عنوان مقاله:
Blood gases and metabolite content and ruminal fermentation in response to diets with different fermentability in Holstein dairy cows

محل انتشار:
دوفصلنامه علوم و فناوری دامداری (سال: 2:1)

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خلاصه مقاله:
The objective of this study was to determine the effects of diets having different fermentability on blood gases, blood metabolites and ruminal fermentation parameters in Holstein dairy cows. Four multiparous Holstein dairy cows (440 ± 50 kg BW, 47 ± 7.1 DIM and 15 ± 1.0 kg of milk yield), fitted with rumen cannulae, were used in a 4x4 Latin Square design with 48-d periods. Corn starch and sucrose were added to diets and corn starch was replaced with sucrose at 52, 50, 57 and 60 g (diet 1), 70 (diet 2), 57 (diet 3) and 60 g (diet 4) per kg diet dry matter in diets containing 0.06 g concentrate and 0.4 g forage. Dry matter intake (DMI), body weight changes (BWC) and milk yield were not affected by the diets (P > 0.05). Milk fat content increased by replacing starch with sucrose (P ≤ 0.05). Milk protein concentration (%) tended to increase by replacing starch with sucrose (P = 0.06). Inclusion of sucrose in the diet did not affect ruminal pH (averaged 7.41) but reduced (P ≤ 0.05) ruminal NH3-N concentration. Total volatile fatty acids (VFA) and molar proportion of most of the individual VFA were unaffected by diets except for the molar proportion of butyrate that was increased with increasing levels of sucrose (P ≤ 0.05). Total branched chain VFA also tended (P = 0.06) to increase with sugar levels. Blood gases and metabolites were not affected but blood urea N which was decreased (P ≤ 0.05) by increasing the level of sucrose in the diets. In conclusion, dairy cows fed diets containing sucrose had lower ruminal NH3 and BUN concentrations without any adverse effects on rumen fermentation characteristics, and blood gases and metabolites. This indirectly shows reduced nitrogen excretion to the environment which is critical for decreasing environmental pollution.

کلمات کلیدی:
diet fermentability, gases, metabolites, Fermentation, dairy cows

لینک نتیجه نمای مقاله:
https://www.civilica.com/Paper-JR_KLST-JR_KLST-2-1_002.html
این صفحه به معنای تاییدیه نمایه سازی مقاله در یاگاه استنادی سیویلیکا می باشد. در هر لحظه به منظور تایید اصلت این گواهی می توانید وضعیت ثبت مقاله را از طریق لینک فوق به صورت آنلاین کنترل نمایید.