

Effect of Dietary Yeast Supplementation on Immunoglobulin Concentrations in Two Year Old Quarter Horses

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Dietary yeast supplementation has been reported to influence immunoglobulin concentrations in multiple species, including horses, with varying results. In this study, eight young Quarter Horses (2.0 ± 0.0 yr) were used to evaluate the effect of dietary yeast supplementation on IgA, IgM, IgGa, IgGb, IgG(T) and IgE concentrations in response to vaccination. Horses were randomly assigned to one of two treatment groups: Yeast or Control. All horses received 0.5% BW of a 14% CP pelleted concentrate with mixed grass hay and water ad libitum and were housed in outdoor paddocks with access to shelter at all times. The supplemented group was fed a target dose of 2g/45.4 kg of BW per day of a live culture of *Saccharomyces cerevisiae* throughout the study. After 28 d of supplementation, all horses were vaccinated against Eastern and Western equine encephalomyelitis, equine rhinopneumonitis (EHV-1 and EHV-4), equine influenza (type A2), tetanus and West Nile virus. 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 IgA, IgM, IgGa, IgGb, IgG(T) and IgE specific antibodies using commercial ELISA kits. Data were analyzed using the MIXED procedure of SAS and a p-value of ≤ 0.05 was considered statistically significant. There were no differences in immunoglobulin concentrations between treatment groups. Not all horses responded to vaccination. This could be due to the type of vaccine used in this study or previous exposure to the antigens. Further research is needed to determine if dietary yeast supplementation can influence immunoglobulin concentrations in young horses.