

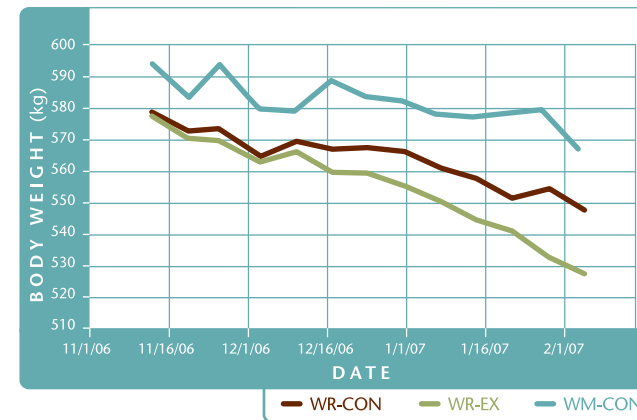
# research abstract WELLSOLVE W/C<sup>®</sup> HORSE FEED

A recent study from Virginia Tech and the University of Maryland indicated that 51% of horses examined (out of 300 horses) were found to be overweight or obese. Any practitioner can tell you how difficult it is for some horses to lose and maintain proper amounts of weight. We understand this struggle for both horses and their owners and embarked on an ambitious research study to determine the proper diet and management practices necessary to promote healthy weight loss in horses. Through these experiments, Purina and the WellSolve<sup>®</sup> research team were able to conceptualize and develop WellSolve W/C<sup>™</sup> Horse feed – the only product on the market proven to support weight loss in controlled scientific studies.

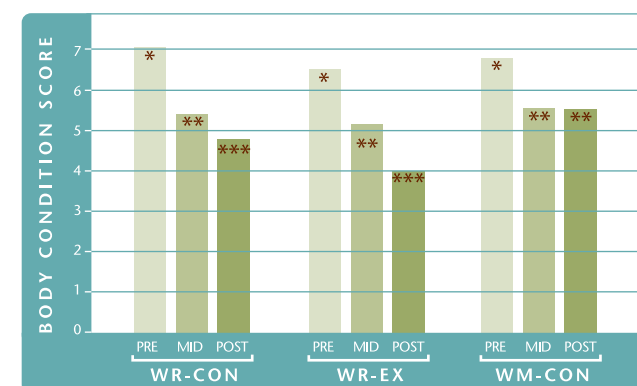
We started with 3 mixed groups of healthy quarter horses and thoroughbreds.

- 1) A group of horses (n=8) that received WellSolve W/C<sup>®</sup> horse feed + grass hay in amounts to encourage weight loss Weight Reduction Control (WR-CON).
- 2) A group of horses (n=7) that received WellSolve W/C<sup>®</sup> horse feed + grass hay in amounts to encourage weight loss, in addition to forced walk/trot exercise on an Equi-ciser<sup>®</sup> Weight Reduction Exercise (WR-EX).
- 3) A negative control group (n=8) that received a steady amount of calories from Strategy<sup>®</sup> Horse Feed + grass hay Weight Maintenance Control (WM-CON).

Horses underwent measurement for body weight, body condition score, rump fat thickness, insulin sensitivity and baseline plasma concentrations of glucose, insulin, cortisol, leptin, non-esterified fatty acids (NEFAs), and triglycerides (TGAs). The weight loss portion of the study lasted 12 weeks.

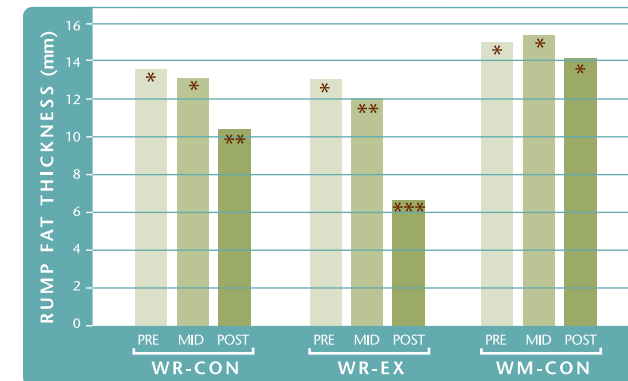


**Figure 1 Results.** WR-CON horses on WellSolve W/C<sup>®</sup> Horse feed lost an average of 32.5 kg (72 lbs) or 5.6% of their original body weight. WR-EX horses on WellSolve W/C<sup>®</sup> Horse feed plus forced exercise lost an average of 52 kg (114 lbs) or 9.0% of their original body weight during the trial. WM-CON horses lost an average of 24.6 kg (54 lbs) or 4.0% of their original body weight during the trial, mostly related to adverse weather conditions.

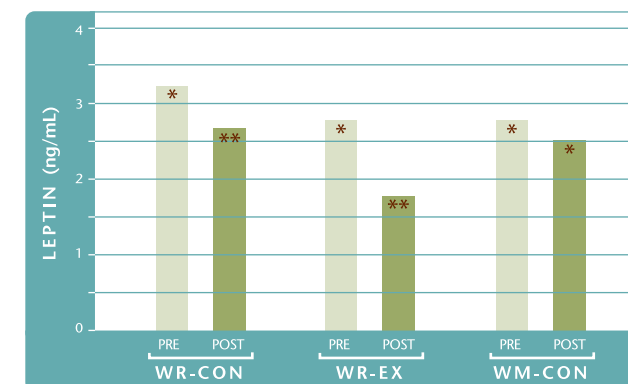


**Figure 2 Results.** WR-CON and WR-EX horses receiving WellSolve W/C<sup>®</sup> Horse Feed had significant decreases in body condition score at the midpoint and end of the study. WM-CON horses initially had a decrease in body condition score, then maintained body score for the duration of the study.

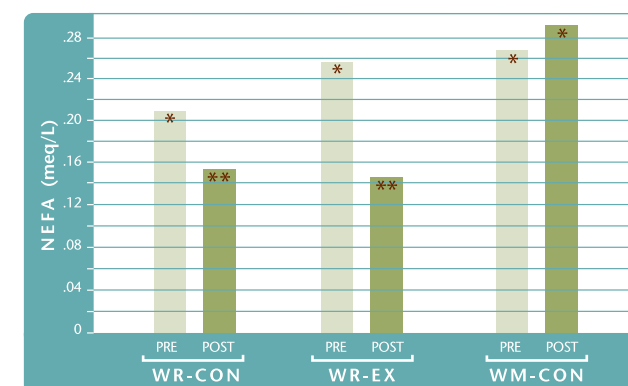
Within groups, differing numbers of asterisks indicate a statistically significant difference at  $P < 0.05$ .



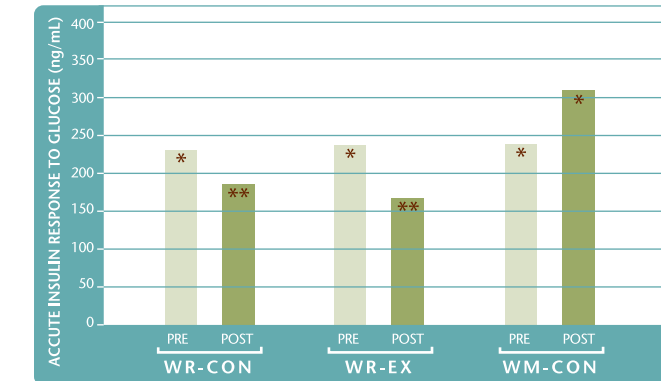
**Figure 3 Results.** WR-CON horses on WellSolve W/C<sup>®</sup> Horse Feed had a significant decrease in rump fat thickness by the end of the experiment. WR-EX horses on WellSolve W/C<sup>®</sup> Horse Feed had significant decreases in rump fat thickness evident at the midpoint and the end of the experiment. WM-CON horses had no significant changes in rump fat thickness throughout the trial.



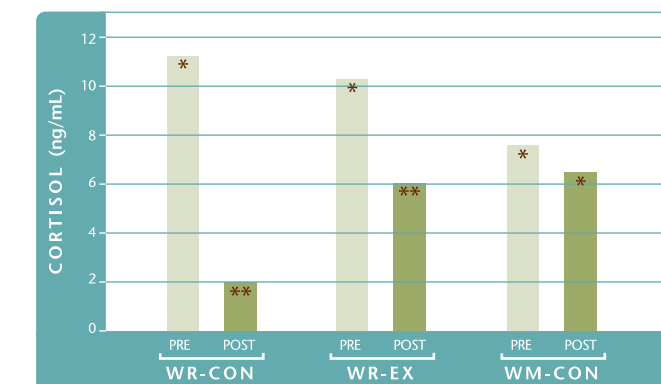
**Figure 4 Results.** WR-CON and WR-EX horses on WellSolve W/C<sup>®</sup> horse feed had significant decreases in plasma leptin concentration after weight loss. WM-CON horses had no changes in leptin concentration.



**Figure 5 Results.** WR-CON and WR-EX horses on WellSolve W/C<sup>®</sup> horse feed had significant decreases in plasma NEFA concentration after weight loss. WM-CON horses had no changes in NEFA concentration.



**Figure 6 Results.** WR-CON and WR-EX horses on WellSolve W/C<sup>®</sup> horse feed had significant decreases in their acute insulin response to a glucose challenge after weight loss. WM-CON horses had no changes in acute insulin response. Acute insulin response was measured by using a Frequently Sampled Intravenous Glucose Tolerance Test with analysis by MinMod Millennium<sup>®</sup> software.



**Figure 7 Results.** WR-CON and WR-EX horses on WellSolve W/C<sup>®</sup> horse feed had significant decreases in their baseline cortisol concentrations after weight loss. WM-CON horses had no changes in cortisol.

As obesity appears to be on the rise in horses, veterinarians need a plan to help horses reach and maintain a healthy weight. WellSolve W/C<sup>®</sup> horse feed can be an integral part of that plan. As seen in the data presented here, WellSolve W/C<sup>®</sup> horse feed as part of a total weight management strategy, helped support measurable weight loss and reduction of 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<sup>®</sup> horse feed 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<sup>®</sup> horse feed is proven to help support weight loss in horses as well as promote a healthier well-being.

*WellSolve W/C<sup>®</sup> Horse Feed – a veterinary researched, nutritional solution for wellness.*