West Central News

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Consider Metabolizable Protein Supplied By "High Straw" Close-up Diets

Increasing numbers of dairies are adding low energy forages to their dry cow diets. Why? To avoid problems such as displaced abomasum. These diets also help avoid reduced feed intake immediately before and after calving. This can cause increased mobilization of body fat.

Many of these diets incorporate straw into the ration. This can be advantageous from a DCAD perspective as it is possible to find wheat (rarely oat!) straw with less than 1% potassium. There is some controversy about what constitutes a high straw diet. Is it four to five, or 10-12 pounds of straw per day? Both can be used successfully.

Putting that discussion aside, we may need to examine metabolizable protein provided by the 10-12 pound straw diets more carefully. The Cornell-Penn-Miner (CPM) Dairy Model suggests the metabolizable protein requirement of the 1,500 pound late gestation dairy cow is around 1,131 g/day. With higher energy diets, the microbial protein produced ordinarily supplies the majority of the metabolizable protein required by the mature dry cow, even if diet crude protein is just 12.5%. However, the carbohydrate available to the rumen bacteria from the very high straw diets may limit microbial protein production. Boosting total crude protein in the diet does not greatly improve microbial protein production.

The CPM model suggests it may be wiser to increase rumen bypass protein in these diets to meet the metabolizable protein requirement of these cows. Use the model to test SoyPLUS® substitution in place of your usual source of protein in these diets. See if you think it will help the metabolizable protein supplied to the cow in your situation.