

P427 The effect of rumen-bypass lysine and methionine on milk yield and composition in early lactation cows. S. Xu*, J. Harrison, R. Blauwiel - Washington State Univ., Puyallup; W. Chalupa - U of Pennsylvania, Kennett Square; C. Sniffen - Miner Institute, NY; K. Watanabe, H. Suzuki, T. Fujeada, H. Sato - Ajinomoto Inc., Tokyo; and W. Julien - Julien & Assoc., NE.

Sixty multiparous Holstein cows were used to study the effect of rumen-bypass lysine and methionine on milk yield and composition in the first 10 wks of lactation. Two diets were formulated to provide either 85 and 89% of required lysine and methionine (Neg) or 111 and 102% (Pos), respectively. Rumen-bypass amino acid added as top-dress to the Neg diet provided 8 g/d methionine and 27 g/d lysine (RPAA) or 13 g/d methionine and 40 g/d lysine (HiRPAA). Feed intake, FCM, milk protein percentage and yield were significantly improved when cows were fed HiRPAA in the early lactation.

Dietary Treatment	Neg	Pos	RPAA	HiRPAA	SEM
DMI, kg/d	18.5 ^c	19.1 ^b	18.6 ^{bc}	22.2 ^a	.17
Milk yield, kg/d	34.7 ^d	39.9 ^a	38.1 ^c	39.0 ^b	.27
3.5% FCM, kg/d	34.5 ^c	38.8 ^b	38.6 ^b	40.6 ^a	.27
Milk fat, %	3.54 ^c	3.45 ^c	3.76 ^b	3.87 ^a	.04
Milk protein, %	3.04 ^c	3.08 ^b	3.02 ^c	3.26 ^a	.01
Milk fat, kg/d	1.20 ^d	1.33 ^c	1.37 ^b	1.46 ^a	.01
Milk protein, kg/d	1.05 ^d	1.22 ^b	1.14 ^c	1.26 ^a	.01

^{a,b,c,d} means within a row with unlike superscripts differ ($p < .05$).

P428 Effect of feeding rumen protected methionine hydroxy analog to early lactation cows. D. D. Crawley* and L. H. Kilmer. Iowa State University, Ames.

Two diets were formulated to examine the response of supplemental rumen protected methionine hydroxy analog (rMHA) on the performance of lactating dairy cows in the first 8 weeks postpartum period. Forty-eight multiparous (40 holsteins, 8 jersey) and 16 primiparous (holstein) cows were blocked by breed, parity, and expected calving date then assigned randomly to diets containing 0% (C) or 0.19% rMHA (M) (DM basis). Diets were fed ad libitum, twice daily as TMRs starting at parturition. Milk yield and DMI were recorded daily, milk samples were obtained weekly for component analysis (fat %, protein %, and SNF %), and BW and body condition scores (BCS) were recorded biweekly.

	C	M	SEM
DMI, kg/d	20.2	19.7	.32
Milk yield, kg/d	36.4	36.1	.49
Fat, %	4.04	4.05	.05
Protein, %	3.07	3.14	.03
SNF, %	12.60	12.64	.07

Cows fed M consumed 3.3 kg less DM than did cows fed C ($P < .01$) on day 1 postpartum. Lower DMI continued for M (16.8 kg/d) compared to C (17.4 kg/d) for the first 28 days of lactation ($P < .01$). Compared to C, cows fed M produced less milk through week four of lactation (33.1 vs 32.2 kg/d, $P < .05$). Yield and percentage of milk components did not differ between treatments ($P > .05$). BW and BCS were similar between treatments.

P429 Response of high producing dairy cows to different protein sources when fed steam-flaked sorghum diets. F.A.P. Santos*, J.T. Huber, C.B. Theurer, J. Santos, L.G. Nussio, J.M. Simas, P. Yu, J. Aquino, H. Mena, M. Tarazon, Z. Keister and F. Souza. Univ. of Arizona, Tucson.

Lactating cows (36 multiparous and 18 primiparous) averaging 90 DIM were assigned to 6 treatments based on milk yields and DIM during a 14-d pre-treatment period. Treatments were: 8% soybean meal (SBM), 6% fish meal (FM), 8.7% Expellers SBM (ESBM), 3% FM + 0.6% urea (FMU), 3% FM + 4.4% ESBM (FM ESBM), 1% FM + 1% urea (U). Diets contained alfalfa hay, and 35 to 42% steam-flaked sorghum (360 g/L). For multiparous cows protein source did not affect DMI, milk yield, FCM, or milk composition, and urea (1% of DM) tended to improve feed efficiency. For primiparous cows 1% urea negatively affected milk yield and increased milk fat %. DMI, protein % and FCM were not affected by treatments.

	Treatment					
	SBM	FM	ESBM	FMU	FMESBM	U
DMI, kg	25.6 ¹ (22.2) ²	24.7 (2.17)	25.6 (21.8)	25.1 (21.8)	24.6 (21.8)	24.0 (21.3)
Milk, kg	35.9 (30.4) [*]	34.5 (29.6 ^{ab})	34.6 (30.7 ^a)	35.1 (30.0 ^{ab})	35.0 (29.5 ^{ab})	35.1 (28.1 ^b)
FCM, kg	33.3 (27.9)	32.3 (28.3)	32.0 (27.0)	31.4 (27.4)	32.0 (27.3)	33.4 (27.8)
Fat, %	3.06 (2.97 ^b)	3.09 (3.20 ^{ab})	3.00 (2.75 ^c)	2.84 (2.93 ^{bc})	2.99 (3.06 ^{ab})	3.13 (3.44 ^a)
Prot., %	3.09 (3.13)	3.13 (3.17)	3.11 (2.97)	3.14 (2.93)	3.13 (3.0)	3.13 (3.17)
FCM/DMI	1.30 ^{1c} (1.26)	1.30 ^{1b} (1.28)	1.27 ^{1a} (1.29)	1.27 ^{1a} (1.26)	1.30 ^{1c} (1.27)	1.40 ¹ (1.29)

^{a,b,c} ($P < .05$); ^{1a,b} ($P < .06$); ¹For multiparous cows; ²For primiparous cows.