

MILKSPLAT



The Consumer Education Project Of Milk SA
www.rediscoverdairy.co.za

Is cow's milk that contains r-bST safe to drink?

June 2015

Modern communications via the Internet, Facebook, Twitter, and the media make it possible to spread scare stories about food like a flash throughout the globe. Scary food stories usually warn the public of the dangers of eating/drinking food/drink A or B and then provide a long list of hair-raising consequences if you do not heed the warning. Most of these scare stories are not based on fact and do not hold up when tested scientifically.

Targeting milk

Milk and dairy products are often the target of such global scare stories. A recent spate of warnings were issued in the popular press about the dangers of drinking milk from cows that have been treated with recombinant bovine somatotropin (r-bST) or "hormones". Articles with titles such as "Crack for cows could be bad for you too" and "Cancer link to SA milk" in the media¹ created a host of unproven fears in the public mind about milk and dairy products.

The name r-bST already sounds ominous, but on closer inspection it appears that bovine somatotropin is actually a normal hormone produced by cows (bovine animals) when they have given birth to a calf and start lactating. The fact that milk farmers are using r-bST to boost milk production helps to reduce the price of milk and dairy products and counteract allegations that dairy and cattle farming is a prime cause of global warming (another scare story)¹. As an added fear factor, the r-bST scare stories warn that milk produced by r-bST-treated cows contains high levels of a compound called insulin-like growth factor (IGF-I), which is purported to cause an increase in type 1 diabetes in children^{1,2}.

What happens to r-bST and IGF-I when we drink milk?

The pertinent question is of course what happens to both of these "hormones" when we drink milk or eat dairy products? Because r-bST and IGF-I are hormones, they consist of proteins which are digested in our stomachs and gut. Once the proteins of these hormones have been broken down to amino acids (the building blocks of proteins), they then no longer have a hormonal effect and will not cause diabetes in children or make them grow excessively^{1,2}.

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Further elimination of r-bST

In addition to the destruction of these hormones by our own digestive systems, the process of pasteurisation which milk is subjected to, destroys about 90% of r-bST before we drink it. When cow's milk is used to make baby formula any r-bST or IGF-I it may contain, is completely denatured (changed irreversibly). Boiling milk has the same effect on r-bST - it eliminates any hormonal properties^{1,2}.

The combination of digestion in adults and infants of r-bST and IGF-I, and heat treatments such as pasteurisation and boiling, renders cow's milk and infant formulas made from cow's milk, safe from hormonal effects.

International safety checks

In 2014, the World Health Organisation (WHO) convened a Joint FAO (Food and Agriculture Organisation)/WHO Expert Committee on Food Additives that issued a report on "Evaluation of Certain Veterinary Drug Residues in Food"³. The section on r-sBT concluded that neither r-bST, nor IGF-I in milk would cause negative human effects, and that there was no additional risk of developing type 1 diabetes because of consuming milk from r-bST-treated cows. The report also states that evidence which was studied in depth, did not support a link between exposure to IGF-I in milk of r-bST-treated cows and an increased risk of cancer^{2,3}.

The Food and Drug Administration (FDA) of the USA has also cleared milk from r-bST-treated cows as "safe for human consumption" as none of the scare stories have a basis in fact. For example, bovine somatotropin is what is known as "species specific" and does not have any biological effects in human beings^{1,2}. Further analyses of the nutritional composition of milk from r-bST-treated cows showed that none of the nutrients were altered during treatment and that the latter milk contained the same amounts of vitamins A, B₁, B₂, B₁₂, pantothenic acid and choline, as milk produced by untreated cows¹.

Misleading advertising?

According to the SA Labelling Regulations misleading advertising is not permitted. However, some producers make label claims such as "free from genetically modified organisms" or "free from recombinant bovine somatotropin" thereby implying that their milk and dairy products are safer and healthier than those produced by other farmers who do make use of r-bST. This type of advertising causes confusion and doubt in the minds of consumers who may decide to shun all dairy products as a result¹. Cutting dairy products out of the diet can result in a number of important deficiencies as detailed below.

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Nutritive contribution

Research studies continue to highlight what an important role milk and dairy products play in human health. Anyone who is not lactose intolerant or suffering from a diagnosed milk allergy is able to benefit from using low-fat milk and dairy products in their diet.

Not only is milk a source of protein of the highest quality, but it is the main source of highly bioavailable calcium in our diets. Growing children, teenagers, pregnant and lactating women, all require about 1000 mg of absorbable calcium per day to ensure a strong bone structure and healthy teeth. Milk contains more than 1 mg of calcium per gram and other dairy products such as yoghurt, maas and cheese, all contribute to calcium intake to prevent brittle bones in young people and osteoporosis in our ageing population⁵. In addition, calcium from milk and dairy assists with a wide spectrum of other functions such as weight control and the prevention of damage to brain tissue associated with ageing⁶.

Milk and dairy products are regarded as such valuable foods because of their rich nutrient content that the new revised Food-Based Dietary Guidelines for South Africa adopted by the Department of Health to promote healthy food intake, include a separate guideline for milk and dairy which says: "Have milk, maas and yoghurt every day"⁵.

Despite intensive studies commissioned by international organisations like the WHO, FAO and the FDA of America, no scientific proof has emerged that the use of recombinant bovine somatotropin which farmers may use to boost milk production to meet the needs of our growing population, has an negative effect on human health or on the nutritive composition of milk and the dairy products that are produced from the milk^{1, 2, 3, 4}.

The answer to the question posed in the title of this bulletin, is therefore: "Milk from cows that have been treated with r-bST is safe to drink and can be enjoyed by people of all ages!"

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