



The added benefits of feeding an AA balanced diet: Impact during the transition phase.

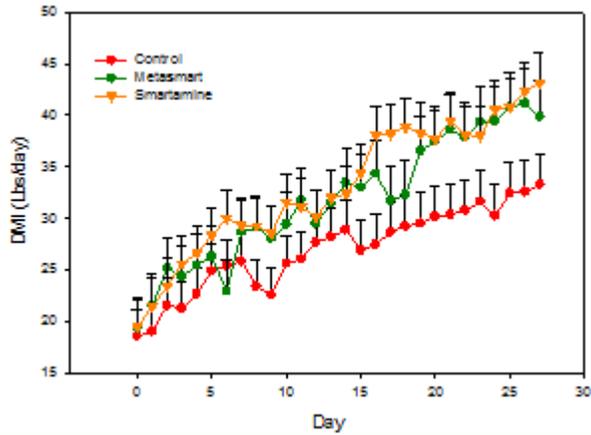
In the last Tech Note, the added benefits of balancing rations for AA to lower the N load of the diet and improve the efficiency of N utilization by the cow were discussed.

Another benefit often overlooked is balancing rations for AA during the transition period. Methionine plays a key role in the formation of very low density lipoproteins (VLDLs). It is both a building block for the formation of Apoprotein B and a precursor for the synthesis of phosphatidyl choline. VLDL is the key vehicle to transport fat out of the liver. Helping the cow utilize mobilized fatty acids efficiently is important for maintaining a healthy liver and providing other tissues a much needed energy source during the critical first few weeks post-partum. A summary of five trials in which cows were fed increased concentrations of metabolizable Lysine and Methionine during the transition phase showed dairy cows produced an extra five pounds of milk/day, with 0.09% extra protein and 0.1% extra fat (Garthwaite et al, 1998).

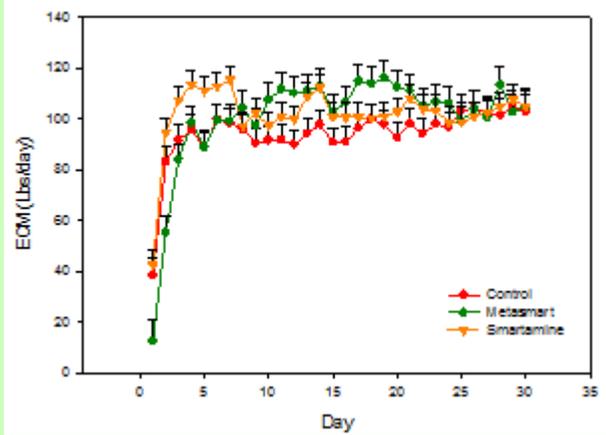
Results of a recent transition cow study were reported at the last annual meeting of the American Society of Dairy Science (Osorio et al, 2011) confirmed the importance of amino acid balancing transition cow rations. The protocol consisted of feeding one of three diets from 21 days pre-fresh to 28 days in milk to three groups (15 cows each):

- Control - fed a pre-fresh diet with a Lys:Met of 3.6:1 to a post-fresh diet with a Lys:Met of 3.3:1
- MetaSmart® - same pre-fresh and post-fresh diets as Control with the addition of dry MetaSmart® to bring the Lys:Met to 2.85:1
- Smartamine® M - same pre-fresh and post-fresh diets with the addition of Smartamine® to bring the Lys:Met to 2.85:1

The cows fed the Methionine-enriched diets consumed an average of 5.6 extra pounds/day of feed and increased Energy Corrected Milk by 8.7 pounds during the first 28 days in milk and had less total liver lipid at 21 days post-fresh. There was no difference between the two methionine sources fed regarding intake, Energy Corrected Milk or total liver lipids.



Control (26.9 lb) vs. MetaSmart® and Smartamine® (32.47 lb) (P = 0.04)



Control (94.3 lb) vs. MetaSmart® and Smartamine® (103.0 lb) (P = 0.05)

Have Questions?

Please [contact me](#) if you have any questions or would like more information. I will personally respond to all emails.



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