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Dairy Knowledge
at your fingertips

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What happens to your milk components during the summer?

Karine Simard, M.Sc., P.Ag.
Strategic Advisor, Montérégie

Summer is often a hectic time on a dairy farm: seeding, hay harvesting, cereal threshing, are on the agenda each and every year. For the cows in your herd, summer is also a stressful period. Not convinced? Just have a look at the decrease in milk production and particularly components during the hottest months.

Have you ever taken the time to measure the effect of hot weather on your animals, your production and your profits? Since the implementation of the new rules for milk payment, notably the SNF/BF ratio requirement, producers would be well advised to monitor their milk components closely.

In July–August, an average drop of $2.33 per hectolitre

According to 2005-2006 data from the Milk Producers Federation, component averages in July and August were: 3.80% fat and 3.27% protein, for a 2.32 ratio and a milk value of $68.80/hl. For the rest of the year, the averages are 3.99% fat and 3.37% protein, for a ratio of 2.26 and a milk value of $71.13/hl. During the summer months we observe a decrease of 0.2% fat and 0.1% in protein, reducing milk value by hefty $2.33 per hectolitre. Furthermore, with a drop in butterfat, many farms end up with unpaid components as they exceed the SNF/BF ratio limit of 2.33.

Although the months of July and August are the most severely affected, the annual drop in components can be felt as early as May and continue into September. By completing table 1, you can compare your herd results with provincial averages for the summer months. Just transfer the numbers from your 24-month statistical report, available on the FPLQ Intranet.

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The Culprits

What makes our cows experience such a drop in milk butterfat and protein?

Several factors can cause a drop in components, especially butterfat. In fact, two main phenomenon are involved: changes in rumen microbial populations, and higher intake of some types of oil and fat present in higher concentrations in pasture grasses and unfermented forages. During summer, lower feed intake and frequent changes in forages cause important variations in the rumen microbial population. When temperature and humidity are higher, cows tend to minimize the generation of body heat. Because fermentation in the rumen generates heat, cows will reduce feed intake, particularly of forages. A cow with less appetite tends to do more sorting of the ration, thus consuming more of the feed with finer particles and higher energy content, like concentrates. This further disturbs the rumen environment, and may result in ruminal acidosis. The reduced intake means reduced nutrients intake: leaving the cow's requirements unmet, and will have an impact on her performance.

We must also remember that rumen microbes are affected by changes in forages. Since these changes occur most often in summer, the microbe population is impacted. We will then observe a reduction in milk volume and milk protein due to the fact that the production of rumen microbial protein is lower.

For herds that go to pasture or that are fed unfermented forages, the reduction in butterfat can be more severe due to the higher concentrations of certain types of oil or fat present in the forages. These forages contain more linoleic acid which, when coupled with a change in microbial population, generates a compound that decreases butterfat. It is very important for these herds to adopt feeding and management methods that will help limit the impact in the rumen. Several strategies can help you alleviate these phenomenon: speak to your Valacta advisor to find the best approach for your herd.

Finally, given that a decrease in components translates into a decrease in revenue, it makes sense to take a few minutes to review the situation in your herd. If needed, implement solutions that will help your cows - and your profits - get through the dog days of summer!

Another article not to be missed

In the June issue of *Le producteur de lait québécois* and *Quebec Farmers' Advocate*, Daniel Lefebvre presents an in-depth review of the effects of heat stress and describes several ways to improve herd management in the summer.

Table 1. Comparison of my herd's milk components with provincial averages (June-July-August 2005-2006).

Parameters	June			July			August		
	My herd		Quebec average	My herd		Quebec average	My herd		Quebec average
	2005	2006		2005	2006		2005	2006	
% butterfat			3.92			3.83			3.84
% protein			3.30			3.24			3.31
SNF/BF			2.28			2.32			2.33
Milk value			70.65			67.66			69.95

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Michel Pouliot, writer-editor

Phone: 1-800-BON-LAIT, 514-398-7880,
Fax: 514-398-7963, www.valacta.com
Email: Editor: info@valacta.com;
Customer Service: service.clientele@valacta.com

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The Summer "Cue Card"

Minimum flow at the water bowl:
12 litres per minute