AMERICAN: The Journal of the American Enterprise Institute

Thursday, July 30, 2009

The Omnivore's Delusion: Against the Agri-intellectuals

By Blake Hurst

Farming has always been messy and painful, and bloody and dirty. It still is. This is something the critics of industrial farming never seem to understand.

I'm dozing, as I often do on airplanes, but the guy behind me has been broadcasting nonstop for nearly three hours. I finally admit defeat and start some serious eavesdropping. He's talking about food, damning farming, particularly livestock farming, compensating for his lack of knowledge with volume.

I'm so tired of people who wouldn't visit a doctor who used a stethoscope instead of an MRI demanding that farmers like me use 1930s technology to raise food. Farming has always been messy and painful, and bloody and dirty. It still is.

But now we have to listen to self-appointed experts on airplanes frightening their seatmates about the profession I have practiced for more than 30 years. I'd had enough. I turned around and politely told the lecturer that he ought not believe everything he reads. He quieted and asked me what kind of farming I do. I told him, and when he asked if I used organic farming, I said no, and left it at that. I didn't answer with the first thought that came to mind, which is simply this: I deal in the real world, not superstitions, and unless the consumer absolutely forces my hand, I am about as likely to adopt organic methods as the Wall Street Journal is to publish their next edition by setting the type by hand.

> Young turkeys aren't smart enough to come in out of the rain, and will stand outside in a downpour, with beaks open and eyes skyward, until they drown.

He was a businessman, and I'm sure spends his days with spreadsheets, projections, and marketing studies. He hasn't used a slide rule in his career and wouldn't make projections with tea leaves or soothsayers. He does not blame witchcraft for a bad quarter, or expect the factory that makes his product to use steam power instead of electricity, or horses and wagons to deliver his products instead of trucks and trains. But he expects me to farm like my grandfather, and not incidentally, I suppose, to live like him as well. He thinks farmers are too stupid to farm sustainably, too cruel to treat their animals well, and too careless to worry about their communities, their health, and their families. I would not presume to criticize his car, or the size of his house, or the way he runs his business. But he is an expert about me, on the strength of one book, and is sharing that expertise with captive audiences every time he gets the chance. Enough, enough, enough.

Industrial Farming and Its Critics

Critics of "industrial farming" spend most of their time concerned with the processes by which food is raised. This is because the results of organic production are so, well, troublesome. With the subtraction of every "unnatural" additive, molds, fungus, and bugs increase. Since it is difficult to sell a religion with so many readily quantifiable bad results, the trusty family farmer has to be

thrown into the breach, saving the whole organic movement by his saintly presence, chewing on his straw, plodding along, at one with his environment, his community, his neighborhood. Except that some of the largest farms in the country are organic—and are giant organizations dependent upon lots of hired stoop labor doing the most backbreaking of tasks in order to save the sensitive conscience of my fellow passenger the merest whiff of pesticide contamination. They do not spend much time talking about that at the Whole Foods store.

The most delicious irony is this: the parts of farming that are the most "industrial" are the most likely to be owned by the kind of family farmers that elicit such a positive response from the consumer. Corn farms are almost all owned and managed by small family farmers. But corn farmers salivate at the thought of one more biotech breakthrough, use vast amounts of energy to increase production, and raise large quantities of an indistinguishable commodity to sell to huge corporations that turn that corn into thousands of industrial products.

> The biggest environmental harm I've done as a farmer is the topsoil (and nutrients) I used to send down the Missouri River to the Gulf of Mexico before we began to practice no-till farming, made possible only by the use of herbicides.

Most livestock is produced by family farms, and even the poultry industry, with its contracts and vertical integration, relies on family farms to contract for the production of the birds. Despite the obvious change in scale over time, family farms, like ours, still meet around the kitchen table, send their kids to the same small schools, sit in the same church pew, and belong to the same civic organizations our parents and grandparents did. We may be industrial by some definition, but not our own. Reality is messier than it appears in the book my tormentor was reading, and farming more complicated than a simple morality play.

On the desk in front of me are a dozen books, all hugely critical of present-day farming. Farmers are often given a pass in these books, painted as either naïve tools of corporate greed, or economic nullities forced into their present circumstances by the unrelenting forces of the twin grindstones of corporate greed and unfeeling markets. To the farmer on the ground, though, a farmer blessed with free choice and hard won experience, the moral choices aren't quite so easy. Biotech crops actually cut the use of chemicals, and increase food safety. Are people who refuse to use them my moral superiors? Herbicides cut the need for tillage, which decreases soil erosion by millions of tons. The biggest environmental harm I have done as a farmer is the topsoil (and nutrients) I used to send down the Missouri River to the Gulf of Mexico before we began to practice no-till farming, made possible only by the use of herbicides. The combination of herbicides and genetically modified seed has made my farm more sustainable, not less, and actually reduces the pollution I send down the river.

Finally, consumers benefit from cheap food. If you think they don't, just remember the headlines after food prices began increasing in 2007 and 2008, including the study by the Food and Agriculture Organization of the United Nations announcing that 50 million additional people are now hungry because of increasing food prices. Only "industrial farming" can possibly meet the demands of an increasing population and increased demand for food as a result of growing incomes.

> The distance between the farmer and what he grows has certainly increased, but, believe me, if we weren't closely connected, we wouldn't still be farming.

So the stakes in this argument are even higher. Farmers can raise food in different ways if that is what the market wants. It is important, though, that even people riding in airplanes know that there are environmental and food safety costs to whatever kind of farming we choose.

Pigs in a Pen

In his book Dominion, author Mathew Scully calls "factory farming" an "obvious moral evil so sickening and horrendous it would leave us ashen." Scully, a speechwriter for the second President Bush, can hardly be called a man of the left. Just to make sure the point is not lost, he quotes the conservative historian Paul Johnson a page later:

The rise of factory farming, whereby food producers cannot remain competitive except by subjecting animals to unspeakable deprivation, has hastened this process. The human spirit revolts at what we have been doing.

Arizona and Florida have outlawed pig gestation crates, and California recently passed, overwhelmingly, a ballot initiative doing the same. There is no doubt that Scully and Johnson have the wind at their backs, and confinement raising of livestock may well be outlawed everywhere. And only a person so callous as to have a spirit that cannot be revolted, or so hardened to any kind of morality that he could countenance an obvious moral evil, could say a word in defense of caging animals during their production. In the quote above, Paul Johnson is forecasting a move toward vegetarianism. But if we assume, at least for the present, that most of us will continue to eat meat, let me dive in where most fear to tread.

Lynn Niemann was a neighbor of my family's, a farmer with a vision. He began raising turkeys on a field near his house around 1956. They were, I suppose, what we would now call "free range" turkeys. Turkeys raised in a natural manner, with no roof over their heads, just gamboling around in the pasture, as God surely intended. Free to eat grasshoppers, and grass, and scratch for grubs and worms. And also free to serve as prey for weasels, who kill turkeys by slitting their necks and practicing exsanguination. Weasels were a problem, but not as much a threat as one of our typically violent early summer thunderstorms. It seems that turkeys, at least young ones, are not smart enough to come in out of the rain, and will stand outside in a downpour, with beaks open and eyes skyward, until they drown. One night Niemann lost 4,000 turkeys to drowning, along with his dream, and his farm.

> Food production will have a claim on fossil fuels long after we've learned how to use renewables and nuclear power to handle many of our other energy needs.

Now, turkeys are raised in large open sheds. Chickens and turkeys raised for meat are not grown in cages. As the critics of "industrial farming" like to point out, the sheds get quite crowded by the time Thanksgiving rolls around and the turkeys are fully grown. And yes, the birds are bedded in sawdust, so the turkeys do walk around in their own waste. Although the turkeys don't seem to mind, this quite clearly disgusts the various authors I've read whom have actually visited a turkey farm. But none of those authors, whose descriptions of the horrors of modern poultry production have a certain sameness, were there when Neimann picked up those 4,000 dead turkeys. Sheds are expensive, and it was easier to raise turkeys in open, inexpensive pastures. But that type of production really was hard on the turkeys. Protected from the weather and predators, today's turkeys may not be aware that they are a part of a morally reprehensible system.

Like most young people in my part of the world, I was a 4-H member. Raising cattle and hogs, showing them at the county fair, and then sending to slaughter those animals that we had spent the summer feeding, washing, and training. We would then tour the packing house, where our friend was hung on a rail, with his loin eye measured and his carcass evaluated. We farm kids got an early start on dulling our moral sensibilities. I'm still proud of my win in the Atchison County Carcass competition of 1969, as it is the only trophy I have ever received. We raised the hogs in a shed, or farrowing (birthing) house. On one side were eight crates of the kind that the good citizens of California have outlawed. On the other were the kind of wooden pens that our critics would have us use, where the sow could turn around, lie down, and presumably act in a natural way. Which included lying down on my 4-H project, killing several piglets, and forcing me to clean up the mess when I did my chores before school. The crates protect the piglets from their mothers. Farmers do not cage their hogs because of sadism, but because dead pigs are a drag on the profit margin, and because being crushed by your mother really is an awful way to go. As is being eaten by your mother, which I've seen sows do to newborn pigs as well.

I warned you that farming is still dirty and bloody, and I wasn't kidding. So let's talk about manure. It is an article of faith amongst the agri-intellectuals that we no longer use manure as fertilizer. To quote Dr. Michael Fox in his book Eating with a Conscience, "The animal waste is not going back to the land from which he animal feed originated." Or Bill McKibben, in his book Deep Economy, writing about modern livestock production: "But this concentrates the waste in one place, where instead of being useful fertilizer to spread on crop fields it becomes a toxic threat."

In my inbox is an email from our farm's neighbor, who raises thousands of hogs in close proximity to our farm, and several of my family member's houses as well. The email outlines the amount and chemical analysis of the manure that will be spread on our fields this fall, manure that will replace dozens of tons of commercial fertilizer. The manure is captured underneath the hog houses in cement pits, and is knifed into the soil after the crops are harvested. At no time is it exposed to erosion, and it is an extremely valuable resource, one which farmers use to its fullest extent, just as they have since agriculture began.

> Pollan thinks farmers use commercial fertilizer because it's easier, and because it's cheap. Pollan is right. But those are perfectly defensible reasons.

In the southern part of Missouri, there is an extensive poultry industry in areas of the state where the soil is poor. The farmers there spread the poultry litter on pasture, and the advent of poultry barns made cattle production possible in areas that used to be waste ground. The "industrial" poultry houses are owned by family farmers, who have then used the byproducts to produce beef in areas where cattle couldn't survive before. McKibben is certain that the contracts these farmers sign with companies like Tyson are unfair, and the farmers might agree. But they like those cows, so there is a waiting list for new chicken barns. In some areas, there is indeed more manure than available cropland. But the trend in the industry, thankfully, is toward a dispersion of animals and manure, as the value of the manure increases, and the cost of transporting the manure becomes prohibitive.

We Can't Change Nature

The largest producer of pigs in the United States has promised to gradually end the use of hog crates. The Humane Society promises to take their initiative drive to outlaw farrowing crates and poultry cages to more states. Many of the counties in my own state of Missouri have chosen to outlaw the the building of confinement facilities. Barack Obama has been harshly critical of animal agriculture. We are clearly in the process of deciding that we will not continue to raise animals the way we do now. Because other countries may not share our sensibilities, we'll have to withdraw or amend free trade agreements to keep any semblance of a livestock industry.

We can do that, and we may be a better society for it, but we can't change nature. Pigs will be allowed to "return to their mire," as Kipling had it, but they'll also be crushed and eaten by their mothers. Chickens will provide lunch to any number of predators, and some number of chickens will die as flocks establish their pecking order.

In recent years, the cost of producing pork dropped as farmers increased feed efficiency (the amount of feed needed to produce a pound of pork) by 20 percent. Free-range chickens and pigs will increase the price of food, using more energy and water to produce the extra grain required for the same amount of meat, and some people will go hungry. It is also instructive that the first company to move away from farrowing crates is the largest producer of pigs. Changing the way we raise animals will not necessarily change the scale of the companies involved in the industry. If we are about to require more expensive ways of producing food, the largest and most well-capitalized farms will have the least trouble adapting.

The Omnivores' Delusions

Michael Pollan, in an 8,000-word essay in the New York Times Magazine, took the expected swipes at animal agriculture. But his truly radical prescriptions had to do with raising of crops. Pollan, who seemed to be aware of the nitrogen problem in his book The Omnivore's Dilemma, left nuance behind, as well as the laws of chemistry, in his recommendations. The nitrogen problem is this: without nitrogen, we do not have life. Until we learned to produce nitrogen from natural gas early in the last century, the only way to get nitrogen was through nitrogen produced by plants called legumes, or from small amounts of nitrogen that are produced by lightning strikes. The amount of life the earth could support was limited by the amount of nitrogen available for crop production.

In his book, Pollan quotes geographer Vaclav Smil to the effect that 40 percent of the people alive today would not be alive without the ability to artificially synthesize nitrogen. But in his directive on food policy, Pollan damns agriculture's dependence on fossil fuels, and urges the president to encourage agriculture to move away from expensive and declining supplies of natural gas toward the unlimited sunshine that supported life, and agriculture, as recently as the 1940s. Now, why didn't I think of that?

Well, I did. I've raised clover and alfalfa for the nitrogen they produce, and half the time my land is planted to soybeans, another nitrogen producing legume. Pollan writes as if all of his ideas are new, but my father tells of agriculture extension meetings in the late 1950s entitled "Clover and Corn, the Road to Profitability." Farmers know that organic farming was the default position of agriculture for thousands of years, years when hunger was just around the corner for even advanced

societies. I use all the animal manure available to me, and do everything I can to reduce the amount of commercial fertilizers I use. When corn genetically modified to use nitrogen more efficiently enters the market, as it soon will, I will use it as well. But none of those things will completely replace commercial fertilizer.

Norman Borlaug, founder of the green revolution, estimates that the amount of nitrogen available naturally would only support a worldwide population of 4 billion souls or so. He further remarks that we would need another 5 billion cows to produce enough manure to fertilize our present crops with "natural" fertilizer. That would play havoc with global warming. And cows do not produce nitrogen from the air, but only from the forages they eat, so to produce more manure we will have to plant more forages. Most of the critics of industrial farming maintain the contradictory positions that we should increase the use of manure as a fertilizer, and decrease our consumption of meat. Pollan would solve the problem with cover crops, planted after the corn crop is harvested, and with mandatory composting. Pollan should talk to some actual farmers before he presumes to advise a president.

Pollan tells of flying over the upper Midwest in the winter, and seeing the black, fallow soil. I suppose one sees what one wants to see, but we have not had the kind of tillage implement on our farm that would produce black soil in nearly 20 years. Pollan would provide our nitrogen by planting those black fields to nitrogen-producing cover crops after the cash crops are harvested. This is a fine plan, one that farmers have known about for generations. And sometimes it would even work. But not last year, as we finished harvest in November in a freezing rain. It is hard to think of a legume that would have done its thing between then and corn planting time. Plants do not grow very well in freezing weather, a fact that would evidently surprise Pollan.

And even if we could have gotten a legume established last fall, it would not have fixed any nitrogen before planting time. We used to plant corn in late May, plowing down our green manure and killing the first flush of weeds. But that meant the corn would enter its crucial growing period during the hottest, driest parts of the summer, and that soil erosion would be increased because the land was bare during drenching spring rains. Now we plant in early April, best utilizing our spring rains, and ensuring that pollination occurs before the dog days of August.

A few other problems come to mind. The last time I planted a cover crop, the clover provided a perfect habitat in early spring for bugs, bugs that I had to kill with an insecticide. We do not normally apply insecticides, but we did that year. Of course, you can provide nitrogen with legumes by using a longer crop rotation, growing clover one year and corn the next. But that uses twice as much water to produce a corn crop, and takes twice as much land to produce the same number of bushels. We are producing twice the food we did in 1960 on less land, and commercial nitrogen is one of the main reasons why. It may be that we decide we would rather spend land and water than energy, but Pollan never mentions that we are faced with that choice.

His other grand idea is mandatory household composting, with the compost delivered to farmers free of charge. Why not? Compost is a valuable soil amendment, and if somebody else is paying to deliver it to my farm, then bring it on. But it will not do much to solve the nitrogen problem. Household compost has somewhere between 1 and 5 percent nitrogen, and not all that nitrogen is available to crops the first year. Presently, we are applying about 150 pounds of nitrogen per acre to corn, and crediting about 40 pounds per acre from the preceding years soybean crop. Let's assume a 5 percent nitrogen rate, or about 100 pounds of nitrogen per ton of compost. That would require 3,000 pounds of compost per acre. Or about 150,000 tons for the corn raised in our county. The average truck carries about 20 tons. Picture 7,500 trucks traveling from New

York City to our small county here in the Midwest, delivering compost. Five million truckloads to fertilize the country's corn crop. Now, that would be a carbon footprint!

Pollan thinks farmers use commercial fertilizer because it is easier, and because it is cheap. Pollan is right. But those are perfectly defensible reasons. Nitrogen quadrupled in price over the last several years, and farmers are still using it, albeit more cautiously. We are using GPS monitors on all of our equipment to ensure that we do not use too much, and our production of corn per pound of nitrogen is rapidly increasing. On our farm, we have increased yields about 50 percent during my career, while applying about the same amount of nitrogen we did when I began farming. That fortunate trend will increase even faster with the advent of new GMO hybrids. But as much as Pollan might desire it, even President Obama cannot reshuffle the chemical deck that nature has dealt. Energy may well get much more expensive, and peak oil production may have been reached. But food production will have a claim on fossil fuels long after we have learned how to use renewables and nuclear power to handle many of our other energy needs.

Farming and Connectedness

Much of farming is more "industrial," more technical, and more complex than it used to be. Farmers farm more acres, and are less close to the ground and their animals than they were in the past. Almost all critics of industrial agriculture bemoan this loss of closeness, this "connectedness," to use author Rod Dreher's term. It is a given in most of the writing about agriculture that the knowledge and experience of the organic farmer is what makes him so unique and so important. The "industrial farmer," on the other hand, is a mere pawn of Cargill, backed into his ignorant way of life by forces too large, too far from the farm, and too powerful to resist. Concern about this alienation, both between farmers and the land, and between consumers and their food supply, is what drives much of the literature about agriculture.

The distance between the farmer and what he grows has certainly increased, but, believe me, if we weren't closely connected, we wouldn't still be farming. It's important to our critics that they emphasize this alienation, because they have to ignore the "industrial" farmer's experience and knowledge to say the things they do about farming.

But farmers have reasons for their actions, and society should listen to them as we embark upon this reappraisal of our agricultural system. I use chemicals and diesel fuel to accomplish the tasks my grandfather used to do with sweat, and I use a computer instead of a lined notebook and a pencil, but I'm still farming the same land he did 80 years ago, and the fund of knowledge that our family has accumulated about our small part of Missouri is valuable. And everything I know and I have learned tells me this: we have to farm "industrially" to feed the world, and by using those "industrial" tools sensibly, we can accomplish that task and leave my grandchildren a prosperous and productive farm, while protecting the land, water, and air around us.

Blake Hurst is a farmer in Missouri. In a few days he will spend the next six weeks on a combine.