

## Executive Summary

Increasing future use of biotechnology on farms that raise animals is likely to stir consumer concerns and possibly outright resistance from grocery stores, restaurants and other retailers. Regardless of the science, overcoming public skepticism toward cloned animals and their offspring and other technologies may take years.

## Issue Background

When farmers and ranchers consider biotechnology, they often think of genetically modified crops such as soybeans, cotton and corn. They also know the use of biotechnology in agriculture makes some Americans uncomfortable—possibly because consumers generally are unfamiliar with it and uninterested in learning why biotechnology is a positive advance for agriculture.

News coverage of plant technology controversies and scientific breakthroughs with “pharmaceutical” crops have helped convey both information and misinformation about biotechnology to wider audiences in recent years. Public skepticism may have taken root as a result of this media exposure.

“Modern animal biotechnology is developing against the background of public experience with plant biotechnology, and controversy ... may be a continuing feature of animal biotechnology development,” according to a Congressional Research Service report in February 2007.

In animal agriculture, the first application of modern biotechnology was the artificial insemination (AI) of farm animals in the 1950s. AI and other assisted reproductive technologies like embryo transfer and in-vitro fertilization have become more common over the years, and members of the general public accept them. But now there is growing awareness of the development of cloning, recombinant bovine growth hormone and

transgenics, and it is reasonable to anticipate growing resistance by consumers.

Much of the controversy that already exists comes down to matters of ethics and perception. Consumers will decide how they feel about these biotechnologies based largely on whether they trust farmers and ranchers to apply them humanely to the animals in their care.

Furthermore, while consumers’ perceptions may be swayed by what they hear from various advocacy groups, sales may be determined to a greater degree by the corporate social responsibility initiatives of their grocery stores, coffee shops and the like.

Issue Briefing  
Food Safety:

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## AFBF Policy

**AFBF Policy 100, Animal Cloning:** “We support the continued development of animal cloning as a means to advance assisted reproductive technology such as artificial insemination, embryo transfer and ‘in-vitro’ fertilization.”

**AFBF Policy 105, Biotechnology** (excerpted):

“We support:

(1) The science-based labeling policies of FDA, including:

(a) No special labeling requirement unless a food is significantly different from its traditional counterpart, or where a specific constituent is altered (e.g., nutritionally or when affecting allergenicity); and

(b) Voluntary labeling using statements that are truthful and not misleading; and

(2) Voluntary labeling of identity-preserved agricultural and food products that is based on a clear and factual certification process.

“We oppose all attempts by local political subdivisions to limit the production or use of genetically modified crops or animals.

“We support patenting of animals to allow biotechnology companies to recover the costs of research and development of transgenic animals for agriculture.”

The entire policy book is posted at <http://silo.fb.org/Policy/AFBFPolicyBook.htm>.

## More About Cloning

Cloned animals are sometimes compared to prized bulls because they are too valuable to be marketed as food. The Food and Drug Administration estimated it may cost \$20,000 or more to produce one cloned farm animal.

The FDA has released two draft risk assessments on the safety of cloned animals and their offspring. The draft risk assessment of October 2003 stated “the current weight of evidence suggests that there are no biological reasons . . . to indicate that consumption of edible products” from clones “poses a greater risk than consumption of those products from their non-clone counterparts.”

A second draft risk assessment, released in December 2006, similarly concluded that meat, milk and other products from cloned cattle, pigs and goats and

their offspring is safe for humans. The second report stated there was not enough data available to reach the same safety conclusions about sheep clones.

However, the controversy about cloned animals is largely one of ethical considerations and consumer perceptions. After two draft risk assessments delivered generally reassuring news regarding safety, the FDA continues to ask livestock breeders to voluntarily refrain from marketing the meat and milk products of cloned animals and their offspring.

This, then, is the central issue: The federal government says meat and other products derived from cloned animals would be safe for consumers, but they should not have the opportunity to purchase these items until more is known.

## What’s Happening Now?

Farmers and ranchers should expect the role of biotechnology in animal agriculture to receive more attention from lawmakers, regulatory officials and consumers as time passes. As noted elsewhere in this issue briefing, the scientifically proven safety of animal products made with biotechnologies likely will be eclipsed by the public’s perceptions and ethical concerns.

While members of Congress in the past have proposed bills to prohibit human cloning, no bills appear to have been introduced to prohibit animal cloning.

However, Sen. Barbara Mikulski (D-Md.) introduced S. 414 to require the labeling of foods that contain product from cloned animals earlier this year. Rep. Rosa DeLauro (D-Conn.), chair of the House Appropriations’ agriculture subcommittee, introduced a companion bill, H.R. 992.

Sen. Herb Kohl (D-Wis.) introduced S. 536 to prohibit the labeling of food derived from clones as “organic;” Rep. Lynn Woolsey (D-Calif.) introduced a companion bill, H.R. 1396.

Several federal entities—the Food and Drug Administration, the Department of Agriculture, the Environmental Protection Agency, the Interior Department’s Fish and Wildlife Service and the Commerce Department’s National Marine Fisheries Service—are relevant in some way to biotechnology issues, but the existing regulatory framework may not be adequate to address emerging science in this area.

## Public Relations Resources

### Talking Points

- Americans benefit from modern technologies in countless ways every day. Likewise, they shouldn't hesitate to enjoy the benefits that come from developing the world's most nutritious, abundant and affordable food supply using the latest biotechnologies.
- Farmers and ranchers owe their fellow Americans the best meat, milk, poultry, eggs, fruits and vegetables, and they take seriously their need to provide farm animals with humane treatment and care. Using the latest biotechnologies available to agriculture helps farmers meet their long-term commitments to consumers and farm animals.
- Using biotechnology doesn't change how farmers and ranchers feel about their farm animals. Farmers still provide humane care and show concern for their animals' health and safety.
- People may think farmers and ranchers in rural areas are slower to embrace modern technology than non-farmers, but a lot of the men and women who produce the country's food and fiber want to use the latest technologies available to them, just like urban residents do.
- Farming today takes prudent management of farm finances, but biotechnologies are expensive. Farmers who choose biotechnology do so because it is a wise business decision for them.
- Farmers and ranchers and their families consume the agricultural products they produce. They also want consumers to enjoy the healthiest dairy products, meat, poultry and eggs available.

## Public Opinion Research

Despite increasing pressure on livestock producers by animal rights activists, surprisingly little research assessing public perceptions has been conducted to date.

The Pew Initiative on Food and Biotechnology in December 2006 reported that its public opinion research showed that while Americans “are not well informed about animal cloning, they are overwhelmingly uncomfortable with it.” After hearing “animal cloning is a technique used by animal breeders to make genetically identical copies of an adult animal,” 64 percent say they are uncomfortable with animal cloning, compared to 22 percent who

say they are comfortable with it. The Pew Initiative reported these figures were similar to 2005 survey results.

In addition, religious attendance affects how people feel about animal cloning, “with less religious Americans expressing greater comfort and more religious Americans harboring greater reservations,” according to the Pew Initiative.

Further, the Pew Initiative reports people are less certain that foods from animal clones are safe when compared with food derived from plant clones.

The Humane Society of the U.S. has taken note. “American consumers are increasingly concerned

about the treatment of animals raised and slaughtered for food,” said Wayne Pacelle, HSUS president and CEO, following the Food and Drug Administration's release of a second draft risk assessment in 2006. “Numerous studies have shown that animals in cloning research can and do suffer. The HSUS is committed to scientific advancement, but only that which has a legitimate social value and improves—not decreases—animal welfare, two critical components lacking in the case of developing commercial cloning of farm animals.”

Visit <http://pewagbiotech.org/research/2006update/9.php> for more about this survey.

## A Closer Look

We know animals are made of billions of cells, but you may not know each cell has a complete “instruction manual” or genome—consisting of genes—residing in its nucleus.

When scientists place a new gene into an animal’s genome, the animal is said to be transgenic because it expresses a desired trait. The potential production of transgenic animals is only one emerging biotechnology.

Below are examples of transgenic research:

- *Pigs*—Heart-healthy bacon and pork chops may one day be the result of efforts by the University

of Missouri and other schools to create transgenic pigs with meat containing high levels of omega-3 fatty acids. Currently the only way to realize the benefits of omega-3 fatty acids is by taking dietary supplements or eating types of fish that tend to contain higher levels of mercury, according to a March 2006 news release. Similar research may produce omega-3 fatty acids in cow’s milk and chicken eggs, according to the Congressional Research Service.

- *Fish*—Researchers believe transgenic salmon would grow

faster and better tolerate cold water and diseases, but critics warn the escape of transgenic salmon could harm wild populations among other concerns. The U.S. government is considering approving these salmon for human consumption.

Eventually transgenic livestock may help solve human disease riddles and produce organs, tissues and blood products for humans.

To learn more, visit [www.ext.vt.edu/pubs/biotech/443-003/443-003.html](http://www.ext.vt.edu/pubs/biotech/443-003/443-003.html) and <http://munews.missouri.edu/print.cfm?newsid=9022>.

## Issue Background

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For instance, Starbucks—the world’s largest retailer of coffee—is phasing out milk, cream and other products derived from the use of rbST, an acknowledgement that public perception is a greater concern than government safety guarantees. “If I’ve got 10 percent of my customer base that’s concerned about this issue, I’m concerned,” Orin Smith, Starbucks former chief executive, said when the decision was announced earlier this year.

The Publix grocery chain made a similar announcement regarding its private-label milk. “As a retailer

devoted to customer satisfaction and highest quality of products, we wanted our customers to enjoy the wholesome goodness of milk, without added hormones,” said Publix’ Maria Brous about the decision, effective May 1. And Salt Lake City-based Associated Food Stores is touting its store-brand milk as “all natural from cows not treated with the growth hormone rbST.”

Meanwhile, the International Dairy Foods Association continues to call for maintaining the moratorium on the sale of food and products from cloned animals and their offspring, until the Food and

Drug Administration “has implemented new safeguards to ensure consumer acceptance of these products.” It states the sale of milk from cloned cattle could cause consumption to drop by 15% them.

## For More Information

The following AFBF staff members assembled this issue briefing:

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### Additional Resources

Additional information is posted on Farm Bureau’s intranet site, SILO, at <http://silo.fb.org/issues/livestock>.

Among the resources posted on the Livestock Issues Management pages on SILO are news clips, links to past Issues Management Briefings about related issues and links to agricultural law programs around the U.S. Links to related conference calls and PowerPoint® slide presentations also are posted on these pages.