

Harvesting the health promise of conjugated linoleic acid

The dairy producer payback of CLA

Supporting dairy farmers and their industry with a stronger health image, higher demand and new product opportunities.

For dairy producer Bruce Beattie, it's a simple fact Canada's dairy industry has banked on for a long time:

"Trends come and go, but one thing you never forget is your health," says the Sundre, Alta., producer and past president of Alberta Milk Producers.

Today, this fact holds more marketing power than ever before, he says.

"We can spend a lot of time trying to convince people milk is fun or milk is cool, but the fact it's good for you, builds an even stronger message," says Beattie. "It's also one that stays with them their whole lives. The more we can do to strengthen our health message, the better will be our long-term relationships with our customers."

Health value has always been the strength of dairy products, and it's a strength that has never been more valued than it is today.

That's a big reason why Beattie took on the job as chair of the CLA Network – a team devoted to helping the dairy and beef industries capture opportunities with conjugated linoleic acid (CLA).

CLA is a "good fat" produced by ruminants and found naturally in dairy and beef products. Though research is in early stages, pioneering studies based largely on animal models show considerable CLA potential for human health benefits related to cancer, heart disease, obesity, diabetes, kidney disease and bone density.

"CLA is showing great promise to become a valuable selling feature of dairy products in the future," says Beattie. "It can help strengthen the health image of dairy products, increase demand for existing products and create opportunities to introduce new health-oriented products with enhanced CLA. All of that can support the bottom line of producers and strengthen the long-term outlook for the industry."

A natural advantage

CLA is produced naturally in dairy animals when linoleic acid from plant material is converted into CLA, as a result of microorganism activity in the rumen.

Studies have confirmed this natural CLA is transferred into dairy products as a portion of milk fat, and the natural CLA level can be multiplied through a variety of livestock production strategies.

"It doesn't matter whether it's cheese or yogurt or milk or ice cream, the potential is there to have a higher level of CLA and to emphasize that as one of the positive aspects of the product," says Beattie.

One of the most simple and effective ways of increasing CLA produced by dairy cows is adding a dietary supplement of plant oil or seed that is high in linoleic acid. This method has resulted in increases of two-to-four times the natural CLA level in milk fat.

"With the CLA Network, we're using research to look for simple ways to increase CLA that don't otherwise affect the product, and that minimize any extra work or cost for the producer," says Beattie. "When the progress reaches a stage where recommendations can be made to producers, we want to know what we're doing before we do it."

Boosting health image

On the health front, researchers have been very active in studying CLA health benefits, the impact on animals and the methods of increasing CLA in dairy products. They have uncovered several unique and potentially powerful benefits of this food component, to benefit human health.

"We could have something like another Omega 3 on our hands, or even better – that's what the science is indicating," says Beattie.



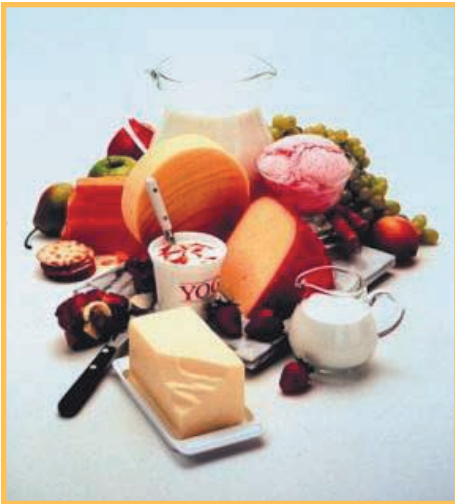
"Milk is nature's most perfect food – that's been our line for a long time," says Bruce Beattie. "As we learn more about the components of milk through research, we're just finding more reasons to back that up."

The most advanced area of CLA human health research is cancer prevention and treatment. CLA's cancer-fighting effect has held up in all the major animal models of cancer that are used for testing drug efficacy. These include primarily models for breast cancer and the colorectal cancers, along with models for some forms of leukemia and liver cancer, including hepatoma.

Cardiovascular disease is another key focus. Early studies have indicated feeding animals CLA improves the profile of fats in the blood. In particular, indications are CLA may play a role in reducing high levels of low-density lipoproteins (LDL), which are associated with heart disease. There are also signs that CLA may influence an inflammatory-related mechanism that reduces the pathology of heart disease.

Another promising area is CLA's anti-obesity potential. Science has uncovered links between CLA and increased energy expenditure, increased body muscle and reduced body fat.

Further potential benefits have emerged related to diabetes, kidney disease and bone density.



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Synthetic forms of CLA have been developed for both commercial supplements and research purposes. However many leading scientists believe the CLA found naturally in dairy and beef products may offer the best avenue for developing CLA health potential.

This is because while there are many different isomers, or types, of CLA, two of these have been studied most extensively and have the strongest links to health benefits. These two isomers, CLA 9,11 and CLA 10,12 are the ones found most prominently in dairy and beef products.

Also known to be present in beef and dairy products is vaccenic acid, which research has revealed as a precursor to CLA 9,11. This precursor is converted into CLA by a natural human enzyme once inside the human body.

"What we're learning about natural CLA fits in very well with the messages and image the dairy industry has long upheld, such as the concept of the dairy farm as a pristine environment and dairy products as natural, healthy foods," says Beattie. "It's a natural part of dairy products that people can get without taking a pill, that they can feel good about."

Higher demand, new products

Because CLA is already found naturally in all dairy products, any health benefits confirmed through research have potential to bring immediate marketing advantages, he notes.

"At a basic level, we have an opportunity to improve the image and marketability of our products without requiring any changes to those products or how they're produced."

The fact CLA is already found naturally in all dairy products also fits well with today's consumer and regulatory environments, where natural food components are much better accepted than artificial ones.

More research is needed to determine what levels of CLA are required to produce health benefits, he notes. But indications are dairy products already contain significant levels, and those can be increased substantially.

"One of the major opportunities is to develop new products with enhanced levels of CLA, including products that may qualify to carry a health claim," says Beattie

Research key to benefits

At the current stage, the best pathway to reaching the potential in CLA is through research, says Beattie. "That's the major focus of the CLA Network right now."

Founded in Canada, the CLA Network is a collaborative team from academia, industry and government, including representatives from many areas of expertise such as research, food industry, health and communications.

Current members include Alberta Agricultural Research Institute, Agriculture and Food Council, Alberta Livestock Industry Development Fund, Alberta Agricul-

ture Food and Rural Development, University of Alberta, Agriculture and Agri-Food Canada, Dairy Farmers of Canada, Alberta Milk, Beef Information Centre, Alberta Beef Producers and Teagasc Irish Agriculture and Food Development Authority.

The network effort includes activity in six modules, including Dairy Production, Beef Production, Animal Mechanisms, Product Development and Market Research, and Communications.

"It's sometimes difficult to convince producers that money on research is well spent," says Beattie. "It's easier to spend money on advertising. But with the CLA Network and similar efforts, what we're doing is building the understanding of our customers that our products are good for them. We're developing a long-term loyalty."

"We know we've got limited resources, so we need to think hard about where do we get our best payback. And we have to look not just at short term but at the long term too. That's pretty important for us as an industry, not just for the guys who are milking cows today, but for the ones who are going to be in it tomorrow too. That's where the real payback will be."

For more information on the CLA Network, visit www.CLAnetwork.com or email: CLAnetwork@gov.ab.ca.



CLA: Another reason to say "cheese, please."

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