



Dairy Briefs

The Latest Information on Dairy Cattle Nutrition



Give your Cows a Boost: Feed Lacta-Fat

Laura Martin, M.Sc

Cows around the countryside are being pushed to their limits, trying to get more milk. Many diets are already heavy on the grain to keep production going strong. Using fat to give cows a boost in energy may help increase production while still maintaining a similar starch level in the ration. This concentrated energy source may be just what the cows need. Adding liquid Lacta-Fat to the ration as a concentrated energy source may be a good tool to use this year at a lower cost than dry fats.

Adding fat has been shown, in many research trials, to increase milk production, with increases of 1 – 3 kg of milk being common. This increase in milk production typically occurs because cows in early lactation cannot physically eat enough feed, due to their limited rumen capacity, to meet their energy needs. By providing concentrated energy, in the form of Lacta-Fat, this allows the energy in the ration to increase with minimal effects on starch or fibre levels, helping to maintain a healthy rumen and support butterfat production.

Providing energy-challenged cows with Lacta-Fat may also have a positive impact on reproduction. Researchers reported higher first service conception rates and shorter calving intervals in dairy cows fed added fat. There is also research suggesting that it is not just the extra energy provided by the fat that accounts for this response, but that the fat itself may positively affect hormone levels to improve reproduction. Providing extra energy in the form of Lacta-Fat may also help cows retain condition, or gain back lost



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Give your Cows a Boost: Feed Lacta-Fat
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Benefits of Feeding Lacta-Fat

Lacta-Fat® liquid fat may provide many nutritional benefits to animals along with many handling and economic benefits to the producer.

- 💧 Increased milk production.
- 💧 Maintains or improves
- 💧 Cows peak higher and faster.
- 💧 Improved feed efficiency.
- 💧 Decreased loss of body weight
- 💧 Maintains energy intake during
- 💧 Reduces separation in mixed
- 💧 Reduced dust levels.

For more information talk to your Kenpal Sales Rep!

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condition quicker. It may also reduce the risk of metabolic disorders, like ketosis and fatty liver.

There are many different sources of fat available when it comes to adding fat to a dairy ration. Most feeds typically have some intrinsic fat in them, even haylage and corn silage. But there are certain feeds or products that are more concentrated sources of fat (Table 1). Oilseeds like soybeans, canola, and cottonseed are all feeds that have high fat levels. Other products, like liquid Lacta-Fat, and specialty dry fats provide fat as the primary nutrient. These fat sources can be split into two main types: rumen unprotected fats (RUF) and rumen protected fats (RPF). RUF are fats that, while they aren't digested by the rumen microbes, they can impact the rumen environment. These fats include the oilseeds and Lacta-Fat. RPFs are specially processed to have very little effect on the rumen, allowing for higher amounts to be fed, however they tend to be more expensive than the RUF options that are available.

RUF are one of the reasons that feeding fat has limitations. Fats that are high in saturated fatty acids are thought to "coat" the rumen microbes, and perhaps even the feed itself, preventing proper fermentation and reducing digestibility of the total ration. While the fibre components of the ration may not have as much energy as the grain components, the rumen microbes are still able to turn this fibre into energy. However, if that process is blocked, then adding too much of the wrong fat to the ration can backfire and actually end up reducing the energy in the ration. Lacta-Fat is a unique blend of animal fat and vegetable oil. Even though this classifies it as a RUF it contains a high level of tallow which allows for a highly saturated fatty acid profile. This fatty acid profile should lessen the impact on the rumen microbes allowing for an increase in dietary energy with minimal impact on rumen fermentation. The highly saturated nature of this product means that it is a solid at room temperature. Heated tanks are available to use at a minimum operating cost to keep the fat in liquid form for ease of feeding on farm. RPF "bypass" the rumen completely and are unlikely to reduce ration digestibility.

Fats of both types have the potential to reduce feed intakes. One of the reasons is palatability or off-odours of the different fat sources that may put the cows off-feed. Fat sources can go rancid, causing both off tastes and smells, if not stored and managed properly. Lacta-Fat contains an antioxidant to ensure long lasting stability in storage and in feeds. This reduces the chance of off-odours/flavours developing due to rancidity. If adding fat to the ration, slowly increasing the fat level to allow cows to adjust can help offset this issue. If intakes are reduced it may actually end up cancelling out the energy that has been added to the ration on a per cow per day basis. The amount of fat that can be added to a ration depends heavily on the other feeds that are in the ration. Low fibre diets or diets that are heavily based on corn silage seem to be more sensitive to the reduction in rumen fermentation that feeding added fat can cause. Feeding co-products, such as corn distillers, that can have high levels of fat themselves, can also impact how much fat can be added to the ration. The best way to balance fat in a ration is to look at the whole ration rather than give a static amount per cow per day (Table 2). Fat from RUF sources should not exceed and components. Production should increase when adding fat, however it will reach a plateau where adding more fat does not produce more milk. After this plateau, if more fat is fed then milk production will actually start decreasing as digestibility and intakes are affected. Keep an eye on production to ensure that the addition of fat to the diet increases production and increases profits.

Economically, it is best to maximize the amount of Lacta-Fat before adding any additional RPF to the ration. RPF have lower risk when it comes to impacting digestion, however, this comes with an added cost.



Kenpal Robot Pellets

Draw cows in the free traffic system and produce minimal fines

Joe and Barb Terpstra, along with the help of children Chelsey, Alison, Emily and Cole own and operate Cranbrook Farms, a 300 herd milk cow operation in Brussels, ON. They have been customers of Larry Merner and Kenpal since 2003.

This past July, the Terpstras incorporated 6 Robotic Milking Systems into their operation. "It was a smooth transition and our Sales Rep was there," says Joe. Each day they average 2.9 visits to the robots, per cow and have a minimal fetch rate of less than 5%. "If they're not going in the robots, then there's something wrong with the pellets," says Barb, crediting Kenpal's Robot Pellets as contributing to some of their success with the robots.

When asked what makes the Kenpal Robot Pellets the right choice for their operation, Joe responds by saying "they're hard, stay whole, are palatable and draw cows in the free traffic system". Kenpal's gemSTART Robot Pellets are a blend of protein and energy sources designed to both support milk production and work as positive reinforcement to cows visiting the robots. The high quality pellets contain Herbageum Condiment flavouring agent to attract cows into the robot, and produce minimal fines in the feeders. Kenpal's Robot Pellets provide benefits for both the animals and producers.



Front Row: Joe & Barb Terpstra, Larry Merner
Back Row: Emily, Cole, Alison & Chelsey Terpstra

Since starting the Robotic Milking Systems with Kenpal's Robot Pellets, Joe and Barb have noticed a significant increase in their cows' production. They are anticipating an even greater increase in the months to come.

Having just filled their quota and recent incentives, the Terpstra family is looking forward to next year's incentive days with Kenpal by their side.

Joe, Barb, Chelsey, Alison, Emily and Cole Terpstra
Cranbrook Farms
Brussels, ON

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It is always important to monitor intakes and production changes when adding a new feed additive on farm. When adding Lacta-Fat to diets, monitor milk production and components. Production should increase when adding fat, however it will reach a plateau where adding more fat does not produce more milk. After this plateau, if more fat is fed then milk production will actually start decreasing as digestibility and intakes are affected. Keep an eye on production to ensure that the addition of fat to the diet increases production and increases profits.

Adding Lacta-Fat to rations can increase milk production even when excellent quality forages are fed. Fat type and source play a big role in feeding rates and handling. Choosing a fat source that works with current management practices or storage options can be just as important as price. Give the cows a boost with fat and get more milk out of the herd.

Table 1: Fat and Energy Profiles of Different Feeds

Feed Ingredient	Fat (%DM)	NE _l (Mcal/kg)	Saturated Fat (%)
Haylage	2.5	1.40	--
Corn Silage	3.0	1.60	--
Dry Corn	4.0	2.01	--
Whole Cottonseed	19.0	1.94	29
Whole Soybeans	19.0	2.75	15
Tallow	99.8	4.53	48
Animal-Vegetable Blend	99.9	5.09	28
RPF Fat	99	4.12	85

Table 2: Fat Source Recommendations in Dairy Rations

Fat Source	% DM Limit
Total Fat (RUF + RPF)	8%
Total RUF	5%
RUF from forages and grains	2-3%
RUF from added fat sources	2-3%
RPF	2-3%



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