



# Dairy Briefs

## The Latest Information on Dairy Cattle Nutrition



### Reduce Sorting to Stabilize Butterfat

Laura Martin, M.Sc

Cows sorting at the feed bunk can cause all sorts of problems, and during summer these problems seem to get worse. Hot weather and fans blowing across the feed bunk dry out the feed and make it easier for the cows to sort out all the tasty things, like grains. For cows that are already stressed from heat this is the last straw and



cow health, milk components and production can all be affected.

It's easy to tell if cows are sorting their feed. The first thing to look for is deep holes in the feed where the cows have

been eating and pushing the lighter forage particles away while looking for the heavier grain particles. The feed can be pushed out quite a ways into the alley with serious sorting. Also manure consistency will be very uneven across the herd with some cows being very loose and other being rather stiff.

If a dry ration is the issue, a lot of farmers are tempted to add water to the TMR to help make the feeds stick together better. Water is something that's already on farm and, if a hose is available, quite easy to add to the TMR. There is research to back up this common on-farm practice, and it has shown that adding water can reduce sorting in a TMR that is excessively dry, >80% dry matter (DM).

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**Reduce Sorting to Stabilize Butterfat**

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

Volume 8, Issue 6  
July 2015

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## BUFFER PAK FOR DAIRY COWS

***Specifically formulated to help prepare the dairy cow to combat the effects of summer heat with the addition of key ingredients to the ration.***

### Potential Benefits

- Helps replenish lost electrolytes.
- 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.



However, a TMR that dry would not be typical in Ontario with the amount of wet forages that are fed. Similar research was done with a >60% DM TMR and it also showed reduced sorting when water was added. However, if ensiled forages are excessively dry, there are probably bigger problems than just the dry matter. These forages may not be properly fermented, or may be poorer quality which could cause reduced feed intake and poor milk yield.

More recent research has shown that adding water may not be the best solution to this sorting problem. Multiple studies done through the University of Guelph have shown that if the TMR dry matter is between 40 - 60%, which is more typical of TMRs fed to most Ontario herds, then adding water increases sorting behaviour in cows. These studies also noted a decrease in dry matter intake (DMI) with added water. If the ration is already wet enough, adding water to the TMR increases the weight or bulkiness

of the ration and rumen fill may then limit how much the cows can consume. This could have a negative effect on milk yield.

One of the studies was done during the summer months and the results indicate that with warm weather the addition of water to the TMR increased the temperature of the TMR itself after feeding. This increase in temperature may indicate increased feed spoilage which would also impact DMI. Adding water which is a neutral pH to forage that is acidic from fermentation can make the mixture unstable and invite all sorts of problems. Increased spoilage of fermented feeds would also lead the cows to sort against these feeds and select for shorter, higher starch particles. The increased intake of these starchy particles can affect rumen health, increasing the risk of acidosis, and can also impact milk components like butterfat.

There are other ways to increase the moisture of the ration and decrease sorting, without adding water to the TMR. Decreasing the amount of drier forages in the ration and replacing them with wetter forages is a good first step. For very dry TMRs, feeding wet co-products, like wet brewer's grains, wet distiller's grains or wet beet pulp, can lower the dry matter of the TMR without adding

extra water. These feeds will also contribute nutrients rather than just bulking up the ration. Decreasing the dry matter of the TMR by changing the feed is a much safer route when trying to control sorting.

Adding a molasses-based liquid feed supplement, like kickSTART, to TMRs is the recommendation of many dairy specialists. kickSTART provides some moisture but the sticky molasses component works to bind forages and grains together in the TMR, making it harder for the cows to sort. kickSTART is also a source of tasty sugars and can help to increase DMI in cows.

Reducing the size of longer forage particles can also reduce sorting. This makes the particle size of the TMR more uniform and gives the cows less opportunity to sort. Mixing the TMR longer or adding or replacing worn knives can help breakdown longer particles. Using a Penn State Particle Separator box system to shake out the TMR is a good way to figure out if forage particles are the right size (Table 1).

If a quick solution is required and changing or adding feeds is not an option, increasing the frequency of feeding has been shown to reduce sorting in cows. If the current feeding schedule is once per day try increasing it to twice a day. In hot weather this can also help reduce TMR spoilage by keeping the feed at the bunk fresh.

It is impossible to stop all the cows in the herd from sorting. Flinging the TMR around is a source of entertainment for cows, just like there are some people who will pick all the cashews out of a bowl of mixed nuts, there will be cows that pick through the TMR. If sorting is a problem in your herd, try adjusting your forages or try adding a new feed to your ration. The addition of water to a TMR to reduce sorting should be a last resort. The old story is that there are three rations for the cow: the one the nutritionist formulates, the one that gets mixed on-farm and the one that the cows consume. The challenge is to get all three as close as possible for maximum benefit to everyone involved.

Table 1: Penn State Particle Separator - 3 Pan Guidelines

TMR	% by Weight*
Upper Sieve	6 - 10%
Middle Sieve	30 - 50%
Bottom Sieve	40 - 60%

\*Portion remaining on each screen as a percentage of the total sample.



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