



The State of Industrial Livestock Production in Iowa

The Iowa Chapter of the Sierra Club supports raising animals for food, milk, and eggs in a sustainable manner. The Chapter believes that in order to move the production of meat, milk, and eggs into more sustainable methods and practices, Iowa needs to enhance regulation of the industrial livestock industry.

The current way most of the animals producing meat, milk, and eggs are raised is in industrial livestock production facilities¹ (CAFOs). Thousands of animals live under the roof of a production facility, never seeing sunlight, never breathing fresh air, and never having an opportunity to exercise outdoors. Alternatively thousands of animals, particularly beef cattle, are raised in open feedlots that are pens with no grass growing. Industrial livestock production methods have proven that they are a liability to the farm communities, to the consumer, and to the environment.

The State of Industrial Livestock Production

Currently livestock production involves raising as many animals as possible, as quickly as possible, in as small a space as possible, with the least outlay of money, with minimal labor and attention, with as little regulation as possible. Consequently the current state of industrial agriculture can be characterized as:

- Regulations are non-existent, lax, or favorable to the CAFO industry.
- CAFOs have direct environmental consequences.
- The animals are raised via methods better suited to a manufacturing plant that is making things.
- There has been a significant loss of opportunity for people who don't want to raise animals in industrial livestock factories.
- The industry has been overtaken by a few very large corporations.
- The current technology is not working for raising animals in a sustainable way.
- Neighbors and the public have almost no recourse to challenge the siting of a CAFO.
- The values of homes near CAFOs decline, which means that property taxes on the home decline, which shifts the property tax burden on other landowners.



Spreading liquid manure. Photo by USDA NRCS

The stench and pollution can be detected for several miles from the CAFO and the fields where the manure is spread. "Odors from waste are carried away from farm areas on dust and other air particles. Depending on things like weather conditions and farming techniques, CAFO odors can be smelled from as much as 5 or 6 miles away, although 3 miles is a more common distance".² The odor emanating from liquid manure applied to farm fields persists for weeks.

¹ Industrial livestock factories are otherwise known as concentrated animal feeding operations (CAFOs) or factory farms.

² Carrie Hribar, "Understanding Concentrated Animal Feeding Operations and Their Impact on Communities", National Association of Local Boards of Health, 2010, page 7

Regulations are non-existent, lax, or favorable to the CAFO industry.

Because the Clean Water Act and the Clean Air Act were not written in a manner that readily allows for direct regulation and permitting of the CAFOs, regulators aren't able to adequately control the pollution emitted into the air or entering our rivers and streams. As a result, the neighbor's human rights of clean air and the enjoyment of their property are ignored. The neighbors complain of stench so bad that they cannot hang laundry outside, they cannot open their windows, and they cannot sit outside.

With the stench from the CAFOs next door, the neighbors know that the property they own is less likely to be purchased at a fair price should they sell it. No one wants to live next door to a CAFO.

Although CAFOs are not supposed to discharge manure into water bodies, it happens several times a year. The fines are so low that they are not a deterrent to discourage others from doing the same thing. Some of Iowa's waterbodies are so polluted with nutrients, which are chemicals in manure, that the water has been placed on the federal Impaired Waters list, which means that the water does not meet water quality standards.

None of the manure is treated, unlike human sewage, even though the manure is laden with pathogens, antibiotics, heavy metals, and hormones.



Manure spray, which spreads liquid manure directly onto farm fields. Most of the manure is injected into the soils. Photo by Pam Mackey Taylor

CAFOs have direct environmental consequences.

CAFO waste pollutes Iowa's air, water, and land. Iowa is a leader in the number of eggs produced as well as hogs. In 2008, there were 11.3 pigs for each resident in Iowa, the pigs in Iowa generated 50 million tons of manure, 16.7 tons of manure for each resident of the state.³ By 2011, Iowa, the state with the largest number of hogs, became home to 19.6 million hogs.⁴ That jumped to 20.6 million in 2012.⁵ By 2017, that number jumped to 22.9 million⁶ and it was expected to climb to 30 million⁷.

Year in and year out, the Iowa Department of Natural Resources has been notified of and investigated manure spills and fish kills. The reasons for the spills vary, but include over-flowing manure storage facilities, hoses breaking when manure is transferred, pipes breaking, valves failing, and waste inappropriately applied to manure application fields. Each manure spill contaminates the soil, flows to water bodies, and pollutes the water, and risks killing or sickening fish, mussels, and other animals living

³ CAFO (Concentrated Animal Feeding Operation): The Tragedy of Industrial Animal Factories, edited by Daniel Imhoff, published by Foundation for Deep Ecology, 2010, page xii

⁴ "Iowa sees hog herd grow to 19.6 million", Dan Piller, *Cedar Rapids Gazette*, September 30, 2011

⁵ Mark Peters and David Kesmodel, "Iowa is Pushed to Combat Farm Pollution", *Wall Street Journal*, March 14, 2013.

⁶ "Hog wild: Iowa must tap the brakes on record growth of pork industry", *Des Moines Register*, September 29, 2017

⁷ John Skipper, "Floyd County requiring CAFO applicants to appear at hearings", *Globe Gazette*, March 2, 2017

in the water. Even people who recreate in the water can become ill from the organisms that are released from the manure into the water.

There is so much manure generated that the industry vigorously fought rules to ban the application of manure on snow-covered or frozen ground. Likewise the industry fought rules that banned application of manure on soybeans, a crop that does not need to be fertilized with manure.

The animals in CAFOs are raised via methods better suited to a manufacturing plant that is making things.

CAFO animals are grown in such densities that they can't be animals, are treated in ways to increase production as quickly as possible, are treated in inhumane ways, never see sunlight, grass, and have little room to turn around or exercise. Hundreds of animals are crammed together in a windowless CAFO building. In most CAFO's, the manure is stored in a pit underneath the building. Pigs are raised on slatted floors so that the manure can fall into the pit.

Broiler chickens are raised on floors caked with manure and bedding; it is this caked-bedding that becomes feed for cattle. The feed given to cattle sickens them. Cattle naturally are herbivores. In an industrial livestock setting, they are fed a diet of high calorie grains and low amounts of roughage, which causes liver abscesses. Cattle are also fed hydrolyzed poultry feathers, by-products of slaughtered animals such as bone meal, ground wild fish, and reclaimed animal manure from pigs and chickens, metals, and synthetic roughage replacements. Beef animals are given hormones to stimulate growth.

The livestock are physically altered in ways that allow them to survive in the conditions present in a CAFO. Those alterations include cutting the beaks off chickens and docking tails. Piglets are allowed to nurse for the minimum amount of time before they are separated from the sows and moved to separate CAFO buildings. After producing milk for two or three years, a dairy cow is no longer able to produce the quantity of milk required by the CAFO industry, and, thus, is sent to slaughter. Many of the dairy cows have trouble walking at this stage due to lameness and bone deficiencies.

As the industrial agriculture model has flourished, only a few breeds of animals are raised, such as the White Cornish Cross broiler chicken, Broad Breasted White turkey, Holstein-Friesian dairy cattle, Large White pig, and White Leghorn egg-producers. This loss of species diversity puts the food supply at risk should a disease strike one breed of animal, significantly reduces the genetic diversity of the species, and eliminates traits that might be more adaptable to sustainable agriculture.

By adopting methods of raising animals that are better suited to manufacturing, industrial animal production places our food sources at risk of contamination by food-borne bacteria such as salmonella and E. coli.

When animals are raised in close quarters, as is done in CAFOs, the animals readily become sick. To prevent that problem, the animals are fed sub-therapeutic doses of antibiotics. Those antibiotics also stimulate weight gain. These antibiotics encourage the evolution of virulent forms of disease-causing organisms, such as methicillin-resistant Staphylococcus aureus (MRSA), E. coli, and salmonella. Because of the wide-spread use of sub-therapeutic antibiotics, the effectiveness of these antibiotics for human infections is being reduced.

At the same time the animals are slaughtered in large quantities in large slaughterhouses. The cuts of meat from one slaughterhouse are distributed across the country. When contamination of those products occurs, there is a threat of illness to a large number of people across wide sections of the country.

People who don't want to raise animals in industrial livestock factories face significant losses in opportunity.

If a farmer does not want to become a contract grower for the large vertically-integrated companies who own the animals and slaughter houses, there are few opportunities to sell the animals, to have the animals slaughtered, or to have the products delivered to the market.

The agriculture industry has been overtaken by a few very large corporations.

The concentration of owners in several of the sectors of industrial agriculture have resulted in noncompetitive markets. There are just a few companies processing most of the poultry in this country; likewise for beef. When that happens, if one company is lax in implementing health and safety measures, significant percentages of the population can be sickened. Antitrust actions are needed to restore competition.

A disconnect has developed between the real world problems that industrial agriculture is foisting on the public and the policies being pushed by industrial agriculture. That disconnect is made worse by the concentration of the livestock industry in a few extremely large companies. Those companies place demands on the contract growers who have to deal with the manure and deceased animals even though they do not even own the animals. At the same time, the contract growers are squeezed into low profits, which are paid to them to raise the animals. The farmers who are sucked into industrial livestock raising become serfs to the owners of the animals, having to raise the animals under the dictates of the owners, and cannot even select what they are going to feed the animals and where they buy it.



Photo by NRCS, Jeff Vanuga

The current technology is not working for raising animals in a sustainable way.

When a technology does not work, it calls for dialing-back to something that does work. The CAFO industry needs to change, adapt, and evolve. Yet the industrial livestock industry has been unwilling to step back and adopt techniques that do work to protect the environment, to keep antibiotics effective, and to protect the neighbors of the CAFOs. Instead they try to convince the public that they are producing cheap food in a modern way; and that they need to operate in this way to feed the world. They pretend that all of the problems are non-existent. That is another reason why strong regulatory measures are needed.

Neighbors and the public have limited recourse to challenge the siting of a CAFO.

When a farmer decides to site a CAFO, the neighbors are helpless to do anything about it, beyond ensuring that the CAFO meets simple setback requirements and it is not built on floodplains. The Board of Supervisors has no ability to establish zoning for CAFOs. The Department of Natural Resources has limited authority as does its board, the Environmental Protection Commission. If the Department of Natural Resources or the Environmental Protection Commission does something that is taken to court by the owner of the CAFO or the animal owners, the laws favor the CAFO and, thus, the judges favor the CAFO.

The neighbors can sue the CAFO owner for nuisance once the CAFO is built and the animals have filled the industrial facility. But the nuisance lawsuit does not prevent the CAFO owner from raising livestock in the buildings.

The Department of Public Health, Environmental Protection Agency, and Department of Natural Resources all have their hands tied and cannot help neighbors get relief from relentless stench and toxic air emissions and their side-effects.

The neighbors end up imprisoned in their homes, with air purifiers constantly running, unable to enjoy being outside in their yards and unable to have their windows open.

The values of homes near CAFOs decline, which means that property taxes on the home decline, which shifts the property tax burden on other landowners.

When the value of a home declines, the homeowner loses some of his or her investment. Some owners may simply abandon the home and move to a more favorable area, which also causes a loss in their investment.

Any time property values decline, the collection of property taxes from those homes declines. That affects the funds available to schools and counties. In order to replace the lost property taxes, other landowners must make up the difference – by increases in their property taxes.

Recommended Policy Initiatives

The Iowa Chapter of the Sierra Club supports raising animals for food, milk, eggs in a sustainable manner. The Chapter believes that a two-pronged approach is needed to move the production of meat, milk, and eggs into more sustainable methods and practices:

- First, proactive support of sustainable farming
- Second, enhanced regulation of the industrial livestock industry



Photo by NRCS, Bob Nichols

Sustainable agricultural practices

The Iowa Chapter supports policies that promote sustainable agricultural practices, including.

- Policies that encourage young farmers, women, and minorities as well as experienced farmers to adopt sustainable farming practices.
- Providing access to slaughter houses for small-scale farmers who sustainably raise animals
- Creating local farmer-seller cooperatives so groups of farmers can collectively move their products to market, including storage, processing, transportation, and marketing services
- Developing programs to provide improved and non-discriminatory access to credit, which can be used to farm sustainably

Enhanced Regulations

Iowa rules and the laws regulating CAFOs were written by, for, and of corporate agriculture. They were intentionally written to thwart local control, to deny democratic control of dealing with CAFO pollution, to keep people out of the process, to thwart inspection, to keep people unaware of the location of spread fields, and to minimize the application of penalties for abusers and violators. As a result the neighbors and public feel violated because the system works against them. They have no one and nowhere to turn.

It is more than just the neighbors because CAFO pollution does not stay on the CAFO property – air travels across the state and into our neighboring states. Likewise water pollution gets sent downstream. Stench does not stay on the CAFO property. All of us in Iowa are downwind and downstream.

For serious improvement in how CAFOs are regulated, those rules and regulations must change. The regulations should be enforceable, with fines large enough that they serve as a deterrent to prevent others from polluting. These regulations include:

Registration of Spread Fields. The Chapter supports mandatory registration, available to the public, of all manure spread fields. The public access should include a plat map of the spread fields. The Chapter has found instances where landowners learned that their farms were identified on manure management plans to be used as spread fields even though they have not given permission. This registration should be mandated to be accessed before a manure management plan is written or updated to ensure that the same fields are not designated for use by more than one CAFO which could lead to over-application of manure on those fields.



The Neighbor's Right to Know. The Iowa Chapter supports the neighbor's right to know, 48-hours in advance, when manure is going to be emptied from the industrial livestock factory manure pits, transported on the roads, and applied to the manure application fields. All neighbors within 2 miles of the application fields, the manure pits, and the roads that will be used to transport the manure are to be notified.

Local Control. The Iowa Chapter of the Sierra Club believes that concentrated animal feeding operations (CAFOs) need to be included in planning and zoning activities. County comprehensive plans need to be allowed to consider and plan for CAFOs. Planning and zoning regulations need to include the siting of CAFOs. County zoning maps need to be able to locate CAFOs to appropriate areas in the county. Having a CAFO next door is not compatible with certain other activities, such a tourism, outdoor recreation, and many businesses.

Regulations to improve air quality. The chapter supports strengthening the Clean Air Act regulations and enforcement capability. The Chapter supports the regulation of ammonia, hydrogen sulfide, and fine particulate matter (PM 2.5) emitted from CAFOs so that air quality is maintained, for the health and safety of the neighbors and members of the public. The chapter supports policies that retire the use of spray guns to apply liquid manure onto fields.

Regulations to improve water quality. The chapter supports strengthening the Clean Water Act regulations and enforcement capability. The chapter supports issuing National Pollutant Discharge Elimination System (NPDES) permits to CAFOs to ensure that they are not discharging manure into rivers and streams. Manure must be treated via methods similar to those used for treating human sewage.

Protecting whistleblowers. Whistleblowers who have information about abuse of animals, improper use of antibiotics, and movement of sick livestock into the food supply should be protected.

Regular inspections of CAFOs. Inspections should not be announced prior to the inspector coming to the facility.

Eliminating non-therapeutic use of antibiotics. In order to keep antibiotics working for human diseases, the Chapter supports eliminating all non-therapeutic use of antibiotics. The Chapter also supports phasing out feeding animals manure, chicken litter, bone meal, and blood as animal feed.

Increase separation distances. Separation distances between a CAFO and the property line should be doubled from $\frac{1}{4}$ of a mile to $\frac{1}{2}$ of a mile.

The process of permitting a CAFO to be built needs to be overhauled in order to protect the rights of all Iowans. All CAFOs, regardless of size, should be required to apply for a construction permit to the Department of Natural Resources. The neighbors or other interested parties should be allowed to challenge the issuance of a construction permit. The Department of Natural Resources should be given enough time to conduct thorough reviews of the construction permit application and to make site visits, without a set time limit to issue the permit. The Master Matrix would be eliminated.



Photo by NRCS, Jeff Vanuga

Furthermore, should a homeowner living within 2 miles of a CAFO choose to abandon their home instead of living near the CAFO, the owner of the CAFO should be required to pay full market price of the home, relocation expenses, and costs of demolition of the abandoned home.

Adequately funding oversight of CAFOs. By 2007, the number of confined animal feeding operations (CAFOs), the side-effects on Iowa's water quality, and the Department of Natural Resources' (DNR) failure to bring the CAFOs into compliance with the Clean Water Act had reached the point that Sierra Club, Iowa Citizens for Community Improvement, and Environmental Integrity Project petitioned the Environmental Protection Agency (EPA) to withdraw Iowa's authority to implement and enforce the Clean Water Act. In 2013, EPA resolved the issue by setting up a work plan with the DNR that required the DNR to effectively regulate CAFOs. The DNR followed the requirements during the 5 years of the plan and came into compliance. The DNR still needs to comply with the Clean Water Act, including inspecting CAFOs and enforcing CAFOs to comply.

In order to adequately fulfill its oversight function to ensure that the concentrated animal feeding operations (CAFOs) are not polluting the air and water, the Department of Natural Resources needs to be fully and adequately funded. Those funds are needed for equipment, tools, staff, training, testing performed in-house and by outside vendors. In addition to the funding, the DNR needs to support oversight function by ensuring that:

- Priorities are set to allow for timely inspections of complaints, writing follow-up reports, and dealing with issues. The public expects that when (or if) they see something inappropriate, they can say something, and something will be done.
- Staff time is allocated to perform the work, and not diverted to other activities
- Management provides support so that violations are appropriately dealt with

The public expects that if they report fish kills, manure spills, plumes of manure pollution flowing down a stream or into a lake, deceased animals not being taken care of appropriately, and other related issues, they can report it, that the DNR will diligently investigate the report, and that the violator will be taken to task. CAFO owners need to be given penalties large enough to serve as a deterrent.

Manure spills, fish kills, and polluted water are caused by CAFO owners who are arrogantly choosing not to follow the law, taking short cuts, operating equipment recklessly, or raising too many animals for the number of people working on the CAFO. When CAFOs generate too much manure for the amount of land

used as spread fields, the result is over-application of manure on the spread fields. Carelessness results in broken pipes, problems during the pumping of waste, and leakages while loading and hauling the waste in the liquid manure tankers. When manure structures fail, the animals need to be removed and the waste needs to be tanked to another facility if it cannot be land applied at that point.

It is time for a moratorium on building new CAFOs and expanding existing CAFOs. This moratorium should continue:

- until the Iowa Department of Natural Resources is adequately staffed to perform annual inspections of all CAFOs and manure application fields
- until water bodies bordering or running through the properties where CAFOs and the manure application fields located are tested several times a year, both above stream and downstream
- until the poor water quality due to nutrients is restored in all Iowa water bodies
- until the air quality surrounding the CAFOs and manure application fields is adequately monitored and regulated
- until rules are established requiring permits for all confined animal feeding operations of all sizes
- until the regulatory processes are adequately staffed and sufficient to deter further violations
- until federal and state laws are upgraded to protect the public health and environment from damage from the pollutants emitted and discharged by CAFOs.

Conclusion

We all pay the price for the CAFO industry for the CAFO industry problems – dirty water, polluted air, loss of tourism and jobs, loss of property values, reduced property taxes from reduced property values, payment for extra water treatment for removing nitrates from drinking water, local communities that have been devastated, and injustice done to neighbors. It is time for a moratorium on the construction of new CAFOs and the expansion of existing CAFOs.

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Appendix A – Legislative Protections Afforded to the CAFO Industry

The CAFO industry often calls itself a regulated industry. Indeed, the industry does have several extensive chapters of the Iowa Code that lay out regulations for the industry – Iowa Code Chapter 459, 459A, and 459B. The industry has also given itself a number of added protections. They are summarized below.

- “Ag gag” – Iowa Code Section 717A.3B has had several re-incarnations as opponents have challenged the language in court. The law attempts to silence whistleblowers who release information about the methods and activities used on CAFOs.
- Nuisance suits – The Iowa legislature attempted to exempt CAFOs from nuisance suits which are filed by neighbors seeking financial remuneration from the damages caused by CAFOs. After the Iowa Supreme court ruled the first version unconstitutional, the legislature created another section of the Iowa Code to restrict nuisance suits related to the CAFO industry, along with capping the damages awarded. See Iowa Code Section 657.11 and 657.11A.
- Infrastructure sabotage legislation has a specific exemption for any agriculture-related sabotage - Iowa Code Section 716.11. The implication of this is that if anyone engaged in farming should intentionally commit acts that affect the public infrastructure (such as public water systems), they cannot be given the enhanced penalties described by this section of the Iowa Code.

The language in the Iowa Code is pretty sweeping: “In addition, ‘critical infrastructure sabotage’ does not include any condition or activity related to the production of farm products as defined in section 554.9102, including but not limited to the discharge of agricultural stormwater; the construction or use of soil or water quality conservation practices or structures; the preparation of agricultural land and the raising, harvesting, drying, or storage of agricultural crops; the application of fertilizer as defined in section 200.3, pesticides as defined in section 206.2, or manure as defined in section 459.102; the installation and use of agricultural drainage tile and systems; the construction, operation, or management of an animal feeding operation as defined in section 459.102; and the care, feeding, or watering of livestock.”

- Local control and zoning regulations are not allowed to deal with CAFOs. See Iowa Code Section 331.304A and 335.2.
- Battery cage eggs must be sold in any store that accepts WIC payments and that also sells eggs from chickens who are not raised in battery cages. WIC is the Special Supplemental Nutrition Program for Women, Infants and Children, a healthcare and nutrition program for low-income pregnant women, breastfeeding mothers, and children less than five-years. Eggs from chickens that are not raised in battery cages are called cage-free, enriched colony cage, or free-range eggs.
- Manure pits are given a property tax exemption under Iowa Code Section 427.1(19). The language camouflages the exemption by calling it “Pollution Control and Recycling”.
- The Master Matrix (Iowa Code Section 459.305) is set up to score the largest CAFOs to determine proper siting. Built within the application of the Matrix is a series of policies that exclude the neighbors from appearing as a party before the Iowa Department of Natural Resources, short time frames to act, a requirement that the public demand hearings instead of the hearings being automatic. The rules that implement the code are equally onerous, see Iowa Administrative Code Chapter 567.

- A series of special categories of criminal offenses against agriculture are part of the Iowa Code. In fact, a special agriculture property offense surcharge is added to the fines for some of those offenses (Iowa Code Section 911.5).
- A food operation trespass law was enacted that is so sweeping in its scope that peaceful protesters could be arrested and charged. The foods that are targeted are meats, milk, eggs, and honey as well as the animals that produce the foodstuff. If a person enters the property of a food operation or remains on the property once they are asked to leave, such as in a protest, the person can be arrested and charged with an aggravated misdemeanor for the first offense which equates to a maximum 2-year prison sentence. If the person has been previously arrested for food operation trespass, the person will be charged with a Class D felony which equates to a 5-year prison sentence.

Appendix B: Literature Review – CAFOs and Property Values

The following list is of news articles, reports, and studies that have taken a look at the effect a CAFO has on neighboring property values.

1. John A. Kilpatrick, “Animal Operations and Residential Property Values”, *The Appraisal Journal*, Winter, 2015

Kilpatrick reviewed a number of studies that looked at property values for homes located next to CAFOs. Note, the abbreviation AO stands for “animal operation”.

“Kuethe and Keeney find that the negative impacts of AOs are comparable to those generated by industrial waste, solid waste, and septic waste facilities. They focus on airborne-related problems and note that odor is a particular source of nuisance, and higher-valued residences are more severely impacted.”

“The odor and airborne particulate issues also have been explored in a more recent study by Isakson and Ecker. They examine the impact of swine CAFOs on sale prices of 5,822 houses in Iowa. The study shows large adverse impacts for houses located within 3 miles and directly downwind from a CAFO—a loss of value of as much as 44.1%. Value loss diminished to 16.6% for houses not directly downwind, and loss in value decreased to 9.9% for houses directly downwind but 3 miles away. Isakson and Ecker also find a correlation between CAFO size and value loss; a 10% increase in CAFO size resulted in a 0.67 % decrease in house price as far as 7 miles from the nearest CAFO.”

“In numerous counties across the country tax assessors have granted property value reductions as a result of proximity to AOs. For example, Beasley reports that Clark County, Illinois, established a property tax abatement for fifty homes around a swine AO. Homes within 0.5 mile were determined to have values diminished by 30%, ranging down to a 10% reduction in value for homes at 1.5 miles. In numerous counties across the country tax assessors have granted property value reductions as a result of proximity to AOs. For example, Beasley reports that Clark County, Illinois, established a property tax abatement for fifty homes around a swine AO. Homes within 0.5 mile were determined to have values diminished by 30%, ranging down to a 10% reduction in value for homes at 1.5 miles.”

“Ready and Abdalla reviewed the impacts of agriculture in Berks County, Pennsylvania, including different types of open space (publicly owned, eased, vacant, pasture/crops), landfills, airports, mushroom production, and AOs. The study determines that “‘only landfills have a worse effect on adjacent property values’ and further states, “‘a sewage treatment plant has less depressing effects on nearby housing prices than a factory farm operation.’” The study also finds that the clustering of AOs within a certain area is the controlling factor, not the location of the nearest operation when considering proximity. The study reports a value impact of -4.1% from AOs within 800 meters, and at least -6.4% from within 500 meters”.

“Herriges, Secchi, and Babock expand upon previous work on AO price effects by using variables to quantify the effects in a hedonic analysis of proximity, size, and direction of nearest facility. Direction from site was included to determine the effect of being downwind, and the odor and pest issues associated with AOs. Results from this study indicate that a moderate-size facility has a value impact up to -6% within 1.5 miles and -26% within a 0.25 mile.” This study looked at real estate in Iowa.

“The empirical studies and case studies results indicate diminished marketability, loss of use and enjoyment, and loss of exclusivity that can range up to nearly 90% of otherwise unimpaired value for

homes that are adjacent to the facility. Negative impacts are noted at distances exceeding 3 miles, and in the case of a flood or other weather event, waste from the facility can be spread over far greater areas, extending the area of negative impact”.

“Overall, the new studies confirm the valuation impacts reported in earlier studies, as they range from 3.1% to 26% loss depending on multiple factors, and that properties immediately abutting an AO can be diminished as much as 88%.”

2. Carrie Hribar, “Understanding Concentrated Animal Feeding Operations and Their Impact on Communities”, National Association of Local Boards of Health, 2010

“Most landowners fear that when CAFOs move into their community their property values will drop significantly. There is evidence that CAFOs do affect property values. The reasons for this are many: the fear of loss of amenities, the risk of air or water pollution, and the increased possibility of nuisances related to odors or insects. CAFOs are typically viewed as a negative externality that can’t be solved or cured. There may be stigma that is attached to living by a CAFO.”

“The most certain fact regarding CAFOs and property values are that the closer a property is to a CAFO, the more likely it will be that the value of the property will drop. The exact impact of CAFOs fluctuates depending on location and local specifics. Studies have found differing results of rates of property value decrease. One study shows that property value declines can range from a decrease of 6.6% within a 3-mile radius of a CAFO to an 88% decrease within 1/10 of a mile from a CAFO (Dakota Rural Action, 2006). Another study found that property value decreases are negligible beyond 2 miles away from a CAFO (Purdue Extension, 2008). A third study found that negative effects are largest for properties that are downwind and closest to livestock (Herriges, Secchi, & Babcock, 2005). The size and type of the feeding operation can affect property value as well. Decreases in property values can also cause property tax rates to drop, which can place stress on local government budgets.”

3. Paul Srubas, “Living near CAFO reduces property value, DOR rules”, *Wisconsin State Farmer*, USA Today Network, November 27, 2017

The Wisconsin Department of Revenue looked at property values and distance from a CAFO. “Comparing sales price to assessment at those properties showed a larger difference within one-third of a mile of the large CAFO, a small but still significant difference just outside that third of a mile, and no significant difference a mile or more from the farm. In short, the property devaluation or the over-assessment was greatest in the nearest proximity to the large CAFOs in the county and diminished as you move outward.”

“The department’s conclusions: The value of property located more than a mile from a CAFO or within any distance from a CAFO smaller than 4,000 units is not impacted. The value of property located between a quarter mile and a mile of a large CAFO is reduced by 8 percent. The value of a property within a quarter mile of a large CAFO — namely, the Kliments’ property — is reduced by 13 percent.”

4. Steven Verburg, “Property values drop near large CAFOs, state says”, *Wisconsin State Journal*, November 16, 2017
5. Roman Keeney, Dean Jones, “Community Impacts of CAFOs: Property Values”, Perdue University, Perdue Extension, April, 2008

“A nearby CAFO may cause deterioration in the market value of this asset due to loss of amenities or the risk of water or air pollution derived from the CAFO.”

“Market prices for homes are expected to decline the closer the home is to the CAFO. . .” “Instances of positive impacts on home prices typically occur because: 1) the area is already well-populated with livestock, or 2) that the purchases of homes were made by the CAFO operator or those who work on the CAFO.”

“The obvious implication from the estimates . . . is that individuals will realize different impacts from the location of a CAFO. Each of the studies report that property value impacts diminish to negligible effects beyond a distance of two miles. One study considered the prevailing winds direction. A downwind home will realize a significantly larger decline in value relative to a home upwind that is the same distance from the CAFO”.

6. Seanicaa Edwards, Ray Massey, “Animal Feeding Operations and Residential Value: Summary of Literature”, University of Missouri Extension, Revised October, 2011.

This study provided the following summary:

- “All studies indicated that the impact of AFOs on property value was localized or limited to properties near the AFO.
- Seven of the 14 studies indicated that AFOs reduced nearby residential property values, and five indicated that AFOs have the potential to either increase or decrease housing values depending on AFO size, concentration or species.
- One study indicated AFOs can potentially increase or decrease prices of county farmland without residences, depending on density and scale of the operation.
- One study indicated no impact of AFOs on agricultural land value.
- A single study compared the local effect of an AFO on land prices with the impact of the AFO on the local economy and found local economic benefits exceeded negative impact on residential real estate values.”

7. University of Missouri Extension, Commercial Agriculture Program, <http://agebb.missouri.edu/commag/cafo/economic.htm>

“Concentrated animal production has varying economic impacts. Houses within 3 miles may go down in value. Land and houses outside of three miles either go up in value or are unaffected. For rural counties, CAFOs normally have a positive economic impact as they increase employment, increase demand for feed and improve the tax base.”

8. Margot Ford McMillen, “What Happens When a Hog Lot Moves in Near You?” *The Progressive Populist*, March 15, 2019

“I haven’t seen studies by the realtors, or by the bankers, or by construction developers, or by the county collectors, or by the school districts, but those are some folks that need to weigh in on this question. If property values tank when a CAFO come into the neighborhood, it affects more than the neighbors, whether within one mile, two miles, three miles or 1/10 of a mile. The price declines affect everyone. Realtors will make less per sale, bankers run the risk of loaning to people that get upside down on their mortgages, owing more than their place is worth. Developers lose acres where they might build and the county and school districts, of course, lose tax income when property owners demand re-evaluation.”