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Feeding ruminally protected methionine to pre- and postpartum dairy cows: effect on milk performance, milk composition and blood parameters

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[fulltext]

An experiment was conducted to evaluate the effect of ruminally protected methionine (Mepron®, Degussa AG, Germany) in dairy cows. Three weeks before calving 36 cows (Holstein and

Czech Fleckvieh breeds) were assigned to one of the two dietary treatments (M and O), and received a total mixed ration with protected methionine at 18.2 g per head per day or without this supplement. After calving, both groups were divided into two subgroups and fed a diet for dairy cows based on ensiled feeds and concentrates for 90 days. A half of the cows received protected methionine (subgroups MM and OM), the other cows were fed the same diet without protected methionine (subgroups MO and OO). Milk yield in cows fed protected methionine for the whole experiment duration (cows MM) was higher and feed intake was lower than in cows of the other groups. The effect of protected methionine on milk yield was not, however, statistically significant ($P > 0.05$). Effects of protected methionine on milk fat and protein were small and inconsistent. Supplemental methionine significantly increased the methionine concentration in serum ($P < 0.05$) while the methionine concentration in milk was not increased quite significantly ($P < 0.10$). Concentrations of essential amino acids in milk were significantly or

protected methionine. In summary, the supplementation of ruminally protected methionine at 18.2 g per head per day had beneficial, but small and mostly statistically insignificant effects on milk performance and milk composition.

Keywords:
methionine; milk yield; milk components; serum

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