

Science Education

The Dairy Biz and the Ayrshire Cow

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Cows have come a long way from their wild and ancient origins to today's calm, peaceful, black and white spotted vision quietly contemplating the flowers. They have worked side-by-side with humans for thousands of years. They are sacred in some cultures, quite tasty to others. Cows provide milk, meat and a means of living for farmers choosing to make the dairy cow their life's work.

Describing how to raise a cow from calf to milk or meat production is enough to fill several *Almanacs*. It's a big job that has undergone constant fine-tuning by farmers based on the desires of consumers. Advances in technology and science (cloning, hormone use) and the gradual urbanization of the United States have forced farmers to look at dairying differently. Some stopped milking completely and focus only on raising the up-and-coming milk cow. Others focus on producing the ultimate sire.

Dairy cows are also a source of heated political and environmental debate. In an Oct. 15, 2007 opinion piece titled "Killer Cow Emissions," the *Los Angeles Times* claimed that cows (and fellow ruminants like goats and sheep) "are responsible for 18% of greenhouse-gas emissions worldwide." The article suggested that livestock animals were among the top three of the world's "most serious environmental problems" and advocated cutting back on the consumption of beef to help protect the environment.

In December 2007, *Hoard's Dairyman* printed a rebuttal titled "Killer Cows - Give Us a Break" in which they noted that the total number of cows has actually decreased over the past 70 years. Today there are approximately 9 million dairy cows in the U.S. producing roughly 180 billion pounds of milk. That's five times more milk than 25 million cows were making 70 years ago. Today's cows, both beef and dairy, are more efficient than their predecessors, producing more food and less manure while doing so.

Dairy farmers today are challenged about what they feed cows. Urbanized public perceptions may affect some of the modern intensive farming practices. Many cows don't get out on pasture. They are fed a selection of



concentrated feeds designed to produce the greatest amount of milk with maximum health efficiency.

Research shows that, as the "California Cow" commercials suggest, "happy cows produce happy milk." There has been a call to more pasture-based grazing. Cow comfort is as much a buzzword in the dairy industry as milk production and butterfat counts. Rising corn prices, fueled by interest in ethanol production, may force dairy farmers to rethink how cows are fed. If the price of corn remains high, it may be more cost effective to return dairy cows to pasture.

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If modern, intensively managed breeds of dairy cattle don't thrive on a pasture diet, breeds that are currently rare may make a comeback. One such breed, the Ayrshire, a white cow with red spots, could lend its easy care and hardy genetics to other cows that may not be suited for management. They do well on grass and produce large quantities of milk and healthy, robust calves.

Originally from the southwest Scotland county of Ayer, these "easy keepers" are known for their "dairy character." Today, the number of once popular Ayrshire cows is declining because they don't produce as much milk as the black-and-white spotted Holstein cows. Considered rare today, the Ayrshire may yet be important to the future dairy industry as times change.

Come to the Farmpark to see cows in action. Try your hand at milking a cow and learn all about these versatile animals.