



Dairy Briefs

The Latest Information on Dairy Cattle Nutrition



Keeping Butterfat Up, Even When Temperatures Rise Laura Martin, M.Sc

With winter just behind us, it might seem a little early to be thinking about heat stress in cows. This time of year Mother Nature can't seem to make up her mind. It is these swings in temperature that can really affect cows, and is a sign that warmer weather is on the way. Many nutritional tools that help cows deal with heat stress can take some time to work, so now is the time to make changes and give cows a chance to adapt.

Historically, both fat and protein drop in the hot summer months. Figure 1 shows a consistent drop in both of these components from May - October for the last 7 years. Butterfat drops this time of year for two key reasons. The first, and maybe more obvious one, is that cows don't deal well with the heat and humidity. They don't sweat much, and instead pant to dissipate heat, which actually uses up more energy and can make them hotter. Cows also get picky when it's hot and try to avoid the long fibre particles in the ration that help keep the rumen stable. This can lead to acidosis and a drop in butterfat. Using kickSTART, a liquid feed supplement, may prevent sorting by helping the TMR stick together. kickSTART is also a source of sugars, which the cow can use as an energy source, and it can help improve intakes by making the ration more palatable.



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Inside this Issue...

Keeping Butterfat Up, Even When Temperatures Rise

By: Laura Martin, M. Sc, Nutritionist



Liquid feed supplement for
livestock



THE BENEFITS

kickSTART® may help:

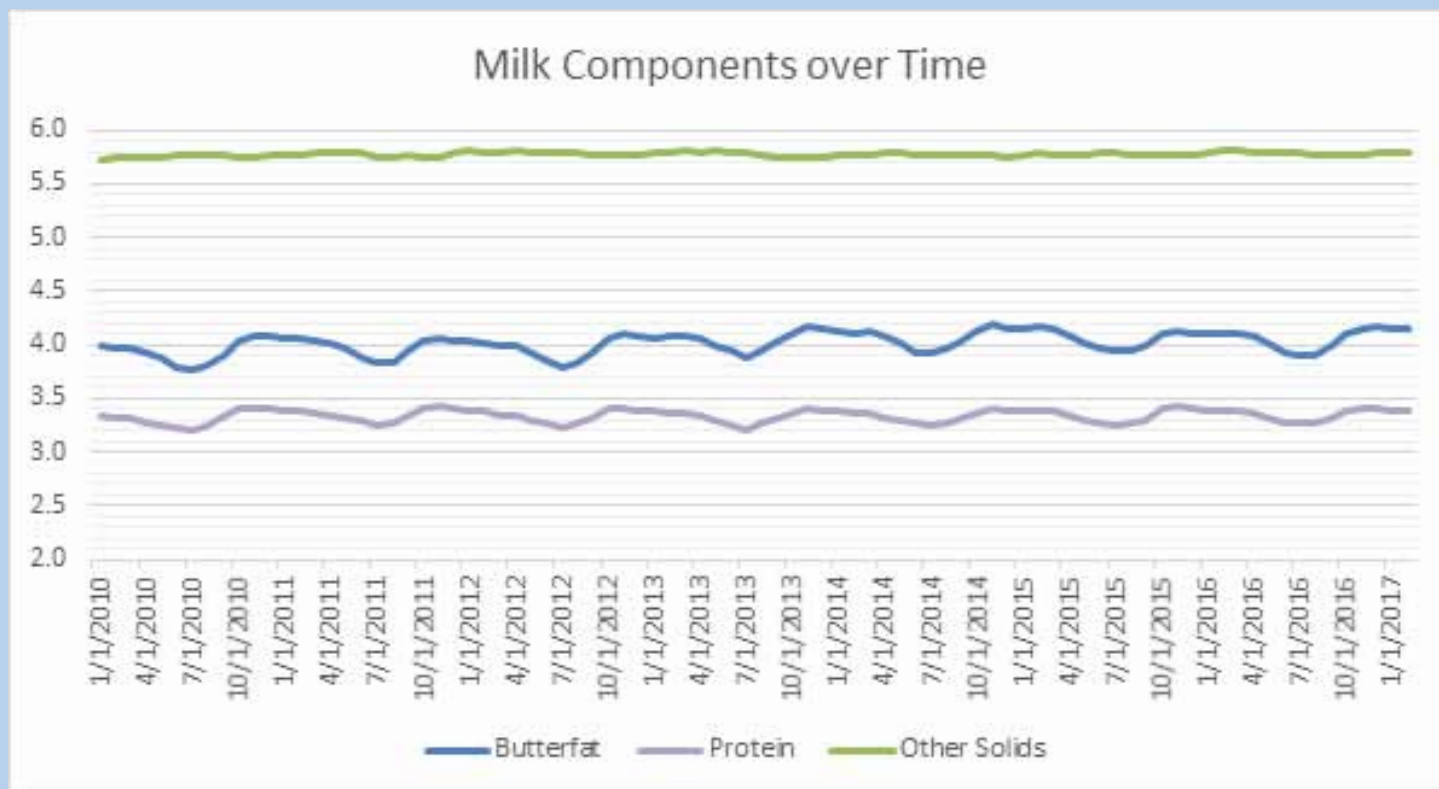
- Enhance rumen fermentation in cattle
- Stimulate appetite, resulting in increased feed intake
- Improve palatability
- Encourage more consistent feed intake
- Reduce sorting when feeding a total mixed ration (TMR)
- Increase milk production
- Result in less weight loss in lactating animals
- Give faster return to estrus (on full feed) in breeding animals
- Show faster, more efficient gains in growing animals

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69819 London Road, RR #1, Centralia, Ontario, Canada, N0M 1K0

Tel: (519) 228-6444 or 1-800-265-2904 • Fax (519) 228-6560 • Email kpalen@kenpal.on.ca • www.kenpal.on.ca

Figure 1 - Historical Trend of Milk Components for Ontario, 2010 - present



The second reason is that ensiled feeds have been fermenting for a long time now, and the more they ferment the more available they are to the cow. Think of it as an orange. When you first ensile feeds, the peel is still on the orange. Cows and their microbes can still access the orange but they have to work to get the peel off. The ensiling process unpeels the orange while it is still in the bunk so by springtime there is nothing left to slow the microbes down. This takes feeds that have been fed successfully all winter and turns them into fast-acting feeds that can increase the risk for acidosis and therefore lead to a drop in butterfat.

Producers don't control the weather, as much as they might like to, so making it cooler outside so the cows don't have to cope with the heat, isn't an option. There are environmental management tools like sprinklers and fans that can help cows deal with heat stress, but the initial problem of the heat and humidity is just something that Ontario dairy herds have to live with. The goal of ensiling feeds is to get them to ferment and provide more energy than they would straight off the field but unfortunately, there is no button on the bunk to stop fermentation when the feed is perfect. There are, however, some nutritional strategies that can help the cows through the heat and to deal with fast-acting feeds.

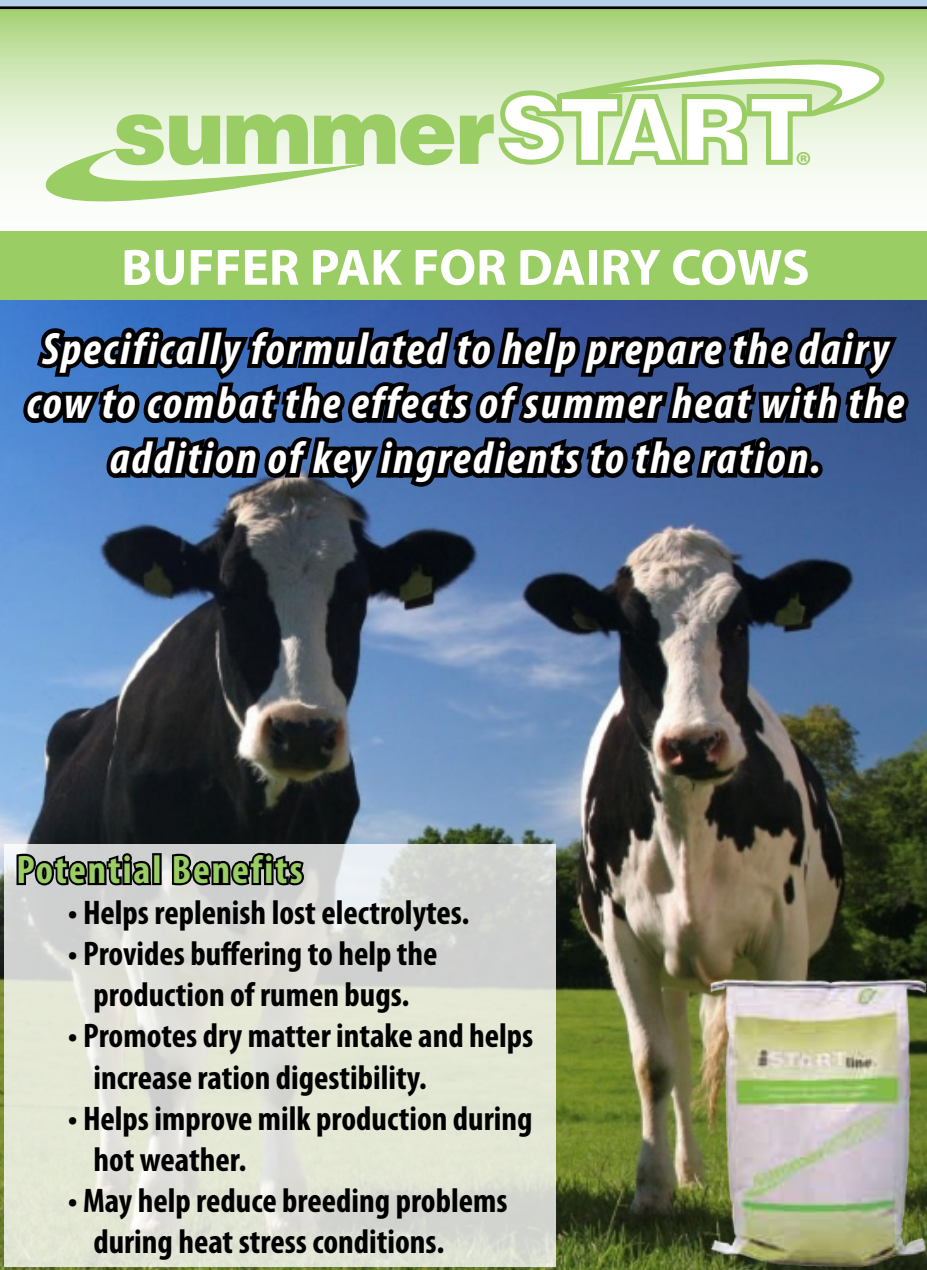
Feeding the herd a properly balanced ration is probably the most important strategy in terms of supporting butterfat. The key to this is to keep the rumen healthy. Feeding diets that have plenty of fibre or "scratch factor" stimulates chewing and helps naturally buffer the rumen. The rumen microbes produce fatty acids that are used to form butterfat. Keeping the rumen healthy ensures that these microbes are producing enough of the right kinds of fatty acids to support milk butterfat production. Rations with good quality

fibre sources are essential. To help prevent the cows from picking around the long fibre particles, adding a wet feed, like brewers' grains, or kickSTART to the ration can help the ration stick together.

Feeding high levels of fast-acting carbohydrates can cause the pH of the rumen to drop, which in turn lowers butterfat. Balancing the diet to have enough energy to support milk production but low enough levels of these carbohydrates can be tricky, especially over

the spring and summer. Those rapidly digestible fermented crops are just the thing to drop the pH of the rumen. Replacing some of the corn silage or high moisture fermented corn with dry corn or other slower-acting energy sources, like fat, may help alleviate the problem.

Fast-acting carbohydrates can overwhelm the natural buffering capacity of the rumen, and this also contributes to the drop in butterfat. By supplementing the diet with additional buffers, like sodium bicarbonate, the rumen is more stable and better able to handle this challenge. Adding a bypass fat to the diet may be another strategy. This provides the cow itself, rather than her rumen microbes, with energy and a direct source of fatty acids. The key is in the bypass; too much unprotected fat, or fat sources high in unsaturated fatty acids, can actually lower butterfat as these fatty acids can affect the rumen microbes when fed at high levels. Incorporating whole cottonseed into the diet can also help



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Potential Benefits

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- Provides buffering to help the 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.

boost butterfat. Cottonseed is a rather unusual feed in that it is a good source of energy, fibre and protein.

Cows lose water and minerals through panting, urination and sweat. It is important to keep the ration balanced with respect to mineral levels in hot weather, especially potassium, sodium and magnesium.

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Increasing the concentration of these minerals, by using Kenpal's summerSTART in the ration, can help compensate for the higher losses from the body seen in hot weather. Increasing potassium levels in the diet to 1.5% can increase milk production in heat stressed COWS.

summerSTART uses potassium carbonate to meet this additional potassium level which will assist in keeping the chloride levels down and the DCAD balance positive. Providing sodium at 0.5-0.6% and magnesium at 0.3-0.4% will also help heat stressed cows dissipate heat and have been shown, in some research, to increase milk production. The buffers and yeast found in summerSTART also help to keep the rumen stable and healthy, which can help maintain butterfat in the hot weather.

As the weather gets warmer and the feeds get more available, producers may need to make a few adjustments to their rations to keep the rumen stable and keep the butterfat levels up. It is much easier to be proactive and keep the rumen stable rather than to re-stabilize it after a crash. Talk to your sales rep today about getting your herd ready for the summer heat and about using kickSTART and summerSTART in your dairy rations!



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