

Influence of caeca micro flora and tannin on true amino acid availability in grain sorghum cultivars in comparison of corn

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Abstract:

This study was conducted to determine caeca micro flora and tannin effects on amino acid availability (AAA) values for different grain sorghum cultivars (GSC). Three GSCs including low tannin (0.09%, LTS), medium tannin (0.19%, MTS) and high tannin (0.37%, HTS) were selected to determine AA availability compare to the corn by using the true metabolizable energy (TME) assay with both intact (INT) and caecectomized (CEC) roosters. The results showed that true AA availability (TAAA) of LTS was high (95%) whereas, corresponding value for MTS (82.7%) and HTS (41.6%) was significantly lower ($P < 0.05$). The correlation between tannin and availability of all of the AAs was negative and significant ($r > -0.78$, $P < 0.001$). However, the availability of proline was the most affected by tannin, which was 93.4% for LTS, 77.6% for MTS and 18.4% for HTS. The influence of caeca micro flora on AAs availability was found to vary between corn and GSCs and among different AAs. For the corn, CEC rooster exhibited lower AAs digestibility coefficient than INT rooster. In contrast, corresponding value for the GSCs in CEC rooster was higher than INT rooster.

Key words: Sorghum- Corn-Tannin- Caeca micro flora- Amino acid Availability

بررسی اثرات سطوح مختلف کنجاله کانولا و مس بر حساسیت به آسیت و برخی فراسنجه های خونی جوجه های گوشتی

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