



ON FEED

A newsletter of Dakotaland Feeds

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How Hot is Too Hot?

While the weather is changing and we have enjoyed some nice days, the weather isn't what I am talking about this time. We commonly get questions about finishing rations and what energy level those rations should be.

In a Nutshell

- * The Net Energy system is often used to balance rations
- * Energy values can differ depending on the rest of the ration
- * Test your feedstuffs, especially forages, because they vary
- * Energy values are not fixed in ration balancing programs
- * Using a 'hotter' / higher Mcal ration requires better management
- * Use the most energy dense ration you can manage to finish cattle

Energy value of rations can be a very elusive number. True energy value of a mixed ration is determined by cattle performance. We have a number of different prediction equations that have been developed and used over the years to help us predict energy values and develop rations according to those values. Most of you are likely familiar with the Net Energy system in which we balance rations using the Net Energy for gain (NEg) values. The Net Energy system was developed to take into account energy lost in manure, in gas and urine, and as heat. From that, we get the Net Energy for maintenance and the Net Energy for gain. When we balance rations, each standard feed ingredient has a NEg value that was developed over years through research and lab analysis and is published in a book called the Beef NRC (by the National Research Council). We generally refer to the megacalories (Mcal) of Net Energy for gain.

One potential complication to this system is the ration that the ingredients are blended into. Some ingredients do not interact well with others in the rumen. We know that if we put a significant amount of corn into a primarily forage diet, we can no longer extract the full energy value out of the corn or the forage. This is called the negative associative effect. On the other hand, we can have positive associative effects by adding digestible fiber to a forage-based diet.

We test your feedstuffs so we can use the best predictive values when we set up your rations. It is the best option that we have. Particularly with roughage sources, the fiber values and type of fiber in the feed are very valuable in predicting how much energy the cattle can get from those feeds. The stage of maturity of a forage at harvest has a very large impact on the ADF value which includes the less digestible fiber. The more mature the forage is, the less digestible it becomes. After we send these forages to a lab for analysis, we then put these numbers for energy into our ration balancing programs to get you the results you expect.

The energy values in a ration program are not fixed and everything can be changed. Differences sometimes arise in comparing rations because of what energy value we put in for the individual ingredients compared to someone else. We generally use an energy value equal to corn for distillers grains. Some research would suggest it can *at times* be significantly more than that, but it also depends on the rest of the ingredients in the ration. We prefer to be conservative when estimating energy values because it is problematic to believe you have adequate energy and then not get the performance out of the cattle, resulting in adjustments (and anxiety) during the feeding period. Weather in this area, along with mud, can be a huge drain on energy and so if we are conservative, we are more likely to still hit targeted gains if we are a little conservative on feed energy values.

HOW HOT IS TOO HOT?

We want to be aware of total roughage levels in our finishing diets. Some nutritionists would say we need to be down to 12% roughage or less in the finishing diet. But here in the north, because we have such huge intakes, reducing the roughage makes us more prone to acidosis. When you think about the starch load the cattle are getting, even if we run a lower Mcal ration, we get MORE total energy (and starch) intake because our intakes are so big. In other parts of the country, if they get 20-21 lbs of dry matter intake, it is absolutely huge. In this area, when we see those types of intakes, we wonder why the cattle aren't eating more feed.

Then it gets complicated. My neighbor said he has a 64 Mcal ration. The energy value on the ration we generate for you is an indicator of the overall energy in the diet, but is not a hard and fast number. A 'hotter' ration does not necessarily mean better gains. **It is critical to remember that the more energy dense a diet becomes (the hotter the diet), the more critical management becomes.** If you want to move to a hotter ration, your feeding time cannot be off more than 15 minutes every day. It will reduce your gains if you don't have consistency for cattle on a very hot ration. You also need to make sure that the pen management is good. If you are going to use a hotter ration, then you need to have heat and cold mitigation strategies in place because keeping cattle on feed on a very hot ration is going to be more critical. If we get a hot spell (or a winter storm) and cattle back off feed, and then coming charging back, you will set the cattle up for acidosis ruining your gains and conversion. Your mixing has to be perfect. You have to add the ingredients in the right order for best mixing, know how long you are mixing (at the right RPM), ensure you are getting it mixed appropriately and then do it that way every day. You can't just switch feeds (especially with a hotter diet) and expect that to be okay. If you switch from high moisture to dry corn without accounting for moisture, that will increase our energy values. Moisture differences will change energy density if you aren't watching what you are doing. Switching from CRP hay to mixed hay without letting your nutritionist know means that you just increased the energy of your diet.

The best ration for you to use is the most energy dense one that you can manage. A ration that is a 60 Mcal is going to be more forgiving than a 64 if you are off on a feeding time, if your help didn't let it mix as long as they should have, or if you are too late getting your sprinklers on or shades up. Don't get me wrong, all of these management factors are important every day the cattle are in the pen, but we are all human and we know that things get busy and things happen. If we give you a ration that allows just a touch of forgiveness, your gains and conversion will be better at the end of the feeding period. Cattle will still get finished on a 58 to a 62 Mcal ration, possibly sooner than if you had a 64 because the cattle won't suffer as much if Murphy's Law rules your day. In these economics, the best thing you can do is step up your management because it won't cost you a dime and it will have tremendous payback if you can do the little things right every day, every time.

Roxanne Knock, PhD

Things to be thinking about:

- * Use a good mineral program for breeding season- ask about Ultimate Breeder 8 or Stress Tubs
- * Get a **high magnesium mineral** to prevent grass tetany during early season grazing
- * Implant cattle going to grass
- * Start feeding **Altosid** to prevent horn fly populations
- * Order wasps for feedlot fly control or add **Clarifly** to your feedlot supplement
- * Get the bulls in good body condition- they should be a BCS 5 or 6 at 60 d prior to breeding
- * Make sure the bulls have mineral too! Stress Tubs or Ultimate Breeder mineral provide Availa-4 mineral
- * Have a breeding soundness exam and semen test done on your bulls to help ensure high pregnancy rates
- * Talk to your veterinarian about your spring vaccination and de-worming plans
- * **Book creep feed** for spring-born calves- it still pays!