



The Facts about Environmental Sustainability

U.S. farmers and ranchers are dedicated to supplying the safety, highest quality and affordable source of protein in the world. That is meat, milk and eggs produced in the most efficient way while taking care to assure proper animal well-being and environmental sustainability.

A common consumer perception is that historical methods of food production were inherently more environmentally friendly than modern agricultural practices but despite the rustic pastoral scenes of the “good old days” today’s farms and ranches are actually better for the environment.

A good example of this is the carbon footprint of dairy production in 1944 compared to that of 2007. Accordingly, the carbon footprint in 2007 was 63% less per kilogram of milk than in 1944.

Many of the characteristics of 1940s dairy production – low yielding, pasture-based, no antibiotics, inorganic fertilizers or chemical pesticides – are, in fact, similar to those of modern organic systems. Indeed, studies investigating the environmental impact of organic systems have also described increases in quantity of resources required and carbon footprint per kilogram of milk compared to conventional production.

In most instances, the application of technology has led to the efficiencies achieved in animal agriculture. Take for example, the widespread adoption of genetically modified Bt-corn that significantly increased U.S. corn yields and the introduction of herbicide-resistant soybeans that improved yields and facilitated the use of no-till practices, thus reducing soil erosion, carbon loss and fossil fuel use.

The U.S. dairy industry is another example of where significant efficiency gains have been achieved over the past 60 years. According to USDA data, in 1944, dairy cows numbers peaked at 25.6 million head and total milk production was 53 billion kg. In comparison, the 2007 U.S. dairy herd was comprised of 9.2 million animals that produced a total 84 billion kg of milk. On an equivalency basis, this is a four-fold increase in annual milk yield per cow – 2,074 kg per cow in 1944 and 9,193 kg per cow in 2007. This improvement has been achieved through the introduction of production and management practices that maximize potential milk yields while emphasizing cow health and welfare.

The consumption of non-renewable energy sources is a significant issue within the dairy industry as fossil fuel combustion depletes existing deposits and increases the industry’s carbon footprint. By improving productive efficiency through technology such as recombinant bovine somatotropin (rbST) the industry’s impact on the environment can be reduced. Take for example, the supplementation of one million dairy cows with rbST and the fact that it reduces annual fossil fuel and electricity use by 729 million MJ and 156 million kWh, respectively. This is equivalent to heating approximately 16,000 and powering approximately 15,000 homes.

Furthermore, the amount of water saved by rbST use has been found to be equivalent to the annual amount required to supply approximately 10,000 homes – a considerable environmental benefit in areas where water consumption is a significant concern.

The carbon footprint of cow population supplemented with rbST also is reduced by 1.9 billion kg per year – or an equivalent of removing approximately 400,000 cars from the road or planting approximately 300 million trees. Keep in mind that one million rbST-supplemented dairy cows is equivalent to approximately 15% of the current U.S. dairy herd, and therefore the potential for widespread rbST use to reduce the environmental impact of dairy production should not be underestimated.

Source: *Increased production reduces the dairy industry's environmental impact* by J.L. Capper and D.E. Bauman of Cornell University, Ithaca, NY and R.A. Cady, formerly of Monsanto Co., St. Louis, MO.

An added environmental benefit

Grazing of land can minimize the invasion of non-native plant species and lower the risk of wildfires by decreasing the amount of flammable material on the land.

Approximately 85% of U.S. grazing lands are unsuitable for producing crops. Grazing animals on this land more than doubles the area that can be used to produce food. Cattle serve a valuable role in the ecosystem by converting the forages humans cannot consume into a nutrient-dense food.

Affordability of U.S.-produced food

The efficiency in today's agriculture means that American consumers spend only 10% of their income on food. This compares to elsewhere in the world where 18-25% of consumers' income goes toward the purchase of food.

A family affair

A common misbelieve is that large corporations control today's farms and ranchers, but the fact of the matter is that 99% of U.S. farms and ranches are still owned by individuals and family corporations or partnerships. According to the U.S. Department of Agriculture, there are only 7,000 non-family-controlled corporate farms in the United States. This compares with some 2 million plus family-owned operations.

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