

CALVING EASE

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Body Temperature

This is a test. How much can you remember about "warm-blooded" animals? Here are some facts so you can score yourself. First, only birds and mammals are "warm-blooded." Just so there is no mistake, bovine calves are mammals. Second, what's "warm-blooded?" This is an animal that has about the same body temperature almost all the time. Her body temperature doesn't depend on the environment. We are talking here about core body temperature, not sensed at the end of a calf's ear or in her foot.

Third, each mammalian species has its own "normal" body temperature. Humans generally have an oral temperature of 98.6 (37C). Calves generally have a rectal temperature of 101.5-102 (38-39C). Fourth, why does a calf's temperature stay relatively constant? She produces heat by burning food. In extremely cold conditions she may jump around and/or shiver to produce more heat. When overheated she sweats and also loses some heat by breathing.

Fifth, small changes in body temperature take place everyday. During sleep it tends to go down. Strenuous activity will raise it. High summer-time outdoor temperatures tend to raise it slightly, usually peaking around 5 to 6:00 PM. Sixth, one important exception to all of this. If a calf is sick one of the most common responses by her body is an elevated body temperature. We normally call this a "fever."

FEVER

In the first stages of an infection a calf's temperature may not be much above normal, little fever. But during this period of invasion by a pathogen (for example, a bacteria like *Pasturella multocida*), the calf may be depressed, off-feed and have higher than normal pulse rate. Once the pathogen multiplies and gets itself established we see a rise in temperature - a fever. The pulse remains rapid, the calf's body becomes dry and hot, respiration rate is high, calf may be severely depressed and unable to stand. This rise in temperature takes place relatively soon after the pathogen gets a secure foothold in the calf's body. That's why accurate diagnosis of calfhood illness depends so heavily on knowing her body temperature.

DIAGNOSIS

Let's look at two common situations for calf raisers. One is the calf that is off-feed. The calf is ten days old. Previously, she has been eagerly eating all of her milk from a pail both AM and

PM feeding. This feeding she has left half of it. What to do? Blame it on the weather, temperature of the milk, or whatever?

Or, take a closer look at little Clarabell? She's still standing up. Seems alert, not droopy, depressed. Nose still wet from drinking in the pail, no visible mucus discharge from nose. Manure in and around hutch seems a bit off-color, maybe a little more loose than desirable. Hard to tell what's wrong.

What's missing?

Body temperature. We have not yet taken her temperature. We pull out the thermometer that we always carry with us when working with calves. A few minutes later we find her temperature to be 103.5F. Looks like we caught her just in time to treat a developing case of pneumonia. We treat her following the routine worked out with our vet. Next feeding she is already better.

Second example. Clarabell's sister, Annabell (same age - ten days) doesn't get up when we feed AM milk. She appeared fine the previous PM feeding. We see lots of loose manure in her pen. She isn't eager to eat from a bottle; we end up feeding her with an esophageal tube feeder. We plan to come back just before noon and feed fluids. Just the typical scours patient?

What have we missed? Didn't take her temperature! Now when we check her temperature we find it is 106F. Not only does she have diarrhea but she may have pneumonia, too. Sure enough, now when we watch her closely she is panting, taking short, shallow breaths. Her nose is dry except for a mucus discharge. Now, while we watch she coughs, too. We treat her according to the routine we've worked out with our vet. Then, we mark her down to have her temperature taken tomorrow, too. In many situations, effective treatments work 85 to 95 percent of the time - but what if she is part of the 10 to 15 percent where they don't work? This little girl is big-time sick! Body temperature is an excellent monitoring tool for treatment failure - and even the best treatment routines occasionally do fail.

Management Payoff

We know that a knowledge of a calf's body temperature alone is just one piece of the information needed to accurately diagnose illness. Using our eyes and ears to pick up other clues is essential. Especially with pre-weaned dairy calves we want to accurately pinpoint the problem immediately. We seldom get second chances - those calves either die or are permanently disabled due to severe lung damage. Even when we know this is true it is tempting to say, "Well, the last five calves that looked like this one (no temperature taken) got better when I treated them with X drug; so, I'll treat her the same way." Maybe after the first 100,000 calves we might get good enough to diagnose that way? Dr. Jerry Mechor told us last year that he believed that the most under-diagnosed disease among calves was pneumonia. If he's correct on our farms, we need to keep a thermometer with us all the time. And, if we want to increase the chances of correctly caring for illness, we will want to add body temperature to our observations when we diagnose a sick calf's problem.

CALF RAISER'S TIP

Winter time. Anyway you figure it, putting plastic ear tags on calves is no fun in cold weather; especially if the tags are stored at barn temperature. How to make tagging easier? Kristin Johnson at Lamb Farms drops her tags in a pail of hot water before tagging. Then, the warm pliable plastic tags snap into place much easier than the cold stiff ones would have.

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