

Session: Dairy: Feed Additives (oral)

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Day/Time/Location: Tuesday, July 17, 2012, 3:15 PM - 3:30 PM, 132ABC

Feeding blood meal or two rumen-protected lysine sources in early lactation dairy cows and the effect of withdrawal on production parameters. J. E. Nocek*¹ and I. Shinzato², ¹*Spruce Haven Farm and Research Center, Auburn, NY,* ²*Ajinomoto Heartland Inc., Chicago, IL.*

Seventy-two multiparous cows were used to examine the effects of feeding rumen-protected lysine (RPL) sources or blood meal from wk 4 through 7 postpartum and then withdrawing them. All cows entered the individual tie stalls on d 14 ± 3 postpartum and received the Control diet through d 21 ± 3. Cows were balanced across treatments based on wk 3 postpartum milk production. In addition the information obtained during wk 3 was used as a covariate in the statistical analysis. Cows were assigned to one of 4 subsequent treatments: C: Control, BM: C with blood meal, AP: C with AjiPro-L (Ajinomoto Co., Inc.), and AS: C with AminoShure-L (Balchem Corporation). Manufacturer suggested bioavailabilities were used for RPL sources. Metabolizable Lys supply calculated by CPM Dairy was 153.1, 166.1, 166.8, and 166.8 g/d, for C, BM, AP, and AS, respectively. Cows remained on their treatment for 4 weeks (4–7 wk postpartum, phase 1). From wk 8 through 11 postpartum (Withdrawal, phase 2) all cows again received the Control ration. Individual dry matter intake (DMI) and milk yield was measured daily, and milk components were measured weekly. Body weights and BCS were recorded on d 21, 49 and 77 postpartum. During phase 1, AP showed higher ($P < 0.01$) milk yield compared with C, BM and AS. FCM was increased ($P < 0.01$) in AP compared with C and AS. Milk/DMI efficiency was higher for AP than AS. Milk fat yield was higher ($P < 0.01$) for AP than AS or C, whereas protein yield was highest ($P < 0.01$) for AP compared with other treatments. Milk fat percentage was highest ($P < 0.01$) for BM compared with C, with AP and AS being intermediate. Milk protein percentage was not affected by lysine supplementation. During phase 2, ECM yield was higher ($P < 0.01$) for AP compared with C, BM and AS. However, cows in AP treatment demonstrated the most dramatic drop in milk post withdrawal (1 kg from wk 5–6 on trial) compared with BM or AS. There was no effect of treatment on body weights or BCS. These results demonstrate that not all RPL sources perform in a similar fashion in early lactation cows.

Key Words: rumen-protected lysine, milk production, early lactation

Notes:
