A man wearing a white cowboy hat, glasses, a blue shirt, a blue tie, and a dark suit jacket is kneeling in a grassy field. He is holding a small green plant in his hands. In the foreground, a brown chicken is standing in the grass. The background is a lush green field with trees in the distance.

Joel Salatin on Food & Farming

Select writings from the pages of Acres U.S.A. magazine.

by Joel Salatin

ACRES_{USA}

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Although large, industrial farms may have a lot of advantages in the food industry, nothing can match the appeal of a well-managed, small, sustainable farm. Farmers who are open, transparent, and welcoming to consumers foster trust and a relationship that industrial farms can never offer. Small farms also allow animals the chance to truly express their “animalness,” to perform as biology and nature intend. Creating a farm that mimics nature and nurtures livestock is a foolproof way to keep your animals happy and healthy. Empires will fall, but the small farmer will survive.

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Sustainable farming is great for the environment, but can it actually keep our population of 7 billion and counting fed? Joel Salatin takes a look back at the point in history at which chemical and organic agriculture diverged. Although conventional agriculture is usually credited as being more advanced, ecological agriculture has come a long way since the days of Grandpa’s farm as well. Biodiversity benefits not only the environment but also yields in ways that modern research methods generally fail to take into account. Ecological farming may have gotten off to a slow start in feeding the world, but it’s catching up, and fast.

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A farm should be viewed as a series of relationships if it is to be truly successful. Soil, plants and animals all work together to keep a farm functioning, and the farmer must see himself as an important member in these relationships. Salatin also reminds to us to be mindful of the relationship of trust between the farm and the community and the relationship between generations of farmers. True sustainability requires elderly wisdom leveraged on youthful energy. Building relationships is the calling, the sacred ministry, of good farmers.

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Science is not objective. An examination of practices recommended by “sound science” turns up some truly ridiculous and horrific notions: feeding animal carcasses to herbivores, spreading manure on dormant ground and dusting everything with DDT. Salatin does not argue against science, just against the nonsensical and harmful uses to which it has been put. A tractor can pull manure spreader full of compost just as easily as it can an anhydrous-ammonia-fertilizer injector. The belief system defines the use.

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Small is Beautiful

Folks, we are living in exciting times, in which the industrial economy is giving way to the information economy. Since agriculture was the last economic sector to move from the agrarian to the industrial economy, it will be the last to exit. And make no mistake about it, the industrial food sector is showing some wear and tear. Indeed, people who study paradigms would even say it's on the brink of collapse.

How so? Think about all those little Latin italicized words we've all learned to say recently that weren't even in our lexicon a mere two decades ago: *campylobacter*, *listeria*, *E. coli*, *physteria* and *bovine spongiform encephalopathy*. This is nature's language crying out, "Enough!" Cramming nine chickens in a cage 19 by 22 inches is taking so-called scientific efficiency far enough. Stacking 5,000 pigs in grow-out pens over and under their own excrement is enough.

In addition, fuel costs are beginning to take a toll on the industrial food paradigm. The 1,500 miles the average morsel of food travels from farm to plate is only efficient when energy is cheap. We may soon realize that outsourcing everything is actually inefficient.

The disconnections inherent in the industrial paradigm are wearing thin as well. A beaded, bearded, braless generation epitomized by Woodstock matured into baby boomers yearning for soul, for meaning, for roots, for heritage. Out of the industrial factory, the zenith of Greco-Roman Western compartmentalized, fragmented, parts-oriented, systematized, reductionist, linear thinking grew a spiritual hunger for the East: holism, community and connections.

The alternative food and farming movement, with all its permutations, grew out of this new balance between East and West. I like Western parts-oriented technoglitzy innovation such as hydraulics on a tractor. Goodness, I like my tractor. But the Eastern approach dictates that I use it to spread compost, not anhydrous ammonia. Marrying the best of human cleverness with the best of nature's wisdom couched in heritage, indigenous information creates true synergism and symbiosis.

In fact, the more we learn as we move into the information economy, the more we realize it's about the small stuff. One of the pillars of the information economy is



that the optimal size of everything is becoming smaller. Look how small calculators and computers have become. The 120-pound secretary has been replaced with a four-ounce voicemail router — although successful companies are now scrambling to re-hire sweet-voiced phone receptionists due to the unfeeling tone of robotic messaging systems. Every paradigm eventually exceeds its point of efficiency.

In the face of globalism, transnationals, governmental intransigence, irradiation and genetic engineering, many of us feel like much of what we do is based on outsourced decisions emanating from high-rise board rooms a thousand miles away. But this will exceed its point of efficiency, and we may in fact be on the brink.

The good news is that you and I can do things right here, right now, to create an information-based economy — one that is locally aware, that encourages honest agendas that enhance our community. Here are some things we can do.

1. Build community. Not so long ago, when a family moved into an area, they inherently connected to their surroundings. They depended on a sense of place for the lumber for their house. Their water came from a spring, a cistern, or a well dug on site. Their food came from the backyard and from neighbors. Fuel grew in the surrounding area and had to be replanted to be replenished.

Today, that same family can move into an area without once thinking about any of these things. The lumber comes on a truck from Lowe's or Home Depot. Where

In fact, the more we learn as we move into the information economy, the more we realize it's about the small stuff.

were the trees? Who cares? The water comes in through a pipe. Sewage goes out through another pipe. Imagine if every new house could only use water that fell on its own property? Would that create ecological connections? You bet.

Today's developments illustrate classic disconnects. The houses go here, the stores go there, the farms are over there — where's the village? Where's the butcher, the baker, the candlestick maker who live where they work — living with the results of their decisions, how they impact the community?

In our area, the gurus of zoning have decreed that agricultural zones must prohibit woodworking shops, sawmills, and slaughterhouses. In the name of common sense, where better to woodwork than near the forest? Where better to mill lumber than next to the trees? And where better to process animals than on the farm? Community canneries used to symbolize thrift and all that is noble about neighborhoods. They've been shuttered and demolished to make way for nameless faceless box stores with stuff from somewhere else.

Part of building community means that the whole food system, from farm to plate, must be aesthetically and aromatically pleasing. It must be neighbor friendly. If it stinks or is unsightly to a group of kindergartners, it's not a good food system. Period. If that one rule were applied to our

farms and processing facilities, it would fundamentally change our food system. And it would build community.

2. Build forgiveness. We need to start with people. Our marriages, our children, our business associates, our friends. It's not about money, it's about resiliency. Stephen Covey in *The Seven Habits of Highly Effective People* talks about *emotional equity*. Each of us makes withdrawals on our spouse, our kids, our team, but if we've invested enough in the emotional savings account, we can make an occasional withdrawal without destroying the relationship. You see, when it's all said and done, the most valuable things in life never show up on a balance sheet, yet that's all that matters to Wall Street. It's about economic return today, forget about tomorrow. I suggest that a food system predicated on such shallow values will not deliver the best food or develop a noble culture.

This forgiveness extends to our production and processing systems. Are our animals and plants really healthy, or are they productive only when everything is perfect? The fact is that droughts, floods and hurricanes will come, as will insects, pestilence, disease. If we were half as interested in building super immune systems as we were at stockpiling Tamiflu, we'd never have to worry about the flu.

As Stan Parsons of *Ranching for Profit* says: "We've become incredibly accurate at hitting the bull's eye of the wrong target." We've learned how to plant, fertilize and harvest corn using global positioning satellite technology, but nobody is asking: "Should we be feeding cows corn?" Never mind that feeding cows corn lowers the rumen pH and acclimates *E. coli* to stomach acid conditions that would normally kill it.

Never mind that feeding corn to cows changes their fat profile from good to bad fats. Never mind that feeding ruminants grain chases conjugated linoleic acid out of their system. And never mind that cornfed cows have 300 percent less riboflavin than grass finished. When we refuse to build forgiveness in our food system, we sacrifice not just the food and the landscape, but ourselves as well.

3. Oppose cheap food. In our culture, we say "You get what you pay for." We use that phrase for vacation packages, boom boxes, clothes, cars, computers — but not food. How would you like your car designed by the poorest paid engineers?



A cheap food policy dishonors and disrespects farmers. We have an unwritten law in our society that the A and B students go to the city and become engineers, doctors, attorneys, bureaucrats and accountants. The C students go punch a time clock. The D and F students become farmers.

When we seek legal services, do we go down through the yellow pages looking for the cheapest attorney? If we go out to dinner, do we always order the cheapest thing on the menu? In the name of decency, why in the world would we applaud ourselves for putting the poorest paid people of society in charge of our landscapes, our water, our natural resources?

A cheap food policy dishonors and disrespects farmers. We have an unwritten law in our society that the A and B students go to the city and become engineers, doctors, attorneys, bureaucrats and accountants. The C students go punch a time clock. The D and F students become farmers. It's the new agrarian ideal.



The caretakers of America's natural resources should be honored and revered, not relegated to the dregs of society. So how can we afford good food? Let me touch you with three ideas. First, the largest food companies in the world aren't really in the food business; they're in the entertainment business. Coca-Cola. McDonald's. Taco Bell. Mars. Go to the store and you'll notice a little bin of Idaho baking potatoes for 12 cents a pound. A couple of aisles over, you'll see an entire frozen aisle of microwavable French fries for a dollar a pound. Convenience food is not cheap, not to mention nutritious, yet that is what Americans tend to buy.

Second, supermarket prices are false, as many hidden costs are externalized to society. Four years ago when an extremely mild avian flu hit our area and the government destroyed 1,000 tractor trailer loads of turkeys and chickens, the taxpayers picked up the indemnity tab to the tune of \$200 million. Since the farmers only provided houses and labor, the industry got the money because the companies owned the birds.

I could go on and on about pollution costs and other externalized expenses, but I think you get the picture. That is why I refuse to let anyone say the food from our farm is high priced. I'm aggressive about saying it is the cheapest priced food out there because *all the costs are factored in*.

For that matter, according to the Centers for Disease Control, half of all cases of diarrhea are caused by food-borne bacteria, most of it in filthy chicken. What's a case of diarrhea worth? More than the savings from 39-cent-a-pound chicken, let me tell you. In the long run, our above-supermarket sticker price is the best value going. Conventional cheap food is really not cheap at all, and by patronizing fair-priced food we can vote every day with our food dollar to create tomorrow's food system one bite at a time.

Third, inappropriate food safety infrastructure requirements arbitrarily discriminate against non-industrial food processing facilities. Because regulations are not scalable, small processors shoulder an unfair burden complying with requirements crafted for large-scale entities.

The paperwork requirements for a local slaughterhouse handling 20 beeves a week are identical to one that handles 1,000 beeves per day. This overhead naturally must be expressed in the processing costs. What costs me \$400 per beef costs only \$40 at a large industrial plant, and this processing cost must be passed on to the customer.

These food safety laws are not about safety anyway. Folks, it's time to understand that these food safety laws are all about one thing: denying market access to local food entrepreneurs. You can *give* it away. You can give away raw milk. You can give away pon hoss from the 'Thanksgiving hog killin'. But you'd better not *sell* any. In our society, everything else that is deemed inherently harmful carries a prohibition to *possess*, not just sell it. I don't want to get into a big discussion about drugs, but if you want to snort cocaine, our government says, regardless of whether you can acquire it, you can't have it. Same with prescription drugs — it's illegal to abuse them, either in giving, selling, or using. But with food, all the prohibitions are on one side of the equation only — that of the seller. If you can acquire uninspected food, you can freely eat it and give it to your children.

The reason this issue is so important is because when regulations require innovative embryonic prototypes to be birthed at a scale big enough to justify large infrastructure and paperwork overheads, these potential models are still-born. If you study innovation at all, you realize that it requires tiny prototypes. We're all familiar with the dramatic effect eBay has had in our culture. Just imagine if, before you went on eBay, you had to have a government agent inspect your computer for viruses. Your computer room had to be inspected by another bureaucracy for safety protocol — a working fire extinguisher on the wall, certified by another agency as to its efficacy, handicapped access to the room so that in case you became disabled, you could follow up on your buying and selling. A certified electrical inspector would have to visit the premises to inspect the wiring and plugs to make sure when you plugged in the computer it would not burn your house down. And you would have to undergo a government-approved mental stability exam to determine that the stress of eBay would not cause you emotional anguish. If all this were required, how successful would eBay be? It would never have gotten off the ground.

Our food production system worships at growing it faster, bigger and cheaper. If that were a goal that engendered vitality and health, we'd all aspire to be the fattest person in the room.

Yet that is exactly what we're asking of local entrepreneurs who want to provide our neighbors with a source of fresh food. Rather than appreciating how such a close marketing relationship carries inherent accountability and integrity, our government decrees astronomical infrastructure requirements before would-be innovators can even test market a pound of cheese, a pound cake, or a single T-bone steak. It's criminal and immoral.

The current empires in this country were built decades ago when local food entrepreneurs could access their neighborhoods from the tailgate of a pickup truck. If we do not preserve that same freedom for today's innovators who have a cure for industrialized pseudo-food, our grandchildren will have no choice. We desperately need a "Right for the Farmer to Sell His Produce" law. Most states have a "Right to Farm" law that was pushed through by the Farm Bureau Federation, but that is basically a "Right to Stink Up the Neighborhood Without Getting Sued" law.

If we freed the entrepreneurial spirit that is alive and well in the countryside, local food systems would compete head-to-head with Wal-Mart. The only reason local food is so expensive is because of these malicious, capricious food safety infrastructure requirements. If you want government oversight, then establish empirical thresholds and check the product. If we can gut a chicken in the kitchen sink and it's as clean as a Tyson bird, who cares that it wasn't done in a multimillion dollar facility? If it's clean, it's clean, and it doesn't matter how it got that way.

But the government doesn't want to set empirical standards. If we took the politics out of it, their gumshoes couldn't play fast and loose with the duplicitous American public, which naively believes these agents have good



We're not just tomato farmers or soybean farmers or hog farmers. We're multifaceted, with many different plants and animals interacting to create biological dead ends for pathogens.



intentions. The only reason the industrial sector has a stranglehold on our nation's food system is because neighbors can't sell food to their neighbors. The day we fix that, we will see a proliferation of local food commerce, healthy local economies, and curtailment of corporate control.

4. Create farms that mimic nature. Does it really matter if a pig expresses its pigness or a chicken its chicken-ness? Our entire food system is predicated on the notion that plants and animals are just so many piles of protoplasmic molecular structure composed of protons, electrons and neutrons. Whatever our cleverness can conceive of doing is fair game. Yes, we're far more clever than nature — or God.

An elephant the size of a mouse would not be a very successful elephant. And a mouse the size of an elephant would not be a very successful mouse. Our food production system worships at growing it faster, bigger and cheaper. If that were a goal that engendered vitality and health, we'd all aspire to be the fattest person in the room.

On our farm, we try to provide every plant and animal with a habitat that enables it to fully express its physiological distinctiveness; *e.g.*, the pigness of the pig. This honors and reveres the fact that each is fearfully and wonderfully made, and provides the cornerstone for how we view differences among each other. Is it any wonder that a culture

which disrespects the pigness of the pig would disrespect the validity of other cultures?

How we treat the least of these is the philosophical basis for how we treat the greatest of these. That's as close to a sermon as I'll get today.

Using nature as a template, then, we duplicate those patterns in our commercial domestic production models. That means we encourage multi-speciation and diversity on the landscape. We're not just tomato farmers or soybean farmers or hog farmers. We're multifaceted, with many different plants and animals in-

teracting to create biological dead ends for pathogens. We follow cows with eggmobiles so the chickens can scatter cow patties to stimulate nutrient cycling and sanitize the dung from fly larvae. This is simply mirroring the egret on the rhino's nose. Birds follow herbivores.

Herbivores move every day to a fresh salad bar, which is exactly what herbivore herds have been doing for millennia. We don't feed them grain, and we sure as dickens don't feed them chicken manure and dead cows. You see, if we had been respecting the diet of herbivores from a moral base, we would never have had to deal with mad cow disease.

Providing rest periods mimics nature, too. Buildings and ground need at least two 21-day host-free periods per year in order to break the pathogen virulence cycle. This includes your backyard horse and the dog kennel. The reason pharmaceuticals have become ubiquitous on America's farms is because we aren't following nature's rules. But when farming requires capital-intensive single-use infrastructure — when it becomes more of a factory than a farm — we can't afford to follow the rules of biology, which mandate host-free periods. It's 24/7/365 throughput; crank it out.

You see, making animals happy is the key to making them healthy. I've decided that to be an ecological farmer,

you have to be a sissy. With apologies for any sexist connotations, the nurturing required to care for animals is considered much more feminine than masculine. If that's the case, then I'm a sissy.

5. Develop a relationship with our food. The industrial food system is antihuman. By that I mean that from the farm to the plate, we don't want people around. The U.S. Department of Aggravation lauds its achievement in fewer farmers — never has a government agency been so successful at exterminating its own constituency. With less than 1 percent of the population engaged in farming, the agrarian class does not even merit a line on the Census Bureau anymore. We have twice as many prisoners in U.S. prisons as we have farmers, for crying out loud.

And this is something we're *proud* of! We think this makes us a great country. Farms are dusty, dirty, drudgery. Industrial farms post big “No Trespassing” signs to keep people out — for biosecurity reasons, of course, because the animals have no immune systems living in their fecal-particulate-ammonia pseudoair.

So we don't want people on the farms. And we certainly don't want any more people than necessary at the processors. We don't want neighbors working there; we want aliens from the colonies who won't ask questions.

The supermarket is nothing but bar codes, slotting fees, SKU numbers and beeping checkout counters. Zip your credit card and be well fed. “Do you have your Kroger card?” It's a sterile mass of inventory under one roof visited only reluctantly, by necessity, not because it's enjoyable. We take the packages, cans and boxes home, rip them open, zap them in the microwave, toss them on the plate, and say: “Be intimate.”

This is like a one-night stand. America is obsessed with food prostitution. We've shoved people away from food all along the way and then expect a sudden glorious consummation when it lands on the plate. Food intimacy, with all its integrity, accountability and sensual pleasure is impossible from an industrial food system. And the Wall-Streetification of the organic sector is sending it down the same road.

An empire by any other name is still an empire. An imperialist mentality will always destroy higher values and adulterate pure objectives.



Romancing the plate requires building a relationship. That means consumers knowing the needs of the farmers. That means farmers being open, transparent — welcoming patron visitors and enjoying the dialogue. It means eating locally, seasonally and with moral conviction. It is ultimately an information-based transaction, where buyer and seller enjoy friendship and camaraderie, not just blips and nameless, faceless labels.

We live in an exciting time. For every new Wal-Mart, a dozen Community Supported Agriculture operations start up. For every new McDonald's, an artisanal restaurant offering local cuisine adds its menu to the diner's portfolio. For every new hog factory, 10 small pastured pig farms offer the real stuff to their community. And for every global trade deal that graces the front page of the *Wall Street Journal*, a hundred transactions occur locally, fueling a revived community commerce that has all the soul elements lacking in the global glitter.

Long after the empires have fallen, long after the genetic engineers have finished where the pesticide and herbicide developers left off, long after the religious right and the liberal left have exited the stage, long after Archer Daniels Midland has invented its final amalgamated-irradiated-extruded-reconstituted genetically adulterated pseudo-food, our neighborhoods will be enjoying real food connections. Integrated into our communities will be a thriving, creative, sacred relationship conceived and nurtured by us — by you — who see the value in direct food connections.

It's right for the land. It's right for our families. It's right for our grandchildren. It's right for our communities. We have a noble task. A sacred ministry. Let's do it, right here, right now.

Can We Feed the World?

“This ecological farming thing, compost, and pastured livestock all sounds nice, but can it really feed the world?” This is by far and away the most frequently asked question I receive.

Even true blue defenders of the ecological/local food approach often exhibit incredulity or at least a twinge of embarrassment about what they espouse. They might say, for example, “I’m sure glad we had chemical farming and petroleum, or half the world would not be here because we could not have fed us all.” Even greenies and foodies can be heard saying this, and that’s a shame, ‘cause ‘tain’t true. Here’s why.

If you visit any living history museum in the Western world set in a time period before 1950, you will not see a compost pile. Plymouth Rock, Williamsburg, the Museum of American Frontier Culture — none of them has a compost pile. Scientific aerobic composting developed and sprang onto the world stage from Sir Albert Howard’s research in India from about 1920-1940. His 1943 book *An Agricultural Testament* is still widely fingered as the starting point of the ecological farming movement.

Let’s get the story in context. Up until 1900, both the United States and Australia had plenty of new ground to exploit. Although the American colonial period wore out land, the virgin soils of western expansion always offered an alternative. But by the early 1900s, the westward expansion was complete. The Oregon Trail, Oklahoma, everything had been found. “Go west” had expired.

Then along came the dust bowls, John Steinbeck’s *Grapes of Wrath*, and a general worldwide paranoia about soil fertility. Many researchers worked on this critical problem, but just like today, they fell into two camps. One camp espoused the simplistic approach popularized by Justus von Liebig that living things were only configurations of nitrogen, potassium and phosphorus. No microorganisms in the soil, no fungi, no molds — just these three elements. Quite a bit of hubris there, I’d say.

The other camp appreciated the complexity of biological systems, and realized that ultimately everything depended on solar accumulation into carbon, and carbon feeding the regeneration cycle. Howard was point man for this camp and gradually passed his mantle to J.I. Ro-



dale, Ed Faulkner, Louis Bromfield, Newman Turner and others.

Innovation never develops consistently across all the disciplines necessary to metabolize the discovery. A perfect example in today’s world is the consternation by tax collection agencies that e-commerce has developed faster than tax policy. The point of the innovation is a spearhead that precedes other related developments. It’s always a ragged edge.

Howard’s scientific composting methods developed in India as a natural outgrowth of labor and indigenous understanding. The Far East, as evidenced in the book *Farmers of Forty Centuries*, practiced more sophisticated carbon and nutrient recycling than the West. Another asset Howard had there was labor. By 1920, American urbanization and burgeoning manufacturing facilities were emptying the countryside of farm boys.

Howard’s scientific composting required handling copious amounts of sisal and manure. The sisal worked better if it was chopped up. At that time, the equipment and infrastructure to make this shredding and handling efficient at the individual farm scale had not yet been invented. It would be several decades before efficient chippers, hydraulic front-end loaders, shredders, PTO-driven manure spreaders, and compact four-wheel-drive tractors would make Howard’s model viable for commercial farmers.

Innovation never develops consistently across all the disciplines necessary to metabolize the discovery.

These great researchers introduced the science and publicized it widely, but did not have the necessary infrastructure to leverage the new information.



With cheap labor in India, however, Howard developed his prototypes without suffering the withering snubbing of American farmers, who by 1930 were already short of good labor. During this time, too, Andre Voisin in France developed the grazing side of this biological fertility equation. His *Grass Productivity* was first published in 1959. But his piece of infrastructure, yet to be developed to metabolize his discovery, was economical and dependable electric fencing and water pipe. PVC was still several years away. Solid-state and then microchip low-impedance electric fence energizers were decades away.

These great researchers introduced the science and publicized it widely, but did not have the necessary infrastructure to leverage the new information.

Meanwhile, the chemical side was moving ahead full-bore. A worldwide conflagration in the late 1930s and early 1940s focused unprecedented brainpower and economic investment on explosives, which interestingly, were primarily nitrogen, potassium and phosphorus. To win World War II, America spared nothing to develop the chemistry, production and distribution for munitions.

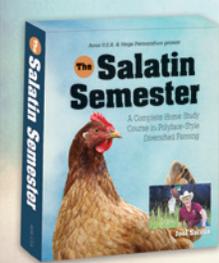
This simultaneous research and development favored the chemical approach. In short, the Pentagon paid for the ancillary and related innovation necessary to metabolize

Liebig's NPK discovery and make it widely useful. By the end of the war, the huge and highly profitable munitions companies could take their development, paid for by the war effort, and unleash it on agriculture.

So imagine you're a farmer in 1950. You need to grow a crop. You can either buy a bag of material that's cheap, available, and easily applied in a simple drop spreader or spinner, or you can pitchfork straw, shovel sawdust, mix it with manure, shovel it into a pile, and then shovel it up into a crude ground-driven manure spreader. At the least, you could shovel a static bedding pack into a crude manure spreader. Which would you do? Let's not be too hard on our forefathers.

It's as if in 1950, at the threshold of the industrial economy's golden age and with urbanization in full swing, farmers came to a one-mile track meet, a race to meet the burgeoning demand for food with fewer farmers. The race would be four laps around the track. One side started on the starting line. The chemical side started with a two-lap head start.

It took nearly 50 years for the biological side to self-finance the development of techniques and infrastructure to metabolize what Howard and Voisin brought to the world at mid-century. And for other technical discoveries to be made that could be adapted to carbon handling, water movement, and lightweight, portable electric fencing. Make no mistake, if we had had a Manhattan Project to capitalize on Howard and Voisin, not only would we have fed the world during that time, but today we would not have a Rhode Island-size dead zone in the Gulf of Mexico. We would not have lost half of Iowa's topsoil in a mere 100 years. We would not have degenerated the landscape with three-legged salamanders and infertile frogs.



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It is *not* like Grandpa's farm. He would have given his right arm to have the infrastructure and sophisticated diagnostic gadgets we have today.

Add now to that body of knowledge the work of Carrey Reams, William Albrecht, Allan Savory, Lee Fryer, Fletcher Sims, Phil Callahan, permaculture, and the *Acres U.S.A.* hall of fame and our side has not only caught up with the chemical pushers, we're lapping them. We eco-farmers do not have to apologize for anything. We built the knowledge, developed the protocols, paid for the distribution when the USDA pooh-poohed everything we were doing. It still does, assuming that irradiation, genetic prostitution, pasteurization, sterile food and robotic machines will save us.

Dear *Acres U.S.A.* readers, don't ever let someone disparage eco-farming's place in this ministry to feed the world. And during all this catch-up time, the head start side has spewed pseudo-science to the world in order to maintain an illusion of accomplishment.

For example, let's say the United Nations commissions a study of genetically engineered rice production in Vietnam. Some land grant grad students and their properly credentialed Ph.D. mentor fly over there. Their genetically modified organism (GMO) paddy grows lots of rice. The adjacent one, built on indigenous methods, grows rice, tilapia in the water, ducks that make meat and lay eggs, and around the edges, prodigious bok choy and arugula. But these Western linear, reductionist, compartmentalized, fragmented, systematized, parts-oriented researchers don't measure the ducks, eggs, fish or edible greens. They went to study rice. And the GMO rice, in a chemical-ized paddy devoid of any other life in or around it, sure grows rice. Conclusion — our side can't feed the world.

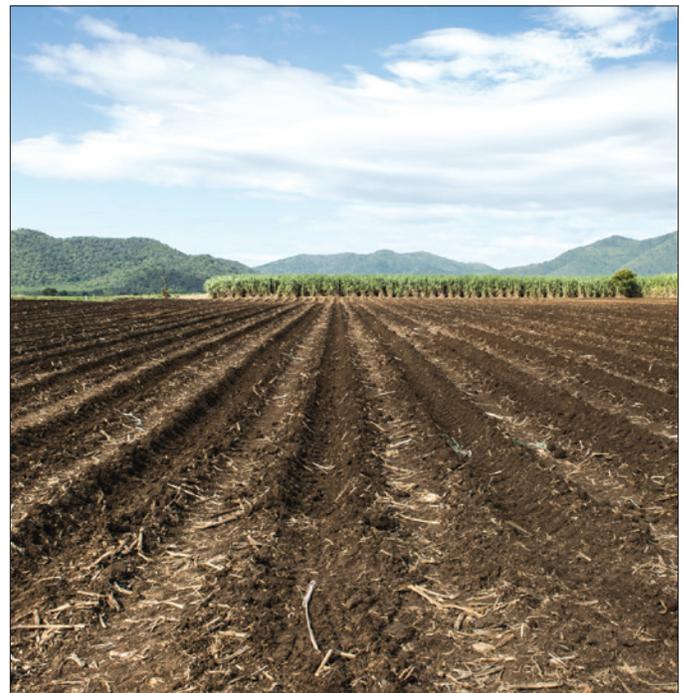
I well remember in the 1970s when cow colleges began studying the viability of organics. They took research plots where chemical fertilizers and herbicides had been used

for other research and designated some as their organic plots and others as their chemical plots. The organic plots received nothing. The others received the whole chemical alphabet soup. Hybrid corn prospered in the chemical plots and did not fare well in the neglected plots. Conclusion — half the world would starve if we practiced organic farming.

Anyone familiar with biological soil principles knows that once a soil has been abused with decades of chemicals, it takes years for all the life to come back into it and make it fertile. Such research does not even qualify as science, and yet it is the basis for policy and perception worldwide. Bunk. Double bunk.

One of my pet peeves is when people visit Polyface Farm and remark, "This is like they used to do things. Like Grandpa's farm." I have to bite my tongue sometimes. It is *not* like Grandpa's farm. He would have given his right arm to have the infrastructure and sophisticated diagnostic gadgets we have today.

In just ten minutes I can show visitors a dozen things that Grandpa could not have even conceived: computerized, dependable, 1-amp, 10,000-volt electric fence en-



So go out and hold your head up high.
Explain our side's slow start and speedy catch up.
And now we're blowing them away. Carry on.

ergizers; PTO-powered manure spreaders; hoop houses with UV-stabilized, laminated 15-year plastic; magnetically charged foliar sprays applied while stomata listen to calypso music and open wide for big gulps of biologically enhanced nutrients; PTO-powered, hydraulically fed three-point-hitch-mounted chippers that can handle an inch of wood per 10 horsepower; a real biomass accumulator. Wow! And power-steering, four-wheel drive shuttle-shift diesel tractors with automatically leveled front-end loaders. Baby, I'm levitating.

Oh, don't forget 800-pound, 20-horsepower, Honda-powered bandsaw mills cheaper than an old used car that puts any farmer in the self-sufficient lumber business. How about polyethylene, stainless-steel filament, built-in fiberglass post netting for poultry, sheep, goats and children. (That was just to see if you were awake.) Good gracious, folks, this farm is nothing like Grandpa's. Electric fence fault-finders and hand-held laser range-finders to pinpoint acreage and paddock allotments.

Many naysayers tell me: "Salatin, I don't want to go back to hog cholera, Marek's disease and brucellosis." The assumption is that the ecological system will re-introduce all those epizootics that plagued agriculture during the dawn of the industrial age. The reason we had so many of those maladies early in the 20th century was because the urbanization and industrialization of the culture preceded hygiene, antibiotics, sanitation, stainless steel, rural electrification, efficient rural concrete pouring, and refrigeration.

Like all innovation, the cities expanded faster than the supporting agricultural knowledge and infrastructure. Animals were overcrowded in filthy conditions without the miracle of drugs. Drugs bought some time. But now we have *C. diff.*, MRSA and other superbugs spelling the decline of that paradigm. Meanwhile, the ecological farming approach has steadily developed synergistic, symbiotic bio-mimicry. Pasture-based economies of scale utilize



these innovative developments in water systems, fencing, and lightweight portable infrastructure. From mad cow to avian influenza to Salmonella, today's litany of maladies and pathogens are new and catastrophic, not to mention obesity and type 2 diabetes. How long do we think we can fool natural principles?

Dear people, our side has not stood still since the 1920s. The advertisers in *Acres U.S.A.* and kindred publications have already solved the pathogen, erosion and fertility problems that the chemical Neanderthals (to use the late iconic Charles Walters's term) are still scratching their heads about. *Acres U.S.A.* readers aren't worried about mad cow disease because we don't feed dead cows to cows. 'Tain't natural.

We don't worry about avian influenza because our chickens are on pasture in uncrowded conditions. We don't worry about erosion because we're building soil. And we don't worry about feeding the world because as we heal our farms and landscape, we see everything get better. Vibrant plants. Gurgling springs. Slick, sleek animals. Healthy, happy customers.

So go out and hold your head up high. Explain our side's slow start and speedy catch up. And now we're blowing them away. Carry on.

Relationship Farming

Have you ever considered how many relationships a farmer manages — or mismanages? I would say that viewing the farm as a group of relationships is one of the best ways to differentiate the eco-farm from the industrial factory farm.

In a modern conventional factory farm dedicated to producing faster, fatter, bigger and cheaper, relationships hardly figure into the equation — unless, of course, it's the linear relationship between dominant human cleverness versus nature's wisdom. And that's more an adversarial relationship, not a symbiotic one.

In this context, then, I would like to articulate some of the relationships that good farmers must massage. As we examine these, I think we will come to appreciate the *art* of farming, rather than just the science — or pseudoscience, as the case may be.

SOIL

The pages of *Acres U.S.A.* have examined the intricacies and multidimensional dances going on in the soil for decades, and others have studied these interactions since long before any of us were born. They're that complex. That's a far cry from the dominant paradigm in modern American agriculture, which ultimately views soil as a simple inert substance for holding up plants. In this scenario, research is devoted to concocting new brews to put into the intravenous plant-food bag. Not much relationship there, as long as you know where to stick the needle.



The eco-farmer, on the other hand, appreciates the beauty and choreography of the entire soil food web, elucidated eloquently these days by Elaine Ingham. Captured on film at thousands of magnifications, this community of nematodes, bacteria, fungi, worms and other things we haven't even named yet actually excretes, ingests, stimulates, represses, captures, and releases in a veritable cornucopia of busyness.

Balancing anions, cations, oxygen, hydrogen, organic matter, moisture, minerals and all the soil community is the farmer's ministry. Every single component is worthwhile. Good farmers don't look at nitrogen, phosphorous and potassium — the proverbial NPK — as being more important than anything else. Indeed, a myopic view of NPK is precisely what has destroyed the intricate relationships on the farm by disregarding the importance of every member in that community.

PLANTS

Within and above the soil, plants achieve bilateral symmetry between root and top. In an article like this, even creating these sub-topics tends to break the relationships we're discussing because plants indicate much about the soil. In fact, soil devoid of plant cover quickly succumbs to erosion and infertility.

Mainline American farming essentially views only seven plants as meritorious. At least, only seven receive subsidies: corn, soybeans, wheat, sorghum, cotton, sugar beets and rice. Every literature student knows that flat characters in a play or story are not relationally developed. Round characters are the ones you feel acquainted with at the end of the story. Folks, we have a flat American agrarian landscape.

Eco-farmers, however, create round, well-developed landscapes. We exult in species diversity. Plant communities, species complexity — these are the mantras of good landscape stewardship. Monocultures and mono-cropping don't exist in healthy farm ecosystems. Instead, eco-farmers encourage companion planting, long rotations, interplanting. Such a scheme necessarily sends us outside government subsidy programs, but earthworms love us.

Permaculturalists are probably on the cutting edge of plant relationships in their mixing of perennial and annual, low profile and high profile. On Polyface Farm, we run all of our permanent fences along the topographic break points between ridge and slope, and slope and swale, in order to create biodiverse field, forestall and riparian edge-

To underscore just how anti-people modern industrial farming is, we should note that the United States now has nearly twice as many people incarcerated as the number of farmers.

es. Straight fences do not exist because the land does not lie in straight lines. Using topographic nuances to create plant community edges refines the relationship between micro-climates.

Northern slopes are cooler and more moist than southern aspects. As a result, plant communities vary according to location, and the same species exhibit different growth patterns from season to season. Managing for optimum solar conversion into biomass requires appreciating the relationship among the plants, soil and sun on a given piece of ground.

In his classic *Fertility Pastures*, British farmer Newman Turner describes the health benefits cows experience when they can graze many different kinds of plants in the pasture. Jerry Brunetti's research showing the medicinal qualities of hedge browse is masterful in explaining what a complex menu means to the animal. Good farmers, then, attempt to build into their landscapes more and more plant relationships rather than fewer.

ANIMALS

Beyond domestic commercial species lies a whole community of flyers, burrowers, spinners, herbivores, carnivores, swimmers, amphibians and slithery cousins. From muskrats to mud turtles, this seldom-seen, fleeting, wild animal component speaks volumes about a farm's health. Are these relationships healthy, or are they out of whack?

As avian influenza paranoia builds across the land, I never cease to be amazed at the "straining at gnats and swallowing camels" mentality of the USDA. The bureaucrats demonize waterfowl, farm ponds, pastured poultry and every backyard Little Red Hen as the vectors of this deadly epizootic.

Meanwhile, cattle farmers feeding grain to their herbivores — a most unnatural act — harvest and dispense it throughout the fall and winter, attracting literally millions upon millions of sparrows and starlings that would never exist otherwise.

Does it ever occur to anyone formulating policy that the majority of the trans-agricultural hygiene problem could be eliminated by feeding herbivores their natural forage diet? I watch hordes of starlings descend on silage-feeding wagons and feed bunks during the winter, filling their gizzards with goodies and scattering feces everywhere. That's a far bigger issue than my farm pond with a couple of wood ducks happily swimming around.

The USDA voodoo scientists would have us believe that my Little Red Hen is far more dangerous than that black cloud of starlings descending on the neighborhood. Examining our farming principles in the light of their relationship ramifications helps keep us from encouraging relationships that damage the greater community. Feeding corn to cows, for example, sets up a chain of relationship-altering situations.

The industrial mentality fails to recognize relationships among animals as well as those among soil, plants and sun. The cows must be segregated from the poultry must be segregated from the hogs must be segregated from the rabbits must be segregated from the sheep. On our farm, we mix and match in a multispeciated production model that more closely approximates the commingling of differing wild species.

The deer, bear and turkeys do not have separate ranging areas. Instead, they utilize the same range, taking and contributing different food and feces. This creates a natural pathogenic cul-de-sac since most pathogens do not cross-speciate. On the same pasture, we graze cows followed by the egg-mobles, which house free-range hens and allow them to scratch through the cow pats, eat the fly larvae, and scavenge newly exposed grasshoppers and crickets from the shortened sward.

Pastured broilers march across the field at a different time of year, and turkeys can follow after that. All of this relationship-building increases income per acre, and it's all done without concrete and steel megalithic confinement houses. The infrastructure footprint is light on the land, which brings us to the next relationship.



True sustainability requires elderly wisdom leveraged on youthful energy. If youthful energy does not benefit from elderly wisdom, it lacks direction and focus.

PEOPLE

To underscore just how anti-people modern industrial farming is, we should note that the United States now has nearly twice as many people incarcerated as the number of farmers. About 2.5 percent of the population is in jail, whereas only about 1.5 percent of the population is farming. Doesn't it make you proud? I certainly think we should be exporting this wonderful success story to other cultures so they can enjoy this statistic, too. A little side-line politics, there, just in case you were snoozing!

The point is that official government policy has applauded every reduction in the number of farmers. That's because farming is looked upon as noisy, dirty drudgery for the dumbest sector of society that can't figure out how to get a real city job. And lest we forget to point the finger at ourselves, too many of us farmers do not massage the people relationships that are the lifeblood of our sustainability.

I've come to the conclusion that the test of a sustainable farm is the average age of the people operating it.



In the business world, an economic sector in which the average practitioner exceeds 35 years of age is considered a sector in decline. True sustainability requires elderly wisdom leveraged on youthful energy. If youthful energy does not benefit from elderly wisdom, it lacks direction and focus. If elderly wisdom has no youthful energy, it cannot express itself in action, because the older a person gets, the less he's willing to risk and sweat.

I address this issue extensively in the book *Family Friendly Farming*. How to build mutually honoring relationships so the farm has a seamless transition from generation to generation is certainly as big an issue as bushels of corn produced per acre. We must structure the farm to allow for down time. My Dad used to say that nobody can handle more than four hours of chores a day (those tasks that must be done every day at a certain time). We have tried to live by that rule, and it makes all the difference.

Encouraging children to develop their own, autonomous entrepreneurial farm enterprises massages the parent-child relationship. Most farmers I know actually encourage their children *not* to stay on the farm and with their constant complaints of prices, weather and disease paint a totally negative picture. Who wants to enter a negative picture? Our farms offer beautiful places to enjoy picnics. Let's use them.

Beyond the family, opening the farm to others creates a hub of excitement. Did you know that millions of people think what farmers do is *cool*? Building relationships with these folks can surround us with unbridled enthusiasm for what we do and help fill in the trouble spots — like when the cows get out or the clouds don't rain. Rather than being hermit John Deere jockeys out listening to talk radio in the air-conditioned cab while plowing the back forty, we farmers must embrace the multitudes for whom our vocation is new, exciting, different and magnetic.

COMMUNITY

How does a farm fit into its community? Back in the late 1980s the American Farm Bureau Federation and the industrial ag lobby pushed through "Right to Farm" legislation. Remember that? Stymied by hundreds of nuisance

suits over pollution, odor, dust and illnesses related to factory farms, the industrial fraternity responded with laws that absolved them of liability as long as farms followed “Best Management Practices” (BMPs).

Of course, the industrial agriculture colleges *wrote* the BMPs to make sure that factory farming conformed. The BMP for manure handling, for example, is the slurry system. No mention of composting. No mention of pig aerators. No mention of pasturing so that manure mountains never happen in the first place. Put manure in the water, of course! Water-based manure handling requires lots of concrete, rebar, machinery and diesel fuel. Just what the doctor ordered.

I call these laws “Right to Stink Up the Neighborhood” laws. They absolved farmers of their responsibility to be good neighbors — the foundation of good relationships. As a result, farmers isolated themselves even more from their neighbors. The mistrust between urban and rural has never been greater. Farmers dismiss aesthetic and aromatic pollution with a flippant, “Oh, don’t you know how good country air smells?” I submit that if you ever smell manure around a farm, you’re smelling mismanagement. Rather than flipping off their neighbors, farmers should be doing whatever is necessary to create soothing environments.

A farm should be a place that any kindergarten class can come and be a part of, among the animals, among the plants. They should not be places festooned with no trespassing signs and biosecurity signs because life there has reached such a nadir of immunodeficiency that every other life form must be feared. Farms should be emotionally soothing places, not places that require passing through sheep dip and donning a moon suit just to set foot inside. What kind of food is coming out of that environment?

As the industrial farming sector became more noxious to its neighbors — and its own farmers — it isolated itself from communities. All the expansion in factory farming is in extremely rural enclaves, out of sight and smell. People don’t want these noxious factory farms in their backyard. Zoning laws now make sure that residential is over here, commercial over there, and farming somewhere else. The butcher, baker and candlestick maker have become mutually neighbor-unfriendly. With this separation, it’s easy to make shortcuts ecologically, emotionally and economically.

Part of the farmer’s responsibility is to be such an aesthetically and aromatically friendly neighbor that the butcher, baker and candlestick maker can re-embed themselves in the community. Then and only then can integrity be restored to our food system. When everyone sees what goes in the front door and comes out the back door, then transparency creates accountability, which ultimately insures integrity. Integrity can never be legislated

and policed from inside the Beltway. If it takes a village to raise a child, perhaps it also takes a village to create and maintain an honest food system.

CUSTOMERS

Finally, farmers should be building relationships with customers. It’s a crying shame that farmers by and large distrust their customers. Farmers are rightfully dubious about the intentions of the grain elevator, sale barn or large processor/buyer. Rather than building a customer relationship, however, farmers feel isolated from their buyers at best, and a healthy animosity at worst.

Alternative marketing offers an antidote for this buyer-seller divorce. Many relationship-oriented marketing schemes exist. From Community Supported Agriculture to farmers markets to Internet sales to farmgate sales, all of these venues and more provide opportunities for farmers to build relationships with their constituency.

The immediate feedback about product quality, product type and product quantity creates not only accountability but also immediate encouragement. How many farmers receive praise and accolades from their customers? I noticed this most poignantly when our children were small and customers would tell them what important work their family did. “We depend on you for our food,” they would say.

Do you know what that does for the self-image of a child? In a day when farm kids routinely receive redneck stereotyping from their peers — farming, after all, is not cool like Dilbert cubicles — for ours to receive constant positive reinforcement was worth more than any amount of money. We don’t farm because we’re too stupid to do anything else; we farm because we love it and want to heal the world, and all the people in it.

Honoring and respecting our customers is part and parcel of the farm business. Most farmers do not even envision themselves as part of the food chain. They just see themselves as producers of raw commodities. Period. End of story.

And that is unfortunate. It dishonors the most noble vocation on earth, and the ultimate stewardship of air, soil and water. Building customer relationships, although challenging at times, is critical to creating a farm that can sustain itself long term.

There we are: soil, plants, animals, people, community and customers. Building relationships is the calling, the sacred ministry, of good farmers. How we massage those relationships determines our success and the degree to which we heal all the elements within our sphere of influence.

Let’s go build some relationships.

“Sound Science” is Killing Us

At a recent House committee hearing in Richmond, Virginia, the state commissioner of agriculture, Carlton Courter — seated next to me at the polished oval table that only government buildings contain — proclaimed that “raw milk is just as dangerous as moonshine.”

That statement, of course, was based on “sound science.” Seated behind him were credentialed experts, the representatives of sound science. From industry personnel to Virginia Department of Agriculture and Consumer Services bureaucrats to Federal Food and Drug Administration academically credentialed professionals, all trumpeted forth sound science as the Holy Grail. With one voice, all of these cultural elites extolled the virtues of rBGH, irradiation, genetic engineering, and pasteurization as representing sound science.

Those of us at the committee hearing who would dare to ask for consumer choice were called “borderline criminal” in our intent, because sound science has proven that consumers are incapable of informed, responsible, rational decision making. These experts have done their consumer surveys, and they know that sound science proves that food choice is tantamount to Russian roulette on a plate.

Only government food is safe food. Sound science dictates what is safe. No other standard will do. Only T-bone steaks wrapped in million-dollar, agriculturally prohibited, quintuple-permitted, government-sanctioned processing facilities are fit for human consumption. I can’t buy a pound cake from a neighbor girl who whipped it up and baked it in the family kitchen. That’s not safe. Sound science has thus decreed.

But Coca-Cola is safe. McDonald’s Happy Meals are safe. So is irradiated food. Genetic engineering is the darling of sound science. And until just a couple of months ago, sound science decreed that feeding brains and spinal cords to herbivores was state-of-the-art technology. Now the denizens of the ivory towers are debating whether or not to eliminate the feeding of chicken manure and dead chicken carcasses to herbivores. Rest assured, when the edict comes down from the powers that be, it will be based on sound science.

Things are getting crazy. I’ve decided we all need some relief from sound science before it kills us. Please, relieve us from sound science. If all this is sound science, I want no part of it. And yet it is worshipped daily on the news by a fawning media too preconditioned to question pontifications from credentialed scientists.

It’s time those of us in the alternative community shout a new truth from the housetops: “*Science is not objective!*” I’ve tried out this statement at several conferences this winter, and the result is a hushed, incredulous, shocked audience. Our Greco-Roman, Western, compartmentalized, disconnected, fragmented, linear, reductionist culture is steeped in the notion that we, more than any other people in history, are scientific. We wear the mantra of science as if it bestows everlasting life.

At the risk of being labeled a Luddite, I would suggest that equally powerful is what is *not* readily observed. Matters of the heart. Belief systems. Soul. This is a decidedly Eastern approach: holistic, connected, we’re all relatives, community, *we*. Science without soul is just as imbalanced and wacky as soul without science.

In his classic book *Paradigms: The Business of Discovering the Future*, Joel Arthur Barker notes, “The essence of the pioneering decision is: Those who choose to change their paradigms early do it not as an act of the head but as an act of the heart.”

Eco-agriculture, to use the preferred *Acres U.S.A.* moniker, was developed by paradigm-challenging pioneers. From J.I. Rodale and Louis Bromfield to Charles Walters and Phil Callahan, these framers of a new paradigm ap-



If all this is sound science, I want no part of it. And yet it is worshipped daily on the news by a fawning media too preconditioned to question pontifications from credentialed scientists.



proached agriculture with a heartfelt, intuitive sense that all was not right down in the halls of the USDA. While farmers were dusting their children and cows with tons of DDT, these pioneering thinkers did not yet know about the legless frogs and sterile salamanders that would be part of its toxic heritage.

But their morality, their ethics — their *souls* — demanded an alternative view. Daily I am assaulted by the cultural elite as being “unscientific.” What could be more unscientific than putting chickens out on pasture? Here in our neck of the woods, where the vertically integrated poultry industry got its start, I am known as a bioterrorist, because redwinged blackbirds, starlings and sparrows can touch our chickens — and thus, the reasoning goes, transport their diseases as they do to the immunodeficient sound-science birds compressed in inhumane, fecal-factory, concentration-camp mausoleum houses.

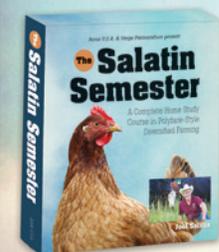
Pigs out on pasture is a backward notion relegated to a bygone era — while sound science gave us first the confinement hog house, which necessitated the docked tail due to stressed pigs biting each other, and today is driving government-funded research to find and eliminate the stress gene so these inhumanely compressed pigs won’t try to eat each other. The ultimate goal of sound science is to make pigs satisfied with their grotesque anti-pig quarters.

While I appreciate some of the scientific discoveries of our day, I also appreciate their limitations. I kind of like electric lights, four-wheel-drive tractors with front-end

loaders, and low-impedance electric fence, to name just a few improvements. But when scientific discovery is used to destroy heritage wisdom contained in the DNA and the innate pigness of a pig or chickenness of a chicken, then it ceases to be an instrument of good and becomes instead an instrument of evil.

A diesel tractor can either pull an anhydrous-ammonia-fertilizer injector, or it can pull a manure spreader full of compost. It is the heart, the soul, the belief system that determines how technology will be used. Electricity can be used to power feed augers and ventilation fans, medication timers and artificial lights in a confinement poultry house, or it can power an energizer hooked to high-tech, information-dense, polyethylene-stainless-steel-threaded poultry netting in a pasture setting. The belief system defines the use.

Many of us who have been in this ecofarm movement for a long time remember the early sound science experiments on land-grant research plots. In one infamous ex-



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In eco-agriculture, we must boldly and humbly hold fast to our heart. It is what anchors us. It is what moors us to truth when our culture vacillates every Monday morning with the latest discovery from sound science — *not*.

ample, two plots that had been used for countless toxic studies for decades were designated the organic plots, while two others were designated the conventional plots. Master's degree students dutifully planted corn in each plot. The organic ones received no amendments. The conventional ones received the regular dose: fertilizer, herbicide, pesticide.

At the end of the season the two crops were measured, and the organic was woefully lacking. Plugging the results into a computer proved beyond a shadow of a doubt that half the world would starve under organic farming. That finding of sound science became the backbone of the industrial warning against large-scale organic farming. Of course, anyone whose heart is in the right place understands that organic by neglect is far different than organic by design.

Witness the current research regarding genetically engineered food. Corporate giants have carefully selected mature rats in their feeding trials to avoid ill effects. In Scotland, when pre-pubescent rats were used under the same feeding regimen, all sorts of maladies occurred — poor organ development, behavioral changes. The agenda defines the discovery, and the heart defines the agenda.

Wall Street science will only find what satisfies Wall Street. The fact that it is championed as sound science makes it no more sound or truthful than a cult leader on an ego trip. Anything trumpeted as “science” needs to be filtered through the heart. And if it is touted as *sound science*, you'd better filter it twice. It's almost like the adjective “sound,” when linked with “science,” is a dead giveaway for: “We're really making this one up, so we'd better dress it in more profound verbiage.”

The problem with sound science is that it changes every day. Look at the many instances of what has been commonly accepted as sound scientific practice, but has later been proven disastrous. Here are a couple of examples:

- Spreading manure on dormant ground. Now it's illegal in many areas because this material is winding up in city water supplies. Intuitively, I know that nature does not apply soil amendments in the winter because the living soil cannot metabolize nutrients when it is hibernating. I don't need a bunch of scientists to tell me that.

- Feeding brains and spinal cords to herbivores. *Dub!* Herbivores in nature never eat carrion, or grain, or fermented forage, for that matter. I don't need scientists to tell me that feeding herbivores dead animals may not be a good idea.
- Dusting everything with DDT. Not too long ago, this was the universal elixir, the key to the Green Revolution. Intuitively, I can't figure out why I should use a bunch of stuff with the suffix *-ide* (Latin for death) to grow my food. It doesn't take a rocket scientist to figure that out.
- Cleaning out and sanitizing poultry houses. Now most farmers are aerating the bedding between batches to stimulate decomposition and encourage nature to grow the good bugs. We've been doing this for decades on our farm because virulent decomposition is nature's sanitation model. No scientist needs to tell me that.

What are the new darlings of sound science? Irradiation, genetic engineering, more concentration, less domestic production, and a Wal-Mart on every corner stocked to the hilt with Archer Daniels Midland, amalgamated, extruded, reconstituted, chlorinated, adulterated, manipulated, constipated pseudofood. The only problem with this scenario is that the 3 trillion critters inhabiting my intestines — and yours — were not designed for these Wall Street concoctions. These critters don't know anything about the liberal left or the religious right. They don't even know who is running for president.

They certainly aren't familiar with the term “sound science.” Nevertheless, if we do not respect and honor them, they will fail to function as the Creator planned — and if they fail, no miracle from sound science can reenergize them. I'm betting on heritage wisdom. I'm betting on moral and ethical parameters that make sense to my heart. Everything else must fit that template.

In eco-agriculture, we must boldly and humbly hold fast to our heart. It is what anchors us. It is what moors us to truth when our culture vacillates every Monday morning with the latest discovery from sound science — *not*. Enjoy science, but only when it reinforces the spiritual, the heart. This reduces confusion and liberates the soul.

Ecological Eating

Six Key Messages for Consumer Outreach

As farmers, we enjoy conversations about soil, water, animal husbandry, horticulture and every other kind of production nuance. That's as it should be. But all of this production is meaningless without someone to use it.

Obviously the industrial food system has a lot of users. Whether those users are lazy, ignorant, evil or just plain unconscious is anybody's guess. But if we're ever going to get ecological farming more widely practiced, we obviously need more ecological eaters.

How do we move ecological farming forward fastest? Is it by converting farmers, or converting people who buy our stuff? Certainly both need attention, but I'll submit that we don't put enough responsibility on customers. While we farmers shoulder the brunt of accusations regarding depleted soils, tasteless food, animal abuse and pathogen-laden fare, by and large consumers escape with excuses.

Part of our marketing as ecological farmers, both corporately and individually, is to put some onus on our constituency to drive demand for a different farming paradigm. Farmers and the food system have always risen to market demand. Letting our customers off the hook as just victims of advertising is an excuse that doesn't serve our soil well.

Those of us who understand the problems and the solutions need to articulate this responsibility on our advertising fliers, to our farm visitors, and in our collective voice. Factory farming exists because people buy factory-farmed stuff. Hot Pockets exist because people buy them. Genetically Modified Organisms (GMOs) exist because people buy them.

I'm tired of urban folks looking into a camera and saying they can't find an alternative to the supermarket. I'm tired of fast-food outfits saying they can't find enough ecological food. I recently fielded a set of questions from a representative for four nearby universities who wanted to buy non-industrial food but said it could never be pro-



PHOTOS COURTESY OF POLYFACE FARM

Joel Salatin and crew processing pastured poultry.

duced in enough quantity. Suddenly these big buyers have a caveat for their student agitators: "We can't find enough."

I have news for these folks: "If you really mean business, we'll produce it. But you won't come out of your fraternity and talk to us." Thousands of ecological farmers are able and willing to double their production. Thousands more are waiting in the wings to join us. The weak link is market desire. For ecological farming to thrive, we need a cultural shift to ecological eating.

Here are some protocols for ecological eating that offer positive messaging to our customers and buyers as a whole. Rather than browbeating them for being naive, lazy, ignorant or whatever else we can rant about, let's give our customers the language to join us as team players and then to become our recruitment force.

1. **SAFE.** This may seem like a no-brainer, but our side too often plays defense on this issue. Let's take the offense. Let's start with some soft questions — almost rhetorical for their simplicity.

Do you feel safer in a crowd or at home?

Do you trust your neighbor more than a foreigner? (This has nothing to do with xenophobia. It's just a straight-up intuitive question, without malice or prejudice.)

Do you trust what you know more than what you don't know?

Do you trust friends more than bureaucrats?

“Buying in season, buying during the flush of production, stockpiling a domestic larder for off-season menus — this is the stuff of normal food flow. This kind of mentality adds huge market potential for ecological farmers.”

I won't belabor the questions, but you get the drift. Ultimately, safer food comes from smaller establishments that we know operated by neighbors and friends. That's not some crazy leap of faith; it's as reasonable as it is intuitive.

Sure, we can go into the empirical numbers, showing that pathogenic food by and large comes from the largest processors shipped the farthest operated by corporations in bed with regulatory bureaucracies. But as soon as we head down that path, the other side jumps on unfair statistics. Our side is too small for comparison. Our side is under-reported.

Ultimately, all arguments are won or lost at the heart level. Emotion always trumps science because our ears hear and eyes see only what our paradigm (emotions) allow us to see. Upton Sinclair is attributed with first noting that it's awfully hard for a person to see something when his paycheck depends on believing something else.

The industrial food system and its lackeys in the USDA and FDA, along with medical and pharmaceutical orthodoxy, have demonized compost, home kitchens, raw milk and pastured livestock long enough. To be sure, some of the most unsanitary production I've seen is on small farms purporting ecological and pasture-based protocols. But even those pale in actual food safety infractions compared to the track record of the industrial counterpart.

Anyone with a lick of wisdom exhorts parents to know where their children are and who they're with. Would any mom send her 5-year-old to a sleepover with strangers? Is it too much to ask that same mom to exercise as much precaution over the food that her 5-year-old ingests?

Would anybody excuse a mom for not checking out the aforementioned sleepover host family because she “just didn't have time?” Or “I just don't know what I'm looking for.” Of course not. And yet people use these excuses all the time to justify patronizing the industrial food system. In any other area of life, we'd scream: “Why didn't you check it out?” But with food, somehow, faith in the super-market trumps all improprieties.

So far, we've only addressed pathogenicity in this food safety discussion. We haven't even addressed nutritional deficiency, long-term chemical residue effects, or local economies. That's another whole level of responsibility under the broad heading of safe, but no less important

and no less potent. Rather than apologizing for compost and small-scale, localized systems, we need to be the side titled “safe” and push customers to tell us why friends, neighbors, homes and pronounceable labels are less safe than industrial counterparts.

This is why we ecological farmers love Sally Fallon and the Weston A. Price Foundation. This is not an organization of farmers. It's an organization of no-nonsense truth-seeking moms, for the most part, who dare to defend their families in the food arena. Probably no group has done more to promote an ecological farming agenda and brought more unsolicited customers to good farmers, than WAPF. Thank you.

2. **SUITABLE.** Ecological eaters realize that the production, and by extension, their menus, need to suit the environmental nest. This speaks to carrying capacity, waste streams, collateral damage and externalized costs.

Recently I've been quite chagrined with all the predictions about ocean fisheries failing. Several years ago, I decided, as a matter of personal choice, to quit eating seafood unless I was near the ocean. Who needs salmon in Denver? Clam chowder in Kansas City? I'm naming these two because I dearly love both of them — anytime, anywhere.

But sometimes you just have to ask the question: “Does this fit here?” It's a simple question with broad ramifications. So when I'm in New England, I eat cranberries whenever I can. But I don't buy them at our local Kroger. They're there, and available. They're not even very expensive. Food writer guru Michael Pollan often says that most Americans eat thoughtlessly.

Just imagine if this kind of thinking entered the majority how it would change buying habits, food chains, distribution networks and advertising. Lest anyone call me a food tyrant, I have my own hypocrisies. My family knows I'm a banana-holic. I love citrus. But I have an excuse: for the first four years of my life, our family farmed in Venezuela, near the equator. We had papaya, pineapples, bananas, in the yard, all we wanted. Give me a break.

Festive food and indulgences are all part of a varied and cosmopolitan food culture. But what's the staple in our diets? Two years ago while doing some seminars in Spain I stepped out of my upscale villa, paid for by my upscale

hosts, for a breath of fresh air. To my utter astonishment, in walked an American tourist family carrying bags of McDonald's under their arms. Really?

This suitability idea goes far beyond regional production capabilities. Does the food fit the ecology? In our region of Virginia's Shenandoah Valley, we're known as the turkey and chicken capital of the mid-Atlantic region. Not because we produce grain. Not because we have more people eating poultry.

It developed largely because of a poultry entrepreneur named Wampler who figured out how to grow turkeys in confinement houses. Today, our area imports trainloads of grain to feed the poultry industry. Meanwhile, the grain production areas are deprived of the manure that would grow sustainable crops.

And all that manure is turning the valley into a septic tank. With our karst geology, commonly known as Swiss cheese limestone (lots of caverns), all that excess manure pollutes groundwater and streams. So, dear eater, does the food on your plate fit the ecology in which it was grown, or is it an invasive system? An abusive system? A toxic system?

Does it suit, or fit, the landscape? Or is it an eyesore, nose sore wound on the ecology? Asking if it suits sets up a domino effect of accountability. When more people realize that what they see plopped on their plate ultimately

creates what they see plopped on the landscape, they'll start deciding more consciously who to patronize with their food dollars. That would be a good thing.

In your farm fliers, your interactions with customers, your interviews with the media, look folks in the eye and ask: "Does it suit?" That's not an easy question to answer, but the struggle yields "aha!" moments that garner more loyalty to the road currently less traveled. And that can make all the difference.

3. **SEASONAL.** Ecological eaters understand the seasons. Allan Nation, editor of *Stockman Grass Farmer*, tells the story about a *New York Times* food writer asking him for a lead to a New York farm where he could buy a fresh grass-finished steak.

"What day is it?" Allan asked.

"February 20," the journalist replied.

"What do you see outside your window?"

"Three feet of snow."

"Any grass?"

"No." Pregnant pause. "Oh, I never thought about that," said the contrite journalist.

Eating ecologically means embracing seasonal ebbs and flows. This is why I have such an ongoing dislike of supermarkets. More than anything else, they have created the illusion of human independence. People routinely ask me how they can know that the beef, or pork, or chicken, or lettuce, or whatever in the supermarket is the real deal. I frustrate them to no end with my standard response: "Don't buy at the supermarket."

And as an aside, that means I'm not interested in getting my stuff in the supermarket. I was in a good-sized food co-op the other day and the general manager confessed to me: "Kroger's organic section is kicking our tails." Some see this as progress; I don't. I see it as a new level of ignorance, aimed squarely at my constituency.

Instead of buying bulk grass-finished beef when it's available, or bushels of tomatoes in September, the supermarket organic section sucks away my constituency to buy imported Mexican tomatoes in January and New Zealand beef. With favored-nation status and maritime distribution concessions, it's cheaper to ship a pound of beef from New Zealand than it is for me to put it on a truck and send it 20 miles in America.



Andrew Salatin, 9, talks about raising sheep during a Polyface Intensive Discovery Seminar.

“Part of our marketing as ecological farmers, both corporately and individually, is to put some onus on our constituency to drive demand for a different farming paradigm. Farmers and the food system have always risen to market demand. Letting our customers off the hook as just victims of advertising is an excuse that doesn’t serve our soil well.”

What’s wrong with waiting for that first tomato in May? What’s wrong with waiting for the flush of egg laying that accompanies spring in the northern hemisphere? Buying in season, buying during the flush of production, stockpiling a domestic larder for off-season menus — this is the stuff of normal food flow. This kind of mentality adds huge market potential for ecological farmers.

Canning, fermenting, freezing, dehydrating, curing and other culinary practices all developed throughout human history to answer the seasonality reality. These practices are as relevant today as they’ve ever been and can fill in the gaps to create year-round abundance.

Here’s the bottom line: our ecological farmers are subject to seasonality. In fact, factory farms are the antithesis of seasonality. That’s easy to see. If we’re on the same team, dear eater, then you’ll join me in eating seasonally, riding my ebbs and flows from the field to the plate. That’s eating responsibly and thoughtfully. Anything else is both thoughtless and arrogant, and I’m sure no self-respecting eater wants to be thoughtless and arrogant.

4. **SIMPLE.** Few things define the current debauchery of the American food system like the additive/stabilizing/processing industry. While factory farms certainly have their place in the anti-ecological category, the unpronounceable ingredient and laboratory-chemical manipulation system deserve equal billing.

Although I don’t advocate supermarket shopping in general, I do agree that Michael Pollan captures the essence of the simple concept when he suggests that if you’re going to shop there, stay on the outside aisles. That’s where the raw, unprocessed things are. If we take that advice one step further, we move clear outside the supermarket and buy food that is in its natural, unaltered state directly from

farmers. That means chicken with bones in it. Apples with a skin. Potatoes with peels. Eggs with a shell. Milk with cream on top.

In his iconic book *Fast Food Nation*, Eric Schlosser connected the dots between highly processed convenience food available at fast-food restaurants and the high mono-cropped, wasteful, single-trait dependent farm system America has developed. The farming landscape did not develop in a vacuum. The market that changed the farmscape developed when simple food quit appearing in America’s kitchens.

From potato chips to breakfast cereals to frozen microwaveable dinners, highly processed foods absolutely and inevitably changed the production-scape into an ecologically devastating system. Cookie-cutter genetics, lack of diversity and chemical shortcut fertilization spread across the farmscape like a cancer.

The quickest and probably easiest way to change that is to bring whole, raw, unprocessed foods back into our kitchens. I confess that as direct market farmers, this creates a tension for us when customers happily pay \$10 a quart for chicken stock that should be a natural outgrowth of domestic culinary arts. Must all of us local food providers be required to eventually install commercial kitchens so our vegetables, meat and poultry can be delivered via heat-and-eat convenience?

I’ve decided that the most identifying characteristic of an ecological eater is leftovers. The entire food system is moving toward single-serving, ready-to-eat consumables so we can graze individually across our food landscape without ever having to dine communally or prepare from scratch. Goodness, many folks today think that scratch cooking means you have to open a can — we’ve parsed the nuances of convenience to that extent. Is this crazy?

In the final analysis, preparing, processing, packaging and preserving must be returned to their rightful dominant place — the domestic kitchen. We simply can’t have a mass exodus from homecentricity and preserve any nuance of integrity within the food system. Eaters must embrace this responsibility, entering and leveraging our kitchens as a badge of honor, the most valuable and important part of our homes.

When food enters the home simply, it insures a participatory component on the part of eaters. It also insures that farmers receive the lion’s share of the food value. That, in turn, channels food dollars directly onto farms rather than into the coffers of industrial processors who exhibit dubious ethics. In this way, buying simply becomes not a burden, but a joy to the ecological eater.

5. **SYMBIOTIC.** Food worth eating comes from farms that exhibit complex and intricate multi-speciated

relationships. That's the way nature works, and good farming practice should mirror that kind of symbiosis and synergy.

Ecological eaters need to understand that their food, during its growing, living time, was not just an isolated thing, but highly integrated into a biological nest. The contrast between eggs coming from a sophisticated factory farm and those coming from a pastured operation, for example, is quite profound. The factory eggs are segregated from any kind of living environment. In addition, the feed and waste streams do not enhance the nest in which the factory farm sits.

Rather, the isolated single-species and single-product model reduces symbiotic gains in situ. On our farm, in contrast, the chickens follow the cows in a synergistic choreography. The cows poop, which attracts flies, which lay eggs, which hatch into larvae (maggots). The chickens come along a couple of days after the cattle vacate the paddock, scratch through the cow pies, spreading them over and into the soil for better fertility capture, all as a part of finding and eating the maggots. In addition, the chickens eat newly-exposed grasshoppers and crickets in the freshly-grazed pasture, turning all that nutrition into eggs.

The chicken manure falls directly onto the pastures, where it offers a different blend of fertility than would otherwise be available from an herbivore-only production model. And nobody has to haul the manure away. Ecological food comes from these kinds of intricate relationships, and eaters therefore need to patronize farms that exhibit these principles.

The question an ecological eater should ask is this: "How many beings, both plant and animal, did the parents of this food on my plate dance with during its life?" That's not a silly question. It speaks to the heart, the essence, of eating ecologically.

6. **SEAMLESS.** When you chart the route of the food on your plate to your house, what does that path look like? The more direct the better. I call this seamless eating, and it's a fairly easy way to capture the mechanics of ecological eating.

Transportation, distribution, warehousing — these tell a tale of energy use, freshness and ultimately genetic selection. For many years now, tomatoes have not been selected for nutritional superiority, taste, or culinary performance. They've been selected for the ability to ride in a jostling tractor

trailer for a few thousand miles without turning into pulp. Indeed, their cardboard characteristics are quite obvious in both taste and texture. Yuck.

If energy costs escalate, the convoluted paths of food distribution will become obvious for what they are: energy intensive. The shorter the path between field and fork, the more direct it is, the easier to accomplish environmental accountability. That said, I'd be unfair to acknowledge that too often in today's local food movement this direct path is still more energy costly than the indirect non-local path.

But this is primarily a symptom of economies of scale, not inherent inefficiencies. When Jolly Green Giant transports a tractor trailer load of green beans 2,000 miles, the energy cost per pound is actually less than on the bushel in the trunk of a car transported 30 miles to a farmers' market. But that is simply a factor of scale.

If and when more people begin eating seamlessly and local, direct-sourced volumes will increase and enjoy the same kind of scale economies currently enjoyed by the industrial system. And with the advent of electronic aggregation, collaborative marketing and urban drop points, the local food system is fast gaining ground on this weak link.

Localization offers a seamless option that ensures not only accountability, but ultimate community-based food security. Historically, regions dependent on food imports have always been vulnerable to environmental, social, political and integrity breaches. Bioregional food security carries ramifications beyond a warm fuzzy feel-good emotion. It's survival. That's kind of a good ecological idea.

These six principles, I submit, should be understood and endorsed by anyone purporting to be an ecological eater. Absent these, I'd call the person an imposter, a poser.

Let's be honest about the ethics and responsibilities of our movement and enjoin the eaters — not just the farmers — to appreciate the protocols of ecological eating. In doing so, we ultimately gain a more knowledgeable and loyal constituency. In church parlance, we gain a choir.

And if we're ever going to see our movement capture the imaginations and hearts of more people, we need a bigger, louder, more passionate choir. Being honest about their need to show up for practice, to participate, and to understand their songs should not offend; it should encourage better performance and better ministry. We desperately need more ecological eaters. Now go teach them.



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