

# **Effectiveness of a Supplement Derived from Dehydrated Cantaloupe Juice (source of antioxidants) as a Recovery Aid for Horses Following Strenuous Exercise**

## **Abstract**

An antioxidant (Promutase 200) derived from a specific patented variety of cantaloupe melon was fed to horses and its effect on recovery measured following repeated daily bouts of intense exercise. This antioxidant contains superoxide dismutase (SOD) that helps protect cells from damage caused by free radicals.

In a cross-over design study, six unfit Standardbred mares were fed this antioxidant at a rate of 2.0 IU/kg BW/d in the daily ration for 28d before undergoing a simulated race test (SRT) repeated over a 3-day period. The SRT, designed to simulate the training of Standardbreds, consisted of a 2-minute warm-up at 6 meters/second followed by a high speed run to fatigue at 125% of the speed calculated to correspond to the horse's maximal aerobic capacity ( $VO_{2max}$ ) as determined in a baseline incremental exercise test. Measurements included  $VO_2$  and the  $VO_2$  recovery time,  $VO_2$  at the point of recovery time, as well as plasma lactate, total protein, packed cell volume, plasma cortisol, glucose and electrolytes. As a measure of oxidative stress through lipid peroxidation, thiobarbituric acid reactive substances (TBARS) were measured.

The results from the study demonstrated that when the horses were supplemented with this antioxidant, they were able to run 10-18 seconds longer as compared to no supplementation. This suggests an increased ability to tolerate high intensity work. It is likely that this trend would have been significant if more animals were included in the study, to increase the statistical power. Another important observation was that despite the longer run time, horses recovered faster when supplemented.  $VO_2$  recovery time was also shorter with supplementation.

The data therefore suggest that supplementation with 2.0 IU/kg BW of this antioxidant (Promutase 200) resulted in a trend supporting recovery following exercise, a longer period of exercise prior to fatigue, and maintaining performance without negatively impacting physiology.