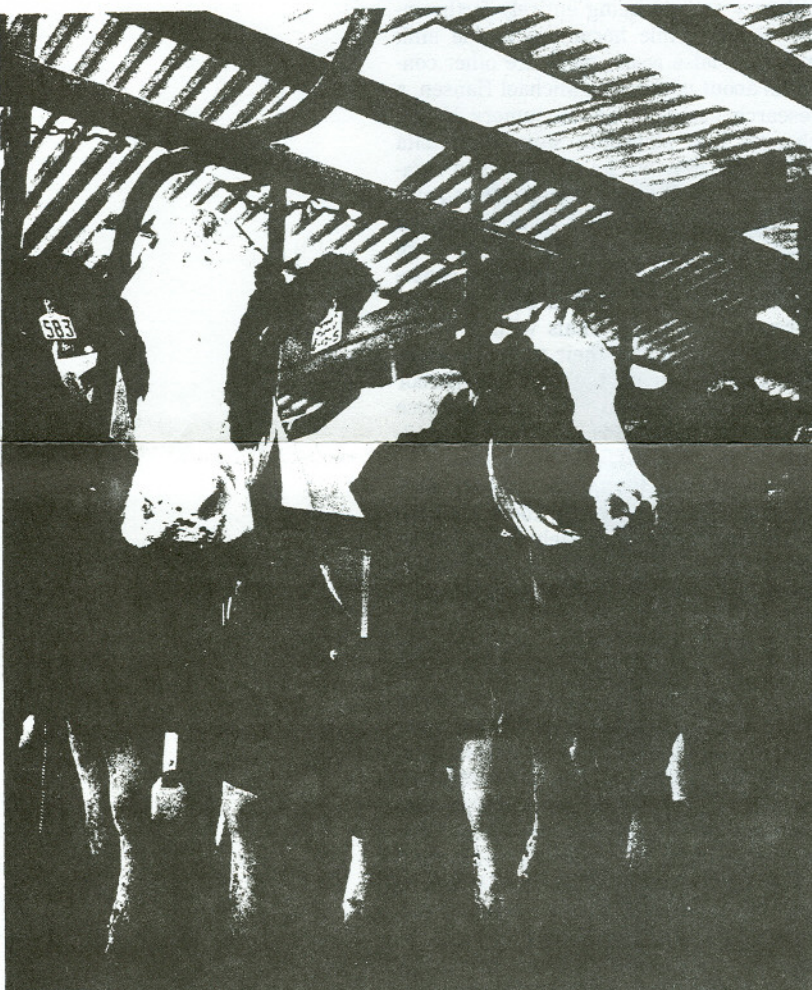


PHIL SCHOFIELD



SCIENCE

Udder Insanity!

A battle is raging over the safety of milk from cows treated with a genetically engineered hormone

By PHILIP ELMER-DEWITT

IT'S THE DRINK OF CHOICE FOR YOUNG children, one of nature's most perfect foods. Sure, it's a little heavy on fat, but to Americans at least, a tall glass of milk remains an icon of health, nutrition and clean-cut values—the drink Mom pours for you when she serves her apple pie. No wonder, then, that the ground seemed to tremble a bit in the nation's capital last week when the biotechnology industry faced off with consumer advocates over a matter of concern to every U.S. household: Do new high-tech production methods threaten the safety of American milk?

The immediate question, debated with considerable heat before two Food and Drug Administration advisory panels, was

whether to require special labels on milk from cows given a synthetic hormone to increase their production. Consumer advocates led by the anti-biotech gadfly Jeremy Rifkin shout yes, insisting that such milk could represent a health threat. The biotech industry, which has millions at stake, naturally disagrees, and it has the support of many government scientists who have found the milk to be safe.

Caught in the middle are the nation's 140,000 dairy farmers who, having run up a milk surplus for at least a dozen years, are split on whether the extra milk production is a good thing and convinced that the consumer controversy is not.

The controversy is not likely to go away. At week's end the panels adjourned without making a formal recommendation

With BGH, these cows will make more milk but might require more antibiotics

on the labeling issue to FDA Commissioner David Kessler. Most panel members felt that the disputed labels should not be required. They also believed that milk processors ought to be able to advertise their products as hormone free, although it is not clear whether the FDA will allow that. Both sides felt that they had lost something, and those who wanted the hormone banned outright vowed to take their case to shoppers across the U.S.

The substance at the center of the dispute is a naturally occurring protein known to scientists as bovine somatotropin, or more simply, bovine growth hormone (BGH). Dairy farmers have known for decades that cows given booster shots of BGH would produce more milk—up to 15% more. But the only available source of the hormone was the pituitary glands of butchered cows, which yield only minute quantities. Then, in 1982, scientists used new gene-splicing techniques to manipulate bacteria into mass-producing BGH. By the mid-1980s, four drug companies—including Monsanto and Eli Lilly—had applied to the FDA for permission to market the product.

The drug companies hoped that BGH would be biotech's first big agricultural success. The estimated worldwide market: \$1 billion a year. Given the green light for small-scale testing, they administered BGH to 20,000 dairy cows—less than 1% of the U.S. herd—and as predicted, milk production shot up.

But on the way to its first billion, BGH ran into a major roadblock: Rifkin. The activist has campaigned against everything from the space shuttle to beef consumption, but his single biggest beef is about genetically engineered food products.

At first glance, Rifkin's position on BGH—that all dairy products from BGH-treated cows should be clearly labeled—seems perfectly sensible. After all, shouldn't consumers get the data they need to make an informed choice? But Rifkin himself isn't above misleading the consumer. One of his anti-BGH ads shows a young child with a glass of milk and a caption that reads, "Was there a dose of artificial growth hormone in her milk this morning?"

Scientists at the National Institutes of Health and the FDA have found that, in fact, there is no elevated level of BGH in the milk of cows who received the hormone. "Milk from treated and untreated cows is functionally and biologically the same," asserts Lisa Watson, a Monsanto spokeswoman, who



RIFKIN: "We're prepared to kill this product"

points to a list of scientific groups, including the American Medical Association, that endorse the safety of milk from BGH-treated cows.

But Monsanto and others in the biotech industry are not being entirely forthcoming either. While hormones in the milk may be a false issue, there are other concerns about using BGH. Michael Hansen, a research associate at Consumers Union, charges that Monsanto suppressed data that would have put its product in an unfavorable light. The biggest issue, he and other scientists say, is that the hormone can lead to udder infections that not only are painful to cows but also could have consequences for those who drink the milk. Farmers treat the animals with powerful antibiotics that find their way into milk. Humans who drink the stuff can harbor bacteria that develop resistance to those antibiotics, and thus run the risk of developing infections that are hard to treat.

The dairy industry, for its part, says consumers needn't worry about antibiotics, because milk is routinely tested for the drugs and if they are found, the milk is discarded. Rifkin says such testing is insufficient.

Many of the nation's smaller dairy farmers are on Rifkin's side in the BGH battle. They are afraid that the hormone will produce a milk glut and drive down prices. But what dairy farmers large and small fear most is that the BGH controversy will scare off customers. Firms that have staked their reputation on purity—manufacturers of baby formula and whole-earth companies like Ben & Jerry's and Stonyfield Farm—have publicly forsworn the use of the hormone. Market surveys bear out industry concern, predicting a 10% decline in national milk consumption should BGH be widely used.

Last week's events put FDA Commissioner Kessler in the hot seat. Kessler made his mark as a champion of consumers' rights and clear food labeling. But there are cases where labeling creates a misleading impression, and this may be one of them. "Where do you draw the line?" asks a policy expert at the FDA. "Do you label all the biotech products? Do you list all the fertilizers? All the pesticides?"

Kessler is likely to approve BGH for commercial use, but he will find himself under pressure to defend the decision to a fearful and skeptical public. Rifkin promises to make things as difficult as possible. He is set to launch a yearlong anti-BGH campaign that includes full-page newspaper ads, 30-second TV and radio spots, and a grass-roots boycott of companies that continue to use the hormone. "We've got a short list of potential targets," he declared before a packed hearing room last week. "Kraft, are you here? Safeway, are you here? Land-O-Lakes, are you here?"

—Reported by
**Janice M. Horowitz/New York and Dick
Thompson/Washington**