

## GOT FLAX?

### Saskatchewan flaxseed products improve the nutritional value of milk

The human health benefits of omega-3 fatty acids are becoming widely recognized; however, increasing the availability of these nutrients for Canadian consumers remains a challenge. Janna Moats, a M.Sc. candidate at the University of Saskatchewan, is attempting to resolve this issue through her research. She is evaluating the effect of flaxseed supplementation in dairy cow diets on the nutritional value of milk.

Flaxseed is commonly grown in western Canada with nutrients that could benefit cattle and humans alike. When fed to dairy cattle, flaxseed may improve the health and performance of the animal while subsequently increasing the level of omega-3s in the milk for consumers.

This research is a collaborative effort between the University of Saskatchewan and a local animal feed company (O&T Farms Ltd.; Regina, SK.) with additional funding through the Industrial Research Assistance Program and SaskMilk. Janna and her program supervisors, Dr. David Christensen and Dr. Timothy Mutsvangwa, hope this research will lead to the production of omega-3 dairy products in Saskatchewan.

The two year research initiative is in its final stages and the preliminary results look promising. The trial involved Holstein cows from the University of Saskatchewan that were fed a control diet, a diet supplemented with an unprocessed flaxseed product or a diet supplemented with one of two extruded flaxseed products.

Results show that animal performance was maintained between treatments while the fatty acids

in the milk improved dramatically when cows were fed extruded flaxseed. According to Ms. Moats, "most commercial milk fat in Canada contains only 0.5% total omega-3 fatty acids. Our trial was able to achieve levels as high as 1.18% total omega-3s in the milk fat simply by feeding the cows extruded flaxseed."

In addition to the increased levels of omega-3s, they also saw a three-fold increase in another human health related fatty acid, conjugated linoleic acid (CLA).

Feeding extruded flaxseed products to dairy cattle has the potential to improve the health of the animal while simultaneously improving the nutritional value of milk for consumers. This farm-to-fork connection is extremely relevant in an era where both the health of our farm animal and the quality of our food are of utmost importance to society. Ms. Moats will be presenting these important findings to an international audience this July at the American Dairy Science Association's Joint Annual Meeting in Orlando Florida. Based on this information, there appears to be real opportunity to add omega-3s and other healthy fatty acids to the already nutrient dense profile of milk.

Janna Moats is a second year graduate student at the University of Saskatchewan who is currently pursuing a degree in ruminant nutrition through the department of Animal and Poultry Science. Originally from Regina, Saskatchewan, Janna grew up on a mixed farm and obtained a Bachelor of Science in Agriculture at the University of Saskatchewan in 2012. She worked in the feed industry for two years before returning to the U of S to pursue a graduate level education.

