Raising Animals in an Industrial System

The pastures and red barns we so fondly imagine are a far cry from industrialized farms today, which house animals in vast quantities in cramped, inhumane conditions.

In the last half century, the consolidation of food production has concentrated power into the hands of a few mega corporations. These conglomerates produce our food ostensibly for low cost with little regard for the environment, especially in terms of [soil](https://foodprint.org/issues/how-industrial-agriculture-affects-our-soil/) and water quality, food safety, and [animal welfare](https://foodprint.org/issues/farm-animal-welfare/). Industrial agriculture operations frequently trade the quality and safety of products, as well as the health of consumers and rural communities, for maximized profits achieved through consolidation and mechanization.

**What Is Industrial Livestock Production?**

Livestock production used to be an important part of small- and medium-sized independent farms; animal manure fertilized crops, animals ate farm waste products, and the sale of animal products in local markets provided important additional income to farmers. Some farms still operate this way, but they are no longer the norm, as livestock production has become big business.

Industrial livestock production generally refers to a modern type of agriculture wherein densely populated groups of animals are confined to cages, barns or feedlots. Rather than the animals grazing or foraging, feed, water and medical inputs are provided to them, while their excrement is collected in ponds (called *lagoons*) or pits which is then sprayed onto nearby fields. Sustainable food advocates often call these operations *factory farms*, while people in rural areas where they are common call them *confinements*.

Intensive crop (plant) production (frequently termed *industrial agriculture*) artificially divorces two countering aspects of a naturally closed-loop and renewable cycle – nature’s reciprocal and balanced system whereby crops feed animals and animal wastes fertilize crops. What we have instead are depleted soils on one hand and toxically excessive animal wastes on the other – both problems generated by commercial agriculture. [**1**](https://foodprint.org/issues/raising-animals-industrial-system/#easy-footnote-bottom-1-447)

**Animal Feeding Operations**

Industrial livestock production has become so far removed from the natural cycle of farming that laws and regulations no longer refer to these operations as farms, but *animal feeding operations*, or AFOs. The Environmental Protection Agency (EPA) regulates AFOs, defined as “agricultural operations where animals are kept and raised in confined situations.” [**2**](https://foodprint.org/issues/raising-animals-industrial-system/#easy-footnote-bottom-2-447)

The definition continues:

An AFO is a lot or facility (other than an aquatic animal production facility) where the following conditions are met:

* animals have been, are, or will be stabled or confined and fed or maintained for a total of 45 days or more in any 12-month period, and
* crops, vegetation, forage growth or post-harvest residues are not sustained in the normal growing season over any portion of the lot or facility. [**3**](https://foodprint.org/issues/raising-animals-industrial-system/#easy-footnote-bottom-3-447)

A concentrated animal feeding operation (CAFO) is a very large AFO, housing “more than 1000 animal units (an animal unit is defined as an animal equivalent of 1000 pounds live weight and equates to 1000 head of beef cattle, 700 dairy cows, 2500 swine weighing more than 55 pounds, 125 thousand broiler chickens or 82 thousand laying hens or pullets).” [**4**](https://foodprint.org/issues/raising-animals-industrial-system/#easy-footnote-bottom-4-447) Additionally, “any size AFO that discharges manure or wastewater into a natural or man-made ditch, stream or other waterway” rather than spraying the waste indirectly on fields, is defined as a CAFO. [**5**](https://foodprint.org/issues/raising-animals-industrial-system/#easy-footnote-bottom-5-447)

Cattle, hogs, chickens and turkeys are the most common livestock raised in confinement operations; but other types of poultry, as well as sheep, goats and rabbits, are also being raised more and more this way.

**Why Is Industrially-Raised Meat So Cheap?**

Proponents of industrial agriculture point to the high volume of the low-cost food it produces. Meat has become cheaper than would have been thought possible a century ago, such that every American consumes, on average, nearly [215 pounds](https://www.nationalchickencouncil.org/about-the-industry/statistics/per-capita-consumption-of-poultry-and-livestock-1965-to-estimated-2012-in-pounds/) of red meat and poultry per year. [**6**](https://foodprint.org/issues/raising-animals-industrial-system/#easy-footnote-bottom-6-447) The drop in meat cost is partly due to how confinement production takes advantage of economies of scale; it is also due to the externalization of costs and to the political power of the meat industry.

**Externalization of Costs**

While companies make all the profit from livestock production, there are many costs inherent to the process that they literally do not have to include on their balance sheets and which are instead borne by taxpayers. These include: the costs of cleaning polluted water, health care for asthma or other illnesses associated with CAFOs, lowered property values when a CAFO moves in next door, lost jobs and tax revenue as small businesses close due to corporate consolidation, and more.

One major cost is that of the grain fed to animals in CAFOs. Decades of federal policies have subsidized production of corn and soybeans, allowing meat companies to purchase feed at far below what it takes to produce it. These policies have hurt corn and soybean farmers, who have had to contend with many years of low prices for their crops, while enabling the CAFO model to thrive.

**Political Power in the Meat Industry**

These cost externalizations have been allowed to develop because agribusiness, particularly the meat industry, has become exceptionally politically powerful both at the federal level and in rural livestock-producing states around the country.

Because CAFOs are classified as “agricultural” and not “industrial,” despite the massive scale of their operations, they are not subject to the appropriate level of regulation that their size and the amount of pollution they produce really warrant. [**7**](https://foodprint.org/issues/raising-animals-industrial-system/#easy-footnote-bottom-7-447) The industry has been able to block, undercut and shape laws and regulations that should protect the public from the environmental, public health and economic consequences of CAFOs; as such, most of these policies instead favor the industry heavily.

The meat industry has been able to do this, in part, because of a program called [*checkoff*](https://www.washingtonmonthly.com/magazine/january_february_2014/features/big_beef048356.php?page=all), which requires livestock farmers to pay a tax on every animal when it is sold, and which allocates that and a small tax on consumer meat sales to private trade groups like the National Cattlemen’s Beef Association and the National Pork Producers Council. These groups primarily represent large meatpackers, not family famers, and lobby for policies that benefit large-scale industrial agriculture (which are detrimental to independent family farms). The revenue generated by the checkoff program is used to support research and advertising campaigns, like “Beef. It’s What’s for Dinner.” By this point, checkoff is essentially a tax that works against the interests of small agricultural businesses. [**8**](https://foodprint.org/issues/raising-animals-industrial-system/#easy-footnote-bottom-8-447)

**Corporate Consolidation**

As of 2015, the four largest companies in each sector controlled 85 percent of the beef packing industry, 66 percent of pork packing, and 51 percent of broiler chicken processing. When the top four companies control more than 50 percent of a market, it is generally seen as uncompetitive. [**9**](https://foodprint.org/issues/raising-animals-industrial-system/#easy-footnote-bottom-9-447)

This consolidation began in earnest in the 1940s, when companies like Tyson Foods began buying up the formerly independent parts of their supply chain – breeding facilities, feed mills, slaughterhouses –  and integrating them under their umbrella, in a process called *vertical integration*.

Owning all links in the supply chain gives the integrator control over price and quality throughout, and the economies of scale they have achieved have helped to drive the consumer prices of meat down. But with so few companies controlling the market, it is extraordinarily hard for smaller operations to compete, especially because the costs of producing meat sustainably on pasture can be four times as high as industrial methods.

**Contract Farming**

There is one piece of the operation that even the most vertically integrated companies do not own: the farms that raise the animals. The big meat-packing companies have determined that farms are the least profitable part of the business, and instead contract with farmers to raise company-owned animals on the farmers’ land. [**10**](https://foodprint.org/issues/raising-animals-industrial-system/#easy-footnote-bottom-10-447) The farmer must take out large loans — usually to the tune of $1 million to start — and build animal houses to company specifications. Once the farmer is committed to the agreement, by way of significant debt, he or she often finds that the contracts are not as fair or profitable as the company salesmen promised. [**11**](https://foodprint.org/issues/raising-animals-industrial-system/#easy-footnote-bottom-11-447) In fact, many contract, chicken farmers face bankruptcy and risk losing their home and farm if they try to get out of the business.

The model of vertically integrated meat companies using contract farm labor was developed by Tyson, and soon grew to be the norm in the chicken industry. *Chickenization*, as the practice is known, has essentially taken over the hog industry, as well, and beef companies are angling for the same.

**The Negative Impacts of Industrial Livestock Production**

Industrial meat production is built for maximum output in the form of billions of pounds of meat consumed but does not take into account the disastrous effects of such consolidated production on the environment, animals and people.

**Environmental Consequences**

In 2012, livestock and poultry on the largest concentrated animal feeding operations (CAFOs) produced 369 million tons of manure: this was almost 13 times more waste than that of the entire US population of 312 million. [**12**](https://foodprint.org/issues/raising-animals-industrial-system/#easy-footnote-bottom-12-447) While human waste is treated in municipal sewer systems and subject to strict regulation, animal waste is stored in lagoons or pits and is applied untreated as fertilizer to farm fields. The mixture in lagoons consists not only of animal excrement but of bedding waste, antibiotic residues, cleaning solutions and other chemicals, and sometimes dead animals. Most lagoons are lined only with clay and can leak, allowing the waste to seep into groundwater.

When such an extraordinary amount of waste is applied to fields, it is generally on a scale and at a rate that far exceeds what the land is capable of absorbing. Not only is untreated waste and chemical residue applied directly to cropland, but the excess runs off and ends up in nearly all streams and rivers. The volume of waste has become so large that some areas where CAFOs are common have had land values skyrocket, in part due to the need for additional land to spread manure. [**13**](https://foodprint.org/issues/raising-animals-industrial-system/#easy-footnote-bottom-13-447)

The high content of nitrogen and other nutrients in manure runoff leads to *dead zones* in downstream waterways, where an overgrowth of algae consumes all the oxygen, which is of course needed to support other life. In 2015, the [dead zone](https://foodprint.org/blog/algal-doom-the-growing-threat-of-harmful-algal-blooms/) in the Gulf of Mexico, created by runoff from manure and other agricultural fertilizer in the Mississippi floodplain, was more than 5,000 square miles: this is the size of Connecticut and Rhode Island combined. [**14**](https://foodprint.org/issues/raising-animals-industrial-system/#easy-footnote-bottom-14-447)

Far upstream from the Gulf, agricultural runoff from fields in Iowa is a major contributor to the dead zone, as well as numerous local problems. In 2015, after paying for costly nitrate removal processes to make water drinkable for Des Moines residents, Des Moines Water Works sued three upstream agricultural counties in an effort to shift responsibility for the cleanup. The suit accused the counties of discharging nitrates from drainage ditches into the Raccoon River without a federal permit, in violation of the Clean Water Act. [**15**](https://foodprint.org/issues/raising-animals-industrial-system/#easy-footnote-bottom-15-447) The suit is pending.

**Animal Welfare**

In confinement, animals are treated essentially as cogs in a machine, with no regard for their natural behaviors or needs. Birds’ beaks are often cut off to prevent them from pecking each other and tails of cows and pigs are amputated (called *docking*). Animal behaviors, like pigs rooting in the dirt or chickens taking dust baths, are stifled when animals live in cages or in houses with metal floors; in some cases, such as with veal calves and nursing pigs, animals are unable to turn around. [**16**](https://foodprint.org/issues/raising-animals-industrial-system/#easy-footnote-bottom-16-447) Animals also have to live in or on top of their own excrement, breathing in the toxic fumes, and in perpetual stress from the crowded conditions.

**Antibiotic Resistance and Food Safety**

Low doses of antibiotics, including some that are medically important to humans, are administered regularly to healthy animals in CAFOs to prevent disease bred by the crowded and unsanitary conditions and, in the recent past (until the FDA banned the practice) are administered to promote growth. [**17**](https://foodprint.org/issues/raising-animals-industrial-system/#easy-footnote-bottom-17-447)[**18**](https://foodprint.org/issues/raising-animals-industrial-system/#easy-footnote-bottom-18-447) In 2011, the Food and Drug Administration reported that 80 percent of antibiotics in the US were sold for agricultural purposes. [**19**](https://foodprint.org/issues/raising-animals-industrial-system/#easy-footnote-bottom-19-447) This overuse of nontherapeutic antibiotics is leading to rapid evolution of antibiotic-resistant bacteria. According to the Centers for Disease Control and Prevention, at least two million Americans annually experience infections that are resistant to antibiotics, and this leads to at least 23,000 deaths every year; internationally, more than 700,000 people are estimated to die from antibiotic-resistant infections each year. [**20**](https://foodprint.org/issues/raising-animals-industrial-system/#easy-footnote-bottom-20-447)[**21**](https://foodprint.org/issues/raising-animals-industrial-system/#easy-footnote-bottom-21-447) In 2016, the UN Secretary General, Ban Ki-moon, declared antibiotic-resistant bacteria a “fundamental threat” to global health and safety and convened a special meeting of the UN general assembly to address it. [**22**](https://foodprint.org/issues/raising-animals-industrial-system/#easy-footnote-bottom-22-447)

Finally, the crowded conditions in which the animals live and the increasingly rushed speeds of the slaughter and processing facilities make it easy for disease to spread, which can lead to other food safety risks: for example, manure can stick on an animal’s hide and bacteria can then be transferred to the meat in the slaughterhouse. Contamination of one animal can lead to the contamination of thousands of pounds of meat, and in today’s consolidated meat industry, a problem at one facility can impact the whole country. [**23**](https://foodprint.org/issues/raising-animals-industrial-system/#easy-footnote-bottom-23-447) In 2010, the conditions at two Iowa egg companies caused a recall of more than 500 million eggs potentially tainted with Salmonella. [**24**](https://foodprint.org/issues/raising-animals-industrial-system/#easy-footnote-bottom-24-447)

**What You Can Do**

* **Buy sustainably-raised meat and animal products** directly from small farmers whenever possible. By joining Community Supported Agriculture (CSA) or shopping at a farmers’ market to buy meat and animal products, you’ll support your local economy and sustainable animal agriculture. Learn more about why you should [eat sustainable meat](https://foodprint.org/eating-sustainably/eating-meat-sustainably/).
* **Reduce your meat intake**. [Meatless Mondays](https://www.meatlessmonday.com/" \t "_blank) can help.
* **Ask your farmer questions**. Buying locally gives you a chance to ask your farmer questions about how s/he raises the animals on his/her farm. [We’ve created this handy list of questions to ask your farmer.](https://foodprint.org/shopping-sustainably/)
* **Read labels**. Use our [Labels Guide](https://foodprint.org/eating-sustainably/food-label-guide/) to learn more about what to look for when buying animal products.