



Bovine somatotropin (bST) is a naturally occurring protein hormone produced by a cow's pituitary gland. Present in all cows, bST regulates metabolic activities, helping young cattle grow and adult cows produce milk. It is not a steroid, but rather a protein hormone. A small amount of this hormone is naturally present in all milk, including organic products. In fact, hormones are naturally present in all foods of plant and animal origin, including milk. When milk is consumed, the small amount of bST present is broken down completely by the body's digestive system, just like any other protein.

The Use of Recombinant Bovine Somatotropin

Dairy farmers who use rbST (recombinant bovine somatotropin) say it boosts their herds' milk production, helping to ensure a plentiful supply of milk. It is estimated that about 30 percent of U.S. dairy farmers choose to use rbST with their herds, accounting for 20 to 25 percent of cows.¹

rbST is not added to the milk itself, but rather is administered to some cows in some herds. This use of recombinant bovine somatotropin was approved by the Food and Drug Administration (FDA) in 1993 after extensive review; the safety of milk from rbST-supplemented cows has been reaffirmed since its release.²

Safety of Milk

Scientific studies have concluded that there is no difference between milk from cows that are given rbST and milk from cows that are not. Regulatory agencies in 50 countries, including Canada and the European Union, have also affirmed the safety of milk and meat from cows supplemented with rbST. These agencies affirm that the use of rbST does not change milk's composition.

Separate reviews of the data, with the same safety conclusions, have been conducted by the National Institutes of Health (NIH), the World Health Organization, and the Office of the Inspector General of the Department of Health and Human Services. Such findings have appeared in *Journal of the American Medical Association*, *Pediatrics* and the *Journal of the American Dietetic Association*.

An NIH expert panel, among others, concluded that the use of rbST has no effect on hormone levels in the milk itself.³

In 2008, the *Journal of the American Dietetic Association* published findings from research that tested whole milk samples obtained from retail stores across the U.S. with three label claims related to farm practices: 1) conventional, 2) from cows not treated with rbST, and 3) USDA-certified organic. The research concluded that all three types of milk are virtually identical in terms of quality, safety and nutritional composition. None of the samples had detectable levels of antibiotics. Concentrations of bST in milk were the same regardless of milk label.⁴

Dairy products are among the most tested and regulated foods in this country, and American dairy products are among the safest in the world.

The dairy industry supports consumer choices in the dairy case, and some farmers, manufacturers and retailers will support different types of production that may or may not include the use of rbST. But it's important to understand that carton to carton, bottle to bottle, all milk is wholesome, safe and nutritious. All milk contains the same combination of nutrients that makes dairy products an important part of a healthy diet.

Also refer to Midwest Dairy Association fact sheets “Organic Dairy Products” and “Dairy Food Safety”

This fact sheet was reviewed by John Fetrow, VMD, MBA; Mike Hutjens, PhD; Lloyd Metzger, PhD; JW Schroeder, PhD; and Leo Timms, PhD, in November 2011 for its content and accuracy.

Additional Resources

- FDA’s position on the safety of rbST:
www.fda.gov/cvm/RBRPTFNL.htm or www.fda.gov/bbs/topics/ANSWERS/ANS00564.html
- Dairy Farming Today: www.dairyfarmingtoday.org
- National Dairy Council: http://www.nationaldairycouncil.org/SiteCollectionDocuments/footer/FAQ/food_safety/MilkandHormonesFactSheetAugust2008.pdf

¹ Oransky, Ivan. 2007 Feb. Dairy economics: Milking blood from a stone. *The Scientist* 21(2).

² National Dairy Council. 2007 Mar. Scientific Status Report #19: Hormones and Milk. <http://www.nationaldairycouncil.org/SiteCollectionDocuments/footer/FAQ/food_safety/MilkandHormonesFactSheetAugust2008.pdf>. Accessed 2012 January.

³ USDHHS/NIH. 1991. NIH Technology Assessment Conference statement on bovine somatotropin. *J Am Med Assoc* 265:1423-5.

⁴ Vicini, J, et al. 2008. Survey of retail milk composition as affected by label claims regarding farm-management practices. *J Am Diet Assoc* 108:1198-1203.