

The Neighbor's Right to Know for CAFO Air Pollution

The Iowa Chapter supports the neighbor's right to know, in advance, when manure is going to be emptied from the industrial livestock factory¹ (CAFO) manure pits and applied to the manure application fields. The neighbor's right to know requires CAFO owners to alert any resident who lives within three miles of the CAFO, the manure application fields or the roads used to haul manure to the manure application fields within 48 hours that there will be movement of manure from the production area to the manure application fields.

The problem

These industrial livestock factories are large-scale operations of animals housed in buildings. The animals never go outside and never see sunlight from the time they are put in the building until the time they are removed from the building and transported to the slaughterhouse. Alternatively thousands of animals, particularly beef cattle, are raised in open feedlots that are pens with no grass growing.



Photo by Mike Carberry

Although there are buildings in Iowa that house 7,000 pigs, many house 2499 pigs since that number places the confinement structure below a number of regulatory thresholds. In the case of chickens, some buildings hold several hundred thousand chickens. Similar buildings are used to raise dairy cattle and turkeys.

Given that a pig generates as much manure as five human beings, a structure holding 7,000 pigs generates the equivalent manure as 35,000 people and a building holding 2499 pigs generates the equivalent manure as 12,495 people. The manure is stored in open-air holding tanks or pits under the buildings until it can be emptied in the spring or fall, although most of the manure receptacles are emptied only in the fall. The manure is applied to farm fields in the spring before the crops are planted or in the fall after the crops have been harvested, where it is used as fertilizer.

In the case of hog manure, it is stored in liquid form until it can be knifed into the ground. Poultry manure is stored in a dry form. None of the manure is treated, as is required for municipal sewage.

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

Air pollution does not obey boundaries

The families who live close to industrial livestock factories are under siege throughout the year, due to stench, exposure to such pollutants as methane, hydrogen sulfide, ammonia, and fine particulate matter (PM 2.5). The families who live near the manure receptacles, manure application fields, or to the haul roads are placed under additional siege every time the manure pits are emptied.

Once the manure is applied to the manure application fields, the neighbors complain of odor that lasts for weeks. The physical reaction to the chemicals in CAFO manure results in nausea, running noses, sore eyes, respiratory distress, and asthma attacks.

Neighbors living next to industrial livestock factories can't sit in their yards, can't hang laundry outdoors, can't garden and mow their yard. It is difficult to exercise due to the CAFO air pollution, and the resulting poor air quality, emanating from the manure pits and manure application fields.

Some neighbors even become prisoners in their own homes, living with the windows closed, the doors shut, and the air purifiers running all the time.

By giving neighbors advanced warning that manure is going to be hauled out of the pits and applied to the spread fields, the neighbors can make arrangements to accommodate to the situation. That might include having family members who suffer from asthma spend time with relatives who live farther away from the industrial livestock factory, haul roads, or manure application fields. It might mean that families will decide not to have family gatherings at their homes. It might mean that someone reschedules outside work to avoid the stench and chemical exposure.

The Odor and Air Pollutants are Harmful to Humans

Exposure to the pollution emanating from CAFOs can result in respiratory complaints, irritation to cardiovascular illnesses, headaches, nausea, runny nose, and eye irritation. "Among children, indicators of asthma have been related to measures of residential and school exposure to pollution from hog operations."³

Children face a special risk to air pollution because generally they are more active than adults when they are outdoors. This means that they breathe more air. When that air is polluted, children can face health effects. Further, children's lungs are developing. "Growth and development of the human respiratory system is not complete until approximately 18-20 years of age."⁴ That affects the ability of the lungs to fight off infections and to deal with pollutants.

Because of the heavy use of antimicrobials within a CAFO, the bacteria have become antibiotic-resistant. That can result in harmful life-threatening illnesses, including methicillin-resistant *Staphylococcus aureus* (MRSA) and drug-resistant *E. coli*.⁵

³ S. Wing, R. A. Horton, S. W. Marshall, K. Thu, M. Tajik, L. Schinasi, S. S. Schiffman, "Air Pollution, Lung Function, and Physical Symptoms in Communities Near Concentrated Swine Feeding Operations", *Epidemiology*, February 6, 2018

⁴ Rodney R. Dietert, Ruth A. Etzel, David Chen, Marilyn Halonen, Steven D. Holladay, Annie M. Jarabek, Kenneth Landreth, David B. Peden, Kent Pinkerton, Ralph J. Smialowicz, Tracey Zoetis, D, "Workshop to Identify Critical Windows of Exposure for Children's Health: Immune and Respiratory Systems Work Group Summary", *Environmental Health Perspectives*, June, 2000; Volume 108, Supplement 3, pages 483-490

⁵ Ellen K. Silbergeld, *Chickenizing Farms & Food – How Industrial Meat Production Endangers Workers, Animals, and Consumers*, Johns Hopkins University Press, Baltimore, 2016

Other chemicals require notification

Factories are required to have Material Safety Data Sheets for all of the chemicals that are used. Those data sheets describe the chemical, workplace safety information, health effects, first aid, and proper storage and disposal procedures. Yet rural families are exposed to equally potent chemicals in the form of industrial livestock factory manure and they are not even given notification of when their exposure will be increased due to the emptying of the manure pits, transportation of the manure, and spreading it on the farm fields.

Due to Iowa law, Section 562A.13(6), landlords must notify potential tenants in writing if a rental unit is built on a Superfund site where hazardous substances are present.

It is only just that farm families be given similar notification when toxic chemicals are being transported or applied to the spread fields.

Policy Recommendation

The Iowa Chapter supports the neighbor's right to know, in advance, when manure is going to be emptied from the industrial livestock factory manure (CAFO) pits and applied to the manure application fields. The neighbor's right to know requires CAFO owners to alert any resident who lives within three miles of the CAFO, the manure application fields or the roads used to haul manure to the manure application fields within 48 hours that there will be movement of manure from the production area to the manure application fields.