



Less Saturated Fat, More Omega-3 Fatty Acids How Grass Farmers Make High Quality Food Using Managed Grazing

If you are trying to watch your waistline, take care of your heart or teach your children healthy eating habits, you may be concerned about the quantity and quality of fat in your family's diet. Fat is high in calories (9 cal/gram compared to 4 cal/gram for carbohydrates) and fat from grain-fed animals has been linked to obesity, high cholesterol, heart disease and stroke. Part of the fat problem is that most of our meat, eggs and dairy products come from animals that are raised in confinement and never eat a blade of living grass. Instead, they are fed large amounts of grain, which is high in energy, lower in vitamins and has an unbalanced fatty-acid ratio. All that extra energy is stored in the flesh, milk and eggs of animals in the form of saturated fat. The farmer's motivation in feeding grain is to increase production. But an unintended consequence is that much of our food is high in poor quality fats. Farmers can do better.

*A new generation of family farmers is producing food by raising animals on pasture using a method called Management Intensive Grazing (MIG). In MIG, cattle, hogs, sheep and poultry are rotated through paddocks of high-quality grasses and legumes that are then allowed to rest and re-grow. This method allows animals to forage for food as they might in the wild. Because animals graze the nutritious leafy parts of pasture plants rather than only grains, grass-fed animal products are richer in color, texture and flavor. **Grass-fed meat, eggs and dairy products are also leaner and contain higher levels of important Omega-3 fatty acids (including CLA) than their grain-fed counterparts.***

Understanding Fatty Acids

There are two types of fatty acids essential for human health: Omega-6 and Omega-3. Omega-3s are "good fats" that play a vital role in every cell and system in the human body. Unfortunately, the American diet is deficient in Omega-3s and overloaded with Omega-6s, which increases the risk of obesity as well as cancer, cardiovascular disease, depression and auto-immune disorders.ⁱ Grain has a high Omega-6 to Omega-3 ratio. When we eat foods from animals with diets high in grain, the imbalance is perpetuated.

But fresh pasture contains twice as much Omega-3s as Omega-6s. Grass-fed animal products contain significantly higher levels of Omega-3 fatty acids, which can restore critical balance and improve health.ⁱⁱ Grass-fed eggs are leaner than conventional eggs and contain a healthier fatty-acid ratio. One study found that pastured eggs had 1/4 less saturated fat, 1/3 less cholesterol and 2 times as much Omega-3s as conventional eggs.ⁱⁱⁱ Another study found that when chicken are house indoors and deprived of fresh greens their eggs become artificially low in Omega-3. Eggs from pastured hens can contain 10 times as much Omega-3s.^{iv}

Have Your Steak and Eat It Too

Red meat has gotten a lot of bad press, so much that per capita consumption of beef has dropped significantly since the 1970s, while consumption of chicken has more than doubled.^v But research shows that grass-fed beef is leaner than conventionally produced beef and is more comparable to wild game.^{vi} According to a UW-Madison study, grass-fed beef loin is lower in fat and higher in protein than conventionally produced beef loin, pork loin, lamb loin or skinless chicken breast.^{vii} Grass-fed beef is also higher in Omega-3 fatty acids and is more comparable to wild game in its Omega-6:Omega-3 ratio. One study found that grass-fed beef had a ratio of 2:1, which was lower than that of even wild ruminants, while the ratio in grain-fed beef was 14:1.^{viii} When cattle are taken off Omega-3 rich pasture and shipped to a feedlot to be fattened on grain, they begin losing their store of this beneficial fat. After 196 days, Omega-3s are reduced to undetectable levels.^{ix}

Conjugated Linoleic Acid (CLA)

An important Omega-3 fatty acid, CLA, has been proven to be a potent defense against cancer, and even a small percentage greatly reduces tumor growth in laboratory animals.^x New evidence suggests that CLA also reduces the risk of cancer in humans. In one recent study, women with the highest levels of CLA in their diet had a 74% lower risk of breast cancer than women with the lowest levels of CLA.^{xi}

Meat and dairy products from pastured ruminants are rich sources of CLA. Grass-fed meat, egg and dairy products have CLA levels 3 to 5 times higher than products from grain-fed animals.^{xii} However, when pasture grass is fed as hay, CLA levels drop as much as 60%. For maximum CLA content, animals need to eat living plants.^{xiii} There is new evidence that synthetic hormones used to boost production levels in feedlot cattle actually reduce levels of naturally occurring CLA.^{xiv}

Enjoy Your Breakfast Again

If you have considered using butter or egg substitutes to lower cholesterol, you might instead try delicious grass-fed alternatives: real butter, real eggs that have less fat, less cholesterol. The amount of fresh grass in a cow's diet has been found to have a direct relationship to butter and milk composition. A ruminant's fresh grass diet decreases saturated fat, and increases unsaturated fats, including Omega-3s. Grass-fed butter spreads more easily because unsaturated fats are softer.^{xv}

Studies that conclusively prove that grass-fed products improve human health have yet to be funded, which may be because established businesses have an interest in preserving the status quo in the food system. However, it makes sense that foods with more CLA and Omega-3s are better for you. To take a step toward better health for yourself and your family, ask your grocer or co-op manager about grass-fed meat, eggs and dairy products.

Find more information and search for grass raised products near you at www.grassworks.org

Grazing is a gateway to producing foods that have balanced, high quality fats and fatty acids essential for good health.

ⁱ See The Omega Diet by Simopoulos and Robinson, HarperCollins 1999.

ⁱⁱ Ibid

ⁱⁱⁱ See Mother Earth News (Oct/Nov) 2007 or (www.motherearthnews.com/eggs.aspx)

^{iv} Lopez-Bote, C. H. et al. 1998. "Effect of free-range feeding on omega-3 fatty acids and alpha-tocopherol content and oxidative stability of eggs." Animal Feed Science and Technology 72: 33-40.

^v Buzby, J. and F. Hodan. 2006. "Chicken Consumption Continues Long-run Rise." Amber Waves www.ers.usda.gov/AmberWaves/April06

^{vi} Clancy, K. 2006. Greener Pastures: How Grass-Fed Beef and Milk Contribute to Healthier Eating. Union of Concerned Scientists. Available at www.ucsusa.org. Also, D. C., K. S. Brought on, S. M. Shellito, and G. Maiorano. 2002. "Comparison of Muscle Fatty Acid Profiles and Cholesterol Concentrations of Bison, Beef Cattle, Elk, and Chicken." Journal Animal Science 80(5): 1202-11.

^{vii} Paine, L. at al. 2009 Consumer Guide to Grass-Fed Beef. University of WI Extension: Madison, WI.

^{viii} Miller, G. J. 1986. "Lipids in Wild Ruminant Animals and Steers." Journal of Food Quality 9: 331-343.

^{ix} Duckett, S. K. et al. 1993. "Effects of Time on Feed on Beef Nutrient Composition." Journal of Animal Science 71(8): 2079-88.

^x Ip, C., Scimeca, J. A. et al. 1994 "Conjugated Linoleic Acid. A Powerful Anti-Carcinogen from Animal Fat Sources." Cancer 74(3 suppl):1050-4. See also, Ip, C., S. Banni, et al. 1999. "Conjugated Linoleic Acid-Enriched Butter Fat Alters Mammary Gland Morphogenesis and Reduces Cancer Risk in Rats." Journal of Nutrition 129(12): 2135-2142.

^{xi} Aro, A., et al, Kuopio University, Finland; Bougnoux, P, Lavillonniere F, Riboli E. 1999. "Inverse Relation Between CLA in Adipose Breast Tissue and Risk of Breast Cancer." Inform 10(5):S43. Also, Aro, A., S. Mannisto et al. 2000. "Inverse Association between Dietary and Serum Conjugated Linoleic Acid and Risk of Breast Cancer in Postmenopausal Women." Nutrition and Cancer Journal 38(2): 151-7.

^{xii} Dhiman, T. R., G. R. Anand, et al. 1999. "Conjugated Linoleic Acid Content of Milk from Cows Fed Different Diets." Journal of Dairy Science 82(10): 2146-56.

^{xiii} Butler, G. et al. 2008. "Organic Milk is Cream of the Crop" Journal of Science of Food and Agriculture.

^{xiv} Fritsche, S. et al. 2001. "Influence of Growth Promoting Implants on Fatty Acid Composition Including Conjugated Linoleic Acid Isomers In Beef Fat." European Food Research and Technology 212:621-629

^{xv} Couvreur, S et al. 2006. "The Linear Relationship Between the Proportion of Fresh Grass in the Cow Diet, Milk Fatty Acid Composition, and Butter Properties" Journal of Dairy Science. 89: 1956-1969