

Surprising ways to Increase your Test

When you talk to other producers, most of the time they let you know how much milk they are producing. But really, let's face it. You get paid on pounds of components from the creamery. It makes sense that the more milk you produce, the more pounds of fat and protein-to a certain point. There is a break-even point.

In the upper Midwest, on average, farms are paid \$2.35 per pound of fat and 1.636 per pound of protein, with premiums for SCC and other solids. With those numbers, a herd averaging 80 pounds of milk with a 3.5% butterfat is getting the same amount of money per cow as a herd averaging 75 pounds of milk with a 4.0 butterfat test; given the same SCC and solids. (standardized ECM) But what if you could raise your butterfat percentage without changing milk flow? Let's talk about a few surprising ways to do that.

Before we do that, let's clear something up first. A whopping 55% of the variation in milk composition is from genetics (NDS). If you haven't been breeding for components, raising the fat test higher than the breed average of 3.5-3.7% for holsteins will be especially difficult. Still, that leaves us

with 45% to work with. Let's get started.

A little de Novo talk

To understand how to raise the butterfat test, let's take a closer look at what makes up milk fat.

Basically, about 50% of milk fat is developed in the udder by short chain fatty acids called de novo fats. These de novo fats are developed from short chain volatile fatty acids produced in the rumen called butyrate and acetate.



When the cow has a stable rumen environment, the rumen bacteria will produce these volatile fatty acids through the breakdown of the fiber. Cud chewing assists in this breakdown of fiber and produces saliva that acts like bicarb to help stabilize the rumen environment. So it makes sense that cows that have a higher concentration of de novo fats (the end product) will be healthier, produce more milk and milk fat.

So next after genetics, **creating a stable rumen environment is the best way increase fat test.** Some examples of this are watching starch levels, no slug feeding, watching overcrowding, watching out for yeast, molds and mycotoxins and practicing good bunk management. If you want to raise your fat test and aren't doing the things it takes to create a stable rumen-start here.

Steady as she goes....

There are several good additives out there to use as rumen stabilizers-to complement a good balanced ration and management practices. Here a few of them.

1. Sodium Bicarb

This is a gold standard for rumen stabilizers. It helps buffer acids in the rumen-like a big Alka-selzer. Maybe even more important than that is the cation sodium that is supplied-without the chloride (anion) in salt. This will help raise the DCAD in higher potassium diets.

2. Dynamate

Dynamate is potassium and magnesium already in ratio-so it's ready to go on most farms to improve the DCAD and buffer the rumen environment. It does have a small amount of sulfur in it-a anion, which reduces the effectiveness a little.

3. DCAD Plus

A commercially available potassium carbonate product that helps buffer the rumen and raises the DCAD.

4. Yeast Products

Commercially available yeast-and there are a lot of products to choose from-contain live yeast and yeast byproducts that "feed" the bacteria environment in the rumen and help stabilize the rumen.

Odds & Ends.....

Prices heard this week:

Corn: \$2.90-3.12 per bu.

Soybeans: \$8.99-9.30 per bu.

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

Springers: \$1000-1200 med grade

Cull cows: \$0.47-0.64 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: heifer calves, weaned

* For sale: herd-30 cows 70# pounds not pushed low SCC

* For sale: Free stalls

* For sale: dairy quality RB hay 140-145 RFV

* Wanted: Heifers: short bred or springers

* Wanted: young cows

* Wanted: Calf Tel calf pens

* For sale: JD 336 baler with 40 thrower

* For sale: 5 throw racks 9x18

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.



In the middle of difficulty lies opportunity.

-Albert Einstein

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Now let's get into some things you might not have thought of.

The Middle Screen

Everyone knows you need enough long fiber to stimulate cud chewing. When chopping, we make sure the forage has enough length and we make sure we don't over-mix the TMR. But maybe in some cases, we've went too far.

Too much on the "top screen" and the cows sort out the large particles and eat the fine particles first, creating an unstable rumen. While long particles encourage cud chewing, it is the middle screen size particles that make up a large portion of the rumen mat and slow nutrient passage rate down for fermentation. When fermentation in the rumen is improved, those fatty acids are produced and the result is a higher fat test.

Middle screen size runs from above 6 mm to 12 mm (1/4 inch to 1/2 inch cut). **As long as you have 40-50% on the middle screens of your TMR (after shaken out in a particle separator), you can get by with only 2-5% on that top screen-and have a more uniform mix that is not as "sortable".** (Penn State 2012)

Does that mean you can ditch the concept of chopping for some long stuff? No! They still need something to chew on. But having more than 7% of particles that are over 1/2 the length of a cow's muzzle (about 2-3 inches), encourages them to sort. If you do, you may need to process the feed longer. The only exception to the rule is if you are feeding mostly baled hay, in which case we need to talk about grain feeding...maybe next time.

The Potassium Connection

Potassium has got a bad reputation over the years. We know that it is the main culprit in fresh cow metabolic issues, especially in milk fever. Potassium, along with sodium, are positively charged cations and we usually reduce the amount of cations fed or try to balance them in the dry period with anionic salts (negatively charged ions). The balance is called DCAD.

For dry cow, we aim for a low or negative DCAD balance to have the cow draw from her calcium reserves naturally to help build the calf and set up for colostrum. It "triggers" the reaction. The opposite is true for lactating cows. We aim for a high DCAD (25-40) to "trigger" the cow to produce more milk fat.

Potassium, which we use along with sodium to increase DCAD, increases fatty acid profiles by increasing the normal biohydrogenation pathways. In other words, it helps the rumen bacteria convert unsaturated fats like the oil in corn silage to more saturated end products that are used in the de novo process. (Ohio State 2008) **In some studies, milk fat increased with in 72 hours of supplementation.** I have actually tried and seen this happen on some farms and have seen a rise in fat test by 0.2-.3%. Typically, these are heavy corn silage diets that are naturally low in potassium to begin with-and high in corn oil. But, a couple of cautionary notes.. First, potassium should be fed in ratio with magnesium-a 4-5:1 balance or you will see no change at all-or worse,

THE BUZZ...

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

Vitamin update:

There is some good news on the vitamin prices. It now looks like the plant in China may come back in production in June. It will take a little time for the vitamins to get into the market, but prices should drop significantly.

In the meantime, plants that purchase vitamins to make mineral, etc. have been taken off allocation (supply limitations) and there is more product on the market. In fact, some companies that were hoarding (for lack of a better term) the vitamins will be starting to dump their products on the market to try and cash in on the higher prices. So what does it all mean? We're still down a plant in Germany that makes the precursor for the vitamins, but by and large vitamin prices have already started to decrease. Hopefully, we'll see a larger decrease in May, as the time for the plant opening is closer.

Website:

We have finally got our website up and running!

On it we have the current markets, information you can download, areas to buy/sell/trade and apps to use.

Check us out on www.monsonconsulting.net. Let me know what you think!

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

a decrease in fat test.

Second, be careful to use the right source of potassium. Potassium chloride, for example, contains chloride-an anion that will negate a positive DCAD balance and the potassium will not be effective.

Finally, if dietary potassium is high-as in a high alfalfa diet, adding potassium will not work. In that case, add the other cation-sodium in higher levels.

Balancing Methionine

When most people think of methionine, a limiting amino acid, they think of adding a supplement to increase the protein test. An expensive supplement at that. Many times it didn't deliver on it's promises-let alone raise fat test as well.

Methionine is a limiting amino acid-one of the building blocks of protein. And protein, should always be balanced in relation to the available energy-or it simply isn't effective.

However, when methionine is fed with the right amount of energy, fat test can increase by .2-.25 percentage points. (Penn State 2017)

Methionine level should be around 62 grams for good production and fat test, but more importantly methionine to energy ration should be 1 gram of methionine per Mcal metabolizable energy (ME).

Methionine occurs naturally in several feedstuffs-so accounting for what you already have should come first.

Only then consider a protected methionine supplement-if there is enough energy to support it. If that's not the case, utilize it in the transition or prefresh period where it has more benefits in reducing metabolic issues and enhancing future reproduction.

Using Palm Fat

Palm fat is a protected saturated fat that can be fed to improve fat test.

This saturated medium-chain fatty acid is the very fatty acid that is found in milk fat. So can supplementing the fatty acid itself result in a higher fat test? **Studies show that supplementing this C:16 palm fat can result in a .2-.4 percentage point increase in fat test.** It can if it is balanced correctly.

Initially, the recommendation for feeding the palm fat is up to 500 grams a day (1.1 pounds), but this really depends on the ration, and how the ration is fed.

Palm fat easily bypasses the rumen and is absorbed in the intestines. This makes it a bypass fat. However, there are other fats that use the same or are finally absorbed using the same pathway-and that is where palm fat can run into trouble.

For palm fat to be effective, the rest of the fats need to be balanced in ratio. Oils from whole seeds, corn oil and other protected fats must be accounted for and balanced before adding a palm fat to the mix. Palm fat, in the wrong diet, can actually decrease fat test.

Finally, the unmentioned factor a cow needs to increase her fat test is rest. But we already talked about that last time, didn't, we?

Remember, after genetics and rest, the first focus on improving a fat test is to maintain a stable rumen. What can you do to make sure the feed is relatively the same and delivered at the same time and place every day? What can you change to make sure the cows never drop below 5% weigh backs (yes, not 2%-it is too marginal if your delivery times are off by more than 20 min)? Or at least not an empty manger?

Beyond that, these are some methods to try before spring work starts.