

Get the Fiber Into the Ration

By Charles E. Gardner, DVM

"I don't get it. For years I've been told to make better forages, and now I am told to put straw in the ration. That makes no sense!" I got this comment from a dairy farmer many years ago. I could understand his frustration, but I also knew why his nutritionist was suggesting the straw. Sometimes we make our forages "too good," and we end up short on effective fiber. A small amount of straw can provide the fix.

Let's back up a bit. Dairy cows are ruminants, meaning that they depend on a huge fermentation vat called the rumen to pre-digest some of their feed. The rumen needs a relatively neutral pH to function properly. When grain ferments in the rumen, acid is produced. This acid is neutralized with sodium bicarbonate which is contained in saliva. Saliva is, in turn, produced when cows chew their cud. And to do enough cud-chewing to produce adequate saliva, cows need some fiber that is not quickly digested. That is where the straw comes into the ration in some situations.

As plants grow, they develop a fibrous component to provide some rigidity. Without this component, the plant would not stand upright. As the plant gets bigger, it produces more fiber and stronger fiber to keep itself standing. This fiber becomes less and less digestible. For this reason, we often recommend harvesting well before the plant is fully mature. Cows will make much more milk from crops that have not reached full maturity.

As all of you know, it is difficult to consistently get crops harvested at the perfect stage. If we are a little too late, there is not much we can do to reduce the fiber or to improve the digestibility of it. But if we find we are a little early and lack enough fiber, then we can add some straw to get things back in order. Usually somewhere between half to a full pound will do the trick.

You might think that adding something as undigestible as straw would hurt production. But it often works to improve milk output by slowing the rate of passage through the cow's digestive system. If material stays in the gut longer, it has more time to digest and the cow may absorb more nutrients from the effects of the straw.

How do you know if straw could help your ration? One clue would be that your cows are consuming more feed than expected for the amount of energy corrected milk they are producing. Energy corrected milk means that the levels of fat and protein have been factored into the equation. A reasonable goal is 1.6 to 1.7 pounds of energy corrected milk per pound of dry matter intake. To know if you are at this level, monitor the pounds of dry matter your cows are consuming, and then divide this number into the pounds of energy corrected milk produced. Talk to your nutritionist to be sure you are getting the correct numbers.

Additional clues that your ration lacks effective fiber would be reduced cud chewing. If you look at your cows that are not eating, at least half should be chewing. Another clue would be loose manure from a significant portion of your herd. Depressed fat percentage in your milk could be another factor.

The art and science of feeding high-producing dairy cows keeps evolving. I am amazed at the high production obtained from high forage rations, compared to levels of 20 years ago. Understanding the

role of effective, yet digestible, fiber has been a part of this progress. So if your nutritionist suggests that straw will be beneficial, don't dismiss him or her immediately. They just might be right.