

P483 Metabolizable methionine balanced diets improved Lacaune dairy ewe performance.

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The objective of this study was to determine the effect of supplementing 3 levels of metabolizable methionine (MetDi as %PDI) on milk yield and composition in early-lactation dairy ewes. Fifty-four multiparous Lacaune ewes (81.4 ± 2.37 kg BW; 3.1 ± 0.09 body condition) were used from the beginning of lactation. Ewes were fed ad libitum a 42:58 forage:concentrate total mixed ration formulated to meet nutrient requirements (INRA, 2007). Treatments were: control, 1.8 (CTR), 2.5 (Met25) and 2.7% (Met27) of MetDig/PDI. The rumen-protected Methionine (RPM; isopropyl ester of 2-hydroxy-4-methylthio butanoic acid; HMBi, Metasmart, Adisseo SAS, FR) was administered in the milking parlor mixed with 100 g/ewe/d concentrate offered in 2 equal portions during the a.m. and p.m. milkings. Ewes were divided into 9 balanced groups of 6 animals, according to BW and previous lactation milk yield, and milked twice daily. Treatments were randomly applied to 3 groups per treatment from lambing to d 70 in lactation. Intake was measured daily during wk 3, 6, and 10 using an indigestible marker (50 g/d PEG6000). Milk yield and composition was measured in 2 consecutive days within sampling weeks. Data were analyzed using the PROC MIXED procedure of SAS. No differences ($P < 0.10$) were observed in intake (2.89 ± 0.19 kg DM/d), milk yield (2.53 ± 0.31 kg/d) and fat content ($5.33 \pm 0.23\%$). Milk protein content was 4.94, 5.18 and 5.06% ($P < 0.07$) and milk urea was 464, 426, and 476 mg/L ($P < 0.06$) for CTR, Met25 and Met27, respectively. The significant treatment x week interactions in fat content reflected a reduction in fat content as methionine intake increased only in wk 10 ($P < 0.05$); and that in protein content reflected a higher level in Met25 in wk 6 and 10 ($P < 0.05$). The increased supply of methionine improved milk protein content. Therefore, dietary MetDi recommendation in dairy cows (2.5% metabolizable protein) may be extended to dairy ewes.

Key Words: rumen-protected methionine, ewe, milk yield and composition.