عنوان مقاله:

Relationship between blood urea, protein, creatinine, triglycerides and macro-mineral concentrations with the quality and quantity of milk in dairy Holstein cows

محل انتشار:

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خلاصه مقاله:

Seventy six high and low producer cows were selected to determine the composition of the blood and milk parameters, and their interrelationships to determine the indices which could be useful to improve the milk yield. The highest mean blood concentrations were found in high producer cows. Mean values for blood urea nitrogen (BUN), serum protein (SPtn), creatinine, triglycerides (TGs), cholesterol, and beta-hydroxybutyric acid (BHB) were ۲۵.۱۰ mg dL-۱, ۱۰.۱۵ g dL-۱, ۰.۸۱, ۶۲.۳۰, ۱۷۷.۱۰ and ۰.۱۶ mmol L-۱, and for macro-minerals including SCa, SMg, serum in-organic phosphorus (SIP), SNa and SK were ۳.۸۵, ۲.۶۶, ۴.۶۳, ۱۰۸.۰۰ and ۴.۳۴ mmol L-۱, respectively. The highest concentrations for milk parameters, were observed in the high producers, and were significant only for MCa, MIP and MMg. Mean values for milk urea nitrogen (MUN), milk protein (MPtn) and lactose were ۱۹.۹۰ mg dL-۱, ۰.۳۹ g dL-۱, and ۴.۱۲% and for macro-minerals, ۱۳.۲۴, ۳.۸۸, ۱۱.۰۳, ۷۳.۳۰ and ۱۶.۹۰ mmol L-۱, respectively. There were significant positive correlations between the blood and milk parameters except for creatinine/BHB, TGs/cholesterol and MNa/MK which were not significant. The correlations between the blood parameters were greater than in the milk parameters. Creatinine and SPtn, MUN and MPtn were the main parameters in that the relationships between MPtn with BUN, SPtn and creatinine were more noticeable than others. The regression analysis showed that BUN with the SIP and creatinine, MPtn with the BUN and creatinine and MUN with the SIP and SMg were the appropriate parameters in improvement studies related to the milk yield. In conclusion, BUN, SPtn, MUN and MPtn concentrations are the most effective indices for predicting the preferred milk yield.

کلمات کلیدی:

Holstein, Serum, Blood, Macro-minerals, Milk yield