

Effects of Dietary Yeast Supplementation on Serum IgG(T) Concentrations in Quarter Horse Mares

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The addition of yeast to animal diets has been shown to influence their immune responses. In this study, sixteen Quarter Horse mares (10.6 ± 5.0 yr) were used to evaluate the effect of dietary yeast supplementation on IgG(T) specific antibody responses. Mares were blocked by reproductive status and diet and randomly assigned to one of two treatment groups: Yeast or Control. Open mares received 0.5% BW of a 12% CP pelleted concentrate while pregnant mares received 0.5% BW of a 16% CP pelleted concentrate. All horses also received mixed grass hay and water *ad libitum*. Horses in the yeast treatment group were fed a target dose of 1 g/45.4 kg of BW per day of a live culture of *Saccharomyces cerevisiae* throughout the study. After 60d (d 300 of gestation), mares were vaccinated with a commercial equine tetanus vaccine and blood samples were taken via jugular venipuncture immediately prior to vaccination (d 0) and on d 7, 14, 21 and 28 post-vaccination. Sera samples were measured for IgG(T) antibodies using an ELISA assay and data were analyzed using the PROC MIXED procedure of SAS. A P value of ≤ 0.05 was considered statistically significant. Prior to vaccination, open mares tended to have higher IgG(T) specific antibody titers compared to pregnant mares (P = 0.07). Previous research has shown that IgG antibody titers increase in response to vaccination with a variety of antigens. However, in this study, IgG(T) specific antibody titers decreased in response to vaccination, regardless of reproductive status or yeast supplementation. Overall, dietary yeast supplementation did not influence IgG(T) specific antibody response in this study.