

## **The Effect of *Saccharomyces cerevisiae* Live Yeast Culture on Microbial Nitrogen Supply to Small Intestine in Male Kivircik Yearlings Fed with Different Ratio of Forage and Concentrate**

**Authors :** Nurcan Cetinkaya, Nadide Hulya Ozdemir

**Abstract :** The aim of the study was to investigate the effect of *Saccharomyces cerevisiae* (SC) live yeast culture on microbial protein supply to the small intestine in Kivircik male yearlings when fed with different ratio of forage and concentrate diets. Four Kivircik male yearlings with permanent rumen canula were used in the experiment. . The treatments were allocated to a 4x4 Latin square design. Diet I consisted of 70% alfalfa hay and 30% concentrate, Diet II consisted of 30% alfalfa hay and 70% concentrate, Diet I and II were supplemented with a SC. Daily urine was collected and stored at -20°C until analysis. Calorimetric methods were used for the determination of urinary allantoin and creatinin levels. The estimated microbial N supply to small intestine for Diets I, I+SC, II and II+SC were 2.51, 2.64, 2.95 and 3.43 g N/d respectively. Supplementation of Diets I and II with SC significantly affected the allantoin levels in  $\mu\text{mol/W0.75}$  ( $p<0.05$ ). Mean creatinine values in  $\mu\text{mol/W0.75}$  and allantoin:creatinin ratios were not significantly different among diets. In conclusion, supplementation with SC live yeast culture had a significant effect on urinary allantoin excretion and microbial protein supply to small intestine in Kivircik yearlings fed with high concentrate Diet II ( $P<0.05$ ). Hence urinary allantoin excretion may be used as a tool for estimating microbial protein supply in Kivircik yearlings. However, further studies are necessary to understand the metabolism of *Saccharomyces cerevisiae* live yeast culture with different forage: concentrate ratio in Kivircik Yearlings.

**Keywords :** allantoin, creatinin, Kivircik yearling, microbial nitrogen, *Saccharomyces cerevisia*

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