



# Dairy Briefs

## The Latest Information on Dairy Cattle Nutrition



### Getting the most out of your milk cheque

Laura Martin, M.Sc

With Ontario's butterfat-based quota system, dairy producers are limited on how much butterfat that they can ship each month. However, they are still paid on a milk component basis and, even with the Solids Non-Fat (SNF) ratio cap, producers can take advantage of component pricing to optimize their milk cheque. Milk components depend on many different factors and can be manipulated, to a certain extent, through diet.



Component prices change every month, and it can be hard to predict what they will do. Since July 2014, milk protein price has been dropping, while butterfat price has been slowly increasing (Figure 1). As butterfat is the most valuable of the different components, targeting for butterfat production can help boost milk value. There are many different factors that impact how much butterfat a cow produces, from genetics to milking management to diet. Increasing fibre levels in the diet can help increase butterfat, while using feeds already on farm. In certain cases, additives, like sodium bicarbonate or bypass fat, can be used to help boost butterfat production as well. For more details on Keeping Butterfat Up, check out the article from last month. It is important not to forget about milk protein, though. Figure 2 shows that while butterfat is definitely the main money maker, milk protein still contributes about a third of the value of milk.

Targeting milk cow rations to increase milk protein, while maintaining butterfat, can be tricky. Dietary protein plays a role in milk protein, which may seem obvious. However, milk protein is usually only affected by dietary protein when rations are too low in protein. Protein

Cont. >>

Inside this Issue...

*Getting the most out of your milk cheque*

By: Laura Martin, M. Sc, Nutritionist



*Helps lactating dairy cows combat the effects of heat stress during the hot summer months*

### Potential Benefits

- Helps replenish lost electrolytes.
- Provides buffering required for the maximum production of rumen bugs.
- Promotes dry matter intake and helps increase ration digestibility.
- Helps improve milk production during hot weather.
- May help reduce breeding problems during heat stress conditions.

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deficient diets reduce the pool of amino acids that the cow can use to make milk protein. The type of protein in the diet can also impact milk protein, with high soluble protein diets reducing milk protein. Dietary energy level, specifically grain level, actually plays a bigger role in milk protein yield than dietary protein itself does. Lack of energy, or poor ration digestibility, can reduce milk protein significantly. Increasing the amount of grain fed, or ensuring that forages are high quality and grains are ground adequately can all help increase milk protein yields. It can be a fine balancing act to increase grain in the ration to boost milk protein without negatively impacting butterfat which is where additives, like buffers, can help producers optimize milk components. Buffers can help stabilize the rumen on high grain diets, to a certain extent, and help maintain butterfat even when pushing for more milk protein. Producers must be careful to not over-produce milk protein though, as the SNF ratio cap comes into play.

The monthly enforcement of the SNF ratio cap started in August 2013. This cap was put in place to help reduce the production of milk protein, as the market for products made from this component is often oversupplied. What this cap means for producers is that the maximum SNF (both milk protein and other solids) that can be shipped each month can only be 2.35 times the amount of butterfat that is shipped. Other solids make up the bulk of individual components, with 5.8% of Holstein milk being lactose and minerals, and doesn't leave a lot of room for milk protein in the ratio. In Canada, average butterfat is 3.9% of milk and milk protein is 3.2% for Holsteins (CDIC, 2015 data). For this "average" cow the SNF ratio is only 2.3, but most producers don't milk average cows, and a lot of factors can impact butterfat and milk protein.

With component-based pricing, this SNF cap limits how much producers can make off components other than fat. Consequently, producers want to know if it is better to be under ratio or over. Ideally, being perfectly on ratio at 2.35 gets the most value for the milk, as seen in Table 1. The three scenarios in this Table outline typical situations on farm. Rations that have a lot of forage and not much grain can lead to component profiles that are under ratio. The lost revenue in this situation is due to the almost 0.2% of protein that could be produced and sold but is not; in this case it is a missed opportunity. The over ratio scenario is perhaps more likely this time of year, where the fat has dropped a bit, which could be due to hot weather, feeding fast acting feeds, etc. This component profile results in more lost revenue than the under ratio profile for two main reasons. The first is that even though the milk has 3.36% protein and 5.8% other solids the producer will only be paid for 3.28% protein and 5.67% other solids. The second reason is due to the butterfat premium - producers over ratio do not receive this bonus. The premium is pooled money from all P5 producers that are over ratio and it is paid out to producers that are on or below the ratio cap. This premium can vary quite a bit, ranging from \$0.01 - 0.15/kg of butterfat, and is typically higher in the summer as butterfat drops and more producers are over ratio.

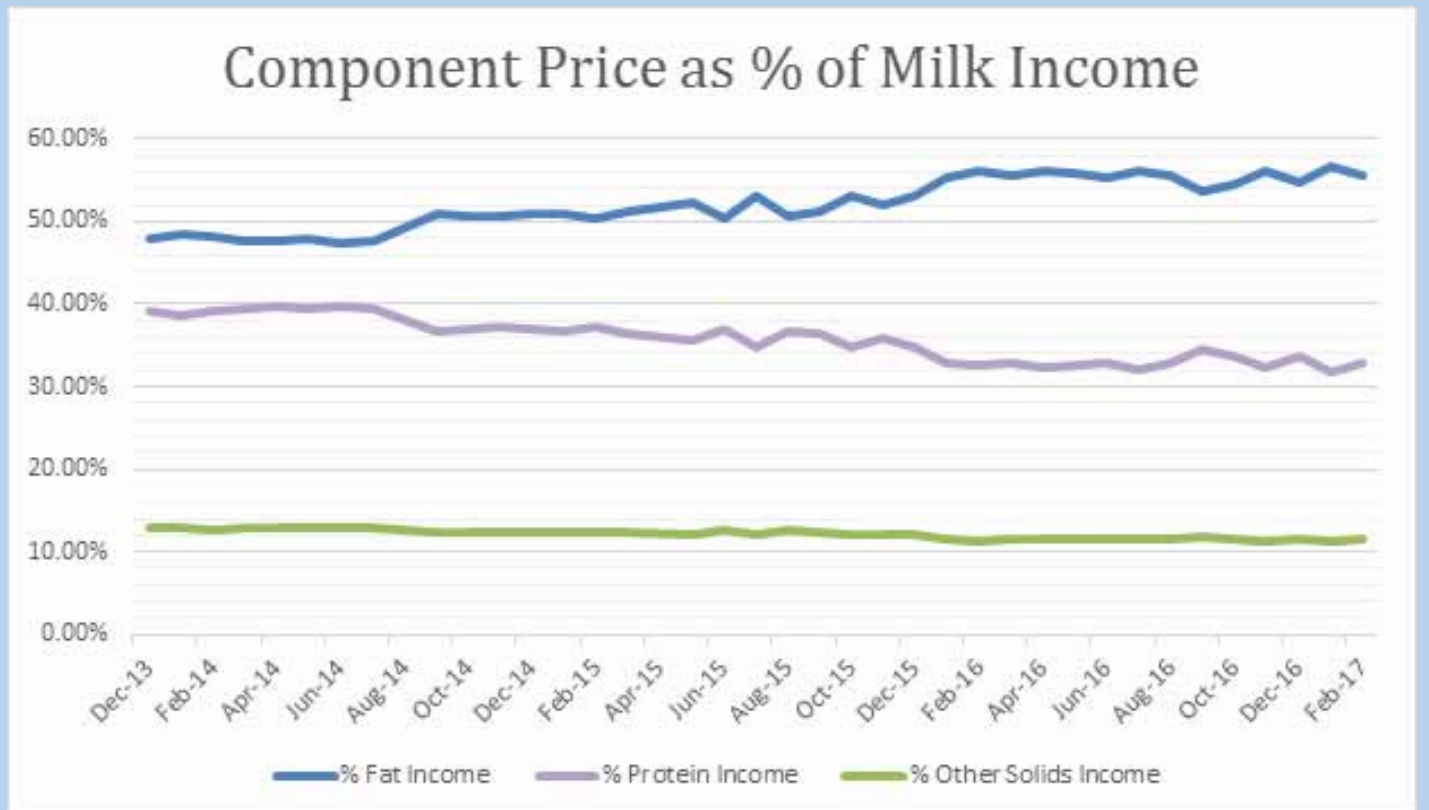
Even though Ontario dairy farmers may be limited on how much butterfat they can ship each month, they have the opportunity to optimize milk components to make the most of their milk cheque. Take a look at your latest DFO statement to see what your SNF ratio is and if you could be getting more out of your milk cheque!

Figure 1 - Historical Ontario Component Pricing, 2014 - present



Derived from : Dairy Farmers of Ontario

Figure 2 - Historical Percentage of Component Pricing



Derived from : Dairy Farmers of Ontario and Canadian Dairy Information Centre

Table 1 - Comparison of Milk Value using Different Ratio Scenarios

	Under SNF Ratio 2.30	On the Money 2.35	Over SNF Ratio* 2.40
Butterfat (%)	3.90	3.90	3.80
Milk Protein (%)	3.17	3.36	3.36
Other Solids (%)	5.80	5.80	5.80
Milk Values (\$/hL)	74.25	75.67	73.89
<b>Loss Revenue</b>	<b>-\$1.42</b>	--	<b>-\$1.79</b>

\*Over SNF ratio - only paid for 3.28% milk protein and 5.67% other solids, plus no butterfat premium included in the butterfat price.

Using DFO March 2017 milk values (BF \$10.71, MP \$7.45, OS \$1.52, BF Premium \$0.0124)

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