

# Is Dairying Environmentally Friendly?

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NEWARK, Del. — Is dairying an environmentally friendly enterprise?

Of course, you say immediately. How else could a dairy farmer have the same cow milk big buckets full of milk year after year without breakdown to herself and the farm?

By definition, the dairy farmer must be environmentally friendly to accomplish this. Then you remember the dairy farms that are no longer around, and you pause to reconsider your answer.

Not too many years ago, I used to take my students on an annual field trip to see an exemplary dairy farm that lay just outside of Princeton, N.J.

They milked 1,600 cows on a 50-stall rotary milking platform produced certified raw milk. In addition, they mixed their manure with cocoa shells to deodorize it and processed it through a dehydrator into commercially sold garden compost.

The operation was an excellent example of management efficiency, progressive dairying and environmental friendliness!

A few years ago, however, new housing developments surrounding the farm took it to court based on New Jersey clean air statutes. The developments won. Just like that, the farm was out of the dairy business!

When you visit some of California dairy operations and you see so many cows in a small area, you begin to wonder. Can any environment take such congestion

or are neighbors sufficiently far away?

Is the presence of a lot of surrounding pasture a cushion of safety for air and water regulations and other environmental concerns?

Maybe so — at least enough for holding off lawsuit-happy neighbors. But does it answer the question?

When working as a student on a dairy farm in Switzerland in the 1950s, I became aware of the Swiss farmers' concerns about the environment.

Back then, the appearance of the pasture revealed whether the farmer used environmentally friendly practices. When the pasture looked white from an abundance of blooming wild carrots and other nitrogen-loving plants, the concern was that too much manure had been put on the same field too often.

And for making Swiss cheese, the farmers voluntarily agreed to not feed their cows large amounts of concentrates that could influence the quality of their cheese. The self-restraint of Swiss dairy farmers and their concern for the environment and their products made a lasting impression on me.

No matter where we turn today, we are confronted by more and more environmental controversy. Aren't we making progress in that direction? After all, it's our environment too.

We have an environmental U.S. vice president now, and the chemical industry is in a fight for its survival because of environmental lawsuits.

How can dairy farming remain

environmentally friendly and still make the necessary net income?

On a recent visit to India, I saw much that impressed me about the respect for life and animals which the Indian people incorporate into their dairy actions. India has many cows, buffaloes and goats producing milk so that Indians can feed themselves. They also have plenty of pasture land.

What they seem to lack is an equal respect for parts of their environment.

India is crowded with people who need firewood for cooking. This puts great stress on their trees, and trees are already in short supply. Great efforts have been made to encourage the use of dry cow manure bricks as an alternative burning source.

So in India, it is apparently the people rather than dairying that causes environmental problems.

Among our dairy colleagues we see similar examples of concern and lack of concern, a popular topic of many conferences in recent years.

I just found a dissertation from the German National Research Institute for Dairying at Kiel dealing with what happens when dairy farmers are asked to change from their traditional way of feeding and managing to a new system of environmentally oriented ecological farming.

Europeans are already ahead of us in their environmental concerns and what to do about it. Their choices are limited because Europe has a greater number of people on fewer acres than we have in the United States.

In the eyes of many there, high

milk production progress is not a blessing economically, politically or socially.

This so-called advancement, which has occurred over the last 40 years because of A.I., more feeding, more fertilizer and imported U.S. Holstein bulls, has caused surpluses and put stress on the environment. The result is an upsurge of interest in more natural farming methods — ecological or organic farming versus traditional farming.

The 1993 dissertation of Stephan H. Weber examined data of the University Kiel dairy research herd. The herd was split into halves of 30 cows each; for five years, from 1987 to 1992, one was managed ecologically and the other traditionally.

Ecological management was based on the guidelines of the International Federation of Organic Agriculture Movement (IFOAM), which prescribe that:

\* a farm must be managed holistically;

\* there should be no intensive soil management;

\* diversified crop rotation should be used to ensure soil fertility, control of weeds, insects, other pests and diseases;

\* manure should be used instead of easily soluble fertilizer;

\* no pesticides nor herbicides should be used, allowing instead for the natural resistance forces of soil and plants; and

\* dairy cattle should be fed mainly farm-grown feeds at a ratio of no more than 1.1 large animal units (1,100 pounds) per acre, with commercial feeds making up no more than 20 percent of the daily nutrient requirements (dry matter basis) for dairy cattle and without any not natural supplements.

These guidelines are interesting to contemplate, especially if they are what's in our future. They were followed for the study at Kiel, in addition to many chemical, nutritional and economical tests to determine effects on quality and composition of milk and milk fat, milk protein, somatic cells, reproductive efficiency, nutritional sufficiency for the cows and economics for the farmer.

The results of the study were:

\* reduced fertilizer management decreased detrimental contents in groundwater and runoff;

\* an absence of mycotoxins in milk of the ecologically handled herd, while the traditionally fed cattle produced milk with low amounts of mycotoxins;

\* Holsteins in the ecological group averaged 11,740 pounds milk in 305 days with only 4 pounds concentrates per cow per day. Average milk yield of the traditional group was 14,040 pounds milk with 15 pounds concentrates per cow per day;

\* farm-grown forages needed 0.4 acres per large animal unit for the ecological group, while the traditional group required 0.2 acres;

\* indications of energy shortage in the feeding of the ecological group, but no differences in reproductive efficiency, mastitis, milk composition, cheese yield and taste of milk between the groups; and

\* ecologically fed cows had lower feed costs; however, the bottom line was that the change to ecological management of the dairy cows produced \$200 less per lactation and \$415 less per acre in net income.



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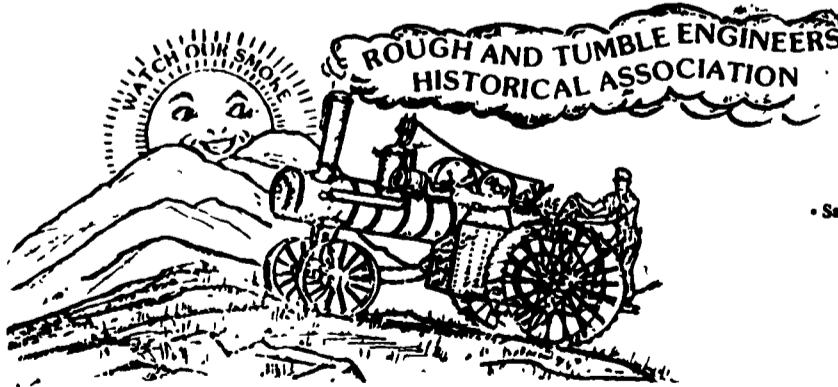
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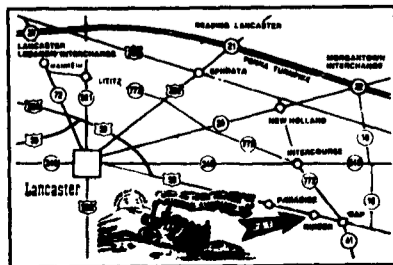
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