Feature

NEW SOLUTIONS: A Journal of Environmental and Occupational Health Policy
2019, Vol. 28(4) 664–682

DOI: 10.1177/1048291118808788
journals.sagepub.com/home/new
SAGE

"Ag-Gag" Laws: Evolution, Resurgence, and Public Health Implications

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Abstract

The term "ag-gag" refers to state laws that intentionally limit public access to information about agricultural production practices, particularly livestock production. Originally created in the 1990s, these laws have recently experienced a resurgence in state legislatures. We discuss the recent history of ag-gag laws in the United States and question whether such ag-gag laws create a "chilling effect" on reporting and investigation of occupational health, community health, and food safety concerns related to industrial food animal production. We conclude with a discussion of the role of environmental and occupational health professionals to encourage critical evaluation of how ag-gag laws might influence the health, safety, and interests of day-to-day agricultural laborers and the public living proximal to industrial food animal production.

Keywords

animal feeding operations, worker health and safety, agricultural worker health, environmental justice, industrial food animal production, community-based participatory research

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Introduction

Before it became required summer reading in the United States, the novel *The Jungle* by Upton Sinclair (1906) exposed exploitative working conditions and unsanitary health practices in the Chicago meatpacking industry.[1] Widely regarded as exemplary undercover reporting, the novel provided the impetus for some of the first federal legislation regulating food manufacturing and safety practices in the United States. Investigations into industrial food animal production (IFAP) by journalists, health researchers, and communities have historically served to raise awareness and educate the public about the activities of these industries and informed regulatory efforts intended to prevent a return to the hazardous conditions once observed by Sinclair.

This article addresses "ag-gag" laws. These laws criminalize and/or provide civil penalties or damages for either (1) acts of video recording or photographing agricultural facilities without express permission from the owners or (2) misrepresentation of oneself as a job applicant under false pretenses with motives to commit an unauthorized act, which includes collecting unauthorized data or imagery from a facility.[2]

Ag-gag laws could subject reporters, researchers, and activists to civil lawsuits and even criminal charges if they engage in certain journalistic and/or investigative efforts in U.S. states where such laws have been passed. Concerns exist about whether these laws may exert a "chilling effect" on environmental health research and reporting, particularly as related to IFAP.

Ag-gag laws first appeared in state legislatures in the early 1990s and experienced a resurgence in the late 2000s, driven in part by the agricultural industry,[2–4] as well as national organizations such as the American Legislative Exchange Council (ALEC), which also has promoted other controversial state-level initiatives, including pro-firearm legislation, anti-immigration legislation, and voter ID legislation.[5–8] ALEC's agricultural principles include "limit[ing] or-remov[ing] barriers for agricultural production, trade, and consumption," skepticism toward "reliance on the precautionary principle," and opposition toward "unnecessary government imposed restrictions on agricultural businesses."[9] To this end, ALEC supports and promulgates model state-level legislation, including ag-gag laws, aimed at limiting federal regulation and prioritizing unrestricted commerce throughout the agricultural sector.[9] Recent ag-gag laws have become increasingly far-reaching in terms of civil and criminal penalties and potential to be applied beyond the agricultural sector.[10] Here, we (1) give a brief summary of various ag-gag laws in eight U.S. states; (2) introduce what is known about occupational and community health conditions related to IFAP; and (3) discuss ways that ag-gag laws might affect occupational health, community health, and food safety research and reporting efforts. We conclude by discussing the roles of environmental and occupational health researchers in

encouraging a critical evaluation of ag-gag laws, and how they may impact occupational, community, and public health outcomes.

History and Evolution of Ag-Gag Laws

In 2008, the Pew Commission on IFAP released "Putting Meat On the Table,"[11] a report about the public health impacts of industrial meat production in the United States. In the preface of the report, Robert P. Martin, Executive Director of the Pew Commission Report, called attention to the "agro-industrial complex—an alliance of agriculture commodity groups, scientists at academic institutions who are paid by the industry, and their friends on Capitol Hill."[11] Ag-gag laws may demonstrate the potency of this alliance, which can involve "revolving door phenomenon"[12] whereby government officials leave government to take industry jobs, and industry professionals leave industry to take government jobs. This process helps promote agro-industry interests, including ag-gag laws that seek to obscure IFAP-related information from public view.

The first ag-gag laws were passed between 1990 and 1991 in Kansas,[13] Montana,[14] and North Dakota.[15] These laws included language specifically protecting agricultural sites from secretive surveillance and subjected the violator to criminal and civil penalties, fines, and/or damages.[2]

It was not until approximately two decades after their first passage that ag-gag laws again caught the interest of state legislatures. This renewed interest may have been driven in part by industry efforts following the release of videos depicting unsanitary conditions and poor treatment of animals on IFAP operations between 2008 and 2011.[16,17] These videos were captured by animal rights activists who posed as IFAP workers and strategically documented habitual animal rights violations by other IFAP workers.[2,17] As a result of journalistic exposés using these videos, several large-scale industrial livestock production operations received negative press and verdicts and/or sanctions that led to the termination of national contracts for distribution, resulting in facility closures.[16,17] Seemingly in response to those cases, state legislators introduced a new wave of ag-gag bills in at least sixteen states, all of which contained provisions to prohibit gathering evidence without owner-operators' consent, gaining employment under false pretenses, or requiring relinquishment of evidence gathered within 24, 48, and 72 h of capture.[2,17]

In addition to Kansas,[13] Montana,[14] and North Dakota,[15] ag-gag laws were ultimately passed in Idaho,[18] Utah,[19] Wyoming,[20] Missouri,[21] North Carolina,[22] Iowa,[23] and Arkansas[24] (Table 1). Those in Idaho and Utah have been held unconstitutional, and parts of Idaho's law were struck down by the Ninth Circuit Court on First Amendment grounds in early 2018.[25] The Wyoming law has been challenged, and opposing parties are currently arguing whether it can survive First Amendment scrutiny.[26]

Table 1. A Summary of "Ag-Gag" Laws, With Statute Codes and Recent Updates.

State	Law Citation	Recent Updates
Kansas	Kan. Stat. Ann. § 47-1827 (c) (4) (West 2015)	Passed in 1990, original ag-gag bill.
Montana	Mont. Code Ann. § 81-30-103(2) (e) (West 2015)	Passed in 1991.
North Dakota	N.D. Cent. Code Ann. § 12.1-21.1-02 (West 2015)	Passed in 1991.
Iowa	Iowa Code Ann. § 717A.3A (West)	Signed into law in 2012. Iowa's was one of the first new ag-gag laws.
Missouri	Mo Ann. Stat. 578.013 (West 2015)	Signed into law in 2012. Weakened after introduction due to public opposition.
Utah	Utah Code Ann. § 76-6-112(2) (West 2015)	Passed in 2012. Two attempts at enforcement have resulted in charge dismissal. Ruled unconstitutional in 2017 by the District Court of Utah on first amendment grounds.
Wyoming	Wyo. Stat. Ann. § 6-3-414 (West 2015)	Passed in 2015. Currently challenged on First Amendment grounds.
North Carolina	N.C. Gen. Stat. Ann. § 99A-2	Passed in 2015. A suit filed against this law in North Carolina was dismissed in 2016 and is on appeal.
Arkansas	Ark. Code Ann. § 16-118-113 (West)	Passed in 2017.
Idaho	Idaho Code Ann. § 18-70-42	Passed in 2012. Parts of the law overturned on First Amendment grounds in 2018.

Newer ag-gag laws, enacted since 2011, contain heightened criminal and civil penalties, including daily fines and jail time.[17] Additionally, these newer laws introduce tactics which appear designed to prevent individuals from documenting a pattern of behavior in order to build a case of misconduct against a facility. For example, Missouri's statute allows capture of video footage or photographs, but requires that it be turned over to law enforcement within 24 h of capture.[21] These laws may prevent concerned individuals, including workers or community health advocates, from building a case by documenting ongoing patterns of abuse, misconduct, or illegal activity over time.[17]

North Carolina's state legislature passed arguably the most broadly applicable ag-gag law in the nation in 2015.[27] This law, entitled "Property Protection Act"[22] and nicknamed "the Anti-Sunshine Law"[28] by its critics, rekindled local, regional, and national discourse regarding the fates of IFAP investigations, and the legality of ag-gag laws.[10,27] Unlike past ag-gag laws that seem specifically targeted toward individuals attempting to deceive employers or activists attempting to record agricultural production activities, language in North Carolina's law expanded culpability to "[a]ny person who directs, assists, compensates, or induces another person to violate this section," and holds collaborators "jointly liable."[22] This language appears broad enough that North Carolina's law could be applied outside of the agricultural sector.[10,27] The bill to establish this law had been passed by the North Carolina General Assembly's Republican super-majority. It was vetoed by former governor Pat McCrory (R), but his veto was then overruled by the General Assembly.[29,30] Former governor McCrory expressed that he was "concerned that subjecting these employees to potential civil penalties will create an environment that discourages them from reporting illegal activities."[29]

North Carolina's law also broadens the definition of potential contraband from videos and photographs to data, records, images, unattended recording devices, and "electronic surveillance devices."[22] Whether this language could apply to scientific research conducted in partnership with livestock operation workers and community members who collect or report data in order to understand whether livestock production activities may affect worker and/or community exposure and health is unclear.

In addition to its potential for broadened application, North Carolina's current law provides for unprecedented civil penalties when compared with previous laws.[22] Pursuant to North Carolina's law, an individual who "gains access to the nonpublic areas of another's premises and engages in an act that exceeds the person's authority to enter those areas" can face fines to up to "five thousand dollars ($5000) for each day, or portion thereof, that a defendant has acted in violation of subsection (a) of this section."[22] People for the Ethical Treatment of Animals (PETA) filed a lawsuit with other advocacy groups against the state of North Carolina in early 2016,[30] although that suit was recently dismissed on grounds that these groups did not have legal standing to challenge the law in court. An appeal is currently pending.[30]

The most recent ag-gag law was passed in Arkansas in 2017. Arkansas' law[24] resembles North Carolina's law and appears to continue the trend of sanctioning law-breakers and others who urge the collection of data without business operators' consent, and the assessment of daily fines.[22] The continuation of the trend toward exposing collaborators to steep penalties through ag-gag laws could have implications for IFAP workers and community members who partner with academic researchers to gather data about IFAP practices.

Public Health Concerns Related to IFAP

The mode of food animal production has changed since the first ag-gag laws were conceived in the 1990s.[11,31] The number of livestock produced for meat consumption has increased, while the number of facilities producing livestock has declined.[32] Instead of production on pasture, there has been a shift toward raising food animals inside confinement buildings at high herd stocking densities.[31,33–35] Additionally, IFAP facilities have become more concentrated in geographic clusters near communities.[31,34]

This transition in the food animal production sector has created concerns about hygienic conditions and pollution inside and proximal to IFAP facilities, including but not limited to hazardous working conditions,[11,36] treatment of animals,[6] air and water pollution,[11,31,37,38] and land application of biological waste.[35,39–42] Health effects associated with IFAP remain a critical area for investigation.[43] Some endeavors by industry-funded or industry-associated researchers to summarize the public health evidence base related to IFAP[44] have raised concerns by researchers in the environmental health community about the use of biased methodologies,[43] which argues for more rather than less scientific openness in the research endeavors to shed light on the public health implications of IFAP in the United States.

Occupational Hazards of IFAP

IFAP workers can face myriad health hazards, including exposure to allergens and contaminants, exposure to antimicrobial resistant bacteria[45] and other zoonotic pathogens,[46] pharmaceutical drugs,[47] and injuries due to handling of animals, exposure to zoonotic diseases and pharmaceuticals, and operation of heavy machinery.[36] Livestock workers often interact with thousands of animals in an 8-h work day[11] and can risk being "kicked, bitten, stepped on, or pinned between animals and a permanent object."[36] According to the Bureau of Labor Statistics Survey of Occupational Injury and Illness (BLS SOII) in 2016, livestock production workers' injury rates (5.7 per 100 full-time workers) were higher than the rate for all workers (3.2 per 100 full-time workers).[48] Among IFAP workers, hog and pig farming workers had the highest rates of injury and illness (6.8 per 100 full-time workers), followed by poultry and egg production workers (5.7 per 100 full-time workers) and dairy cattle and milk production workers (5.6 per 100 full-time workers).[48]

Livestock workers may also risk exposure to air containing elevated concentrations of pollutants, including hydrogen sulfide,[11] particulates, and bioaerosols, which have been associated with both acute and chronic respiratory health effects.[32,35] Observational studies of inhalation exposures among IFAP workers have found that many workers may suffer from chronic respiratory diseases, including asthma and organic toxic dust syndrome.[11,32] Furthermore,

recent studies found evidence that an exposure pathway may exist for antimicrobial resistant bacteria between IFAP workers and their family members at home.[49–52]

Data Gaps in IFAP Occupational Hazard Research

Undercounting of workplace injury and illness is a longstanding issue in our national occupational surveillance systems.[53] Still, according to the Bureau of Labor Statistics and the National Institute for Occupational Safety and Health, IFAP work is considered more hazardous than typical work in the United States.[48,54] Several barriers exist for accurate occupational safety and health surveillance and reporting in the IFAP sector, which limits workers and medical professionals from knowing about the hazards of working conditions. One barrier is the systematic exemption of "small" farms from Occupational Safety and Health Administration (OSHA) reporting.[55,56] IFAP operations that employ fewer than ten (nonfamily) workers and do not have a temporary labor camp on site qualify for an exemption from OSHA safety inspections and real-time injury reporting, for example, OSHA 300 reporting forms.[56–58] Second, most national agricultural occupational hazard data come from the BLS SOII, but these data lack detail regarding specific hazards[57] and have been found to be deficient in estimating the true number of agricultural workers due to migration and underreporting by both employees and employers.[56] Third, agricultural worker populations can include immigrants facing challenges related to citizenship and/or documentation status.[56,58,59] Such workers, particularly those who do not have or are at risk of losing their employer-based sponsorship to remain a worker in the United States, may not be covered by or represented within state and federal workplace protection, monitoring, and reporting practices and statistics—even on IFAP operations that are subject to federal oversight.[58,60,61] Finally, low-skilled, low-wage workers are more likely to experience job loss due to an occupational injury or illness, causing rapid turn-over rates that can obscure true injury and illness rates.[57] Due to these surveillance, monitoring, and oversight gaps, efforts to estimate risks of occupational injuries and hazards related to IFAP facilities often necessitate supplementation by observational studies and reports generated by nongovernmental health service, academic, research, and/or advocacy organizations.[56]

Community Health Impacts of IFAP

Exposure to IFAP-related pollutants has been associated with adverse health outcomes among residents living in communities nearby.[32,33,35,42,45,62–65] For example, air quality assessments near residents living downwind from IFAP swine facilities have shown levels of ammonia and hydrogen sulfide that surpass U.S. Environmental Protection Agency (EPA) recommendations.[32,66] Airborne

concentrations of these pollutants have been associated with increased prevalence of respiratory symptoms[42] and diseases like asthma[32] among IFAP facility neighbors. Furthermore, malodorous conditions around IFAP facilities have been associated with increased occurrence of mental health and health-related quality of life outcomes[67] such as depression and anxiety[65] and high blood pressure.[35] Increased antimicrobial resistance has been noted in communities surrounding IFAP facilities that use nontherapeutic and therapeutic doses of medically important antibiotics to raise livestock.[45,52,68,69] Additionally, IFAP facilities have been implicated as sources of hazardous contaminants in community members' surface water,[40] and well water and soil.[32,68,70]

A considerable body of research supports the consensus that racial, socioeconomic, and environmental issues related to IFAP disproportionately affect low-income communities—specifically communities of color in rural areas with limited political power.[32,64] Researchers and advocates have detailed the ways in which communities situated near IFAP can experience negative environmental, physical and mental health, and economic impacts.[32,64] Furthermore, scientific inquiries have suggested that the common practice of land-applying liquid waste from IFAP can disproportionately increase these communities' exposure to odorants, irritants, and both airborne and waterborne infectious materials known to cause human illness.[32,35,42,62,64,67]

Community members indicate that they often raise concerns regarding the health impacts of living near IFAP, but find that local health and permitting agencies may lack capacity for monitoring and enforcement of IFAP-related environmental violations and surveillance of IFAP-related health concerns.[70,71] The National Association of Local Boards of Health suggested in a 2010 report that exemptions, lack of jurisdiction, and lack of on-site access create difficulty in responding effectively to health concerns raised by residents situated near IFAP.[70]

Data Gaps Related to Community Health Impacts of IFAP

As with the data gaps pertaining to IFAP worker health, concerns exist regarding the availability of timely data about IFAP-related exposures and health issues in communities proximal to IFAP operations. According to a 2014 Congressional Research Service report, the Environmental Protection Agency has jurisdiction to monitor and regulate IFAP operations through a number of federal laws, including the Clean Air Act; the Clean Water Act (CWA); the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA); and the Emergency Planning and Community Right-to-Know Act (EPCRA).[72] However, enforcement of these laws relies on accurate data collection establishing pollutant releases by IFAP operations and is limited to certain types of IFAP operations.[72,73] For example, only concentrated animal feeding operations (CAFOs) designated as "large," by the Environmental

Protection Agency (based on animal numbers)[74] are required to disclose emissions of hazardous air pollutants under Clean Air Act, CERCLA, or EPCRA. Smaller operations are systematically exempted from air emissions reporting unless data demonstrating large emissions triggers regulation.[73]

Inquiry into airborne contaminant releases from IFAP facilities has suggested that limited reporting of continuous releases, limited reporting of specific contaminants, and variable IFAP facility compliance with reporting standards may contribute to a lack of public access to air quality information data.[70,75] Furthermore, though the Environmental Protection Agency has authority to regulate waterborne contaminants from IFAP operations that discharge into federal waters under the CWA, IFAP operations may voluntarily decide whether to file for a federal CWA discharge permit for nonfederal water discharges.[72] According to a Government Accountability Office report from 2008, "EPA must rely on other means of acquiring information about CAFOs that are illegally discharging pollutants, such as through citizens' reports."[72]

Due to these limitations and gaps in available data, researchers have partnered with community members and/or community organizations to systematically collect information about IFAP-related exposure and health hazards and contribute scientific evidence that may advance solutions to mitigate exposure and health burdens.[33,42,62,65,67,76] These community-driven projects have provided important insight about the health impacts of IFAP. For example, Lewis and Gattie explored community health impacts from agricultural biosolid application by characterizing allergic, contaminant, and pathogenic contents of land-applied biosolids[77] and conducting community-based surveys of illnesses and infections of those living near application sites.[78] These efforts provided evidence for improved biosolid disinfection standards and supported local bans on agricultural biosolid application.[79]

Community-based participatory research (CBPR) projects have enabled real-time measurement of transient and unpredictable IFAP-related exposures[42,62,64] that would have otherwise proven difficult to measure. CBPR studies have also demonstrated that shared control of the research design and community input into development of research questions can generate robust and representative data by facilitating participation of individuals who may otherwise decline to participate.[33,64,65,67]

These advantages can result in research that translates more easily into dissemination of findings, policy change, and collective action.[80] However, these study designs are not without their own barriers. Wing et al. explain that securing funding can be difficult, and that building a substantive and trusting relationship with community advocates requires time and intentionality.[64] Additionally, community members may fear retaliation, job loss, and intimidation if they participate in research about exposures and health outcomes related to IFAP.[64,76]

Potential Impact of Ag-Gag Laws on Research and Reporting in IFAP

Environmental and Food Safety Reporting

The existence of ag-gag laws could suppress investigations that lead to the identification of hazards or that suggest associations between production practices in IFAP and our environment. For instance, the CWA contains protections which safeguard individuals who collect water sampling data or report environmental contamination to the federal government.[81] Those challenging ag-gag laws in Wyoming and North Carolina courts have argued that state ag-gag laws conflict with these federal protections unless workers have express permission to collect data or report information from their employers.[28,82,83] Suppression of independent water quality monitoring through ag-gag laws could compound the barriers already encountered by community members, IFAP workers, and public health agencies who seek to gather information characterizing runoff or drainage from IFAP facilities, direct discharges, or leachate entering groundwater.

Additionally, ag-gag opponents have raised concerns about whether workers could be prohibited from fully participating in federal surveillance efforts designed to prevent unsafe meat from entering our food chain.[23] In 2013, the U.S. Department of Agriculture passed the long-awaited Safe Meat and Poultry Act,[84] which contains whistleblower protections for meat and poultry production workers who report food safety concerns.[82] Like conflicts with the CWA, ag-gag laws could conflict with the Safe Meat and Poultry Act's federal whistleblower protections by exposing workers to state-level liability if they decided to collect and report food safety data without their employers' permission.[28] In this way, ag-gag laws could imperil information sharing that has historically informed national food safety and regulation efforts.[28]

Important Role for Occupational and Environmental Health Professionals

It is unclear whether and how much ag-gag laws may discourage occupational and environmental health professionals and researchers from developing investigations into IFAP-related exposure and health concerns of IFAP workers and IFAP neighbors. However, these laws may act as a potential deterrent for some researchers and study participants to advance scientific understanding of exposure and health burdens related to IFAP practices. Researchers should be aware of these laws and consider how best to communicate with study participants about potential changes in the balance of risks versus benefit related to engagement and/or participation in research in the affected states. Academic institutions and universities located in these states could consider working with institutional review boards, legal counsel, and community partners to assess whether these laws are known among their populations, evaluate any potential

impacts these laws could have on study participants, and consider steps to mitigate those potential impacts.

Further study of the potential effects that these laws have on reporting and regulation of hazards related to IFAP practices is warranted. Notwithstanding gaps and limitations of extant occupational health and safety reporting data, it appears that there may be opportunities to conduct a natural experiment of the pre- versus post-enactment periods of ag-gag laws across states. Such a pre- versus post-analysis of ag-gag law enactment might address questions of how variations in these state-wide policies can lead to changes in reporting of workplace and/or environmental hazards related to the IFAP sector. Currently, nongovernmental organizations such as the Farmworker Unit at Legal Aid of North Carolina assist workers who may experience violations of their rights in relation to workplace safety or whistleblowing.[85] Collaboration with community legal aid and/or advocacy groups such as this could strengthen research endeavors to characterize whether resurgent ag-gag laws adversely impact workers' health, safety, and civil liberties.

Furthermore, qualitative exploration of workers' and community members' awareness and understanding of ag-gag laws could provide important insight into the impacts of these laws. Researchers who conduct CBPR in IFAP-proximate communities have an opportunity to explore whether ag-gag laws may disproportionately impact individuals who already bear the brunt of IFAP-related adverse health impacts. At the health policy level, analyses exploring differences between state regulatory agency activities, litigation practices, and ag-gag-adjacent policies like whistle-blowing statutes, could be illuminating.

Stakeholder Responses to Ag-Gag Laws

In response to PETA's challenge of North Carolina's ag-gag law, a coalition of journalists filed an amicus brief (a formal supporting document from a nonlitigant) to the Fourth Circuit Court, stating that "The Act creates a significant chilling effect on both sources and investigative journalists and poses a substantial risk of penalizing lawful—and constitutionally protected—newsgathering activity."[86] Despite the fact that animal welfare advocates and journalists are considered the main targets of these laws, their breadth and scope could potentially impact other employment sectors, including healthcare and other nonunionized workers. For example, The American Association of Retired Persons opposed North Carolina's ag-gag laws,[87] claiming that restrictions on collecting photo and video documentation could limit discoveries of elder abuse or unsanitary practices in adult care facilities.[87] Recognition of a coalition of concern could provide a common thread for coordinated action between formerly unassociated groups through shared interests in understanding the implications of ag-gag policies.

While ag-gag laws appear relevant to all members of the IFAP industry, differences in opinions may exist within the industry regarding the use and support of ag-gag laws as solutions to inquiries about animal welfare and food animal production practices.[88] For example, when asked about ag-gag laws in 2013, the CEO of the Center of Food Integrity in Kansas, whose "members and project partners include . . . farmers, ranchers and food companies to universities, non-governmental organizations, restaurants, retailers and food processors,"[89] stated that "we'd encourage people to be as transparent about processes in agriculture as possible . . . We don't think closing barn doors and prohibiting cameras is the right thing to do."[88] Differences in opinion about ag-gag laws within the agriculture industry may signal opportunities for partnerships between those opponents and proponents whereby both groups work to increase IFAP transparency by weakening provisions of proposed ag-gag laws or opposing future ag-gag bills.

Conclusion

Here, we raise concern that ag-gag laws have the potential to stifle various reporting and data collection activities that inform the public and regulatory agencies about IFAP practices. Given the variety of existing data gaps, it is important to determine whether ag-gag laws have the potential to further obfuscate IFAP practices and hamper researchers or reporters from obtaining timely data related to the health and safety of IFAP workers and/or residents living proximal to IFAP facilities. Additionally, given the potentially disproportionate distribution of IFAP-related exposure and health impacts in low-income communities and communities of color, the possibility for disparate impacts of ag-gag laws on these communities cannot be ignored.

Ag-gag laws could serve as a powerful deterrent for workers who may otherwise be inclined to collaborate with researchers studying the safety of their daily work practices or for workers who help collect data to learn about the fate and transport of pollutants and specific pathways of exposure and disease transmission. In the case of North Carolina's ag-gag law, penalties appear to extend to individuals performing data collection without the knowledge of IFAP operators.[28] It remains unclear whether penalties might extend to researchers and their collaborators as well.

Furthermore, litigation surrounding these laws includes the argument that ag-gag laws could bar workers from participation in federally protected surveillance activities without express permission from their employers.[28] This prohibition of worker involvement could represent an existential threat to historic and hard-fought statutes on which our nation relies to protect our environment and food system from contamination. To our knowledge, little to no evidence has been gathered regarding the influence these laws have on these types of reporting.

Ag-gag laws were ostensibly created to prevent undercover information gathering and information propagation about IFAP by advocates and journalists. We question whether ag-gag laws could generate conditions which may jeopardize or suppress critical IFAP worker health and safety reporting, acquisition of community exposure data, and/or food safety reporting. Occupational and environmental health researchers possess unique quantitative and qualitative skills that can contribute timely, rigorous evidence to help the public understand whether ag-gag laws place undue burden on workers and community members seeking to protect their health and well-being. By continuing to elucidate the relationship between IFAP and occupational, environmental, and public health, as well as working to resolve knowledge gaps around past, existing, and new ag-gag legislation, researchers may be able to help preserve the health, safety, and welfare interests of IFAP workers, residents living proximal to intensive IFAP areas, and the general public who purchase and consume industrially raised meat produced in states with active ag-gag laws.

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Acknowledgments

The authors thank David Muraskin and Jessica Culpepper of Public Justice's Food Project for their consultation and expertise which greatly improved this manuscript. The authors also thank Robert Martin, Dr. Keeve Nachman, and Dr. Roni Neff at the Johns Hopkins Center for a Livable Future for their thoughtful contributions and reviews.

Declaration of Conflicting Interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Funding

The author(s) disclosed receipt of the following financial support for the research, authorship, and/or publication of this article: CAC was supported by a grant from the National Institute for Occupational Safety and Health (T42 OH0008428) to the Johns Hopkins University Education and Research Center for Occupational Safety and Health. She also received financial support through the Johns Hopkins Center for a Livable Future-Lerner Fellowship. CDH was supported by grants from the National Institute of Environmental Health Sciences (R01ES026973), the National Institute of Allergy and Infectious Diseases (R01AI130066), the joint National Science Foundation-National

Institutes of Health-U.S. Department of Agriculture Ecology and Evolution of Infectious Diseases program (1316318), and E.W. "Al" Thrasher Award 10287 from the Thrasher Research Fund.

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