

# Trouble with Milk.



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The Monsanto corporation's genetically-engineered hormone, rBGH, seems to be in trouble. The product is marketed to dairy farmers for injection into their cows to boost milk production about 10%, but a survey of farmers last summer indicated that enthusiasm for the product remains low.[1] And last month a new peer-reviewed medical study argued that rBGH may promote cancer of the breast and colon in humans who drink milk from rBGH-treated cows.[2]

Monsanto has bet the future of the company on genetic engineering, and rBGH is the company's first, showcase biotech product.

Monsanto has refused to release any rBGH sales figures since January, 1995.

The hormone, which Monsanto sells under the trade name Posilac, and which is also known as BST or BGH or rBGH, has been bitterly opposed by consumer groups on grounds that (a) its effects on humans are not known, but may well be negative; (b) it is not good for cows; (c) it is not needed because the U.S. already produces far more milk than it can consume and taxpayers presently have to foot the bill for purchasing and dumping this excess milk; and (d) there are better, non-chemical alternatives for increasing milk production, if that is a particular farmer's goal. (See REHW #381-384.)

Monsanto's Posilac is a genetically-engineered hormone, known as 'recombinant bovine growth hormone,' or rBGH. Monsanto some years ago renamed it bovine somatotropin, or BST, thus avoiding use of the word "hormone" in public discussions. With inside help from a former Monsanto consultant who went to work for the federal government, the U.S. Food & Drug Administration (FDA) approved rBGH for sale in November, 1993 and the product went on the market in early 1994. (See REHW #382.)

When grocery stores began labeling certain milk as rBGH-free, as a help to their customers who might want to avoid purchasing milk from cows injected with the drug, Monsanto sued to prevent such labeling. Those lawsuits were Monsanto's home-grown variant of the "banana laws" that the food industry has been successfully promoting nationwide, to prevent food-safety advocates from speaking out about potential dangers of chemically-treated foods. (See REHW #481.) However Monsanto lost --or abandoned --all the labeling lawsuits, so labeling milk as rBGH-free is now permitted. The federal FDA, however, has refused to require labeling of milk from rBGH-treated cows.

An important California newspaper, the FRESNO BEE, reported late last year that farmers in California --the largest dairy state

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are treating rBGH like a dirty secret: no one wants to talk about it, and no one wants to admit using it.[1]

Barbara de Lollis, a BEE staff reporter, said Monsanto claims to have sold 14.5 million injections between February, 1994 and January, 1995, reaching almost 30% of the dairy herds in the nation. But then the company stopped releasing sales figures. Ms. de Lollis conducted interviews across California and reported that "an eery silence exists in dairy circles today regarding BST [rBGH]."

"It's too controversial," said Jim Deaver, head of California State University, Fresno's dairy unit, where they inject their herds with rBGH. "He refused to say more," Ms. de Lollis reported.

"Some are embarrassed to talk about it," said Loren Lopes, a Turlock, California producer who milks 300 cows without rBGH. Farmers usually share their success or failure stories when an important new product comes along, but not this time. "They're keeping this hidden. They don't want people to know they're using it," Mr. Lopes told Ms. de Lollis.

Mr. Lopes said he has heard of farmers who store their Posilac in an out-of-sight cabinet or in their home. Some farmers inject their cows themselves after the hired hands go home.

Farmers order rBGH straight from Monsanto and sometimes they have that unmistakable blue-and-orange FedEx truck deliver rBGH to their feed supplier instead of to their farm, so their neighbors won't know they're using the controversial hormone, according to Mark Kastel, a researcher with the Wisconsin Farmers Union. The Union recently released an anecdotal report citing animal health problems tied to the drug.[3]

A survey published last October in DAIRY TODAY, a respected midwestern farm journal, said 20 percent of U.S. farmers have tried rBGH. But opposition appears to be hardening among farmers, according to the survey firm, Rockwood Research. Among farmers who hadn't used rBGH, 87 percent said they would never use it.

Rockwood interviewed 400 farmers in 21 states during the summer of 1995. One-fifth of the farmers lived in Wisconsin, the state with the strongest anti-rBGH sentiment.

The survey says the main reasons for avoiding rBGH are: philosophical opposition (34 percent); fear that the drug harms cows (23 percent) and concern that rBGH won't improve profits (17 percent).

Of farmers who have tried the drug, 40 percent have since given it up.

Of 30 farmers who used rBGH and then stopped, 16 said the drug didn't improve profits, 10 said it caused health problems and four said rBGH required too much time to manage, the survey showed.

The survey noted that farmers with larger herds are more willing to use rBGH. For example, 34 percent of farmers with herds of 250 cows or more tried rBGH, but only 11 percent with herds between 40 and 99 cows used the milk-stimulating hormone.

Even in California, which is the original home of the large, technologically sophisticated dairy farm, rBGH usage was down at the end of 1995, according to two agricultural economists who track California's dairy industry --Leslie Butler from University of California at Davis and Vernon Crowder with Bank of America.

Ms. Butler blamed the decline on the "cost-price squeeze." Cows eat more feed when they're on rBGH and feed prices are sky-high right now. Mr. Crowder blamed bad weather: rBGH would add more stress to cows already affected by heavy rains earlier in the year.

Dr. Charles Holmberg, a pathologist at the Tulare (California) Veterinary Medicine Center, noticed another trend: Dairy farmers, fearful of reproduction problems in cows, are using rBGH on a more limited basis instead of on their whole herd.

Jerry Steiner, who directs Monsanto's U.S. marketing efforts for rBGH, said the DAIRY TODAY survey didn't explore changes in the dairy industry that Monsanto believes will

improve sales or rBGH.

Monsanto's research shows that 30 percent to 40 percent of dairy farmers plan to leave the industry within five years, Mr. Steiner said. "A lot of older dairymen will retire," he said. "A new generation of dairymen have different views."

Many older farmers believe their cows are more than mere milk factories to be used up and discarded. Injecting rBGH reduces a cow's life expectancy and increases her risk of disease. Normally for about 12 weeks after a cow calves, she produces milk at the expense of her own tissues. She loses weight, she is infertile, and she is more susceptible to diseases such as mastitis (inflammation of the udder). Eventually her milk output diminishes, her food intake catches up, and she begins to rebuild her body. By injecting rBGH, a farmer can postpone for another 8 to 12 weeks the time when the cow begins rebuilding her body. This means that the cow is stressed for another 8 to 12 weeks and is more susceptible to infection during that period. This takes its toll on the animal.

Veterinarians are not supposed to sanction harmful treatment of animals. However, U.S. veterinarians have not taken a stand against the use of rBGH. In Germany, however, veterinarians formally oppose rBGH because of its ill effects on treated cows. German veterinarians take the position that use of rBGH violates their code of ethics.

Ethics is not Monsanto's primary concern. Jerry Steiner said he expects "significant growth" in doses sold this calendar year. "Significant" means an increase of 25 percent to 40 percent, he said.

Without providing numbers, Monsanto also said there has been "steady growth" in the number of rBGH-treated cows and in the percentage of cows within herds receiving the drug.

However, last October, shortly after the DAIRY TODAY survey was released, Monsanto began offering new discounts to farmers to buy rBGH.[4]

The discount of up to 10 percent rewards farmers willing to use the drug on more of their cows, Mr. Steiner says.

The discount plan--for farmers who make a six-month commitment--was launched in mid-October, 1995. It replaces another incentive program that gave farmers credits on future purchases.

Announcement of the new marketing strategy coincided with the release of the survey in DAIRY TODAY, showing that farmers' interest in rBGH is leveling off or even declining, but Monsanto denies any connection.

Now a new medical study seems certain to diminish rBGH's prospects even further. Proponents of rBGH acknowledge that milk from cows treated with rBGH contains increased levels of insulin-like growth factor (IGF-1), though there is disagreement about

the size of the increase. IGF-1 occurs naturally in both cows and in humans, and the molecule is identical in the two species.[5,6] Furthermore, IGF-1 is not broken down by pasteurization. Therefore, IGF-1 ingested in milk from rBGH-treated cows will likely be biologically active in humans. (See REHW #454.) Dr. Samuel S. Epstein at the University of Illinois in Chicago last month published a paper arguing that IGF-1 from rBGH-treated cows may well promote cancer of the breast and of the colon in humans who drink such milk. Epstein pulled no punches: "In short," he wrote, "with the active complicity of the FDA, the entire nation is currently being subjected to an experiment involving large-scale adulteration of an age-old dietary staple by a poorly characterized and unlabeled biotechnology product. Disturbingly, this experiment benefits only a very small segment of the agricultural industry while providing no matching benefits to consumers. Even more disturbingly, it poses major potential public health risks for the entire U.S. population," Dr. Epstein wrote. --Peter Montague

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[1] Barbara de Lollis, "Barbara de Lollis Column," FRESNO BEE October 22, 1995, pg. unknown.

[2] Samuel S. Epstein, "Unlabeled Milk from Cows Treated with Biosynthetic Growth Hormones: A Case of Regulatory Abdication," INTERNATIONAL JOURNAL OF HEALTH SERVICES Vol. 26, No. 1 (1996), pgs. 173-185.

[3] Associated Press, "BGH Woes Alleged in Report," WISCONSIN STATE JOURNAL [Madison, Wisconsin] October 14, 1995, pg. 8B.

[4] Robert Steyer, "Monsanto offers discounts to dairy farmers," ST. LOUIS POST-DISPATCH October 22, 1995, pg. 1.

[5] T.B. Mephram, "Public health implications of bovine somatotrophin [sic] use in dairying: discussion paper," JOURNAL OF THE ROYAL SOCIETY OF MEDICINE Vol. 85 (December 1992), pgs. 736-739.

[6] Judith C. Juskevich and C. Greg Guyer, "Bovine Growth Hormone: Human Food Safety Evaluation." SCIENCE Vol. 249 (1990), pgs. 875-884.

Descriptor terms: bst; posilac; bgh; rbgh; recombinant bovine growth hormone; igf-1; food safety; milk; monsanto; ethics;

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Peter Montague, Editor

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