Is Your Ration Balanced for Crude Protein (CP) or Metabolizable Protein (MP)? CP is Old School Technology!

Crude protein is simply the total amount of protein fed to the cow. If your ration is balanced for crude protein, the levels of soluble, degradable, and undegradable protein may also be calculated. Your nutritionist may be formulating your ration to meet certain levels of these protein fractions. However, this is outdated technology! Metabolizable protein is defined as the true protein that is absorbed in the cow’s intestine.

The two major sources of MP flowing from the rumen are undegraded protein and microbial protein. Microbial protein is from microbial cells that grew in the rumen. Undegraded protein escapes rumen digestion and moves directly to the intestine. Balancing diets for metabolizable protein is a much more accurate predictor of animal performance, however it takes more sophisticated computer software to calculate it. With today’s sky high feed protein prices we need to be balancing for MP! Ask your nutritionist how your ration is balanced. If it is not balanced for MP, ask why not.

Are You and Your Cows Ready for the Summer Heat?

Summer arrives every year in June and our dairy cattle are always negatively affected by the summer heat and humidity. We have had some warmer weather already, but nothing like we will experience during the midst of summer. Measures to take include:

1. Work with your nutritionist now to develop a plan to modify the diet to account for lower dry matter intake. This may mean increasing the nutrient density of the diet. However, be careful to maintain enough effective fiber in the diet. Consider increasing potassium, sodium, and magnesium levels in the diet, as these minerals can be depleted during excessive heat.

2. Water availability is increasingly important. Double check all your equipment.

3. Air movement: depending on your barn you may use circulating fans or tunnel ventilation. Be sure the system has adequate capacity and is properly designed. Sidewall curtains and ridge vent openings in free stall barns help facilitate air exchange. Call if you need assistance.

4. Shade becomes very valuable. If you are grazing and no shade is available in the pasture it may be beneficial to bring cows in during the hottest times of the day, assuming you have good air movement via fans or tunnel ventilation. Be sure to provide some extra forage in the barn.

5. Sprinklers (in conjunction with fans) can really be beneficial in free stall barns. You need an adequate water supply and you need to be able to handle the extra water added to your manure system. Misters and high pressure foggers have sometimes been used to provide an evaporative cooling effect in the south, but only a small number exist in New York State.
Forage Sampling and Varying Results

This was a topic recently discussed by Dr. Bill Weiss, from The Ohio State University. Work they recently conducted showed that sampling error can vary widely between feeds and between farms. Work they did in Ohio, using a very strict set of protocols for the sampling process, showed more variation in results than most nutritionists (and producers) would like to see.

Variation in dry matter is something that can be tested on-farm with a Koster Moisture Tester, microwave, or other method. As fed weights (when feeding by weight with TMR feeding systems) can easily be adjusted to account for those changes. But, what do you do when the actual nutrient content changes? Do you have your nutritionist adjust your ration every week? That answer really depends on whether or not your forages did actually change or was the variation a result of sampling error?

Actual change is often easily recognized by producers because they know feed came from a different field or was a different variety. How the feed is stored can impact changes at feed out. Feed differences in upright silos and especially Ag. bags will be more apparent than with bunker silos, where differences between fields are often masked because the feed is blended or layered when filling occurred.

So, is this something you should be concerned with? When feed obviously changes it should be resampled. How about when the feed is all the same? Based on the work in Ohio it seems like a good practice to follow (to be sure your results are accurate) is to sample two times a week for two weeks and then average the results. A bit extreme? Maybe, but take a few samples of the same feed in a short period of time and see what you get.

Opportunity Areas Affecting Herd Profitability

The competitiveness of the dairy industry today is nothing short of amazing. Some may call it frustrating and at times it certainly can be. The volatility of the milk price is pretty much out of your hands. Not only is the price affected by our US supply demand situation, it is also impacted by the international supply demand situation and other foreign events. Grain prices are also very volatile and you cannot change this. For most dairy farms purchased grain is the single largest expense.

In the broadest of terms, dairy producers need to step back and think about a very simplistic formula as they consider changes in their operation that hopefully will improve profits. That formula is:

\[ \text{Dairy Profitability} = (\text{milk price} - \text{cost of production}) \times \text{lbs. of milk sold}. \]

In simple terms, one or more of the three items in the formula needs to change to improve profitability.

**INCREASE THE PRICE YOU RECEIVE FOR YOUR MILK**

**Quality Premiums**—getting the maximum quality premium every month is often difficult. However, they can certainly add up and you should strive to get them. With the SCC component research tells us that there is additional milk production to be had with lower SCC levels and that is also an economic benefit.

**Increased Components**—work with your nutritionist on this one. We know how to positively impact them. For Holstein herds butterfat < 3.5% & and milk protein < 3.0% means there are opportunities. You need to weigh the cost vs. returns for your herd when it comes to the changes necessary to impact components.
**rBST Free Premium**—this is a hot potato item for some people. If you are not receiving a premium and are not using rBST simply inquire about it. For those using rBST the lack of a premium for not using it can be small or sometimes large, especially if the market for your milk becomes limited and you have to change handlers and/or pay additional hauling to have milk sent to a specific plant.

**Market Premium**—sometimes available when milk supplies are tight and/or coops and handlers are competing for a milk supply. Don’t be shy in asking for them.

**Volume Premiums**—larger herds have been able to benefit here because it costs the handler less money per cwt. to pick up large quantities vs. small quantities with multiple stops.

**Organic Price**—An entire change in management to consider. Price is higher, but so are costs.

### COST OF PRODUCTION

**Input Prices**—do some shopping around. Don’t be afraid to bargain. Take advantage of cash discounts and volume discounts when you can.

**Increase Production Efficiency**—I know some people are sick of hearing this one. However, this is a big item that includes all the herd management items that we always talk about. It includes good reproductive performance, low mastitis incidence, an excellent heifer raising program, good cow comfort, and a top notch transition cow program.

**A Well Balanced Business**—by this I mean a business that has everything synchronized and well matched to the overall herd size. This includes the land base, the investment in equipment and facilities, and the labor force. Unless the business is in some type of transition (like a planned expansion) the best economic returns generally come to businesses that are well balanced.

### OVERALL VOLUME OF MILK SOLD

**Production per Cow**—higher producing herds generally have greater returns, although there certainly are exceptions to this. It all depends on what it takes to get that higher production. One of the reasons for greater returns is that as milk production per cow increases you are diluting the fixed input costs with the additional milk production. One of the biggest items to consider here is the feed costs associated with maintenance. Think of maintenance as a mature dry cow that is not pregnant. It takes a certain amount of feed nutrients to allow that cow to breath and for her body to circulate blood. The cost of feed for maintenance provides no returns in milk production. It is simply a cost. As milk production goes up, this maintenance cost is diluted more and more.

**Is Your Facility at Capacity**—in other words, is the barn full? More often today we are likely to have barns overcrowded. However, I still come across facilities that are operating at less than capacity. The capital investment has been made for the facility. If it is not full, it is not returning to you what it should. In tie-stall barns if the pipeline goes past a stall, there should be a milking cow in that stall.

**Increased Herd Size**—again, this option is not for everyone and there certainly are exceptions to the rule. However, data from several sources over multiple years tells us that larger herds are generally more profitable. Even modest expansions can really make a difference. It’s a case by case decision that each producer needs to examine. I do agree with the saying that says “Get Better Before You Get Bigger.”

I will conclude with an old quote from the 1998 Journal of Finance: “*Investments that increase revenue improve profits at 6X the rate of investments that reduce expenses.*”

Dave Balbian, Area Dairy Management Specialist