

Down Cows: A Three-Part Series For June Dairy Month

What Is The Diagnosis And Prognosis?

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This article is the first in a three-part series discussing down cows. The first part addresses common causes of down cows, followed by information about the diagnosis and treatment options of down cows in upcoming issues. Dippel is a veterinarian with Lancaster Veterinary Associates, Salunga.

SALUNGA (Lancaster Co.) — During my eight years as a dairy cow veterinarian, I've come been called out hundreds of times for down cows.

If there is one area in which I see some room for improvement on dairy farms, it would be in the area of down cow management. I've seen great down cow management but I've also seen poor down cow management, which resulted in the needless loss of the cow.

Hopefully these articles will give the producer a better idea of how to successfully diagnose what the problem is and how to successfully treat a down cow.

There are many reasons why cows go down and can't get up, but the top three that I've seen are from milk fever (low levels of calcium in the blood), calving paralysis (obturator or sciatic nerve paralysis), and from musculoskeletal problems due to trauma, i.e. slipping, splitting out, etc.

Sometimes these three can overlap, with one cause predisposing the cow to another.

For example, a cow that is down with milk fever might develop extensive muscle damage in her legs because she was down too long on the cement.

Other causes of down cows might be coliform mastitis, cancer in the spinal cord, heat stress, allergic reaction, nervous ketosis, severe arthritis, acute blood loss, and many others.

Any time a cow is physically

weak from any disease process, she has the potential to not be able to lift herself up. Once a cow is down, a dairy producer needs to assess the situation and look at the cow and her circumstances.

Milk Fever?

One of the first things a producer should note is if she is recently fresh. If she has calved within the last 24 hours, or is even up to several days fresh, there is a chance that she has milk fever.

Even close up, dry cows can be affected with milk fever. If she is a first calf heifer it is almost certainly not milk fever, although it is possible.

Cows with milk fever usually do not eat or drink, have a high heart rate, and have widely dilated pupils. Some cows will stick out their tongues when approached. Their temperature can be high or low depending on the environmental temperature, because they generally lose the ability to regulate it.

For example, in the winter-time, their ears are cold and their temperatures are usually low (below 100 degrees) and in the summer they are usually high (above 103).

Their head often times is back to the side or their neck is in a "S" shape.

If they have been down a long time (more than a few hours) they sometimes start to bloat and have trouble breathing, and if they are down longer than that they can sometimes lapse into a coma where they are totally non-responsive to outside stimuli.

If the dairy producer suspects milk fever, calcium should be immediately administered intravenously — usually one bottle (10-12 grams calcium) given slowly. It is best to listen to the heart while administering the treatment.

For really big cows two bottles

may be necessary if the first one doesn't get her up. Cows that are down due solely to milk fever usually have a dramatic response and will get up in a matter of minutes.

This response to treatment also can be used as a great diagnostic tool as well. For example, if a cow that is down but not showing the classic signs of milk fever, administering a bottle of calcium anyway, to see what happens, may reveal that she most likely had milk fever if she gets up in a few minutes or within an hour.

If not, then there is some other reason as to why she is down. This can be a little risky, because too much calcium can stop the heart, so always make sure to give it slowly, especially if you're not sure if milk fever is the problem.

It is advisable to give a bottle over at least five minutes while listening to the heart rate. If the heart rate drops too low (less than 50 beats per minute), or if the heart rate suddenly increases or starts to become erratic, slow down the treatment.

More Calcium

If she gets up, she may need more bottles of calcium at a later time, or calcium administered orally. It may also be helpful to give a cow that had milk fever a tube of calcium gel (or calcium drench) a few hours after I.V. treatment to prevent any relapses.

She might need 1-2 tubes per day for a few days until her own body can start mobilizing the calcium from her bones that she needs — especially older cows.

Because a down cow may not have the proper muscle function needed to swallow normally, administering calcium orally has proven inefficient. Because of impaired muscle function, some gel or drench might end up going down the trachea.

Do not give oral calcium to treat milk fevers, but only once she is standing to prevent relapses. Many dairymen ask veterinarians if they should continue to milk the cow after she has had milk fever.

There is some credibility to this argument, because the cow will be producing less milk, producing less of a drain of calcium on her body, therefore there will be a less chance of milk fever over the next several days.

There are disadvantages, however, such as possibly causing mastitis, and possibly reducing the amount of milk that she can produce in this lactation.

As a rule, producers should milk the cow normally and treat the milk fever again if she relapses.

Well Bedded Area

Due to the possibility of milk fever in fresh cows, it is important to keep all fresh cows in a well bedded area for a few days after they freshen. (In a tie-stall barn, stalls with mattresses are OK).

Thus, if they go down they are not on cement, but softer ground, which is less likely to cause dam-



This is a picture of a down cow. What is your diagnosis and your prognosis? Hint: she just freshened with a big calf.

age to their legs. It does not take long to cause severe muscle or nerve damage to a cow's legs while she is unable to get up.

Cows weigh a lot, and all that weight pressing down on one leg for an extended period of time on cement or on a hard surface can cause damage to muscles and nerves in the leg, resulting in a down cow.

Even if dairymen keep their fresh cows off of cement, they might still have to move her over cement to be able to get her in a place to milk her.

If she has had milk fever, a dairy producer should make sure she is walking normally before moving her over the cement, even if it takes a couple of days in the pen. Even after a cow has been treated successfully for milk fever, if they are moved onto cement too quickly she may slip and fall again.

Also, when the cow is moved, let her move as slow as she wants and put plenty of non-skid material down on the cement (barn dry, etc). Ideally, milking her in the box stall or pen without moving her on cement would be the way to go, but most dairymen are not set up for this.

Now, what if a cow is down, but she is not recently fresh. Should the dairy producer still give a bottle of calcium? Milk fever is generally thought of as a fresh cow metabolic disease, but it is possible to have it later in lactation, usually induced by something else.

Coliform Mastitis

One of the big causes of milk fever later in lactation is coliform mastitis. Even fresh cows can have an induced milk fever due to coliform mastitis.

One of the reasons for this is that toxins from the bacteria bind calcium rendering it unusable by the cow. Also, toxins can slow calcium absorption in the gut.

Every down cow, whether fresh or not, should be examined for the presence of coliform mastitis. This may be difficult to do on a down cow, but usually with two or more people it can be done by rolling her slightly on her side, checking her, and then rolling her back.

Try to feel the quarter for swelling or hardness without stripping her out, if at all possible. Stripping her out to check for coliform mastitis, especially in a dirty environment, can cause mastitis if she doesn't have it yet.

If you do strip her out to check her, definitely dip her teats. If coliform mastitis is found or even suspected, give her a bottle of calcium along with any other treatment you are giving her for the mastitis.

Cool, Wet Spring Delays Strawberries

UNIVERSITY PARK (Centre Co.) — The good news about Pennsylvania's strawberry crop this year, according to a small fruit expert in Penn State's College of Agricultural Sciences, is that it is likely to be large. The bad news is that it will be a week or two late.

This year's cool, cloudy spring has slowed the growth and ripening of strawberries across the state, observes senior extension associate Kathy Demchak, who specializes in berry production.

"We just need some warm, sunny days to get the berries to ripen," she said. "After last year's drought, the growers had a lot of hope that higher moisture levels in the soil would result in a great crop, but the cold, wet weather has delayed the season."

"If the weather stays cool, we definitely will have a longer harvest season this year."

The height of the Pennsylvania strawberry harvest usually occurs during the first week or two of June, depending on location in the state, Demchak points out. But this year, it will be at least a week late.

Pennsylvania has more strawberry pro-

ducers than any state besides California, according to the USDA's Census of Agriculture. But because most of these strawberry growers have small diversified operations, in 2002 Pennsylvania ranked seventh in strawberry acreage, with 1,300 acres of berries produced, according to the USDA National Agricultural Statistics Service. Pennsylvania ranked fourth nationally in the value of fresh-market strawberry production, with a crop worth just slightly more than \$10 million.



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