

The Relationship of Milk Urea Nitrogen to Blood Urea Nitrogen in Quarter Horse Mares

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Dietary yeast supplementation in horses has been reported to influence nutrient digestibility and nitrogen retention. Previous research in dairy cows indicates that blood urea nitrogen (BUN) concentrations are proportional to milk urea nitrogen (MUN) concentrations. If MUN is shown to be an indicator of BUN in horses, it would be a less invasive test that is applicable in a variety of experimental situations. Objectives of this study were to evaluate the relationship of MUN to BUN in horses and whether dietary yeast supplementation affects this relationship. Eight Quarter Horse mares (14.5 ± 7.5 yr) were fed 0.5% BW of a 16% CP pelleted concentrate with water and mixed grass hay *ad libitum* and randomly assigned to one of two treatment groups: Yeast or Control. 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* from d 250 of gestation until 90 d post-foaling. Milk and blood samples were obtained from each mare immediately after foaling, at 12 and 24 hr after foaling and then every 14 d for 6 mo. MUN and BUN concentrations were determined by diacetyl monoxime assays. Data were analyzed using the PROC MIXED procedure of SAS. P values of ≤ 0.05 were considered statistically significant. BUN and MUN concentrations ranged from 20.7 ± 1.9 to 29.1 ± 1.9 mg/dl and 18.5 ± 1.4 to 42.6 ± 3.2 mg/dl, respectively. MUN concentrations were not highly correlated with BUN concentrations ($r = 0.48$). There were no differences in BUN or MUN due to dietary yeast supplementation.