W/C® horse feed to help address obesity in horses and support weight loss efforts. The objective of this study was to test the hypothesis that a feeding and exercise program including WellSolve W/C® would induce weight loss and affect indices of health in overweight horses.

< MATERIALS AND METHODS >

Twenty-three overweight (BCS 6.5–9.0) QH and TB horses were assigned to three groups: calorie restriction (DIET, WellSolve W/C® at 0.3-0.5% BW), calorie restriction plus exercise (DIETX, WellSolve W/C® at 0.3-0.5% BW) and a control group at weight maintenance (CON, Strategy® at 0.3-0.5% BW). All horses also received 1.0% of BW moderate quality grass hay per day. Measurements included body weight, body condition score, rump fat thickness, glucose, insulin, leptin, non-esterified fatty acids (NEFA) and triglycerides. Frequently sampled intravenous glucose tolerance tests measured insulin sensitivity (SI), glucose effectiveness and acute insulin response to glucose (AIRg). The DIETX group underwent a fitness test (graded exercise test) on a treadmill before and after the experimental period, and performed a standardized walk/trot exercise regimen in an Equi-ciser, 3-5 days per week for 12 weeks.

[1]Gordon, ME, Jerina, ML, Raub RH, Davison KA, Young JK, and KK Williamson. The effects of dietary manipulation and exercise on weight loss and related indices of health in horses. *Comparative Exercise Physiology.* 6(1); p33-42, April 2009.

< RESULTS >

Horses on the DIETX program of WellSolve W/C® horse feed and exercise lost the most weight on the trial, with an average weight loss of 52 kg (114 lbs) or 9.0% of their original body weight. Horses just on the DIET program (WellSolve W/C® with no extra exercise), also lost weight, with an average weight loss of 32.5 kg (72 lbs) or 5.6% of their original body weight. The CON group horses also lost a small amount of weight on the trial, losing an average of 24.6 kg (54 lbs) or 4.0% of their original body weight during the trial (Figure 1). Horses on DIET and DIETX groups had the largest decreases in both body condition score and rump fat thickness (Figures 2 and 3). DIET and DIETX horses also had significant decreases in their acute insulin response to a glucose challenge after weight loss (Figure 4). Changes in leptin, cortisol and NEFA were also seen, demonstrating healthier blood profiles with weight loss (data not shown).

< IMPLICATIONS >

As obesity continues to be a problem for many horses, horse owners need tools to help their horses and WellSolve W/C® horse feed can be an integral part of that plan. A good weight loss strategy can support measurable weight loss and a reduction in body weight, body fat and body condition score. The average weight loss was 1.0-1.5 lbs/day and horses on WellSolve W/C® demonstrated an improved insulin response to a glucose load. Other variables measured such as leptin, cortisol, and NEFAs also showed favorable changes with weight loss. Hence, WellSolve W/C® horse feed was shown to support weight loss in horses as well as promote a healthy physiologic profile.

FIGURE 1

Cumulative body weight change during the experimental period in the DIET, DIETX and CON groups.

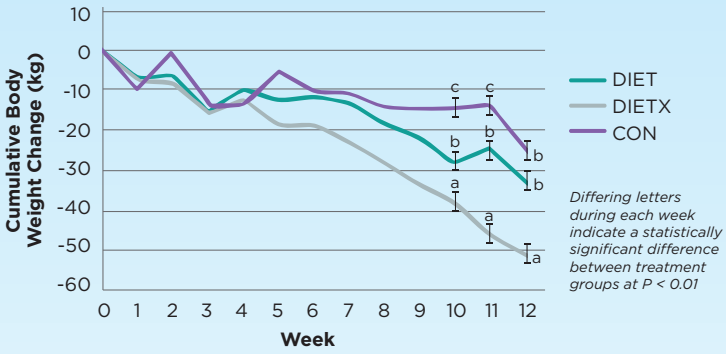


FIGURE 2

Change in body condition score within each treatment group as measured before (pre), during (mid) and after (post) the 12 week experimental period.

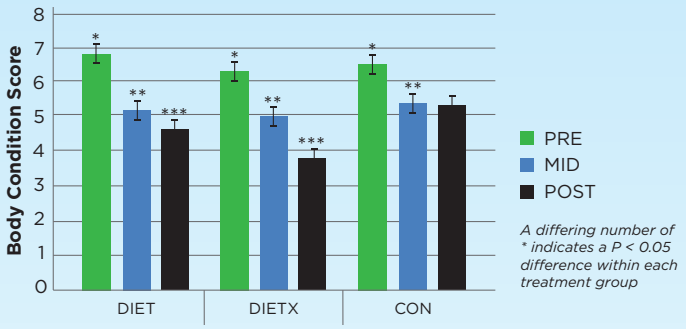


FIGURE 3

Change in rump fat thickness within each treatment group as measured before (pre), during (mid) and after (post) the 12 week experimental period.

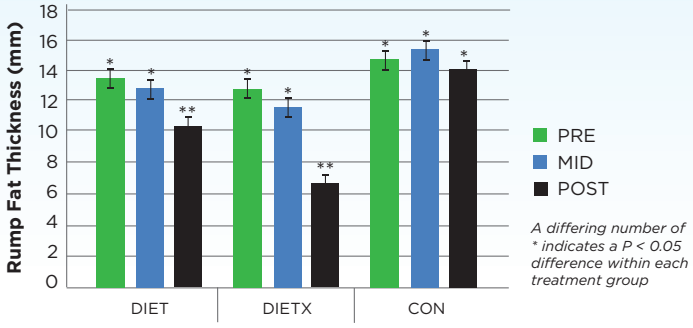
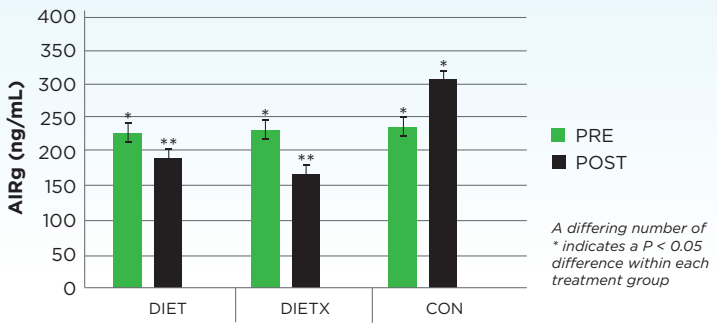


FIGURE 4

Change in acute insulin response to glucose (AIRg) in DIET, DIETX and CON groups, measured before (pre) and after (post) the experimental period as part of the frequently sampled intravenous glucose tolerance test.



< FOR MORE INFORMATION > Contact your local Purina representative if you would like more information about this study.

PURINA ANIMAL NUTRITION LLC • 1080 COUNTY ROAD F WEST, SHOREVIEW, MN 55126 • 1-800-227-8941

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