

TURNING FARMERS INTO ROBOTS



I opened the paper recently to see that three large dairy farms had gone bankrupt in my part of the country. All three were what we have become accustomed to calling “Dutch dairies” in the eastern corn belt—farmers who came to America some ten to fifteen years ago with money in their pockets from selling very high-priced land in Holland, willing to pay top dollar for American farms. The university, agribusiness, and realty experts welcomed them with open arms and supported them lock, stock, and bulk tank. Many of us who have been around bulk tanks for a long time protested the wisdom of this development as vigorously as we could. If American farmers couldn’t make it with thousand-cow dairies, how could farmers from far off do it without intimate knowledge of our soils, climate, and particularly the local people with which they would have to do business? The Wise Men of Economics said we were just xenophobic, which is a fancy university word for prejudiced against foreigners. They

—Gene Logsdon

wouldn’t listen to what we were saying. They shunned us.

Now those experts are being very, very quiet. They are hoping no one will recall all that rosy yakkety yak they were saying back then. Someone should hold their hands to the fire and make them admit their mistakes. I tried once. I tried to get in touch with one of them and was told he had retired and on that particular day, was playing golf in Palm Springs.

If I sound angry that’s because I am. The economics ruling agriculture are destructive and unsustainable and more people must stand up and say so or soon there will be no more real farmers left but just a bunch of puppets doing whatever they must do to get their subsidies, which they then must turn right around and give to their suppliers who are the real beneficiaries of all this largess. I have met some of the Dutch dairymen who bought farms not far from where I live and they are decent, hardworking people. They just made the mistake of listening hypnotically, like many American farmers do, to the champions of bigness. If only they had taken their money and started modest operations and farmed the

careful way that their grandparents in Holland had taught them, they would still be in business, because they would not have had to borrow so much money, if any at all. It is just a very sad, sorry situation.

Nor is it just Dutch dairies in trouble—not by far. The most telling evidence of the desperateness of the situation is that the government has forked over another \$350 million to persuade dairymen to send cows to market, hoping to boost milk prices that way. How many times has this been tried? The only result is to drive down meat prices as all those cows go to slaughter. When is someone in the Department of Agriculture or in our Colleges of Agriculture going to say it: No matter how much money you have when you start buying land, or cows, or snazzy new technology, you can’t make a go of dairying anymore (if anyone ever could) under the mantra that increasing size increases net income. There’s a limit to that and we have reached it. Milk prices have quadrupled since I was milking and the price still can’t keep up with costs.

Farmers who believe that the economy of scale requires constant expansion have become little more than guinea pigs for every so-called money-saving, labor-saving, energy-saving, hot-shot idea that comes along. They are becoming the robots of the Monsanto Clauses.

Speaking of robots, much in the news recently have been the new “robotic” milking systems. Cows, so I read (I haven’t had a chance to see one in operation yet), are trained to amble into one of these robotic units as the spirit moves them and while they stand there languorously eating their feed which is electronically doled out to them, other electronic devices wash the cow’s udder, attach the teat cups, empty the cow’s bag, and then detach. In the process the cow’s health can be checked. I suppose her cholesterol count and blood pressure could also be electronically monitored. It might be a good time also for a glowing reporter to interview her about health care—she might have something interesting to say since hers is subsidized almost as much as that of our senators. Mrs. Cow can then saunter out of the stall all by herself to spend her time at her leisure (perhaps reading books on economics) only to come back into the milking unit when the urge moves her. All without benefit of human help.

Reading about these wonders, I find myself floating off into a winsome world of make-believe. The whole drift of the words, which are written by someone who sounds like he or she hasn’t ever seen a cow until yesterday, let alone milked one, tempts the reader to assume that all things under the sun can be manipulated by electronic sensors. In only a few more years, electronic sensors will make the manure that follows the cow around in her robotic spa disappear the second it hits the air. Out in the corn fields (sometimes hundreds of miles away) electronic sensors will turn on and off gentle showers as needed. Electronic sensors will protect the corn from weeds and insects and diseases—with yields of 400 bushels an acre entirely possible. Unmanned Drones will spirit the grain out of the field and off to the elevators where more electronic sensors will dry it properly, transform it magically into meal and float it mystically to the robot milking units. Nothing in this whole vast system will ever break down, need grease, get mastitis, or require a farmer, all of whom will be working in factories making robots. The cost of this magnificent system will be only \$636 a bushel, but you can bring that down a little if you add another 300,000 cows.

It is not the robotic felicity of this modern dairy system that mystifies me however. After all, robots are building most of our automobiles these days so I suppose robot milkers are not far behind. But, and usually you will see this figure only at the very end of articles on this subject, one robot unit—one unit—costs \$200,000. And a big dairy will need at least two or three. And no one is saying how soon they will need to be replaced.

Hold that thought a moment.

Most large-scale dairies, with or without robotic milkers,

are accompanied by manure lagoons full of, in aggregate, enough slurry and undigested corn silage to raise the level of Lake Erie a foot or so. Science has discovered that these lagoons give off lots of methane, which is more dangerous as a greenhouse gas than carbon dioxide per unit of volume. But noooo problem. This is just an opportunity waiting to be taken advantage of, yakkety yakkety yak. Put covers over the lagoons, stupid. Cuts down on odor too.

So why do many big dairy farmers hesitate to install covers on their lagoons? They also can cost \$200,000, that’s why.

So, assuming that large dairies must have two or three robot milking units and a lagoon or two plus covers, before they even start adding up all the ordinary costs of milking cows, they are over a million dollars in the hole.

Nooooo problem. Yakkety yak. Turn that methane into natural gas and make money on it. Generate electricity with it.

And so it has come to pass. University scientists are working feverishly to improve methane digesters and giant ones are being installed in dairy factories. Will they save the day?

Here’s a quote from one of the leading magazines on waste management, *BioCycle*, in a May 2009 article, “Economies of Scale in Renewable Natural Gas.” The person quoted is David Albers, the owner of the 5000-cow Vintage Dairy in California on which he installed a large-scale digester system: “We would not make money [from methane] at Vintage with just Vintage. The investment is just too great. We need thousands and thousands of cows to run through the system.” Yes. My bet is that he will never learn how many thousands of cows he will need because costs will always outrun income.

Collecting methane from manure is an old idea. There are reasons why it has only slowly been adopted and then only in some areas. To get a decent supply of methane off manure slurry, the latter’s temperature has to be at least 80 degrees F, which means that in cold weather making natural gas this way is not very efficient. I found this out years and years ago. I was visiting John Shuttleworth, who would become famous as the founder of *Mother Earth News*, on his father’s dairy farm in Indiana. He and his father had rigged up a tank of liquid cow manure to brew methane. It really worked, but the tank had to be extremely well-insulated so the manure didn’t get too cold. In winter, making methane was not such a hot idea. Nevertheless we were in high spirits that day. We fired up a little gas stove with the manure gas and fried ourselves some eggs from the Shuttleworth henhouse. We thought we were ushering in the dawn of environmental sanity. Maybe we were, too, if the process had been developed on a small scale the way it is done in India, where methane from a household’s few pigs is captured and used for cooking fuel.

I have yet to find in my searching one case of a large

animal factory generating methane for energy, or ethanol for gasoline, or even just using more traditional methods of handling manure but in very large quantities, that is not funded by government grants or subsidies and/or speculative private investment money. The only way any of this technology will prove to be truly profitable is when the consumer is willing to pay ten dollars for a glass of milk.

All of large-scale agriculture is pricing itself out of the food market. An up-to-date, 5000-acre corn and soybean farm needs a corn price of around \$3.86 a bushel to break even right now, Illinois economists say. Others say \$4.00 is more like it. Yet anyone with 40 acres of land, and it need not be an Amish farmer either, can plant it to corn and net at least \$2.00 a bushel at a four-dollar selling price, using hand, horse, or small tractor power. At 150 bushels per acre, he or she could net \$12,000 on their labor on that forty acres—a tidy little income for spare-time work especially in these times of serious unemployment. Do farm suppliers believe that smart young people aren't going to figure that out and start doing it? Some already are. Maybe the big seed companies realize that this is the real future and that's why they are trying to patent all the seed germ plasm in the world.

I just finished talking to one of the smartest people I know. He milks cows for a living. He doesn't like for me to use his name. He is far from being Amish. He milks 40 cows. Maybe 50 sometimes. I know his production, I know his somatic cell count, I know his butterfat average, I know the

price he gets for his milk, I know his farm. My heart goes out to all the dairy farmers who are losing money right now, but this farmer is not one of them. He is not one of them because he has never listened to the sirens of get big or get out. He and his wife are good spouses and good parents, the very kind of people we should be encouraging in farming, not figuring out how to turn farmers into robots like their equipment. I was talking to him about manure because I am writing a book on that subject and I wanted to make sure I wasn't saying anything that sounded stupid to him. He wouldn't hesitate to tell me if I did, by the way. We were talking about methane digesters and lagoons and robotic milkers and free stalls and sand bedding and concrete lots and fertilizer prices and feed costs, and I don't know what all.

He finally cleared his voice, hesitated, and I knew something important was coming. "You know what I really think," he said. "I've tried just about every method in the books to handle manure. When you consider everything, the very best way is with an old-fashioned manure pack. It takes time and labor to bed down every day, but in the end, that's the best. And as fertilizer prices go up, the value of that kind of manure goes up too."

Amen, fellow Brother of the Bulk Tank, amen. 

Gene and Carol Logsdon have a small-scale experimental farm in Wyandot County, Ohio. Gene is the author of numerous books and magazine articles on farm-related issues and is a regular contributor to Farming Magazine.



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