

FRANKENFOOD? Not Quite!



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Remember the last time you cut into that perfect, juicy, tender steak? What if you could have that experience every time you ate at your favorite steakhouse? For many people, steak is a treat they indulge in only a few times a year. Yet, it is rare that they get that perfect cut of meat.

Ranchers and agricultural companies have seen demand for beef slide since the 1970s. Consumption has dropped 27% in the last thirty years, while chicken consumption has risen. The biggest complaint that people have about beef is that they can never be sure of the quality of the meat.

Addressing this concern is one of the biggest reasons producers are now experimenting with cloning livestock. USDA prime beef, currently only about 3 percent of all beef steaks, could become our only grade of beef, and at affordable prices. Also, fewer superior dairy cows could produce the same quantity of milk while making less animal waste. Although it may be controversial, cloning isn't new by any means. We eat clones all the time, including apples, bananas, and potatoes, to name a few. However, are milk and meat from cloned cattle and their non-cloned offspring also safe to eat?

Recently, the Food and Drug Administration (FDA) declared that meat and milk from cloned animals is safe to consume and poses no unique risks to consumers. This announcement is paving the way for cloned products to show up in grocery stores across the land. This makes sense,

because there is no evidence to show that there is anything unsafe about milk or meat from cloned animals. The impact of the FDA's decision will be felt beyond the United States borders.

The real promise of cloning is not to eat the cloned cows, but to make genetically altered animals and breed them. In fact, cloning animals is very expensive, with a price tag ranging from \$15,000 to \$50,000 each. Ranchers would not clone an animal only to slaughter it. Instead they would clone animals with desirable traits, such as leaner meat, and breed the resulting genetic copies with other animals. This process would improve herds over the course of generations and is very similar to modern crop breeding. The result for consumers is consistently better meat and other animal products from the progeny of clones, not from the clones themselves.

The reasons for cloning include more than just better steaks. Most cattle are sold to meatpackers alive, and producers are not paid on the grade of their meat, but on the weight of each animal. These farmers benefit from cattle that can fatten up quickly and efficiently. One cow can gain 8 pounds per day while eating the same amount of feed another cow is to put on 3.5 pounds per day. Imagine how much less feed would be given if the cow was cloned and its offspring all had average daily gains closer to 8 pounds.

Theoretically, any trait could be targeted for cloning: more muscle, less fat, or more omega-3 acids.

In dairies, this technology could be used to increase milk production. Holsteins cows could produce milk with higher-than-normal protein and fat content, which is important for making butter and cheese. In addition, cows could give 38,000 pounds of milk per year, compared to the 19,000 pounds from an average cow. Cloning technology could be used to produce more milk per year, using fewer cows. It could result in more and better food for everyone, from milk and cheese to great steak!

Efficient cloning can reduce the use of antibiotics and growth hormones by spreading healthier genes. Cloning can be humane, also. Farmers don't want their animals to get sick. Instead of cows born big, they'd rather have them born small, so their mothers can deliver them easily and grow quickly thereafter. Dairy farmers prefer female calves to males, which get slaughtered for veal. Cloning could address all 3 issues.

Some food industry skeptics are fearful that consumers may reject milk and meat from cloned cows, however, history argues otherwise. Twenty years ago, there were similar concerns when dairy farmers began using the first gene-spliced veterinary product, bovine somatotropin, or BST. The hormone stimulates milk production in cows and, at one time, generated

significant controversy. Some analysts predicted that its introduction would frighten consumers so much that milk consumption would drop 20 percent or more. However, the product was hugely successful, and the controversy had little or no effect on the total demand or consumption of milk.

Cloning technology is similar to other reproductive technologies, including artificial insemination and in-vitro fertilization, which are widely used in today's livestock operations. None of today's domestic animal breeds would ever have developed using only natural selection and random breeding. There would be no Holstein cows for superior milk production and no Angus cattle for high-quality beef. Cloning technology allows producers to reduce the decade or so now required to get superior animals to market with superior genetic traits which are then placed into artificial insemination breeding programs.

Full Flush is a celebrity. No one asks for his autograph, but they do ask for his progeny. Named for a winning poker hand, this aging grand champion bull can't meet the demand of the cattle ranchers who want more like him. But, the bull's clones may keep his legacy alive. Full Flush, like hundreds of other superior bulls, will be one of many success stories in the future. Full Flush and his progeny will help to provide us with that perfect, juicy, tender steak that American consumers love.

Bibliography

- Bren, Linda. (January 2007) *Cloning: revolution or evolution in animal production*. Retrieved on March 30, 2007 from www.clonesafety.org
- Caplan, Arthur. (February 1, 2007) *Dolly on the dinner table*. Retrieved March 25, 2007 from www.msnbc.msn.com
- Conko, Gregory. (2007) *Animal cloning no barnyard bijou*. Retrieved on April 7, 2007 from www.fda.gov
- Gogoi, Pallavi. (2007) *Why cloning is worth it*. Retrieved on March 29, 2007 from www.businessweek.com
- Henderson, Diedtra. (2007) *Preparing cloning for market*. Retrieved January 26, 2007 from www.boston.com
- Hunter, Scott. (2007) *Frankenfood?*. Retrieved on April 10, 2007 from www.washingtonpost.com
- Kephart, Dean. Cattle rancher and producer, Canute, OK, personal interview on March 10, 2007.
- Saletan, William. (2007) *The fruit of our sirloins*. Retrieved March 1, 2007 from www.washingtonpost.com
- Weiss, Rick. (2007) *FDA says clones are safe to eat*. Retrieved on March 29, 2007 from www.washingtonpost.com
- Williamson, Brent. (2007) *Cloning "MYTHS"*. Retrieved on April 3, 2007 from www.fda.gov

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