

Corporate Agriculture versus Family Farms; A Battle for Hearts and Minds¹

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We are in the midst of a battle for hearts and minds of American people. The outcome of this battle ultimately will determine the future of farming and food production in America. Public trust in American agriculture has been seriously eroded by variety of controversies. The agricultural establishment³ has responded with a barrage of nationwide public relations and political strategies designed to defend the corporate, industrial status quo in American agriculture. It remains to be seen whether public trust will be restored by corporate propaganda or public concerns will grow into a demand for fundamental change in the American food system.

The growing list of public concerns include genetically modified crops (GMOs), agricultural chemicals, and concentrated animals feeding operations (CAFOs). With respect to GMOs, more than 30 states have considered legislation requiring labeling of food products that contain genetically engineered ingredients.¹ Maine, Connecticut, and Vermont already have labeling laws that are pending implementation. The world's most popular weed-killer, Roundup, has been identified by the World Health Organization as a "probable carcinogen."² The most commonly used herbicide on U.S. farms, Atrazine, has been identified as a probable endocrine disruptor linked to a host of potential adverse health impacts.³

With respect to CAFOs, nine states have banned the use of gestation crates, which confine breeding hogs in spaces so small they can't even turn around.⁴ A veto by Governor Christie prevented New Jersey from becoming the tenth, and bans are under active consideration in several other states. McDonalds has been joined by a growing list of food retailers demanding pork produced without gestation crates and eggs laid by "cage-free" chickens.^{5,6} There is growing public pressure for legislation banning the routine feeding of antibiotics to animals – a common practice in CAFOs. The FDA has responded by adopting "voluntary guidelines," which hold little promise for alleviating the problem.⁷ All of these actions are attempts to respond to growing concerns about the safety and integrity of our industrial food system.

Before going further, I want to make it clear that I am not a critic of agriculture in general or of animal agriculture in particular – just the industrial model or paradigm of agriculture. I grew up on a small dairy farm in southwest Missouri. My brother made a good living there and still lives on that small farm. I was fortunate enough to be able to attend the University of Missouri,

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³ The "agricultural establishment" includes agribusiness corporations, the major commodity associations, the American Farm Bureau Federation, USDA, and most state departments of agriculture and Land Grant Universities.

where I received my BS, MS, and Ph.D. degrees in Agricultural Economics. After receiving my BS degree, I worked at the Kansas City stockyards for short time and then spent three years with Wilson & Co., the fourth largest meat packing company in the U.S. at the time.

After receiving my Ph.D. in 1970, I began a 30-year academic career in the agricultural colleges of four major state universities – the first half as an extension livestock marketing specialist. I unknowingly helped start the so-called modern hog industry in North Carolina. I worked with the big cattle feed lots in western Oklahoma and the large peanut and soybean producers in Georgia. I told farmers their farms had to become bottom-line businesses – if they expected to survive. I agreed with then Secretary of Agriculture, Earl Butz: farmers should either “get big” or “get out” of farming. Farms should be managed like “factories without a roofs” with fields and feedlots like “biological assembly lines.” So, I know where people who promote the corporate, industrial model of agriculture are “coming from” because I used to “work there.”

I have since changed my mind. I first opened my eyes and mind during the “farm financial crisis” of the 1980s. Farm foreclosures and bankruptcies were common fare in the network evening news shows. In order for some farmers to “get big” others were being “forced out,” because many were not willing to leave voluntarily. The demise of family farms meant the economic and social decay of rural communities. It takes people, not just production to support rural communities. Farming fence-row to fence-row to maximize profits was eroding the soil and polluting the water with chemical fertilizers and toxic pesticides. The industrial agriculture that I had helped create was not good for farmers, not good for communities, and not good for the land.

My growing concerns about the industrial approach to agriculture eventually led me to become a committed proponent of sustainable agriculture – a process that began more than 25 years ago and has continued through 16-plus years of “retirement.” A sustainable agriculture must be able to meet the basic food needs of all in the present without diminishing food and farming opportunities for future generations. Everything of use to us, including everything of economic value, ultimately is derived from nature – from minerals, land, air, water, energy. Beyond self-sufficiency, we must also depend on relationships with other people to meet our needs. The economy simply allows us to meet our needs through impersonal relationships – by buying and selling. Consequently, if we destroy the productivity of nature and civility of society, we can’t sustain our economy or any level of living remotely comparable to our current way of life. It became obvious to me that an industrial agriculture is not sustainable.

A sustainable agriculture must maintain its ecological, social, and economic integrity. Today’s agriculture is lacking in all three dimensions. I believe the rising public concerns about the American food system reflect a growing public realization that today’s industrial agriculture is not even meeting the needs of many if not most people of the present, and it most certainly is not leaving equal or better opportunities for those of the future. While public concerns tend to focus on food safety and nutrition, public health, and quality of life issues, these are but symptoms of an agriculture this is lacking ecological, social, and economic integrity.

In an attempt to stem the tide of growing public concern, advocates of industrial agriculture have mounted an ongoing multimillion-dollar propaganda campaign designed to – in their words – “increase confidence and trust in today’s agriculture.”⁸ *Food Dialogues* is one initiative of the

broader campaign that is sponsored by the U.S. Farmers and Ranchers Alliance. The organization's board members include the American Farm Bureau Federation, John Deere, and the major agricultural commodity organizations. Board members Monsanto and DuPont have each pledged \$500,000 per year to the campaign. A recent study by Friends of the Earth documents that various "front groups" have been spending more than \$25 million per year to defend industrial agriculture.⁹ The campaigns have hired some of the nation's top public relations firms to try to polish the tarnished public image of industrial agriculture.

The campaign features the "faces of farming and ranching"—articulate, attractive young farmers, obviously chosen to put the best possible face on the increasingly ugly business of industrial agriculture. The corporate propaganda is carefully crafted to convince the public that "today's" farmers have the same core values as traditional family farmers. They are trying to cover up the fact that in virtually every important respect, industrial farming operations are very different from traditional family farms. They are managed for productivity and profitability, regardless of the ecological and social consequences. The individuals and families who manage these farm businesses may be good people and may care about their land, their animals, and their neighbors. However, they are caught up in a system of production that gives economics priority over all other concerns. Their farms are managed as corporate, bottom-line businesses – period.

Farming traditionally has been a way of life, not just a business or a way to make a living. On a true family farm, the farm and the family are inseparable. The positive or negative impacts of their farms on the health of their land and their communities are reflections of the ethical and social values of the family. True family farms provide multiple economic, social, ecological benefits for their workers, communities, consumers, and society in general, not just profits for farmers or corporate investors. What is good for the land, good for the community, and good for society is good for the traditional farm family.

Farms that are organized as family corporations can be managed much the same as independently owned family farms. The families can give their ethical and social values priority over the economic bottom-line – if they choose to do so. However, many of today's farm families have chosen to relinquish their management responsibilities to publicly-traded corporations through comprehensive contractual arrangement. According to the 2012 U.S. Census of Agriculture,¹⁰ the largest 4% of producers, those with annual sales of more than one-million dollars, now account for two-thirds of the total value of U.S. agricultural production. Virtually all of these large operations produce under some form of corporate influence or control. Just under 95% of all livestock and poultry operations are managed under some form of corporate contractual arrangement.¹¹ More than half of all crop producers operate under contracts, not considering that more than 90% of corn, soybeans, and cotton in the U.S. is produced using patented genetically engineered seeds requiring corporate licensing agreements.¹²

These large, publicly-traded corporations that increasingly control agriculture are not real people; they are purely economic organizations that have no capacity for social or ethical values. While individual shareholders obviously have personal values, the only value corporate shareholders have in common is their desire to increase economic return on their investments. Corporations are legally responsible to serve the "common interests" of investors. With most individual investments today made through pension funds and mutual funds, most investors

don't even know which stocks they own on any given day. Electronic trading, where stocks are more likely to be owned for seconds rather than years, essentially eliminates any ability for individual investors to influence corporate management. Maximizing economic returns is the logical default management strategy for corporate managers. Corporations dictate the terms of contract production and thus have the economic power to force their contract producers to serve the common interest of corporate investors by focusing on the economic bottom-line.

Increasingly, large agricultural corporations are also gaining control of agriculture directly through ownership of farmland and operation of corporately owned crop and livestock operations. Current corporate ownership of farmland in the U.S. is relatively small – probably less than 1%.¹³ However, about 70% of U.S. farmland is likely to change hands over the next two decades.¹⁴ Non-farm investors already own about 30% of all U.S. farmland, and large private equity investors have become major competitors in markets for farmland. Corporately controlled farms, through either comprehensive contracts or direct ownership, simply lack the motivation or the ability to reflect the traditional social and ethical values of family farms in their operations.

The negative consequences of farming for the economic bottom-line is not a matter of idle speculation or misinformed public opinion; the scientific facts of corporate farming are becoming increasingly clear. For example, an extensive 2½-year study of “industrial farm animal production” was commissioned by a highly-reputable, non-partisan organization, the Pew Charitable Trust. Their 2008 report concluded: “*The current industrial farm animal production (IFAP) system often poses unacceptable risks to public health, the environment and the welfare of the animals themselves.*”¹⁵

This prestigious commission included a former U.S. Secretary of Agriculture, along with academic, farming, and industry representatives. It concluded: “*the negative effects of the IFAP system are too great and the scientific evidence is too strong to ignore. Significant changes must be implemented and must start now.*” Five years later, an assessment of the industry’s response to the Pew Report by the Johns Hopkins Bloomberg School of Public Health indicated that few if any positive changes had been made. Meanwhile the scientific evidence supporting the initial indictment of IFAPs has continued to grow.¹⁶

With respect to genetically modified organisms or GMOs, the corporate propaganda campaign claims GMOs have been thoroughly tested and proven safe. To the contrary, the potential human health risks associated with genetically engineered (GE) foods were never assessed – as required by law.¹⁷ Government bureaucrats, under documented corporate pressures, simply ruled that crops modified by genetic engineering were “substantially equivalent” to crops selected through conventional plant breeding programs. This allowed GE food products to be classified as “generally accepted as safe,” which exempted GE foods from testing for safety. We Americans are being used as guinea pigs in a highly risky human experiment. A wide range of health concerns have arisen since the introduction of GMOs in the American food supply. Correlations do not prove causation, but on the other hand, an absence of correlations would have been necessary to vindicate GMOs from rational consumer concerns. According to a 2013 poll taken by the Huffington Post, 82% of Americans think that GE foods should be labeled, 9% believe they don't need to be labeled, and 8% aren't sure.¹⁸

With respect to water pollution, the PR campaign claims that farmers are responsible stewards of the environment. In fact, industrial agriculture has long been known to be the major cause of huge “dead zones” in the Gulf of Mexico, Chesapeake Bay, and elsewhere. While mismanagement of synthetic fertilizers is a major contributor, CAFOs also are documented polluters of streams and groundwater. A 1998 EPA study found 35,000 miles of streams in 22 states and ground water in 17 states that had been polluted by industrial livestock operations.¹⁹ As a last defense, CAFO operators claim they are doing a better job of manure management than the traditional independent farmers they displaced. However, the Iowa Department of Natural Resources has documented a three-fold increase in “impairments” of water bodies between 2002 and 2012, years when CAFOs were rapidly replacing independent family hog farms.²⁰

Research also verifies that the public health risks of CAFOs posed by water polluted by livestock manure are essentially the same as those posed by untreated human sewage. A “relatively small” CAFO, meaning 1,000 animal units or 2,500 head of hogs, generates biological waste equivalent to the human waste from a municipality of 7,500 to 10,000 people.²¹ There are logical reasons for requiring sophisticated, multi-stage waste treatment systems for municipalities of 7,500 to 10,000 people. It would be unthinkable that the people in a municipality of 10,000 people would be allowed to spread their untreated sewage in their backyards to be flushed away with the storm water. Yet it is legal to spread even far larger amounts of raw, untreated sewage from CAFOs near people’s homes.

With respect to the inhumane treatment of farm animals, the public relations campaign claims that CAFO operators have an economic incentive to treat their animals well in order to keep them healthy and productive. In fact, most farm animals are sent to slaughter at young ages, before most injuries or chronic illnesses can cause significant weight loss or death. Decades of research has verified that the physical and mental suffering of animals is given no consideration other than the impact on the economic bottom line.²² I visited Poland a few years ago and had an opportunity to visit the Majdanek Nazi concentration/extermination camp near Lublin. The rows of barracks where prisoners lived short, miserable lives awaiting extermination was an eerie reminder of the rows of CAFO buildings that line the roads of the Midwest where animals live under similar conditions with a similar fate. There are no humane “concentration camps.”

With respect to food safety, the corporately-funded PR campaign proclaims that Americans have the safest, most healthful food system in the world. While this may have been true in the past, there is growing scientific evidence that food safety has diminished with industrialization of the American food system – including industrial agriculture. Recalls of food products of animal origin contaminated with salmonella, listeria, Campylobacter, and E-Coli, even if not yet routine, have become far from uncommon.²³ Studies consistently have shown that significant percentages of livestock and poultry products in retail food markets are contaminated with a variety of infectious bacteria.²⁴ A large percentage of bacteria found in contaminated animal food products, including the deadly MRSA, have been resistant to multiple antibiotics.²⁵

The Food and Drug Administration has known since at least the 1970s that routine feeding of antibiotics to livestock and poultry in CAFOs is a common source of antibiotic resistant bacteria, such as MRSA. An estimated 80% of all antibiotics in the U.S. are used for livestock and poultry

and 70% is routinely fed at sub-therapeutic levels. A 2013 U.S. Center for Disease Control and Prevention report resolved any doubt about the possible transference of antibiotic resistant bacteria from animals to humans: “Scientists around the world have provided strong evidence that antibiotic use in food-producing animals can harm public health... Use of antibiotics in food-producing animals allows antibiotic-resistant bacteria to thrive while susceptible bacteria are suppressed or die. Resistant bacteria can be transmitted from food-producing animals to humans through the food supply.”²⁶ Antibiotic resistant bacteria has become a major public health risk and is clearly linked to CAFOs.

Noxious odors usually are the first and probably most frequent concern of neighbors of CAFOs. Proponents claim that while odors from CAFOs may be an occasional nuisance, they are no different from other agricultural operations which, by their nature, emit dust particles and odors into the air. In fact, the anaerobic process by which animal manure decomposes in the large manure pits and cesspools associated with CAFOs are quite different from aerobic decomposition of manure in open fields. Chemical compounds associated with noxious odors from CAFOs include antibiotic-resistant bacteria, viruses, E. coli, Salmonella, parasites, antibiotics, hormones, nitrate, hydrogen sulfide, ammonia, and more.²⁷ Numerous scientific studies by reputable health institutions have also linked air pollution from CAFOs to a variety of respiratory ailments not only of people working in CAFOs but also of people living near CAFOs, particularly children in nearby schools.²⁸

The corporate propaganda campaign claims that industrial agriculture is necessary to ensure the economic future of rural communities. Contrary to such claims, the industrialization of agriculture has had a devastating effect on rural economies. The economic benefits of industrialization come from reducing costs of labor and management by reducing the number of workers and the skill-level of workers – both in manufacturing and in agriculture. As a result, independent family farmers have been replaced with a far smaller number of farm workers, most of whom are paid poorly. In 1960, farmers were still more than 8% of the U.S. workforce. Today, they are less than one percent. Between 1980 and 2008, as CAFOs replaced independent livestock farmers, the number of beef cattle operations fell by 41%, hog farms declined by 90%, and dairy farms fell by 80%.²⁹ Rural communities have suffered both economically and socially from this loss of traditional farm families.

A 2009, two-year Pew Commission report concluded: “Economically speaking, studies over the past 50 years demonstrate that the encroachment of industrialized agriculture operations upon rural communities results in lower relative incomes for certain segments of the community and greater income inequality and poverty, a less active “Main Street,” decreased retail trade, and fewer stores in the community.”³⁰ A 2006 study commissioned by the State of North Dakota Attorney General’s Office reviewed 56 socioeconomic studies that consistently “found detrimental effects of industrialized farming on many indicators of community quality of life, particularly those involving the social fabric of communities.”³¹ The only kinds of economic development attracted to “industrial agricultural communities” are other environmentally polluting and socially degrading industries.

The clear message of the corporate public relations campaign is that Americans in general must be willing to accept the environmental, public health, and food safety risks of industrial

agriculture to avoid raising “food prices” and massive global starvation in the future. In fact, there is nothing to indicate that industrial agriculture has produced more food than could have been produced with more sustainable methods, only that it has employed far fewer farmers. Any production costs advantages have been more than offset by higher marketing margins and profits elsewhere within the corporate food supply chain within which industrial agriculture is a crucial link.³² Over the past 20 years, an era of intensive agricultural industrialization, U.S. retail food prices have risen faster than overall inflation rates.³³

The grand experiment in industrial agriculture was well-intended. By making agriculture more economically efficient, we were going to make enough safe, nutritious food accessible to everyone to support healthy, active lifestyles. Contrary to early expectations, including my own, industrial agriculture failed in this most fundamental purpose. The percentage of “food insecure” people in the United States is far greater today than during the 1960s.^{34,35} Furthermore, the industrial food system is linked to a new kind of food insecurity: unhealthy foods that lack essential nutrition. A recent global report by 500 scientists from 50 countries suggested that “obesity is [now] a bigger health crisis than hunger.”³⁶ There is growing evidence that America’s diet-related health problems are not limited to poor consumer food choices or processed “junk foods” but begin with a lack of nutrient density in food crops produced on industrial farms.³⁷ Wherever industrial agriculture has been spread around the world, similar diet-related health problems have followed.

The corporate propaganda campaign claims it is meant to support all types of agriculture, including organic farming. However, it marginalizes alternatives to industrial farmers by treating them as niche producers, hobby farmers, or back-to-the-landers. The corporate propaganda also claims livestock farmers have no economically viable alternatives to CAFOs. Extensive research has confirmed that producing hogs in deeply bedded hoop houses can be economically competitive with CAFOs.³⁸ Studies at various universities have shown grass-based dairy farms to be more profitable than confinement dairy operations.³⁹ Among the most profitable of sustainable agriculture enterprises are grass-based, free-range, humanely-raised, and pastured beef, dairy, pork, and poultry operations.

In fact, a variety of sustainable alternatives are quite capable of completely replacing industrial agriculture. In the U.S., these alternatives are called organic, ecological, biodynamic, holistic, low-input, or just plain traditional family farming. Organic farming is the most prominent among the alternatives, and thus has been the subject of the most research. A comprehensive review in the journal *Nature* compared studies of *organic* and non-organic crop yields in “developed” countries concluding: “Under certain conditions—that is, with good management practices, particular crop types and growing conditions—organic systems can ... nearly match conventional yields.”⁴⁰ Furthermore, sustainability, not yields or production, is the major challenge of farming for the U.S. and the rest of the so-called developed world.⁴¹

Corporate propaganda persistently proclaims that American farmers must expand production to “feed the world.” In some recent years, however, more than 40% of the U.S. corn crop has been used to produce ethanol to fuel our automobiles rather than food to feed the world’s hungry people. In reality, the rest of the world doesn’t want or need our agricultural exports or our industrial agriculture. Small, diversified farms already provide food for least 70% of the global

population and could double or triple yields without resorting to industrial production methods.⁴² Numerous global food studies sponsored by the United Nations have exposed the myth that industrial agriculture produces food for the hungry. For the example, much of the increased food production attributed to the *Green Revolution* was exported for profits rather than used to alleviate domestic hunger. Recent global studies call for the development of sustainable farming systems, such as agroecology, nature farming, and permaculture.^{43,44} The world doesn't need industrial agriculture, and we Americans don't need to sacrifice our natural environment, our public health, or the future of our rural communities in order to "feed the world."

Industrial agriculture is not meeting the basic food needs of many if not most people of the world today and it most certainly is not leaving equal or better opportunities for the future. It is not environmentally sound, it is not socially responsible, and it is not economically viable. Industrial agriculture quite simply is not sustainable. In the current battle to create a sustainable agriculture there are tremendous risks for the future of farming and the future of humanity, but there are also tremendous opportunities. We have an opportunity to create a new and better agriculture for a new and better future for humanity.

Perhaps the public relations experts are right; perhaps there is so much conflicting scientific evidence on important issues today that people are no longer influenced by facts but rather by appeals to uninformed emotions. Regardless, the battle for the future of agriculture and the food system is too important to be left to dueling public relations campaigns. If we care about agricultural sustainability – meaning if we care about the future of humanity – we must continue to seek out and to speak the truth about industrial agriculture. We must trust that truth, spoken forcefully and consistently, ultimately will prevail. This battle for the hearts and minds can be won only by confronting the political and economic power of industrial agriculture with truth.

The only defense industrial agriculture has left is the "tobacco defense:" meaning the persistent denial of the large and growing body of scientific evidence by claiming it is still "inconclusive." Eventually, the preponderance of scientific evidence against industrial agriculture will become so large that it cannot be denied, as did the evidence linking tobacco smoking to public health risks. It took several decades to change tobacco policy even after the evidence against the tobacco industry was clear. We need to continue telling the truth about industrial agriculture until public demands for change become so great they cannot be denied.

The agricultural establishment understands that industrial agriculture eventually will be confronted with increasing government regulations – like other resource extracting and environmental polluting industries. Protection of public health and defending the common interests of society is a basic responsibility of government. In response, the agricultural establishment has adopted a nation-wide legislative strategy to build a legal "firewall" to protect corporate agriculture from future government regulation. For example at the national level, revisions in federal food safety regulations are designed specifically to make it more difficult for farmers who bypass the industrial food system by producing for local markets. Proposed national GMO food labeling laws written by food corporations would nullify state labeling laws.

At the state level, carefully designed and orchestrated legislative initiatives have promoted stronger "right to farm" laws in agricultural states all across the country. By one means of

another, these laws give “corporate, industrial farms” the same legal rights as “traditional, family farms.” They also officially sanction the use of industrial farming method by labeling them “accepted modern farming practices.” Some of these laws essentially exempt farming from any form of effective regulation. Laws in several states restricting corporate ownership have been challenged, weakened, or overturned. The state of Missouri has legally sanctioned ownership of farmland by foreign corporations. There clearly is a major campaign to convince Americans that corporate agriculture is fundamentally the same as traditional family farming.

North Dakota now finds itself at the center of this battle for the hearts and minds of the American people. The people of North Dakota will have an opportunity to engage directly in battle at the ballot box on June 14, 2016 by voting on REFERRED MEASURE NO. 1, which refers to Senate Bill No. 2351, 2015 North Dakota Session Laws, Ch. 84 which “would allow the ownership or leasing of up to 640 acres of land for the operation of a dairy farm or swine production facility by a domestic corporation or limited liability company.”

The foundation for North Dakota agriculture was laid by those who held the values of traditional family farms, not by those who focused solely on the economic bottom line. The future of North Dakota agriculture depends on maintaining the ecological, social, and economic integrity of family farming and not allowing corporate exploitation. Family farmers buy locally, sell locally, invest locally; they are committed to leaving their land as productive as when they found it. They are committed to creating and sustaining communities where their children and children’s children will choose to live and grow.

Corporations are not real people – regardless of what the Supreme Court may believe. They have no capacity for social or ethical values. Corporations have no loyalty to North Dakota or any other state or community; their only loyalty is to the economic bottom line. Corporate farms buy wherever prices are lowest and sell wherever prices are highest, regardless of the consequences for local communities. Corporate ownership of land, even if it starts out with limits on acreages, ultimately will allow farmland to be consolidated in the hands of a few huge multi-national corporations. Corporate control of farmland, for both production and speculative purposes, is a global phenomenon that must be stopped, not accommodated or encouraged.

Farmlands must remain under the ownership and control of the farmers who have the traditional values of family farmers; the farmers who work the land, who know the land, and love the land. Farmers who know how to care for the land and are committed to caring for the land, not just for themselves but for the well-being of others and the future of humanity. Farmers who hold these traditional value of family farms must not be denied access to land through competition from those would only exploit it for short run economic gains and leave only barren deserts to produce food for future generations.

The battle to defend family farms from corporate agriculture is actually more than a battle for the hearts and minds of the American people; it is a battle for the soul of America and the future of humanity. Opportunities and responsibilities to join in this battle emerge with every attempt by corporate agriculture to proclaim their “legal right” to maximize profits by continuing to degrade the productivity of the land, pollute natural environment, and diminish the quality of life in rural communities while failing to provide consumers with safe, nutritious foods. The fact that

corporate farming is legally admissible does not make it ethically or morally right. Furthermore, we the people have the ethical and moral responsibility to join together to protect the health and well-being of our families, our communities, and the earth from corporate economic exploitation. For the sake of America and the future of humanity, the battle to defend the traditional values of family farms against the threats of corporate agriculture is a battle that must be won.

End Notes

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- ¹ Center for Food Safety, “State Labeling Initiatives,” <http://www.centerforfoodsafety.org/issues/976/ge-food-labeling/state-labeling-initiatives#> .
 - ² Chicago Tribune, “World’s most popular weed-killer labeled probable carcinogen,” March 23, 2015 <http://www.chicagotribune.com/business/breaking/chi-weed-killer-roundup-carcinogen-20150322-story.html> .
 - ³ U.S. Environmental Protection Agency, Atrazine Chemical Summary, U.S. EPA Toxicity and Exposure Assessment for Children’s Health, 2007, http://www.epa.gov/teach/chem_summ/Atrazine_summary.pdf .
 - ⁴ One Green Planet, “9 States That Have Banned Cruel Gestation Crates for Pigs,” <http://www.onegreenplanet.org/animalsandnature/states-that-have-banned-cruel-gestation-crates-for-pigs/> .
 - ⁵ Humane Society of the U.S., “Crammed into Gestation Crates,” http://www.humanesociety.org/issues/confinement_farm/facts/gestation_crates.html .
 - ⁶ The Huffington Post, Cage Free Eggs, <http://www.huffingtonpost.com/news/cage-free-eggs/> .
 - ⁷ Carey Biron, “Drug makers agree to U.S. ban on livestock antibiotics,” Inter Press Services, <http://www.ipsnews.net/2014/03/drugmakers-agree-u-s-ban-livestock-antibiotics/> .
 - ⁸ Food Dialogues, “About USFRA,” <http://www.fooddialogues.com> .
 - ⁹ Kari Hamerschlag and Anna Lappé, “Spinning Food,” Friends of the Earth, <http://www.foe.org/projects/food-and-technology/good-food-healthy-planet/spinning-food#sthash.8Xhj3lqt.dpuf> .
 - ¹⁰ United States Department of Agriculture, Census of Agriculture, 2012. <http://www.agcensus.usda.gov/Publications/2012/> .
 - ¹¹ James M. MacDonald, “Trends in Agricultural Contracts,” Choices, AAEA, <http://www.choicesmagazine.org/choices-magazine/theme-articles/current-issues-in-agricultural-contracts/trends-in-agricultural-contracts> .
 - ¹² Fernandez-Cornejo, Jorge, Seth Wechsler, Mike Livingston, and Lorraine Mitchell. Genetically Engineered Crops in the United States, ERR-162 U.S. Department of Agriculture, Economic Research Service, February 2014. <http://www.ers.usda.gov/media/1282246/err162.pdf> .
 - ¹³ Wikipedia, “Corporate Farming,” https://en.wikipedia.org/wiki/Corporate_farming .
 - ¹⁴ USDA-CSREES, “The FarmsLASTS Project, 2010. <https://www.uvm.edu/farmlasts/FarmLASTSResearchReport.pdf> .
 - ¹⁵ Pew Commission on Industrial Farm Animal Production: “Putting Meat on The Table: Industrial Farm Animal Production in America,” 2008, http://www.pewtrusts.org/news_room_detail.aspx?id=38438 , full report, <http://www.ncifap.org/> .
 - ¹⁶ Johns Hopkins Center for a Livable Future, “Industrial Food Production in America; Examining the impacts of the Pew Commissions primary recommendations.” http://www.jhsph.edu/research/centers-and-institutes/johns-hopkins-center-for-a-livable-future/pdf/research/clf_reports/CLF-PEW-for%20Web.pdf .
 - ¹⁷ Steven Druker, *Altered Genes and Twisted Truth*, (Fairfield, IA: Clear River Press, 2015).
 - ¹⁸ Huffington Post, Omnibus Poll, YouGov, <http://big.assets.huffingtonpost.com/toplinesbgmo304.pdf> .
 - ¹⁹ U.S. Department of Agriculture Natural Resources Conservation Service and U.S. Environmental Protection Agency, “Unified National Strategy for Animal Feeding Operations,” draft, September 11, 1998, as quoted in *CAFO: The Tragedy of Industrial Animal Factories*, Myths, Dan Imhoff, editor, http://www.cafothethebook.org/thebook_myths_6.htm .
 - ²⁰ Iowa Department of Natural Resources, Iowa’s Section 303(d) Impaired Water Listings, <http://www.iowadnr.gov/Environment/WaterQuality/WaterMonitoring/ImpairedWaters.aspx> .
 - ²¹ Carla Klein, “The Facts about CAFOs and Health Ordinances,” Sierra Club, Ozark Chapter, 2006, <https://missouri2.sierraclub.org/newsletter/facts-about-cafos-and-health-ordinances> .
 - ²² World Society for Protection of Animals, “What’s on Your Plate? The Hidden Costs of Industrial Animal Agriculture in Canada, 2012, http://richarddagan.com/cafo-ilo/WSPA_WhatsonYourPlate_FullReport.pdf .

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- ²³ U.S. Food and Drug Administration, Recalls, Market Withdrawals, and Safety Alerts, <http://www.fda.gov/Safety/Recalls/> .
- ²⁴ Cuiwei Zhao, and others, Prevalence of *Campylobacter* spp., *Escherichia coli*, and *Salmonella* Serovars in Retail Chicken, Turkey, Pork, and Beef from the Greater Washington, D.C., Area, *Applied Environmental Microbiology*, December 2001 vol. 67 no. 12. <http://aem.asm.org/content/67/12/5431.short> .
- ²⁵ Andrew E. Waters and others, Multidrug-Resistant *Staphylococcus aureus* in US Meat and Poultry, *Clinical Infectious Diseases*, (2011) 52 (10):1227-1230, published online: April 15, 2011, <http://cid.oxfordjournals.org/content/52/10/1227.full> .
- ²⁶ US Center for Disease Control and Prevention, Antibiotic Resistance Threats in the United States, 2013 Executive Summary, <http://www.cdc.gov/drugresistance/threat-report-2013/pdf/ar-threats-2013-508.pdf#page=6> .
- ²⁷ United States EPA, *Literature Review of Contaminants in Livestock and Poultry Manure and Implications for Water Quality*. July 2013. <http://water.epa.gov/scitech/cec/upload/Literature-Review-of-Contaminants-in-Livestock-and-Poultry-Manure-and-Implications-for-Water-Quality.pdf> .
- ²⁸ Pew Commission Report on Industrial Animal Agriculture, “Impact of Industrial Farm Animal Production on Rural Communities,” 2008, http://www.ncifap.org/_images/212-8_pcifap_ruralcom_finaltc.pdf .
- ²⁹ R-CALF USA. “Comments on Agriculture and Antitrust Enforcement Issues in Our 21st Century Economy.” Comment to U.S. Department of Justice. December 31, 2009. <https://www.yumpu.com/en/document/view/30593081/r-calf-usas-comments-to-the-department-of-justice-regarding-> .
- ³⁰ Pew Commission Report on Industrial Animal Agriculture, “Impact of Industrial Farm Animal Production on Rural Communities,” 2008?, http://www.ncifap.org/_images/212-8_pcifap_ruralcom_finaltc.pdf .
- ³¹ Curtis Stofferahn, “Industrialized Farming and Its Relationship to Community Well-Being: an Update of the 2000 Report by Linda Labao,” special report prepared for the North Dakota, Office of Attorney General, <http://www.und.edu/org/ndrural/Lobao%20&%20Stofferahn.pdf> .
- ³² Economic Research Service, United States Department of Agriculture, “Price Spreads from Farm to Consumer,” <http://www.ers.usda.gov/data-products/price-spreads-from-farm-to-consumer.aspx> .
- ³³ Richard Volpe, “Price inflation for food outpacing many other spending categories,” Economic Research Service, USDA. <http://www.ers.usda.gov/amber-waves/2013-august/price-inflation-for-food-outpacing-many-other-spending-categories.aspx#.VMQJKf7F98F> .
- ³⁴ CBS documentary, “Hunger in America,” 1968, <https://www.youtube.com/watch?v=h94bq4JfMAA> .
- ³⁵ Alisha Coleman-Jensen, Christian Gregory, and Anita Singh, “Household Food Security in the United States in 2013,” Economic Research Report No. (ERR-173) p 41. <http://www.ers.usda.gov/media/1565415/err173.pdf> .
- ³⁶ Danielle Dellorto, “Global report: Obesity bigger health crisis than hunger.” CNN News, December 14, 2012 <http://www.cnn.com/2012/12/13/health/global-burden-report/> .
- ³⁷ John Ikerd, in *Soil Fertility & Human and Animal Health*, by William A. Albrecht, (Austin, TX: Acres U.S.A., 2013), Foreword, pp xv-xxvi. Also available at <https://sites.google.com/site/albrechtlecture/home/text-of-2011-albrecht-lecture> .
- ³⁸ USDA Sustainable Agriculture Research and Education Program, “Hog Production Systems,” <http://www.sare.org/Learning-Center/Bulletins/Profitable-Pork/Text-Version/Hog-Production-Systems> .
- ³⁹ Thomas S. Kriegl, University of Wisconsin Center for Dairy Profitability, University of Wisconsin-Extension Madison, WI. See <http://cdp.wisc.edu> for more information.
- ⁴⁰ Verena Seufert, Navin Ramankutty, and Jonathan A. Foley, “Comparing the yields of organic and conventional agriculture,” *Nature*, Number 485, May 10, 2012, 229–232, <http://www.nature.com/nature/journal/v485/n7397/abs/nature11069.html> .(accessed September 15, 2014).
- ⁴¹ Parke Wilde, “Crop yields are only part of the organic vs. conventional farming debate,” *Grist*, May 2012. <http://grist.org/organic-food/crop-yields-are-only-part-of-the-organic-vs-conventional-farming-debate/> .
- ⁴² United Nations Environmental Program, *Towards a Green Economy: Pathways to Sustainable Development and Poverty Eradication*, 2010, www.unep.org/greeneconomy .
- ⁴³ Fred Kirschenmann, “The challenge of ending hunger,” Leopold Center for Sustainable Agriculture, Leopold letter, winter 2012, <http://www.leopold.iastate.edu/news/leopold-letter/2012/winter/future> .
- ⁴⁴ Olivier De Schutter, United Nations General Assembly, Human Rights Council, “Report submitted by the Special Rapporteur on the right to food,” 20 December 2010, http://www.srfood.org/images/stories/pdf/officialreports/20110308_a-hrc-16-49_agroecology_en.pdf