Turning Farms into Factories

How the Concentration of Animal Agriculture Threatens Human Health, the Environment, and Rural Communities
About Food & Water Watch

Food & Water Watch is a nonprofit consumer rights organization, based in Washington, DC, that challenges the corporate control and abuse of our food supply and water resources.

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Industrial animal production, the practice of confining thousands of cows, hogs, chickens, or other animals in tightly packed facilities has become the dominant method of meat production in the United States. This report, which accompanies Food & Water Watch’s online map of factory farm animal production, explains the forces that have driven the growth of factory farms, as well as the environmental, public health, and economic consequences of the rise of this type of animal production.

Residents in several regions have successfully stopped factory farms from setting up shop in their communities. But their counterparts in other places have been stymied by the financial and political clout of the livestock industry that relies on factory farm production and uses its influence to wipe out local and state efforts to regulate them. Lax environmental regulations, poverty, and cheap land values make some parts of the country particularly vulnerable to an influx of factory farms.

As the online map illustrates, confined animal feeding operations, also known as CAFOs or factory farms, are found throughout the United States. But some regions host a comparatively large share of intensive animal production – Iowa and North Carolina for hogs, California and Idaho for dairy cows, Texas and Kansas for cattle feedlots, Georgia and Alabama for broiler chickens, and Iowa and Ohio for egg production. Many of these regions are home to more than one type of factory farm.

Factory farms bring serious human health and environmental consequences to the communities where they locate. The millions of gallons of manure and other waste they produce cannot be properly managed and often spill into waterways. They emit toxic chemicals that can harm human health and cause hazardous air and water pollution. People working in these animal factories or those living nearby often suffer intensely from the odors and experience a range of negative physical effects.

People thousands of miles away from these facilities are not immune to their impacts, either. Consumers eating the dairy, egg, and meat products produced there are faced with the consequences of antibiotic and artificial hormone use and other food safety problems.

As these industrial animal operations spread, they are driving more family farmers out of business or seriously curtailing their ability to make a living raising animals. But some farmers have been able to escape the factory farm model. Those who live near cities have turned to raising meat and dairy products for direct marketing to consumers. Others have turned to organic production.

Unfortunately, the various alternative production and marketing practices are not enough to save all family livestock farmers. To address the impact factory farms are having on the environment, public health, food safety, and rural communities, Food & Water Watch recommends that:

• The Environmental Protection Agency establish a moratorium on the construction of new CAFOs and on the expansion of existing facilities;
• EPA and states establish and enforce strong pollution laws and water use permits, as well as pollution reporting requirements;
• Congress and government agencies (e.g., EPA, U.S. Department of Agriculture, Department of Justice, etc.) stop exempting agriculture operations from existing or proposed environmental, and anti-trust laws and regulations;
• Congress continue to permit the hazardous substances contained in manure to be regulated through Superfund and the Emergency Planning and Community Right to Know Act;
• EPA end the air emission monitoring study program that essentially allows factory farms to violate air quality standards;
• Congress address the concentration of corporate power in livestock markets by enacting measures to increase competition in the livestock industry (including a ban on packer livestock ownership, captive supply reform, and enforcement of antitrust laws);
• Congress reform federal farm policy to stop encouraging overproduction of corn, soybeans, and other commodities that have resulted in cheap feed for animals in CAFOs;
• State legislatures allow local governments to retain the authority to impose strict health and zoning regulations for CAFOs;
• USDA require country of origin labeling for all food; and
• Consumers vote with their dollars by purchasing meat produced in a more sustainable way. Learn how at www.eatwellguide.org.
What is Fueling the Growth of Factory Farms?

A turning point in the industrialization of agriculture was the discovery that adding vitamins A and D to animal feed meant that animals could be kept indoors all year long instead of being restricted to outdoor seasonal production. The intense indoor confinement of livestock that began after World War II led to high rates of death and disease, which was overcome with the routine addition of antibiotics to feed and water – whether or not the animals were actually sick. Confinement technologies also decreased the need for land and workers. And since independent farmers were less able to afford these technologies, the confinement operations that began to emerge tended to be large and well capitalized.¹

In 1950, when the industrialization of livestock production began to take off, 2.1 million U.S. farmers sold hogs, averaging about 31 hogs per farm. By 1999, only 98,460 hog farms remained.² By 2004, this number had dwindled to 65,000.³ Today’s facilities now average thousands of hogs per operation. This trend of confining thousands of animals together did not stop with hogs, though. Industrial, corporate confinement production now dominates poultry, egg production, dairy, and beef cattle production.

These confined animal feeding operations, more commonly known as factory farms or CAFOs, have spread throughout the country’s rural areas. The factory farm model of production relies on isolated regions in large part because of the cheap land, cheap water, and lax enforcement of state or local environmental laws. And because industrial animal operations promise jobs, they appeal to rural area leaders desperate for employment opportunities and economic development of any kind. ⁴

Another key ingredient in the proliferation of CAFOs is corporate concentration. As the livestock industry has grown, it also has consolidated, with just a handful of companies dominating the market. This translates into significant economic and political power. And this power allows them to get their way when it comes to farm policy, environmental laws, and how products are marketed to consumers.

Corporate Control from Farm to Fork

To understand how a small handful of corporations control the market for meat, milk, and eggs, one must first understand the concept of vertical integration: the degree to which a company owns or controls all of the stages of production for the products it eventually markets. In the case of livestock, a vertically integrated company owns the animal from its birth through to the marketing of its meat, milk, and eggs.

The meatpacking industry has consolidated and steadily increased profits over the past 20 years, all the while paying farmers less and less for their livestock. Four companies slaughter more than 80 percent of beef cattle and more than 60 percent of hogs in the United States.⁵ In a given region, farmers likely have no more than two meatpackers to whom they can sell their animals, and in many places, they have only one. The situation is worse for growers of broiler chickens. With fewer slaughterhouses in a given area, meatpackers effectively control the terms of livestock sales.⁶

Under this system, farmers become nothing more than subcontractors to the corporation that has complete control because it owns the animals from birth to slaughter. In fact, in the poultry industry, farmers who grow birds under contract with poultry corporations are no longer referred to as farmers, but rather as “contract growers.”
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The relationship between contract poultry growers and meat companies is far from equal and relies on non-negotiable contracts with many terms that stack the deck against the grower. Contract growers must build expensive, industrial style facilities at their own expense in order to get a contract. And if the company terminates the contract, the grower is left with hundreds of thousands of dollars in debt, as well as the manure from the birds they raised.7

This system first took hold in poultry farming and had replaced many independent hog operations by the early 1990s. Contract arrangements are now taking hold in beef and dairy production, as well. According to the latest figures from the U.S. Department of Agriculture, nearly half of all livestock production value is raised under contract arrangements with meat packers and processors. Eighty-eight percent of poultry and egg production, 57 percent of hog production, 50 percent of dairy production, and 28 percent of beef cattle production was raised under contracts in 2003. By 2004, the share of hog production raised under contract grew to 71 percent.8

Cheap Feed — Farm Policy Subsidizes Factory Farms

Corn, soybeans, and other commodity crops form the bulk of the feed for the cows, pigs, and chickens raised on factory farms. Current farm policy encourages overproduction of these commodity crops, which means that food corporations can purchase these raw materials from farmers for less than the cost of growing them.9

As a result of farm policies that encourage overproduction and push crop prices down, it costs more to grow grains than to purchase them. Traditionally, farmers raised livestock and also grew the grains used to feed the livestock on their farms. Factory farms, however, must purchase grains to feed the thousands of animals they raise on one site. Therefore, the subsidy payments that are given to commodity farmers to help make up for low prices are also an indirect subsidy to factory farm operators, who do not have to pay the full price for their animal feed.

About 55 to 65 percent of corn and 40 to 50 percent of soybeans are converted to feed for the livestock industry.10 If livestock producers actually had to buy feed at the cost of production, their overall costs would increase by 7 to 10 percent.11

Weak Environmental Rules

Factory farms are supposed to be regulated at the federal level by the Environmental Protection Agency, under laws such as the Clean Water Act and the Clean Air Act. But the oversight of factory farms by EPA has been weak to nonexistent, in part because of constant efforts by the livestock industry to eviscerate or eliminate environmental regulations.

As industrial animal operations spread, they are driving more family farmers out of business or seriously curtailing their ability to make a living raising animals.
In recent years, the industry has lobbied both Congress and EPA in attempt to exempt factory farms from the Comprehensive Environmental Response, Compensation, and Liability Act (also known as Superfund) and the emissions reporting requirements of the Emergency Planning and Community Right to Know Act.

The industry also has spent years trying to block regulations requiring permits for releasing waste from factory farms into local waters. In June 2006, EPA proposed a rule giving factory farms the right to decide whether they need permits to discharge wastewater. If this rule is approved, industrial farms will never have to report how much pollution they dump into local waters.

And the record is no better when it comes to air pollution. In 2005, EPA introduced a compliance agreement that effectively offered factory farms a free pass for air quality violations as long as they participate in and pay for part of a study on air emissions from factory farms. Until EPA completes the study and establishes new rules to control air emissions, the participating factory farms will not be fined for any air pollution caused by their operations. The agreement was quickly dubbed a “sweetheart deal” by factory farm opponents because the cost of participating is much less than the fines the factory farms should be paying for violations under the Clean Air Act.

**Big Dairy: The Rise of Factory Milk Production**

On a hot day on a dairy CAFO in Texas, flies swarm inside warehouse-like barns, crammed full with hundreds of dairy cows standing hoof deep in their own excrement. At the far end of each building stand several feed silos full of corn-based feed. Fans whir, furiously working to dissipate the toxic gases floating upward from the manure.

Each cow produces 120 pounds of wet manure a day. That, combined with the waste from the milking operation, produces pungent odors, dangerous dust particles, ammonia and hydrogen sulfide responsible for the hazardous air pollution that threatens neighbors’ health. Thousands of gallons of the waste slips through the slatted floors, where it sits underneath the building until space is available elsewhere.

When the slurry separates, the liquids are pumped into a lagoon several acres long and 18 feet deep. Excessive rainfall, a collapsed wall, or the fact that many lagoons simply cannot hold the load of sewage pumped into them each day, mean they often overflow into nearby streams, wetlands, or watersheds.

With thousands of gallons of additional liquid waste accumulating each day, finding storage is a must. Some is sprayed onto fields already saturated with such waste, and some will remain in the cesspool. And some will make a long, environmentally damaging journey to a nearby water source, threatening fish populations and the people dependent on the water supply.

**New York Dairy Disaster**

In August 2005, a lagoon wall collapsed at a dairy in western New York. Three million gallons of animal waste spilled into the Black River, killing 250,000 fish. The town of Watertown had to suspend use of the river as the source of their water supply.

**Big Dairy Destruction in the Wild West**

The residents of the Magic Valley region of south central Idaho know all too well what happens when big agribusiness wants to move in. Family farmers had largely dominated the area until the 1980s, but plunging crop prices began to drive them out of business.

At the same time, dairy farmers in Southern California were not only dealing with falling prices for their milk, but also the increasing value of their land. Many dairy farmers sold their land at a profit and moved their operations, often on an expanded scale, to Idaho and other parts of the West where land and water were cheaper.

Idaho’s relatively lax environmental regulations helped the newly arrived industrial dairies lower their costs of doing business. But for Magic Valley residents, the growth of big dairies has been a nightmare. Potent odors waft from the manure lagoons and straight to their homes. Their belongings have been saturated with the stench, and relaxing on the patio is a thing of the past.

Curry County in eastern New Mexico also suffers from the industrial pollution and competition for water from the clustering of dairy CAFOs, many of which also relocated...
from Southern California. The Ogallala Aquifer, which is the main source of water for eastern New Mexico, is facing exhaustion. In some parts of the county, the water levels have dropped more than 20 feet. In 1999, before many mega-dairies had even moved to the area, state officials estimated that concentrated pumping in Curry County would deplete water from the most productive areas of the basin as early as 2010.\textsuperscript{19}

Industrial dairies can use more than 150 gallons of water per cow per day.\textsuperscript{20} With New Mexico now home to more than 355,000 cows,\textsuperscript{21} this stressed aquifer could be completely exhausted in just a few years.

In the late 1970s and 1980s, Southern California had the nation’s largest concentration of cows per acre.\textsuperscript{22} This has changed due to urban sprawl and the fact that the area could no longer accommodate the vast amounts of waste generated by the dairies. Aside from New Mexico and Idaho, many of these operations moved north to the Central Valley area of California. The fertile land in the middle of the state now houses 1,500 dairy operations.\textsuperscript{23} More are on the way, which means that despite some factory farms leaving California, the state remains home to the most factory farmed dairy cows in the country.

The southern half of the Central Valley, known as the San Joaquin Valley, is home to Kern, Tulare, King, and Fresno counties. They are among the most impoverished areas in the state. They are also the worst victims of air pollution in the nation. One in six children living there suffers from asthma.\textsuperscript{24}

Despite factory farm emissions of toxic gases, agriculture in California was exempt from air pollution laws until 2003, when coalitions of concerned citizens banded together to require dairies to follow pollution standards.\textsuperscript{25} Now a dairy operation needs several permits to conduct business in the state.\textsuperscript{26}

But California’s troubles are far from being regulated away. Along with intense air pollution, Central Valley residents also have reason to worry about the impact of large dairy operations on their water. Hormones, antibiotics, bacteria, and toxins are so concentrated in some parts of the Central Valley that people living near them cannot even drink their well water.\textsuperscript{27}

**Big Beef: Feedlot Infestation**

Ranches are grassy areas used to graze livestock such as cattle or sheep for meat or wool. On the other hand, feedlots are concentrated animal feeding operations used for finishing livestock, notably beef cattle, prior to slaughter.

They may contain tens of thousands of animals in an array of pens.

Like New Mexico, the Texas Panhandle region also uses the Ogallala Aquifer as its main source for drinking and irrigation water. And like New Mexico, extremely lenient environmental laws and regulations make Texas very appealing to pollution shoppers, causing industrial-sized beef cattle feedlots to concentrate in the area.

The Panhandle region suffers from significant water pollution as a result of CAFOs. Feedlots are often located near large playa lakes, natural depressions that collect water before it slowly seeps into the Ogallala Aquifer. Because unplugged wells, test holes, and oil and gas wells perforate the region, when lagoons overflow, the animal waste drains right into these holes and then into the aquifer.\textsuperscript{28}

Cattle in feedlots are surrounded by and stand on top of piles of their manure. This, combined with the hot Texas sun, often makes for agonizing summer evenings for area residents. Plumes of manure dust result when the cattle move about, and it travels several miles from the feedlots.

**North Carolina Hog Madness**

On a June morning in 1995, an eight-acre waste lagoon at a factory hog farm burst open, sending 25 million gallons of untreated swine feces and urine into North Carolina’s New River. Ten million fish were killed, and government officials were forced to post health warnings and close 364,000 acres of fishing and recreational waters.\textsuperscript{21}

When Hurricane Bertha hit North Carolina about a year later, the rising floodwater sent 1.8 million gallons of waste gushing from a lagoon in Craven County. Three months later, Hurricane Fran caused the Cape Fear River to rise, causing several manure lagoons to flood.\textsuperscript{32}

In September 1999, Hurricane Dennis pounded North Carolina with eight inches of rain, causing waste levels in lagoons to rise. One week later, with the arrival of Hurricane Floyd’s 22 inches of rain, North Carolina experienced the worst-case scenario that factory farm critics had warned about for years.\textsuperscript{33} Some 30,000 hogs died in the rising waters, and more than 50 waste lagoons were flooded out. The ecosystems there have yet to recover.\textsuperscript{35}

But not just hurricanes cause these lagoon spills. Later in 1999, Murphy Family Farms spilled two million gallons of animal waste into Duplin County creek and surrounding wetlands. Farm operators blamed vandals, but the ensuing investigation showed that the spill resulted from a subcontractor leaving the site while pumping waste into an emergency back-up lagoon.\textsuperscript{26}
Along with the nauseating odors, people living near these operations have reported dust related health problems including extreme allergic reactions and asthma.  

These problems are also found in western Kansas, another area packed with industrial feedlot operations. The western half of the state also depends entirely on groundwater from the diminishing Ogallala Aquifer for its drinking water. Nitrate pollution in Kansas and most areas of the aquifer is an increasing problem.

### Hogs and More Hogs

Perhaps nowhere in the country are the implications of corporate agriculture more evident than in North Carolina, where intense hog production took off in the 1980s. As with CAFO operations elsewhere, large hog factory farms have sought out North Carolina’s most impoverished areas. The poorest areas throughout the state have 18 times more hog farms than the wealthiest areas.

As of 2006, the state’s 9 million hogs outnumbered its human residents. A single hog produces two to four times the waste of a human, so the waste from those millions of hogs is tough to manage. A series of dramatic spills during the late 1990s illustrates the problem.

The state of North Carolina enacted a moratorium on construction of new hog CAFOs until August 2007, and the General Assembly is currently considering a bill to extend it. However, a moratorium will not solve the environmental problems posed by the state’s existing CAFOs, which continue to pollute wetlands, rivers, streams, and drainage ditches with waste.

CAFO operations also have found a home in Iowa, the nation’s largest pork producing state. A recent history of Iowa reads much like North Carolina: lagoon spills, dead fish, and dirty water. According to the Iowa Department of Natural Resources, 329 manure spills occurred between 1992 and 2002, killing some 2.6 million fish. From 2003 to 2006, there were 122 manure spills from hog facilities alone.

As of 2006, there are 16.3 million hogs in Iowa, a staggering five and a half hogs for every resident. Given the amount of waste each hog produces, it is no wonder this many hogs also would create air and water disasters for the citizens of the state.

Unfortunately, the hog industry not only pollutes the air and water, but also harms the economies of local communities. One study estimated that an operation with 20,000 head of livestock adds up to a damage toll of $6,447 per mile of local roadways.

Hog CAFOs also have moved into southwestern Utah. The Milford Valley area of Beaver County is home to the Circle Four Farms hog operation, owned by Murphy-Brown LLC, a subsidiary of hog conglomerate Smithfield Foods.

Circle Four currently produces about a million hogs each year and confines a total of 600,000 hogs at a time, with anywhere from 10,000 to 12,000 hogs enclosed in each of their 60 warehouse-like buildings. These buildings are spread out over 90 square miles of land, with 6,667 hogs per square mile.

Circle Four began operating in 1994, and within a few years, Milford area residents were raising serious concerns about their water, air, and subsequent health problems, mainly respiratory ailments and diarrhea. The Southwest Utah Public Health Department compared the hospital discharge records of area residents against the rest of the state and found their illness levels “elevated and statistically significant,” and “diarrheal illness was found to be statistically significantly elevated.” A 1999 survey also showed that residents in Milford were far more likely to experience a plethora of health related symptoms compared to other Utah residents and were also twice as likely to report being hospitalized.
Big Poultry: Birds of a Feather Pollute Together

The rural South, including Georgia, Alabama, Mississippi, and Arkansas, is the major poultry-producing region of the United States. The rural areas in these states provide the perfect place for chicken companies such as Tyson. They suffer from chronic unemployment and are places where desperate people are far less likely to organize against or even know about the negative human health, environmental, and economic effects of these industries.

According to the United Food and Commercial Workers, 71 percent of the farmers who work under contract for Tyson earn below poverty-level wages, dispelling any myth that these industrial operations bring economic promise to an area.

What they do bring is a lot of pollution, including soaring ammonia emissions. Ammonia is a colorless, pungent, hazardous gas that emanates from animal manure and urine. Ammonia adheres to dust particles from CAFOs and can penetrate deep into the lungs. This irritates the eyes and respiratory tract, and high enough levels can cause death.

After four years of unproductive negotiations, Oklahoma Attorney General Drew Edmondson sued several Arkansas poultry companies in 2005 for polluting the Illinois River watershed, which supplies the drinking water for 22 public water systems in Oklahoma. The scope of the impact of the chicken operations is striking — the Illinois River watershed has an estimated phosphorus load equivalent to the waste from 10.7 million people, more people than the populations of Oklahoma, Arkansas, and Kansas combined.

Arkansas attempted to intervene in Oklahoma’s lawsuit, but was rejected in 2006 by the U.S. Supreme Court. As of July 2007, the state of Oklahoma and the poultry corporations remain parties in the ongoing lawsuit. Edmundson put the situation in perspective by pointing out that Tyson recently announced it would spend $75 million over 12 months on an ad campaign. “If they can afford that, they can afford to clean up their waste,” he said.

Broiler chickens are not the only birds being raised on CAFOs. Egg operations also confine tens of thousands of birds in buildings, often in small cages that are stacked from floor to ceiling. Areas with high concentrations of industrial egg operations include Iowa, Ohio, Indiana, and Pennsylvania.

The record of Buckeye Egg Farm in Ohio vividly illustrates the problems faced by communities hosting commercial egg operations. The long list of Buckeye complaints include manure spills, collapsed lagoon walls, fish kills, misapplying egg-wash wastewater and manure to fields, failing to remove manure in a timely manner, piling up dead chickens, and improper manure storage that created a breeding ground for flies. The problems were so severe that in 1999, the state of Ohio filed a 27-count lawsuit against Buckeye for disregarding environmental laws.

In 2000, a tornado struck the area, trapping nearly a million chickens in the collapsed barns. Finally, after a decade of environmental harm and complaints from neighbors, Buckeye, once the nation’s fifth largest egg producer, was ordered to close the operation in 2003.

Ohioans had hoped this egg industry nightmare would end when new management restarted the operation and promised not to repeat Buckeye’s mistakes. However, a recent court case revealed that the operation may not be under new management, after all.

In late 2006, it was discovered that the company, now renamed Ohio Fresh Eggs, filed false or misleading information about ties to its previous owner and current investor, Jack DeCoster. In addition to DeCoster’s environmental record in Ohio, he has been labeled a “habitual violator” of environmental laws in Iowa by the attorney general.

Testimony in the case revealed that the current owners
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invested only $10,000 into the operation, while DeCoster pumped $126 million into four Ohio Fresh Eggs operations in central and northwest Ohio.63

This led to the Ohio Department of Agriculture revoking the company’s operating permits.64 However, Ohio Fresh Eggs continues to operate without them. The Ohio Department of Agriculture is waiting for the judge in the case to reach a decision so the operation can be shut down.65

Health Effects: Impacts of CAFOs on Community Health

Manure contains significant amounts of nitrates and phosphorus. When these nutrients enter waterways in excess amounts, algae and other aquatic plants grow fast and thick. With enough nitrogen and phosphorous, algal blooms can deplete the oxygen in the water, resulting in fish kills and serious taste and odor problems.

Fish, however, are not the only victims. Nitrates from factory farms threaten the health of people. Babies who drink nitrate-contaminated water run a greater risk of developing the potentially fatal blue baby syndrome: Their blood cells can no longer carry oxygen. Several studies also have linked nitrates in the drinking water to birth defects, disruption of thyroid function, and various types of cancers.66, 67

Nitrates are not the only culprits making their journey into the drinking water from manure. The long list of contaminants includes arsenic and other toxic metals, antibiotics, pesticides, and bacterial pathogens. In May 2000 in Canada, more than 1,300 people in Walkerton, Ontario fell ill and seven died after drinking water from a municipal well contaminated with E.coli and Camplyobacter because manure from a nearby livestock operation had been applied to farm fields.68

Residents living near many factory farms also suffer from hazardous air pollution. Dust particles and toxins from animal feces, hair, feed, and dander – capable of traveling about six miles from a CAFO – can affect white cell blood counts and cause fever and respiratory illness in humans.69 Ammonia, methane, and hydrogen sulfide also emanate from animal factories. With all these potent gases, residents suffer from health problems such as skin and eye irritation, coughing and wheezing, diarrhea, asthma, nausea, headaches, depression, and sleep loss.70

County Line Dairy: Lake Arthur, New Mexico

Family farmer Cliff Mann was thrilled when he moved to Lake Arthur in the fall of 1998. He began planting trees and plants all over his 40 acres of land, creating the perfect property to enjoy his retirement. But by the following spring, the odors from neighboring County Line Dairy were getting worse. By 2001, the rancid stench became unbearable. Mann noticed a significant increase in the skunks and coyotes on his property and buzzards circling across the road. When Mann decided to wander next door to investigate, he was horrified at what he found.87

He saw a half-mile long ditch filled with wet manure, garbage, and a calf embryo. Beyond it were enormous pits full of medical waste, syringes, and the bloated carcasses of baby calves and mother cows. Seeing these 20-foot deep pits, the same level as his groundwater supply, made Cliff Mann realize his problem was bigger than repulsive odors.88

Mann took photos and confronted the dairy’s owner, who promised an end to the practice. But the problem worsened in 2003. Mann saw more and larger pits with dead animals and medical waste than before. He called the Environmental Protection Agency, but by the time they arrived, County Line Dairy had covered the pits with dirt.89 This practice is known by the industry as “whole animal composting.”90

“I wish I could put the smell of these dairies on paper so people could really appreciate my problem,” Mann said. “It’s not the sweet-smelling hay smell of horse manure. This is a rotten, musty, sickening smell of death.”91 Mann’s property also is infested with rats, fleas, coyotes, skunks, buzzards, cockroaches and so many flies in the summertime that his walls often appear black.92

Of even greater concern to Mann is the dangerous nitrate level of the drinking water. The federal maximum allowable level in public drinking water is 10 milligrams per liter. At least 10 of County Line Dairy’s monitoring wells have been above that limit, with a monitoring well across the street from Mann showing four times the legal limit.93

A manure lagoon in Iowa.
“I wish I could put the smell of these dairies on paper so people could really appreciate my problem. It’s not the sweet-smelling hay smell of horse manure. This is a rotten, musty, sickening smell of death.”  
– Cliff Mann, family farmer

In light of the numerous negative impacts factory farms have on public health, in 2003 the American Public Health Association called for a moratorium on the construction of new factory farms.71

Food Safety: Impacts of CAFOs on Consumers

In addition to the environmental and public health consequences for communities surrounding them, factory farms affect people thousands of miles away when they eat meat and dairy products from these facilities. Whether it be cows, hogs, or chickens raised in a CAFO, the end products can have major food safety implications for consumers.

Factory farm operators typically manage what animals eat in order to promote their growth and keep the overall costs of production low. And what animals eat directly affects the quality and safety of meat and dairy products.

Antibiotics

Factory farmers typically mix low doses of antibiotics (lower than the amount used to treat an actual disease or infection) into animals’ feed and water to promote their growth and to preempt outbreaks of disease in the overcrowded, unsanitary conditions. According to the Union of Concerned Scientists, 70 percent of all antimicrobials used in the United States are fed to livestock.72 This accounts for 25 million pounds of antibiotics annually, more than 8 times the amount used to treat disease in humans.73

Bacteria exposed to continuous, low level antibiotics can become resistant. They then spawn new bacteria with the antibiotic resistance. The American Medical Association, American Public Health Association, and the National Institutes of Health all describe antibiotic resistance as a growing public health concern.74 And European countries that banned the use of antibiotics in animal production have seen a decrease in resistance.75

Mad Cow Disease

Scientists believe that mad cow disease, or bovine spongiform encephalopathy (BSE), is spread when cattle eat nervous system tissues, such as the brain and spinal cord, of other infected animals. Keeping mad cow disease out of the food supply is particularly important because, unlike most other foodborne illnesses, consumers cannot protect themselves by cooking the meat or by any other type of disinfection.

In 1997, the Food and Drug Administration, the agency that regulates animal feed, instituted a “feed ban” to prevent the spread of the disease. Although this ban provides some protections for consumers, it still allows risky practices. For example, factory farm operators still feed “poultry litter” to cattle. Unfortunately, poultry litter, the waste found on the floors of poultry barns, may contain cattle protein because regulations allow for feeding cattle tissue to poultry. And cattle blood can be fed to calves in milk replacer – the formula that most calves receive instead of their mother’s milk. Finally, food processing and restaurant “plate waste,” which could contain cattle tissue, can still be fed to cattle.

E. Coli

In factory farm feedlots, cattle no longer eat the grass they are accustomed to and are instead fed mostly corn and soybeans for the last few months of their lives. These starchy grains increase their growth rate and make their meat more tender. However, scientists point to human health risks associated with this grain-based diet.

A researcher from Cornell University found that cattle fed hay for the five days before slaughter had dramatically lower levels of acid-resistant E. coli bacteria in their feces than cattle fed corn or soybeans. E. coli live in cattle’s intestinal tract, so feces that escapes during slaughter can lead to the bacteria contaminating the meat.76

Vegetables can be also be contaminated by E. coli if manure is used to fertilize crops without composting it first, or if water used to irrigate or clean the crops contains animal waste. The 2006 case of E. coli-contaminated spinach from the San Joaquin Valley in California offers a dramatic example of how animal waste can impact vegetables.
**Hormones**

With the approval of FDA and USDA, factory farms in the United States use hormones to promote growth and milk production in beef and dairy cattle.

An estimated two-thirds of all U.S. cattle raised for slaughter are injected with growth hormones. Six different hormones are used on beef cattle, three of which occur naturally, and three of which are synthetic.

Recombinant bovine growth hormone (rBGH) is a genetically engineered, artificial growth hormone injected into dairy cattle to increase their milk production by anywhere from 8 to 17 percent. FDA approved rBGH in 1993, based on an unpublished study submitted by Monsanto. Canada, Australia, Japan, and the European Union all have prohibited the use of rBGH.

Approximately 22 percent of all dairy cows in the United States are injected with the hormone, but 54 percent of large herds (500 animals or more), such as those found on factory farms, use rBGH. Its use has increased bacterial udder infections in cows by 25 percent, thereby increasing the need for antibiotics to treat the infections.

In addition, the milk from cows injected with rBGH has higher levels of another hormone called Insulin Growth Factor-1 (IGF-1). Elevated levels of IGF-1 in humans have been linked to colon and breast cancer. Researchers believe there may be an association between the increase in twin births over the past 30 years and elevated levels of IGF-1 in humans.

**Loss of Local Control: Impacts of CAFOs on Democracy**

Debates about the authority of local governments to regulate CAFOs have been raging across the country for years. Some communities have kept factory farms out of their area by passing zoning and health ordinances and other regulations. But others have seen the livestock industry work to undermine their local government’s authority, sparking fights across the country over “local control” of animal agriculture.

**Missouri**

CAFOs and the fight over whether local governments have the authority to regulate them are all too familiar to the residents of Missouri. Agriculture in the state was completely exempt from planning and zoning laws and by 1993, when the state legislature stripped three counties of their anti-corporate farming laws, the scene was set for massive Premium Standards Farms to move in. Soon after, Tyson, Continental Grains, and Murphy Family Farms began setting up their hog factory complexes.

By 1995, thousands of Missourians, including farmers, environmentalists, consumers, and businesses decided that it was time to take a stand against the corporate agribusiness takeover of their state. After an intense grassroots campaign, in 1996 they forced the passage of a new set of laws requiring factory feeding operations to notify the local media, county commissioners, and neighbors when they wanted to open a new operation.

This new public notification law, a rarity throughout the Midwest, gives citizens crucial time to organize and educate unsuspecting residents and push their leaders to establish health ordinances requiring some protections for neighbors of CAFOs.

Because of the success of local communities using this public notification period to prevent the construction of new CAFOs, the livestock industry pressured the state legislature to take away these essential laws in 2004. Another grassroots campaign managed to fend off this measure and maintain local control. And as of 2006, 15 counties in the state had established health ordinances that prevent CAFOs from moving in.

**Nebraska**

In 1982, Nebraska voters approved Initiative 300, the first state constitutional amendment prohibiting non-family farm corporations from owning farmland or livestock. It was credited with preserving traditional family farming in the state and thus protecting rural communities and the environment.

In the pork industry, Nebraska has a larger percentage of small pork producers compared to any other major producing state, and they also have a greater number of smaller commercial feedlots than do places that have weak anti-corporate farming laws, such as Texas or Kansas.

Unfortunately, in 2005 a federal district court declared that I-300 violated the U.S. Constitution because it interfered with the interstate commerce clause of the constitution and violated the Americans with Disabilities Act. In December 2006, the U.S. Court of Appeals for the Eighth Circuit upheld the lower court ruling.
Dairy Pricing

Federal rules called milk marketing orders establish a minimum price (price floor) for milk in specific regions of the country. The price is determined by how the milk will be used (fluid milk, butter, cheese, powdered milk, etc.) with the highest price going to fluid milk. California has a different set of rules establishing milk price, but the results are still low prices for farmers.

The formula for calculating prices through the milk marketing orders is complex and quite controversial. The formula is based in part on the price of cheddar cheese futures traded at the Chicago Mercantile Exchange, a process that is dominated by just a handful of the largest dairy industry players. Family farm advocates maintain that these players routinely manipulate this process to depress the price dairy farmers receive for their milk.118

Just as in every other type of livestock production, dairy farmers have fewer options for selling their milk than they used to, which means that they are forced to accept whatever price they can get. Combined with the pressure generated by the pricing rules, dairy farmers often receive less than the cost of production for their milk. To compensate, many try to produce more, just to eke out a living – following the advice of “get big or get out” that has been driving livestock producers to switch to factory farm techniques.

Pennsylvania

As CAFOs moved into Pennsylvania, counties burdened with the environmental and health impacts attempted to take matters into their own hands through zoning ordinances. But in 2006, Pennsylvania Attorney General Tom Corbett challenged five municipal ordinances he claimed illegally restricted farming operations.106 This came after the Pennsylvania legislature passed the Agriculture Communities and Rural Environment Act in 2005. The law allows the attorney general to challenge local ordinances that ban corporate farms.107

The Commonwealth Court dismissed three of the lawsuits, but one township had already repealed their ordinance to avoid the risk of high legal costs. The fifth lawsuit is still pending.108

Fewer Family Farms: Impacts of CAFOs on Agriculture

Family farmers are doing everything they can to hold onto their livelihood amidst corporate agriculture’s takeover of animal production. But the rise of factory farms and vertical integration has taken its toll on the ranks of independent family farms. The number of smaller family farm operations is declining, making up a dwindling share of full-time farms in the United States. Between 1994 and 2005, 103,323 working farms disappeared, and the losses were concentrated in small and medium-sized farms.109 The number of farms of all sizes that raise livestock has also been declining rapidly. Between 1997 and 2002, the United States lost about 103,000 farms that raised beef cattle, 33,000 dairy farms, and 46,000 farms that raised hogs.110

Many family farmers can no longer be full-time farmers at all, but instead have to resort to other means of employment to scrape by. Others have had to find new functions for their farms. One new idea in agriculture is actually designed to appeal to tourists, known as “agritourism” or “agritainment.” Offering hayrides, petting zoos, corn and hay mazes and other activities, the farms rely on gift shop and refreshment stand revenues to make profits.

When the price for live pigs dropped to $.10 a pound, seventh-generation farmer Victor Cheeseman of Pennsylvania could no longer make a living raising hogs. But Cheeseman’s family had been farming in Butler and Lawrence counties since 1840 and did not want to give up this way of life. So the Cheeseman family turned to agritainment, creating an annual Fright Farm & Pumpkin Festival where a haunted hayride, haunted maze, and haunted house entertain hundreds of visitors each Halloween season. They also built a barn to rent out for weddings and class reunions.111

Other farmers are turning to niche markets to stay in business. Rex Larsen of Utah County, Utah no longer sells his straw for livestock consumption, but rather creates sea-
sonal decorations for homes. He also raises steers for 4-H groups and grows certified barley seed.\textsuperscript{112}

The Wooden Nickel Buffalo Farm in Edinboro, Pennsylvania had been a struggling dairy farm until its owners decided to convert to buffalo. The farm now sells buffalo meat and jerky, gives tours, host small festivals throughout the year, and runs a gift shop and restaurant.\textsuperscript{113}

\textbf{The Bright Side}

Thankfully, several alternatives have emerged for those who refuse to accept the corporate capture of our food system. Conscientious consumers can purchase sustainable animal products through Community Supported Agriculture programs and farmers markets.

Community Supported Agriculture is one of the best ways to obtain sustainably grown and raised food. Consumers become members of a CSA by contributing money and/or labor in return for food from the farm. This allows consumers get food directly from a farmer, and it keeps the farmer in the business of actually farming.

Others are trying to preserve family farming through farmers markets, where consumers can pick up a wide variety of locally produced foods and homemade goods. The number of farmers markets has increased dramatically over the years, with the USDA identifying 3,700 farmers markets across the nation in 2004.\textsuperscript{114} As with CSAs, farmers markets allow farmers and consumers to have a direct relationship and pass more of the consumers’ dollars directly to farmers.

Purchasing organic animal products is also growing in popularity. Organic beef sales alone increased by 55 percent in 2005.\textsuperscript{115} Unlike those raised on factory farms, animals on organic farms are fed organic feed and are not given antibiotics or hormones. The organic standards require that animals have access to the outdoors.

As large food corporations enter the organic market, drawn by the explosive growth of the organic sector, there has been pressure to weaken the organic standards for animals, especially for dairy cows. The controversy over the integrity of the organic standards illustrates that no segment, even supposedly alternative production methods, are immune to corporate pressure. It demonstrates the need for strong enforcement of the standards for organic production so that consumers are assured that the organic seal means what they think it does.

The movement for quality animal products also has created a demand for “cage-free” or “free-range” eggs. Several studies have shown that free-range eggs are far more nutritious than those from hens confined in factory farms, with more vitamin E, vitamin A, omega 3 fatty acids, folic acid, and beta-carotene.\textsuperscript{116} Beef cows that are raised on pasture where they graze on grass instead of being grain-fed in feedlots are also proving to be a popular alternative. Meat from grass-fed cattle has been found to be lower in saturated fat and contain higher levels of omega-3 fatty acids, vitamin E, and vitamin A.\textsuperscript{117} This is not surprising, considering that cows are biologically designed to eat grass – a low-starch, high-protein fibrous food compared to carbohydrate-rich, low fiber corn and soybeans.
Conclusion

America’s rural communities from coast to coast are living with the human health and environmental costs of factory farms that cram together hundreds of thousands of animals in filthy conditions. These industrial animal operations also touch consumers nationwide through the food produced there. Factory farming must end, and Congress and regulatory agencies need to make certain that food is produced in a sustainable way that does not harm people and the environment.

Recommendations

To address the impact factory farms are having on the environment, public health, food safety, and rural communities, Food & Water Watch recommends that:

- The Environmental Protection Agency establish a moratorium on the construction of new CAFOs and on the expansion of existing facilities;

- EPA and states establish and enforce strong pollution laws and water use permits, as well as pollution reporting requirements;

- Congress and government agencies (e.g., EPA, U.S. Department of Agriculture, Department of Justice, etc.) stop exempting agriculture operations from existing or proposed environmental and anti-trust laws and regulations;

- Congress continue to permit the hazardous substances contained in manure to be regulated through Superfund and the Emergency Planning and Community Right to Know Act;

- EPA end the air emission monitoring study program that essentially allows factory farms to violate air quality standards;

- Congress address the concentration of corporate power in livestock markets by enacting measures to increase competition in the livestock industry (including a ban on packer livestock ownership, captive supply reform, and enforcement of antitrust laws);

- Congress reform federal farm policy to stop encouraging overproduction of corn, soybeans, and other commodities that have resulted in cheap feed for animals in CAFOs;

- State legislatures allow local governments to retain the authority to impose strict health and zoning regulations for CAFOs;

- USDA require country of origin labeling for all food; and

- Consumers vote with their dollars by purchasing meat produced in a more sustainable way. Learn how at www.eatwellguide.org.

For More Information

Check out Food & Water Watch’s online map of factory farm animal production at www.factoryfarmmap.org.

The map shows how many factory farms and factory-farmed animals are found in each state and county. You can find out how many factory farms are in your state, or see which parts of the country are home to multiple kinds of factory farms.
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