

Influence of the yeast probiotic Actisaf SC 47 supplementation in Standardbreds trotters in training

C. Leleu ¹, A.S. Mailliot Pivan ¹, R. Rabot ², J.P. Marden ², E. Auclair ²

1 : Equi-Test, 53 290 Grez en Bouère, France

2 : Phileo Lesaffre, 59703 Marcq-en-Baroeul, France

Background: In horses, the nutritional interest of live yeast supplementation with *Saccharomyces cerevisiae* (SC) type is the improvement of the digestibility of the fibers and a better valorisation of the forage ^{1,2,3}. In addition, by stimulating the recycling of urea, yeasts also improve the biological value of nitrogen compounds ^{4,5}. As most of SC supplementation trials have been conducted in non exercising experimental horses ^{1,2,3} or breeding horses ^{4,6}, the aim of the study is to evaluate the effects of 90-day ActisafSC47 oral supplementation on training response in young trotters.

Materials and methods: Forty-two 2-year-old trotters in training were randomly assigned to a group receiving for 90 days a complete concentrate enriched with ActisafSC47 probiotics (ActisafSC47 group, n = 21, Actisaf dose: 10 g / day) and a control group receiving the same complete feed not enriched (group C, n = 21). Before supplementation (T0), after 45 days (T45) and after 90 days (T90), the horses were evaluated by a measure of body weight and a hemato-biochemical assessment. At the track, speed, heart rate (HR) and lactates were evaluated during a standardized stress test for the calculation of the V200 (speed for HR of 200 bpm), Vla4 (speed for lactate level of 4 mmol / l). An analysis of variance on repeated measures was calculated to study the effects time, treatment and interaction. T tests were calculated on the variations between T0 and T90.

Results: Due to numerous withdrawals, the analysis included 13 and 15 horses for the ActisafSC47 and control groups, respectively. The cause of exclusion were : lameness (n=3), definitive exclusion of training for lack of ability (n=4), transient fatigue (n= 2), partial or total inobservance of treatment (n=5). Between T0 and T90, the weight loss of the ActisafSC47 group was significantly lower than that of the control group (respectively 0 kg vs -12 kg, p = 0.006). At T45, uremia decreased significantly in the ActisafSC47 group and remained unchanged in the control group (p = 0.002). Between T0 and T90, increases in red blood cell counts and hemoglobin levels were significantly greater in the Actisaf SC47 group compared to controls (p = 0.03). Finally, at T45, the increase in V200 is greater in the ActisafSC47 group compared to controls (p = 0.05).

Conclusion: ActisafSC47 supplementation, carried out for 90 days in young trained horses, allowed to observe various effects compatible with a better energy balance, a better protein metabolism as well as an improvement of some hematological parameters.

- 1 Jouany et al. 2008 J Anim Sci. 86(2):339-47.
- 2 Morgan et al. 2007 J. Equine Vet. Sci. 27: 260-265
- 3 Salem et al. 2015 J. Equine Vet. Sci. 39:12-19
- 4 Glade,M. and Biesik. L. 1986.. J. Anim. Sci. 62:1635-1640.
- 5 Glade M. and Sist. M. 1988. Nutr. Rep. Intern. 37:11-17.
- 6 Glade M. 1991. J. Equine Vet. Sci. 11:10-16.