

## What Will Consumers Do? Understanding Consumer Response When Meat and Milk From Cloned Animals Reach Supermarkets

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The U.S. Food and Drug Administration is poised to release a risk assessment that is expected to find the offspring of cloned animals safe for the food supply. This reproductive breeding technique is appealing to ranchers and farmers because it enables them to create “identical twins” of their best breeding stock – allowing them to more quickly breed desirable traits into herds. While observers worry that consumers won’t accept meat or milk from cloned animals and their offspring, actual purchasing behavior is hard to predict. Some consumers are uneasy about the idea, but a new survey suggests that most would consider buying food from these animals and their offspring. This briefing document examines the topic.

### Opinions are Uninformed

Animal cloning is a subject on which public opinion is “soft,” which means that opinions are still being formed.

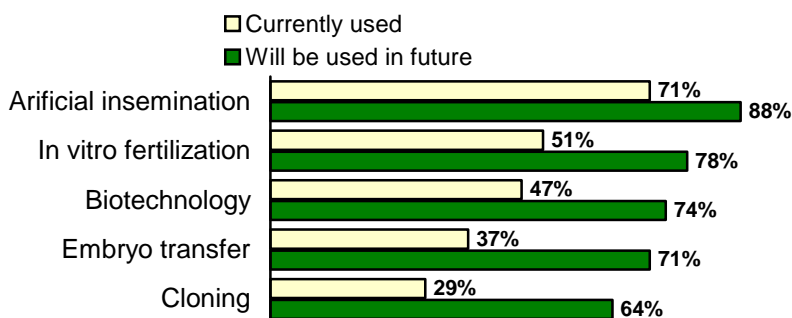
On the one hand, nearly all Americans have heard the word “cloning,” and many have strong impressions and strong images about cloning, often influenced by popular entertainment. According to a *Popular Science* article (“Invasion of the Clones,” January 2005), “cloning films have racked up \$1.6 billion in ticket sales since the early 1970s.” In addition, of course, many consumers still recall Dolly-the-Sheep and the Raelians.

On the other hand, few consumers have thought about cloning as a reproductive technology that might be used to breed farm animals for food. When cloning has been in the news, it has mostly been in the context of medical technologies.

Thus, just one in four consumers say they’ve heard something about the applying the science of biotechnology to animals, and when asked to list things that concern them about food safety, cloning doesn’t even make the list. Consumers do, however, assume that these technologies are in their future. One third of the public believes that animal cloning is already and currently used to breed livestock, but two thirds expect it to be used in the future.

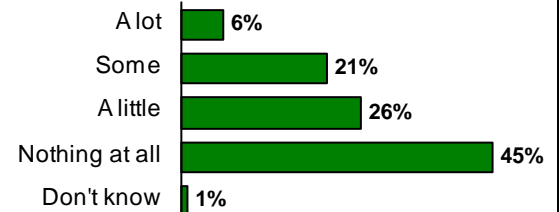
*First, I’m going to read you a list of some assisted reproduction technologies that are sometimes used to breed animals used for meat, milk and eggs. For each one, please tell me if that breeding technique is currently used by farmers and ranchers to breed animals.*

*Now I’m going to read the same list of animal breeding techniques again. This time, for each one, please tell me if you think that animal breeding technique will be used by farmers and ranchers in the future.*



### Heard About Animal Biotechnology

*How much have you read or heard about applying the science of biotechnology to animals? Would you say you’ve heard a lot, some, a little, or nothing at all?*



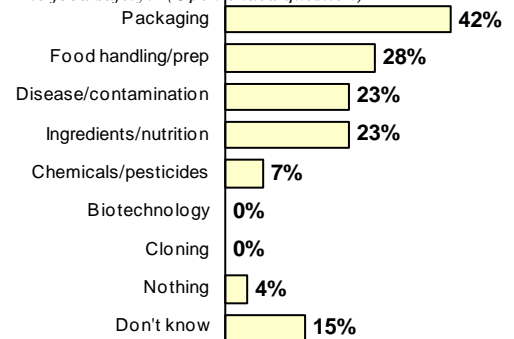
*IF HEARD: What did you read or hear about animal biotechnology? (N=534)? (Top responses)*

Cloning	15%
Faster, bigger, more meat, milk, eggs	11
Hormones	10
Genetic engineering	6
Disease resistance/healthier animals	5
Concerns/testing needed	4
Don't know	27

Source: Cogent Research for the International Food Information Council (IFIC). Nationally representative survey of 1,000 adults, March 2005. Margin of error is ±3.1 percentage points.

### Food Safety Concerns

*What, if anything, are you concerned about when it comes to food safety? (Open-ended question)*



Source: Cogent Research for the International Food Information Council (IFIC). Nationally representative survey of 1,000 adults, March 2005. Margin of error is ±3.1 percentage points.

<sup>1</sup> **Source:** Unless otherwise indicated, findings presented in this paper are from a nationally representative survey of 1,005 adults by KRC Research, conducted October 21-23, 2005. The margin of error at the 95% confidence level is +/-3.1 percentage points. The poll was commissioned by ViaGen. The full questionnaire with results is available from KRC Research.

## Consumer Behavior Is Hard To Predict

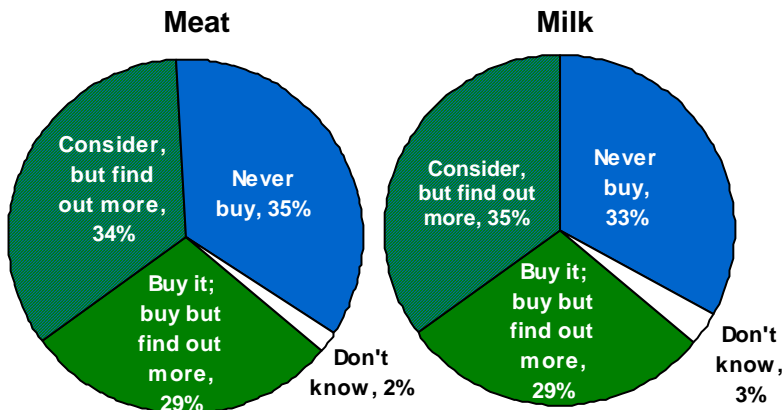
When the Food and Drug Administration (FDA) issues its report saying there are no safety concerns associated with the meat and milk from cloned animals or their offspring, these animals will be treated no differently than other livestock, and products with their meat or milk would become part of the food supply.

No surprise, then, that many are wondering how consumers will react to food from cloned animals, and that researchers are beginning to assess this. For example, a survey conducted in March for the International Food Information Council (IFIC) found that only 34 percent would be very or somewhat likely to buy meat, milk, or eggs derived from cloned animals. Slightly more (39 percent) said they would be likely to purchase meat, milk, and eggs from the offspring of clones. A majority said they would not be likely to buy meat, milk or eggs derived from clones (63 percent) or their offspring (57 percent).

In October, KRC Research conducted a survey exclusively on animal cloning that included two questions on consumer purchase intent—one about meat and one about milk. In designing the question, we gave survey respondents the option to “consider buying” the food. ***In our survey, we found no statistical difference between attitudes on meat or milk, and in both cases, one third were willing to buy meat and milk from the offspring of cloned animals, one third were willing to consider it once they found out more, and one third said they would never buy it.***

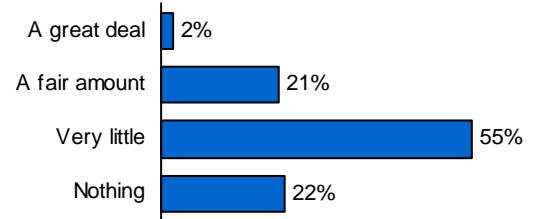
But would a third of consumers really avoid food products from the offspring of cloned animals, and would another third wait to decide until they found out more about it? Previous attempts to measure likely consumer behavior have proven difficult. One example is rbST, a genetically engineered bovine growth hormone that increases milk production in cows. It has been used with cows since 1994. Numerous polls reported widespread concern and experts predicted a 4 to 20 percent drop in milk consumption if rbST was introduced. Predictions, however, proved to be wildly inaccurate, and milk consumption does not seem to have been affected.

*If the FDA determines that [meat / milk] from the offspring of cloned animals is safe, and you learned that a food product you regularly purchase included meat from the offspring of cloned animals, would you continue to buy the food as usual, buy it but plan to find out more, Consider buying it after you find out more, or never buy again?*



## Self-rated Knowledge About Biotechnology

*How much do you know about biotechnology, genetic engineering, or genetic modification? Would you say you know...*



Source: Schulman, Ronca, & Bucuvalas, Inc. (SRBI) for the Food Policy Institute at Rutgers University. Nationally representative survey of 1,201 adults, Feb. 27-April 1, 2003. Margin of error is ±3 percentage points

## rbST Case Study: Report Excerpts

"Comparing survey evidence available before the commercial introduction of rbST with an econometric analysis of milk demand afterwards indicates that the survey evidence did not accurately predict the effects of rbST on milk demand.

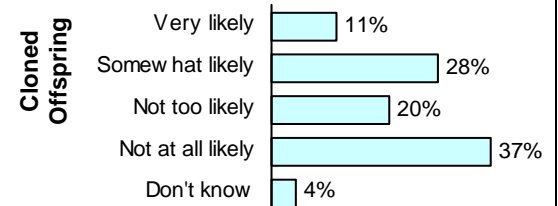
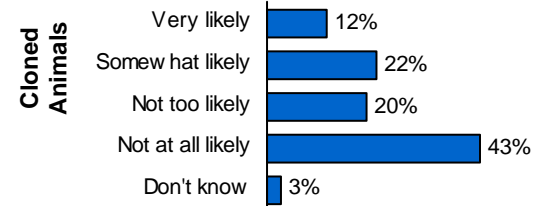
The tests found no effect on the introduction of rbST on aggregate fluid milk consumption. Whether this apparent absence of rbST impact in the retail milk market occurred because consumers essentially trusted government regulation, were unaware of the introduction of rbST, or were not willing to incur the cost of making adjustments is uncertain.

Even intense controversy may have minimal or no effect on total consumer demand. Consumer demand for milk was unaffected, which suggests that other products could be similarly unaffected."

Source: Economic Research Service of the USDA, "Consumer Acceptance of Biotechnology: Lessons from the rbST Experience," by Lorna Aldrich and Noel Blisard, Dec. 1998.

## Cloned Animals and their Offspring

*If the U.S. Food and Drug Administration (FDA) determined that meat, milk, and eggs from [cloned animals / conventionally bred animals whose parents were clones, but who are not clones themselves] were safe, how likely would you be to buy them?*



Source: Cogent Research for the International Food Information Council (IFIC). Nationally representative survey of 1,000 adults, March 2005. Margin of error is ±3.1 percentage points.

## Information and Consumer Acceptance

When opinions are unformed, the context and wording of questions can influence survey results. Thus, for example, giving consumers the option of getting more information about food from the offspring of cloned animals results in far fewer saying they definitely will not purchase such food.

Similarly, when opinions are unformed, new information can have a significant impact. ***For example, in 2004, a study for the Pew Initiative on Food and Biotechnology found that 40 percent had no opinion on the safety of “genetically modified foods,” while two thirds divided between feeling it is safe and unsafe. In the next question, survey respondents were told that more than half of the products at the grocery store are produced using some form of biotechnology or genetic modification, and opinions about the current level of safety increased instantly by 18 percentage points.***

## Acceptable Reasons for Cloning Animals

In our October survey, after asking consumers about their likely purchase behavior, we read them six reasons that farmers and ranchers might use animal cloning techniques, and asked them whether they were acceptable or unacceptable.

Large majorities said each of the six reasons was acceptable. In particular, consumers said that animal cloning would be acceptable in order improve animal health, to improve the nutrition of meat and milk, to breed animals immune to diseases, and to save rare animal breeds.

## Information That Increases Comfort

Toward the end of our October survey, we also read respondents seven informational statements about the use of animal cloning, and asked whether each statement made them feel more or less comfortable with food from animals bred using reproductive cloning techniques.

Respondents were most comfortable learning that animal cloning is regulated by three federal agencies, and that cloned animals are like those bred using in vitro fertilization (they are born to their mothers in the usual way and grow up just like other animals).

In addition, half said they were more comfortable learning about the extent of the research, that companies that do animal cloning oppose human cloning, that cloned livestock are as healthy as other animals, and that cloning does not involve genetic modification.

## Acceptable Uses for Cloning

*I’m going to read you some reasons that farmers and ranchers might use animal cloning techniques. For each one, I’d like to know whether you would say that reason is acceptable or unacceptable. (First/next), would you say it is an acceptable or unacceptable reason to use animal cloning techniques...*

### Percent Say “Acceptable”

In order to improve the overall health of animals used for food—healthy animals means healthy food.	68
In order to breed healthier animals that require fewer antibiotics and growth hormones.	67
In order to improve the nutrition of meat and milk—for example, by breeding livestock with leaner meat.	64
In order to breed animals immune to diseases like BSE, or Mad Cow Disease.	64
In order to save rare animal breeds and maintain genetic diversity.	63
In order to accelerate the reproduction of the healthiest and most productive livestock to improve overall animal health.	62

## Information that Increases Consumer Comfort

*Next, I’m going to read you more information about animal cloning techniques. For each one, tell me if that statement makes you more comfortable or less comfortable with food from animals bred using cloning techniques. (First/next), READ ITEM. Would you say that statement makes you more comfortable or less comfortable with food from animals bred using reproductive cloning techniques?*

### Percent Say “More Comfortable”

Animal cloning is carefully regulated. Three different government agencies ensure the safety of animal cloning in livestock for food, including the FDA, the Department of Agriculture, and the Environmental Protection Agency.	57
Similar to in vitro fertilization, cloned animals begin in a laboratory, but then are born to their mothers in the usual way and grow up just like other animals.	57
The National Academy of Sciences reviewed all research on animal cloning and determined that there are no food safety concerns posed by the offspring of cloned animals.	54
Evidence from over 100 scientific studies conducted over several decades from many generations—with large families of cloned livestock—shows that cloning is a safe method for reproducing animals.	53
The companies that use cloning techniques to reproduce animals are strongly opposed to human cloning, as are international bodies such as the United Nations and most governments.	53
Animal cloning techniques have improved dramatically over the past decade. Cloned livestock are just as healthy as other animals.	51
Animal cloning does not involve genetic modification—cloning involves making a genetic replica of an ancestor without modifying its genes.	50
Animal cloning is the most promising development in animal breeding in fifty years.	42

## Sources of Information

On controversial and complex issues, consumers generally say they trust sources of information that they believe have particular expertise, that they believe have no vested or commercial interest in the issue, and that they believe put consumers' interests first. This issue is no different.

In our October survey, we read consumers a list of groups that may take positions on the use of animal cloning techniques for livestock, and asked how much they would trust each source. Overall, on the issue of animal cloning, consumers are most likely to trust government agencies and medical professionals. Thus, the highest ranked sources in the survey were the U.S. Department of Agriculture, veterinarians, physicians, and the FDA.

A second tier of credible sources included the Department of Health and Human Services, the Environmental Protection Agency, the National Academy of Sciences, the World Health Organization, and university scientists.

## Conclusion

Consumers have little knowledge about animal cloning as a breeding technique for farm animals, so their opinions are likely to be changeable. Although most consumers do not know that animal cloning is currently used by farmers and ranchers to breed animals, a majority expect them to use it in the future.

If the FDA determines that there is no safety concern associated with meat and milk from cloned animals, and consumers know they are purchasing this meat and milk, one third say they will not buy it, one third say they will, and another third will consider purchasing it after they learn more about it.

Like rbST, however, if the FDA finds that meat and milk from cloned animals raise no safety concerns, such foods will carry no special labels. Organic farmers might advertise their meat and milk as clone-free, as they currently do with rbST, but it is not clear how much this might change consumer behavior—if at all. Many consumers are certainly uncomfortable with the idea of animal cloning, but many are also uncomfortable with genetic engineering of plants and with the use of bovine growth hormone, and yet foods containing these ingredients are widely purchased. Thus, the jury is very much out on whether the advent of animal cloning will affect consumers choices a lot, a little, or not at all.

## Reliable Sources of Information

*I'm going to mention some people and groups. Please tell me how much you would trust what each has to say about the use of cloning in farming, ranching, and food production—a great deal, a moderate amount, just a little, or not at all. If you've never heard of something, just say so. Let's start with...*

### Percent Trust Great Deal or Moderate Amount

