

Cow Style R&R

Are you ready for a break? Both cows and the people that care for them require significant rest and if they don't get it, things can really break down.

Honestly, a cow is really like an athlete. A cow spends much of her days operating at three times her energy cost of maintenance, similar to a jogger running for 6 hours a day (Webster 1993). To accomplish peak performance a cow not only needs her daily requirement of good feed, but plenty of rest.

A cow's day has a pretty strict schedule. She requires 12-14 hours of rest & rumination time, 4-5 hours of feed bunk & water time and 2-3 hours standing/walking in alleys. That leaves only 2.0-4.0 hours for milking and other herd management activities. (Jensen & Munksgaard 2005). When you mess with the schedule, especially rest, you'll see health and production suffer.

Rest for Cows 101

Dairy cows have a strong motivation to rest. They need 12-14 hours of rest a day-even though they only actually sleep for about 30 minutes during that time. Their natural behavior is to meet their resting requirement first-even if it means

cutting short their eating time. If a cow can not meet her rest requirement, she gets stressed. **In fact, cows will reduce their production 2.0-3.5 pounds of milk for every hour she does not rest properly.**

(Grant 2009) When a cow rests she:

- *Ruminates more effectively
- *Her hooves rest and dry off
- *Her blood circulation through the udder increases by 30 percent



The rest or lying down periods fit in between standing and feeding. These periods usually last 1/2 to 3 hours at a time, so the cow stands up and lies down many times a day-up to 16 times a day.

Reducing the rest cycle, in addition to milk loss, can cause lower dry matter intakes, an increase in hoof problems, poor immunity and a lowered fat & protein test depending on the age of the cow.

The Rumination Factor

Rest and rumination go hand in hand-you can't have good rest without rumination or vice versa.

Rumination is a really cool adaptation that cows have. Cows were designed to spend as little time as possible feeding-making themselves less vulnerable to predators.

Comfort by the numbers....

I once heard a great talk by Dr. Gordie Jones in which he said, "The three ABCs of dairy management are air quality, bunk management and cow comfort." Here are a few cow comfort numbers:

100 square feet per cow is needed for a bedding pack for a resting area.

80% the stocking capacity recommended for close up dry cows to prevent metabolic problems.

66 inches from curb to brisket board for optimal lunge space.

24 inches of bunk space per cow. Recent studies have linked bunk space less than 15 inches with lower pregnancy rates.

10% loss in production when cows and first calf heifers are co-mingled. The loss of milk is even higher when overstocked.

3 1/2 inches-the space between the grooving for good traction on floors and good hoof health.

3 feet long and **2** feet wide is the size of the waterer needed to water every 20 cows.

1/2 inch of bedding is needed on top of a mattress to soak up any moisture and prevent abrasions.

Odds & Ends.....

Prices heard this week:

Corn: \$2.60-2.91 per bu.

Soybeans: \$8.41-9.00 per bu.

150 RFV Hay: Large squares are worth approx. .95 per point of RFV.

Springers: \$1100-1400 med grade

Cull cows: \$0.40-0.54 per pound

Bull calves: \$75-135

Connections:

Call us at 1-800-700-9334 or email us at mctech@centurytel.net to get connected

* For sale: Bull calves & steers, all sizes

* For sale: Bulls for sale

* For sale: Open & bred heifers for sale

* Wanted: Used parlor

* Wanted: dairy quality hay

* Wanted: Bedding!! Straw or Corn stalks

* Wanted: Springers due to freshen in April from a clean herd.

If you have something to sell or are looking for something-don't hesitate to call or email.

There is no charge for the posting.



There are 3 kinds of men. The one who learns by reading. The few who learn by observation. The rest of us have to pee on the electric fence ourselves. -Will Rogers

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cell: 715-768-0046 fax: 715-485-3266

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They are able to eat large quantities of food rather quickly and then digest it later in a safer environment. Physiologically, studies have shown that rumination mimics deep sleep for cows, which is why cows only have "real" sleep for about 30 minutes a day.

The bulk of the cow's rumination occurs when they are lying down and resting-about 8-9 hours total rumination time. Although they will chew their cud while they are standing, cows prefer to ruminate when they are lying down on their left side.

During that cud-chewing time, the cow secretes saliva that contains buffers (equal to 6 pounds of sodium bicarb) that provide a stable rumen for the bacteria to thrive and digest the feed.

To get optimal digestion of their food and the good health and production that comes with it, a cow must chew their cud 450-500 times a day. Any drop in rumination activity is an early sign that something is going on and that cow needs attention. If you walk through your herd in a quiet part of the day, at least 60% of the cows should be chewing their cud while they are at rest.

If you can provide good rest for rumination time, most of the battle has been won. Let's talk about what might be stealing away a cow's rest.

Rest Robbers

There are several factors that interrupt the cow's natural requirement for rest. Here are some of the more common problems:

1. Overstocking

Overstocking has more to do with inadequate rest than it does with feed bunk access. Studies have shown that stocking densities of 20% or greater over capacity results in a 12-27% reduction in resting time and an increase of 15-25% in standing time. (Grant 2010) First calf heifers, fresh cows and close up dry cows are especially sensitive to overstocking; something to consider when assigning cows to pens or building a facility or pack for them.

What does it all mean? If you are struggling with low components like fat test, can't get more dry matter intake into the cows, or chronically deal with hoof issues; look to overstocking as a possible source of the issues.

2. Uncomfortable stalls

Just because a stall is available, doesn't mean a cow will use it. The type of surface cushion, traction and amount of space will determine her willingness to use a stall. Each time a cow lies down, she puts two-thirds of her body weight-about 800-900 pounds on her front knees. Her knees drop freely to the floor from a height of 8-12 inches-and she will do that up to 16 times a day. If it is painful, she'll avoid the stall and won't lie down as much-that's why it is so important to have adequate bedding so she feels comfortable getting up and down.

Test it yourself. Watch how fast a cow lies down in a stall. If she doesn't lie down within five minutes, check the stall and the bedding to find out the reason why she doesn't lie down immediately.

THE BUZZ...

Here are some of the latest things going on out there and our personal opinions of them.

Vitamin prices:

By now, you've probably heard about vitamin price increases.

With no warning at all, China, who produces most of our vitamin A-and has done it very cheaply for years, has shut down a plant to bring it up to code for emissions-according to world standards. While this is good for air quality, it has raised the price of vitamin A tremendously-as nearly 100 times the previous cost. In addition, manufacturers are on allocation-which means they can only utilize so much.

For years, we've overfed vitamin A, because it was just cheap insurance. Now, everyone in the industry, as they run out of old product, are reformulating to put in the precise amount of A needed for good health and reproduction, and no more.

It will still be more expensive but hopefully only about 15-20 cents a pound.

We are told this is a temporary situation. I've been told a month to April. I believe it. Either China will re-open the plant or other vitamin companies globally, that currently do not make very much A, will see this as an opportunity and jump in. Until then, we still need to feed vitamins. Just don't stock up ahead of time-that price may dramatically decrease soon.

If you want to weigh in on these subjects, please email us at mctech@centurytel.net.

3. Poor Ventilation

Do you have a stall that cows just won't use or if, as in a tiestall barn, any animal that uses it seems to get sick? The problem may be poor ventilation in that area.

A cow which has inadequate fresh air will not readily lie down because she can breathe better when she is standing. It

makes it so very important to make sure the cows have good ventilation in front of the cow stalls. Air movement is so important to remove heat and especially humidity in the barn. Condensation, cobwebs, ammonia smell, coughing cows and cows breathing with their mouths open are all signs of poor ventilation.

4. Excessive time away from stalls

Cows have a limit of about 2-4 hours for milking and other herd activities-after rest, drinking and eating. That means that excessive time spent in a holding area, in headlocks for breeding, in an exercise yard, usually cement, that there is no place to lie down can cause problems.

Remember, rest is their first requirement. Usually what happens is the cows will cut back their feed intake-and yes, even if you have feed in front of them when they are in the headlocks. You messed up their schedule and natural biorhythm.

It's simple math. If you have the cows away from their resting area for over 4 hours (including milking); you're going to have an issue with dry matter intake.

5. Heat stress

You might of noticed that when it gets really hot, cows will stand and bunch

When their bodies reach a core temperature of 102 degrees F, mature cows will seek shade and stand rather than lie down. (Lee and Hillman 2007).

Standing too long, by itself causes cortisol to rise and this stress reaction is compounded by the heat. The act of bunching together is a herd animal's response to stress.

The Feed Connection

Feeding and rest are all about timing. The largest intakes occur when fresh feed is delivered, and typically feed is ready to be consumed after milking to keep her standing and help lower SCC.

It is one time we don't want the cow to rest, we want her to eat. But here's a thought. If putting down fresh feed is the number one stimulator to get cows eating, and coming back from milking is the number two stimulator to get cows eating-why not stagger them and take advantage of both?

If you stagger the feeding times to take advantage of the in-between milkings, instead of directly after, the cow will eat more in a 24 hour period and will have a more stable rumen-not gorging themselves at two-three feedings.

The staggered feeding only works, however, if plenty of feed is available 24 hours a day and pushed up so that the cow has plenty of feed after milking. For most herds, mixing in the late afternoon for the main feed, topping it off with fresh feed in the morning and pushing it up before milking seems to work best. (DeVries 2011)

Cows, like all athletes need rest to recover and produce well-at less cost to you and her. Adjusting to her schedule and biorhythms always pays off in better milk production and health. It's time we took a closer look at this.

Now, time to get a little rest yourself.