

Keeping Your Cool

Hi guys.

Hot and humid weather can try anyone, especially in these times. Dealing with cows during the heat can be a real challenge too. When the temperatures hit above a 70 degree THI for any period of time, the heat stress accumulates and cows began to have more problems as their discomfort increases.

You've had this happen before: your cows reduce intakes during the day, cut production and have a tough time breeding back. SCC rises during the hot, humid weather and some cases of hot mastitis will break out. That happens nearly every year when the heat and humidity rise. This time, let's talk about a few things going on during this prolonged heat period.

Heat stressed ketosis

All it took was about a week of hot and humid weather and producers that freshened in cows seen a marked increase of subclinical and clinical ketosis.

Ketosis is usually caused by negative energy balance, inflammation and fatty liver issues. The cow starts to mobilize fat to meet her energy needs and causes the liver utilize ketones—a chemical the liver makes when trying to turn body fat into energy. It's a natural process, except

when the demand for energy is too great and ketones raise too high in the body and the result is a sick animal.

During the heat of the summer, dry cows will eat less and start this process—many times causing ketosis. **But why then, can a dry cow that is eating well in the summer still freshen in with ketosis?**

The answer is a little complicated, so hang with me.



70% of the immune response is in the gastrointestinal tract. (Iowa State University) To protect her body against disease, the cow has a protective barrier on her intestines that keeps out any bacteria or pathogens. During prolonged heat stress, a cow's blood flow is directed outward to her skin and extremities to help cool her body. This can leave the intestines with a lowered level of oxygenated blood. This blood deficiency can cause cracks or leaks in the protective barrier on the intestine, letting pathogens and bacteria in.

Once there is a threat, the immune system springs to action. The body will divert much of the energy needed for proper calving and milk production to the immune system to handle the pathogen threat. At the same time, nutrients are poorly utilized as the threat is in the intestines and is hindering absorption.

Cows and the Coronavirus...

Switching gears a little bit here, but I thought we'd talk about this—at least a little bit. There is so much disinformation out there on this subject. Maybe this will help clarify it a bit.

Viruses are small particles of genetic material that are surrounded by a protein “coat.” They are incapable of reproducing and growing on their own—unlike mold spores or bacteria, instead, they need a host.

RNA viruses like coronaviruses have small genomes that encode only a few proteins. There are many types of coronavirus and they all have a similar genome makeup but different strains will have different spike in a protein.

Winter dysentery is one example of the bovine coronavirus. You've probably experienced this in your herd at some point—it's extremely common. Even though winter dysentery and covid 19 share similar protein make-ups, the protein spike in the RNA of the winter dysentery virus is specific to this virus alone and only infects cattle and not people.

The bad news is that this means you don't have immunity from the human coronaviruses from bovine coronavirus. The protein spikes are completely different. The good news is that you can't get covid 19 or any other human coronavirus from your calves or cows or from any products made from milk. Including my favorite: ice cream.

Odds & Ends.....

Prices heard this week:

Corn: \$2.56-2.84 per bu.

Soybeans: \$8.34-8.58 per bu.

150 RFV Hay: Large squares are worth approx. 1.00-1.12 per point of RFV.

Springers: \$975-1375 med grade

Cull cows: \$0.47-0.62 per pound

Bull calves: \$75-125

Connections:

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* For sale: 10-15 1 week old calves

* For sale: Robotic calf feeder-excellent cond..

* For sale: Nice red Holstein springing heifer

* For sale: Holstein cows, excellent herd

* For sale: Used ATO milkers for parts

* Wanted: Beef bull.

* For sale: Pasteurizer for colostrum or milk

* For sale: CFS feed carts, good working order

* Wanted: Young cows or springing heifers

* For sale: 1 yr old Boumatic double six parlor

* Wanted: Dairy quality hay-large squares preferred

* Wanted: Round bales

* Wanted: Straw-large bales preferred.

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.



Man-despite his sophistication and accomplishments owes his existence to a six inch layer of topsoil and the fact that it rains. -unknown

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In response to the increased need for energy, the liver will ratchet up the process of mobilizing fat-dumping excess ketones into the blood stream and causing ketosis.

Heat stress is the perfect set-up for ketosis in cows. To try and prevent ketosis during periods of heat stress:

1. Cool the dry cows.

Not only will this help ketosis, but research out Florida suggests that milk will be increased by 7-8 pounds per head per day throughout the entire lactation. Milk cells that are regenerating during the dry period are also reduced during heat stress. Cooling will help both processes. Cool for at least three weeks prior to freshening.

2. Watch out for too much starch in their diet.

In addition to the heat, too much starch during the dry period can cause excessive starch fermentation in the hindgut and can contribute to "cracking" of the intestinal barrier-also known as leaky gut syndrome. The level of starch in the summer should be 13-17% in the total diet, including what the corn silage contributes.

3. Eliminate hot or unpalatable feed

Intakes are still critical to providing energy; and feeding palatable, cool feeds will help keep intakes up during the heat. Also, feed that contains any metabolic disrupters such as yeasts or molds will increase the incidence of ketosis in fresh cows.

4. Improve environmental stress.

The dry cows can't handle another stress on top of the heat. **Overcrowding for example is even a bigger risk factor for**

ketosis and retained placentas than the heat.

5. Try some zinc.

Zinc, especially chelated zinc, helps strengthen the intestinal barrier surrounding the intestines.

6. Try chromium

Chromium has been shown to improve glucose (energy) utilization at the cell level in the intestines. It delivers more energy to the gut reducing the need for the liver to mobilize fat.

There are other additives that help as well. Choline will enhance the liver's ability to mobilize fat. Rumensin is a rumen modifier that utilizes energy more efficiently, reducing the need for the liver to mobilize fat. Hopefully, you're feeding one or both of those to your dry cows already.

Summer butterfat levels

It's annoying but fat test and sometimes even protein tests seem to drop in the summer. It's annoying because you get paid for pounds of fat and protein. Sure, it's hot-and we do everything we can right now to cool the cows and maintain intakes. It helps, but maybe not as much as you'd like. Let's see what we can do to improve the fat test during this time of year.

First of all, you're kind of working against nature. **Photo light periods-longer days-typically have the cows producing better in the spring, but reduces the butterfat test during both the spring and summer. It can lower the fat test by .25 units in July compared to January.**

THE BUZZ...

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

Pink eye:

It's pink eye season, that is pink eye is so much more prevalent in the summer. *M. bovis*, the bacteria that causes pink eye, just needs an opening.

All you need is for the cows eyes to become scratched or irritated. In the summer-that can be a lot of things: dust, weeds or tall grass in pastures that can scratch the eye and UV light. Light colored breeds are especially susceptible to pink eye from UV light.

Flies can spread the bacteria rapidly from cow to cow, so the first thing to do if your herd has pinkeye is to control the spread by controlling the flies around the cow's face with either spray or ear tags that contain insecticide.

Clipping the pasture to control the weeds help prevent scratching. So does limiting the cow's exposure to dusty bedding-a common irritant. Also, providing shade-especially if your cattle are light colored.

Nutritionally, a balanced diet always helps, making sure you have enough vitamin A and selenium. Kelp has some advantages too, as it is a readily available source of trace minerals.

Finally, vaccinations work as well, but they take some time build immunity. If using a vaccine, try giving an injectable trace mineral such as Multimin-it may help speed the immune response of the vaccine.

Earlage:

Why am I talking about earlage now? The corn this year looks awesome and it tasseled fairly quickly. Typically, in about 50 days after tasseling the corn is ready to chop. This year, with the heat and moisture, the corn kernels will probably be drying down before the stalk will.

A good moisture on earlage (or snaplage), to promote fermentation and prevent mold, is 35-55%. If you are planning to take corn for earlage, you may need to harvest it before you chop corn silage. In fact, I can almost guarantee it.

Check us out at monsonconsulting.net, on Facebook or on Instagram at [monson_consult_cows](https://www.instagram.com/monson_consult_cows)

If your test is even lower than it was in January by more than 0.25, it's time to explore what else might be causing it. Here are some things to check out:

1. Find out when it started.

Fat test adjusts 7-10 days after a change is made, with the downward direction starting in three days.

Was there a feed change? Was there a change in the way the feed was mixed or fed?

2. Check for unsaturated fats.

The number one cause for most ration related fat test depression is unsaturated fatty acids. Many of these occur naturally: corn oil from high moisture corn or corn silage, soy oil from raw or roasted beans or oils from immature grasses.

3. Ask if the diet is too fermentable.

High digestibility in forages is good for milk production, but can have such a high fermentable rate that they can cause metabolic acidosis. **If you have highly digestible, highly fermentable feeds such as BMR corn or cocktail blends of grasses, make sure you supplement with slower fermentable feeds and some effective fiber.** Keep your fermentable carbohydrates under 42%.

4. Watch the corn and sugar

Too much corn and/or sugar will negatively impact fat test production. Keep the starch plus sugar percent below 32% if both have normal fermentable rates.

5. Check the minerals.

Make sure you're feeding plenty of

calcium and magnesium-your fat test production is directly linked to these minerals. Also, check out your DCAD level. It should be +30-40 in the heat. You may need to add extra soda or potassium to bring the level up.

6. Make sure there is plenty of feed available at night.

In the summer, the cows shift to eating more nocturnally it pays to feed them at night.

7. Make sure they are resting.

Cows need 12-14 hours of rest per day for good rumination. Every cow. Avoid overstocking, long waiting periods in the holding pen or in headlocks. Also, have good fly control to prevent bunching.

8. Check for wild yeast.

Usually, you can tell. The feed will heat like crazy in the bunk. Yeast will reduce your fat test as it interferes with rumen stability. Use an acetic acid or acetic acid blended product in the TMR to kill the growing yeast.

Any time of year, feeding a balanced, consistent diet every day, at the same time every day, will improve fat test. There are other factors including genetics that we didn't talk about here. For a more complete list, you can download one from the website monsonconsulting.net. Click on bottom line and info you can use.

So much to talk about! Give me a shout sometime to discuss these and any other issues.