

A Fork in the Road: Uncovering the Impact of Industrial Animal Agriculture on the Physical Health of Communities of Color

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KEY TAKEAWAYS

- Residence near Concentrated Animal Feeding Operations (CAFOs) has been linked to poor physical health outcomes and increased mortality risk due to air and water pollution emitted by the facilities.
- CAFOs are more likely to be established in communities with large shares of racial/ethnic minority and low-income populations, increasing the risk of poor health outcomes in these communities.
- North Carolina is one of the top animal-producing states in the United States and serves as a case study for evaluating the impact of CAFOs on mostly low-income communities of color.
- More regulations on CAFOs are needed, as current legislation is not transparent or well monitored.
- Regulations may increase the likelihood that standards will be met and help consumers make informed choices to account for the hidden harm behind animal industrial agriculture to marginalized populations.

Nearly all (99%) farmed animals in the United States come from Concentrated Animal Feeding Operations (CAFOs).¹ CAFOs are industrial agriculture facilities defined by the U.S. Environmental Protection Agency (EPA) as operations where animals are raised in confinement and meet animal size and waste material thresholds.² These operations must confine animals for at least 45 days or more in any 12-month period and not sustain vegetation during the growing season. Within these facilities, animals are crowded in small areas and their waste often ends up in open pits, or manure “lagoons,” releasing pollutants. Manure is frequently spread onto surrounding land as fertilizer, further polluting surrounding areas.²

Living near CAFOs has been linked to heightened health risks due to air and water pollution, making CAFOs a significant environmental health concern. ^{4-7, 9-11, 13}

Additionally, due to lower land costs and low political power among low-income and minoritized populations, CAFOs are often built in areas with large shares of Black, Hispanic, and American Indian/Native American residents. As a result, CAFOs are also a significant environmental justice concern, as these communities are at increased risk of poor health outcomes stemming from CAFO operations.

This brief highlights how communities located near CAFOs—many of which are communities of color—experience poor physical health outcomes from the air and water pollution produced by these operations. Additionally, it calls for the establishment of government regulations that improve transparency, management, and consumer empowerment.

Poor Air Quality from CAFO Pollutants Increases the Risk of Respiratory and Cardiovascular Diseases

People who live near CAFOs are at risk of being exposed to air pollutants emitted from CAFO operations. Prolonged exposure to high levels of air pollution increases the risk of illnesses such as respiratory disease, cardiovascular disease (including strokes), and lung cancer.³ Reduced air quality stemming from agricultural production results in about 17,900 deaths annually in the U.S.⁴ Four out of five of these deaths may be traced back to animal-based foods, both directly through animal production and indirectly through crops produced to feed animals.⁴ In the case of CAFOs, pollutants like ammonia and particulate matter emissions from animal manure and fertilizer applications contribute to poor air quality.

Individuals living within 4 miles of a CAFO are more likely than those who do not to experience poor health outcomes, such as decreased lung function through airway obstruction.⁵ Those residing within 1.5 miles of a CAFO also have a higher likelihood of developing respiratory conditions, such as nasal and lung allergies and asthma, compared to those residing more than 5 miles away.⁶ Additionally, CAFO exposure and pollutants are associated with increased cardiovascular mortality risk.⁷

CAFO Water Contamination is Associated with Increases in Urinary and Gastrointestinal Diseases

Water pollution also harms the health of populations living near CAFOs. The Federal Water Pollution Act of 1948 was the first major law in the U.S. that addressed water pollution. It recognized both the role of CAFOs as industrial polluters and the need for effective planning to address pollution arising from bacteria and nutrients from animal waste runoff.⁸

Pollution from CAFOs contaminates both groundwater and surface water.² Groundwater can become contaminated through runoff from manure applications, and surface water can become contaminated through surface discharges. Surface waters near swine CAFO liquid waste land application sites have been shown to contain high concentrations of fecal bacteria like *E. coli*, often due to manure lagoons overflowing after heavy rainfall.⁹ This contamination has been associated with conditions like urinary tract infections (UTIs)¹⁰ and gastrointestinal diseases (AGIs).¹¹ People of color (POC), who are more likely to be exposed to these operations, are therefore at an increased risk of contracting these illnesses.

Case Study: A Closer Look into the CAFOs of North Carolina

Due to its large concentration of CAFOs, particularly in the form of industrial hog operations (IHOs),¹² North Carolina (NC) is a useful case study to demonstrate how CAFOs affect health outcomes in communities of color. The percentage of people in eastern NC living within 3 miles of an IHO is 3.3 times higher in rural census blocks where most residents are POC than in blocks with no POC.¹³ This means that Black, Hispanic, and Native American people in some NC counties are disproportionately impacted by these operations.

Higher rates of gastrointestinal diseases have been observed among Native American residents in NC in areas where poultry and hog CAFOs are present.¹¹ Further, the rate increases after storms and heavy rainfall. This is significant, considering that places in NC with high CAFO concentrations are often located in hurricane- and flood-prone zones. The contamination of groundwater greatly affects these communities, as many residents rely on private wells for drinking water.

In 2014, the NC Department of Environment and Natural Resources (NC-DENR) issued a swine waste management general permit expected to cover over 2,000 IHOs.¹³ Swine CAFOs are permitted as “non-discharge” facilities that do not discharge or propose to discharge pollutants,² but there remains much uncertainty when evaluating the efficacy of management.⁹ Concentrations of bacteria in animal waste have exceeded federal and state water quality guidelines.⁹ Although it is a step in the right direction, the NC Swine General Permit does not adequately protect vulnerable communities against the environmental health risks caused by CAFOs. Policymakers should improve environmental regulations that address loopholes and improve management to ensure operations do not compromise resident health.

How Can Policymakers Address the Environmental Injustices Caused by CAFOs?

Current CAFO air emission regulations related to reporting, monitoring, and penalties are lenient.² CAFOs often exploit loopholes in current regulations, such as changes through court rulings that remove permit requirements for “non-discharge” facilities and insufficient time for the public to review permit applications and plans.² There is also insufficient transparency and data disclosure in addressing the environmental injustices resulting from CAFOs. Implementing and enforcing stricter regulations to control emissions of harmful pollutants, as well as eliminating loopholes, could help reduce harmful agents like ammonia, thus improving local air quality for residents. Water quality standards should also be enforced to prevent the contamination of local water sources by runoff and discharges, especially after severe weather events like floods and hurricanes. Despite existing policies like manure management plans, inspection and enforcement performance remain inferior. Regular monitoring, data collection, buffer zones, land use planning, and environmental justice impact assessments are also vital in preventing health-harming practices.

Consumers could also use their purchasing power to hold CAFOs accountable. For example, if consumers chose to consume fewer animal products, the demand for CAFOs would decline. Ensuring that the public is aware of the pollutants CAFOs produce and

their harmful effects on health would improve transparency and empower consumers to make informed choices.

Federal and state governments must establish and enforce policies to minimize the health risks linked to CAFOs. CAFOs must be held accountable for the impact they have on the people who did not consent to having these facilities surrounding their homes. Communities of color bear the health burdens of these operations by simply residing near them. By reducing CAFO pollutants through better oversight and disclosure for consumers, we can increase the quality of life for these marginalized groups in North Carolina and beyond.

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