

Time to Send in the Clones?

Livestock Cloning: Producer Applications, Consumer Benefits

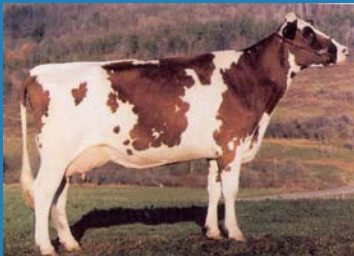
April 11, 2006

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Historical Context Is Crucial

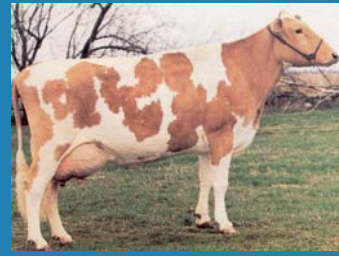
- Farmers Have Long Known The Importance of Livestock Genetics
 - That's why we have beef cattle vs. dairy breeds



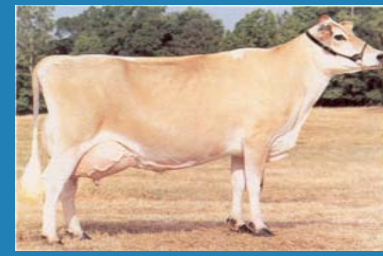
Ayrshire



Brown Swiss



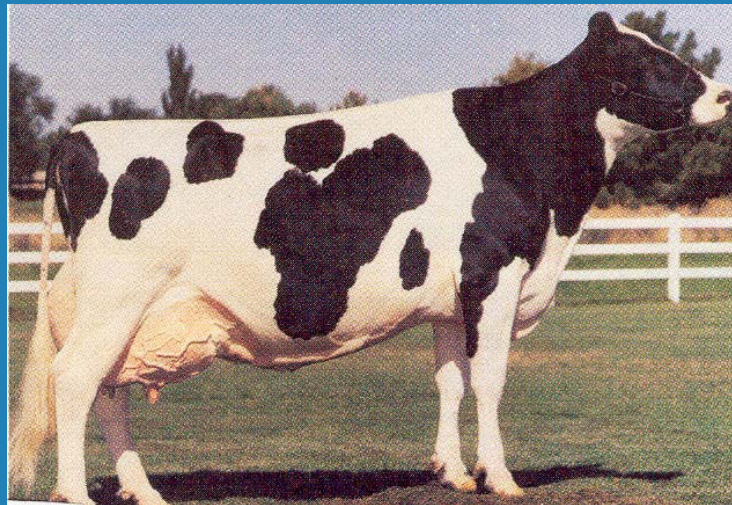
Guernsey



Jersey

Historical Context Is Crucial

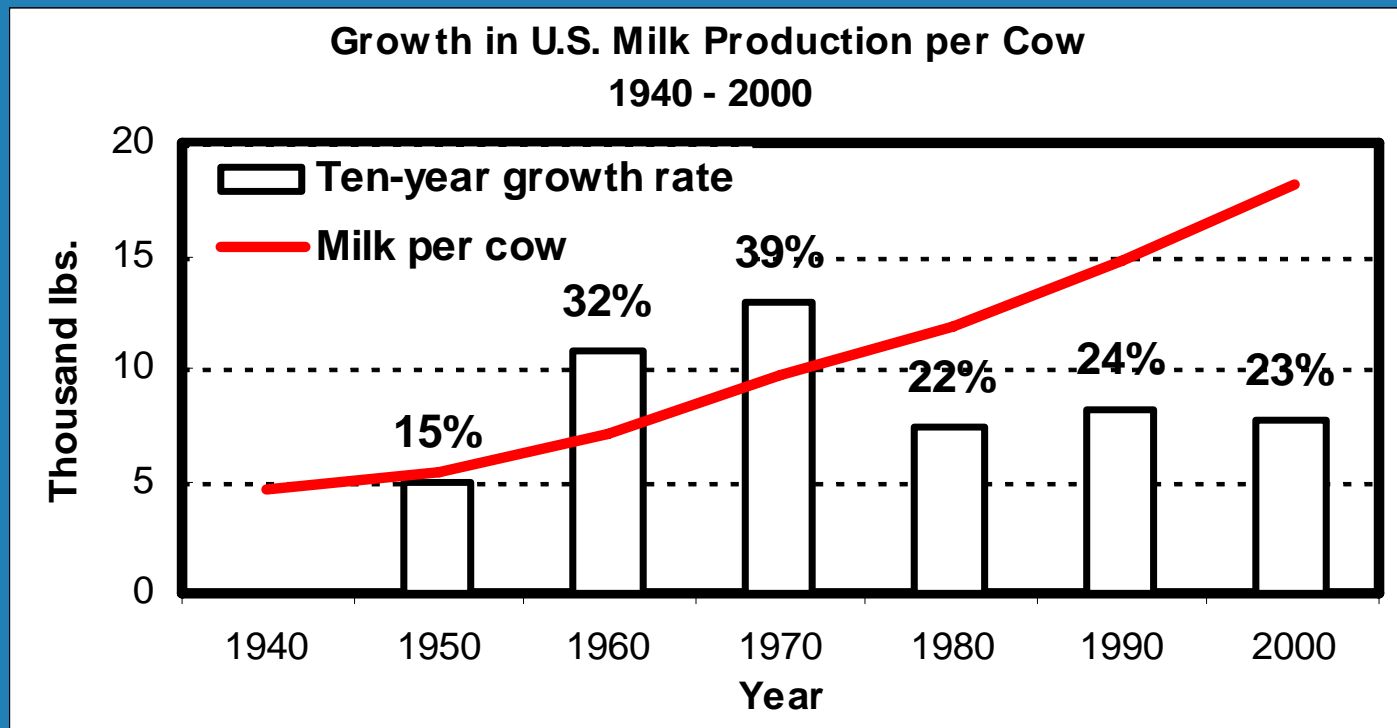
- Among those 5-6 dairy breeds, one stands out with 90+% of U.S. dairy population



Holstein

Historical Context Is Crucial

- Emphasis on genetics have led to great strides in animal health, milk production



Historical Context Is Crucial

- Traditional breeding (letting nature run its course) is as anachronistic as the 3-legged milk stool
- Artificial insemination is the standard operating procedure today
- Embryo flushing of top producers



Historical Context Is Crucial

- Bottom-line contextual question: Is somatic cell cloning revolutionary or just evolutionary?



- Other forms of cloning in use for years
- Is there something fundamentally different from a qualitative standpoint about somatic cloning vs. other reproductive technologies?



Historical Context Is Crucial

- But history also has to guide us from a consumer market standpoint as well
- Strong initial negative reaction to introduction of GMO-produced rBST
- 12 years later, we are seeing continued pressure from consumers and marketers who want “hormone-free” dairy products
- Organic dairy largest, fast-growing category mostly due to hormone issue



Historical Context Is Crucial

- FDA's decision on rBST labeling is still causing problems because many anti-labeling claims are inherently false and misleading
 - No such thing as “hormone-free” milk
 - Cannot test the difference between milk from cows treated with rBST and not, but that's only in the fine print on packaging



Future Context Also Crucial

- Will cloning enhance or compromise the health of dairy breeding stock?
- Can producers get as much bang for the buck from sexed semen, current breeding technologies as cloning?
- Is it worth the P.R. hassle?



Future Context Also Crucial

- NMPPF's Board asked these questions last summer, and arrived at the following position statement:
 - **The National Milk Producers Federation does not at this time support milk from cloned cows entering the marketplace until FDA determines that milk from cloned cows is the same as milk from conventionally bred animals.**



So What Does That Mean?

- We are cautious about a blanket endorsement of the technology until the FDA can provide clear assurance that the cloned cows are normal, and their milk the “same” as milk from “normal” cows



So What Does That Mean?

- If in fact that is what the FDA Risk Assessment assures us, then we don't anticipate having any formal opposition
- However, if the Risk Assessment, and resulting labeling guidelines, leave open the door to misleading claims...that's a problem



So What Does That Mean?

- Our message to the regulators has been that if there is no meaningful difference in cloned animals, their progeny, and their products, then no labeling claims, either positive or negative, should be allowed
- Let's learn from the BST brouhaha

Perception Vs. Reality

- Media coverage treats this as more of a dramatic, revolutionary development than it is
- Issue occurs in context of controversial developments in human cloning





Two Further Challenges

- The primary benefits of SCNT cloning are breeders and owners of high-value livestock
- Direct consumer benefits are not particularly meaningful, as talk of “healthier cows” implies that current cattle population is flawed



Two Further Challenges

- Second challenge is the growing disconnect between the reality of agriculture today, and people's bucolic perceptions and recollections
- This ain't your father's *Charlotte's Web*
- People love their technology, but don't make the connection about why it's also necessary on farms



Two Further Challenges

- This perception gap among many consumers allows the anti-crowd (meat, biotech, large farms, conventional ag, etc.) to put forth disinformation based on people's misunderstanding of science and technology



Two Further Challenges

- Thus, our future challenges have to involve explanations of not just how biotechnology is safe and effective, but also why it is necessary and relevant in food production and processing today
- This cannot be just the yoke that farmers are burdened with

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