

Why Do Cattle Chew Their Cud?



By: Donna Amaral-Phillips, Ph.D.

Dairy cows spend almost 8 hours a day chewing their cuds for a total of almost 30,000 chews daily. It can be said that a content cow is one who is seen chewing her cud. In reality, there is quite a bit of truth in this statement. When cows chew their cuds they secrete saliva. This saliva contains a natural antacid which helps to buffer the rumen or first compartment of the stomach. Proper buffering of the rumen allows a cow to digest forages better and to eat more feed which helps her produce more milk.

What stimulates a cow to chew her cud? When a cow chews her cud, she is regurgitating a bolus of food into her mouth which she rechews and reswallows. Forages of sufficient length need to be fed to dairy cows and heifers for optimal production of saliva. Fifteen to twenty percent of forages fed need to be longer than 1.5 to 2 inches or the width of a cow's muzzle. Forages which are pulverized during mixing or chopping will not allow for sufficient cud chewing.

Cud chewing often can be used as an indicator of the health of a dairy herd. Cows who do not chew their cuds enough may have lowered milk fat tests, may become lame, or have other digestive upsets such as a twisted stomach or displaced abomasum. All of these problems directly affect the profitability of a dairy operation.

From a practical standpoint, how can we make sure that cows get enough effective fiber or long forages to stimulate cud chewing?

1. Feed enough high quality forages. Cows are ruminants and evolved to utilize forages, not grain, as their primary feed source.
2. Make sure that 15 to 20% of the forage is greater than 2 inches in length when a cow eats it. In other words, 4 to 5 lbs of long hay or the equivalent goes a long way in stimulating a cow to chew her cud.
3. If you are using a TMR mixer, do not run it more than 3 to 5 minutes. A TMR mixer run too long pulverizes both hay and corn silage. Take a handful of corn silage and TMR mix and look to see if they have a similar length of chop. If the silage in the TMR mix is a lot smaller than the original corn silage, you are mixing too long. If alfalfa hay or chopped

**Cooperative
Extension Service**

Agriculture and Natural Resources
Family and Consumer Sciences
4-H Youth Development
Community and Economic Development

MARTIN-GATTON COLLEGE OF AGRICULTURE, FOOD AND ENVIRONMENT

Educational programs of Kentucky Cooperative Extension serve all people regardless of economic or social status and will not discriminate on the basis of race, color, ethnic origin, national origin, creed, religion, political belief, sex, sexual orientation, gender identity, gender expression, pregnancy, marital status, genetic information, age, veteran status, physical or mental disability or reprisal or retaliation for prior civil rights activity. Reasonable accommodation of disability may be available with prior notice. Program information may be made available in languages other than English. University of Kentucky, Kentucky State University, U.S. Department of Agriculture, and Kentucky Counties, Cooperating. Lexington, KY 40506



Disabilities
accommodated
with prior notification.

straw is mixed in a total mixed ration make sure it is not mixed too long or chopped too finely by the TMR knives.

4. The most important thing you can do is observe your cows. Generally, we expect to see 60 to 70% of cows actually chewing their cuds when they are resting. Pay attention to fresh cows to see that they are chewing their cuds. Use of technology that determines rumination times allows one to more quickly spot cows that need to be evaluated further. However, one can never totally replace sound cow observation skills with technology.

Taking time to carefully observe your cows will pay dividends in recognizing potential problems before they become major headaches.