

**NO. 19-1019**

---

IN THE  
**United States Court of Appeals for the Fourth Circuit**

---

**JOYCE MCKIVER, *et al.*,**

*Plaintiffs – Appellees,*

v.

**MURPHY-BROWN, LLC, d/b/a Smithfield Hog Production Division,**

*Defendant – Appellant.*

---

On Appeal from the United States District Court  
For the Eastern District Of North Carolina, No. 7:14-cv-00180

---

**BRIEF OF THE HUMANE SOCIETY OF THE UNITED STATES  
AS *AMICUS CURIAE* IN SUPPORT OF PLAINTIFFS-APPELLEES  
AND AFFIRMANCE**

---

**Anna Frostic**  
THE HUMANE SOCIETY OF THE  
UNITED STATES  
1255 23<sup>rd</sup> Street, NW  
Washington, DC 20037  
(202) 676-2333  
[afrostic@humanesociety.org](mailto:afrostic@humanesociety.org)

**Laura Fox**  
**Peter Brandt**  
THE HUMANE SOCIETY OF THE  
UNITED STATES  
1255 23<sup>rd</sup> Street, NW  
Washington, DC 20037  
(202) 676-2334  
[lfox@humanesociety.org](mailto:lfox@humanesociety.org)

*Attorneys for Amicus Curiae*

**May 6, 2019**

UNITED STATES COURT OF APPEALS FOR THE FOURTH CIRCUIT  
DISCLOSURE OF CORPORATE AFFILIATIONS AND OTHER INTERESTS

Disclosures must be filed on behalf of all parties to a civil, agency, bankruptcy or mandamus case, except that a disclosure statement is **not** required from the United States, from an indigent party, or from a state or local government in a pro se case. In mandamus cases arising from a civil or bankruptcy action, all parties to the action in the district court are considered parties to the mandamus case.

Corporate defendants in a criminal or post-conviction case and corporate amici curiae are required to file disclosure statements.

If counsel is not a registered ECF filer and does not intend to file documents other than the required disclosure statement, counsel may file the disclosure statement in paper rather than electronic form. Counsel has a continuing duty to update this information.

No. \_\_\_\_\_ Caption: \_\_\_\_\_

Pursuant to FRAP 26.1 and Local Rule 26.1,

\_\_\_\_\_  
(name of party/amicus)

\_\_\_\_\_  
who is \_\_\_\_\_, makes the following disclosure:  
(appellant/appellee/petitioner/respondent/amicus/intervenor)

1. Is party/amicus a publicly held corporation or other publicly held entity? YES NO
2. Does party/amicus have any parent corporations? YES NO  
If yes, identify all parent corporations, including all generations of parent corporations:
3. Is 10% or more of the stock of a party/amicus owned by a publicly held corporation or other publicly held entity? YES NO  
If yes, identify all such owners:

4. Is there any other publicly held corporation or other publicly held entity that has a direct financial interest in the outcome of the litigation (Local Rule 26.1(a)(2)(B))? YES NO  
If yes, identify entity and nature of interest:
5. Is party a trade association? (amici curiae do not complete this question) YES NO  
If yes, identify any publicly held member whose stock or equity value could be affected substantially by the outcome of the proceeding or whose claims the trade association is pursuing in a representative capacity, or state that there is no such member:
6. Does this case arise out of a bankruptcy proceeding? YES NO  
If yes, identify any trustee and the members of any creditors' committee:

Signature: \_\_\_\_\_

Date: \_\_\_\_\_

Counsel for: \_\_\_\_\_

### **CERTIFICATE OF SERVICE**

\*\*\*\*\*

I certify that on \_\_\_\_\_ the foregoing document was served on all parties or their counsel of record through the CM/ECF system if they are registered users or, if they are not, by serving a true and correct copy at the addresses listed below:

\_\_\_\_\_  
(signature)

\_\_\_\_\_  
(date)

TABLE OF CONTENTS

TABLE OF CONTENTS ..... i

TABLE OF AUTHORITIES ..... ii

I. INTRODUCTION .....1

II. INTERESTS OF *AMICUS CURIAE* .....3

III. INDUSTRY AND REGULATORY BACKGROUND .....4

IV. ARGUMENT .....9

    A. Extreme Animal Confinement and Related Practices Cause Egregious  
    Animal Suffering that is Intrinsically Linked to the Nuisances at Issue. ....9

        1. Animals at Smithfield Finishing Facilities, like Kinlaw Farms, are Raised  
        in Extreme Confinement. ....9

        2. Animals at Smithfield Sow Facilities are Kept in Crates and Piglets are  
        Born and Weaned in Extreme Confinement. ....11

        3. Smithfield Pigs are Transported in Extreme Confinement. ....16

        4. Antibiotic Use Threatens Human Lives and Makes Extreme Confinement  
        Possible, Thus Facilitating Animal Suffering. ....17

        5. Additional Animal Suffering Associated with Factory Farming Practices  
        Used by Smithfield. ....18

        6. Animal Cruelty Witnessed at Smithfield’s Facilities. ....20

    B. The Risk of Future Harm is Substantial, Not Just for Plaintiffs and the Pigs in  
    Appellant’s Care, but for All Animals. ....22

        1. Smithfield’s Operations Threaten Public Safety with Major Biosecurity  
        Risks. ....22

        2. Smithfield’s Practices Increase Climate Change Risks and Environmental  
        Harms that Impact All Animals. ....27

V. CONCLUSION .....33

CERTIFICATION OF COMPLIANCE .....35

CERTIFICATE OF SERVICE .....36

## TABLE OF AUTHORITIES

### Cases

<i>Animal Legal Defense Fund v. Herbert</i> , 263 F.Supp.3d 1193 (D.Utah 2017) .....	8
<i>Animal Legal Defense Fund v. Reynolds</i> , 353 F.Supp.3d 812 (S.D.Iowa 2019), appeal docketed, No. 19-1364 (8 <sup>th</sup> Cir. Feb. 22, 2019) .....	8
<i>People for Ethical Treatment of Animals, Inc., et al., v. Stein, et al.</i> , No. 1:16-CV- 00025 (M.D.N.C. 2017) .....	8
<i>Rural Empowerment Association for Community Help, et al., v. U.S.</i> <i>Environmental Protection Agency, et al.</i> , No. 1:18CV02260 (D.D.C 2018) .....	7

### Statutes

42 U.S.C. § 11000 <i>et seq.</i> .....	7
7 U.S.C. § 1901 <i>et seq.</i> .....	5
7 U.S.C. § 1902(a) .....	6
Cal. Health & Safety Code §§ 25990-94 .....	14
Mich. Comp. Laws § 287.746 .....	14
N.C. Gen. Stat. § 106-701, <i>et seq.</i> .....	6
N.C. Gen. Stat. § 99A-2 .....	7
N.C. Gen. Stat. § 99A-2(d)(4) .....	8
N.C. Gen. Stat. §143-215.9D .....	8

### Other Authorities

<i>2017 Sustainability Report: Housing of Pregnant Sows</i> , SMITHFIELD .....	12
<i>2017 Sustainability Report: Sustainability Goals &amp; Targets</i> , SMITHFIELD .....	14, 15
Am. Pub. Health Ass’n Policy 2003-7, “Precautionary Moratorium on New Concentrated Animal Feed Operations” .....	24
<i>An HSUS Report: The Welfare of Animals in the Pig Industry</i> , HSUS .....	11
Andrew Fraser, <i>Farm Animal Behaviour</i> 181 (Baillière Tindall, 2d ed. 1980) .....	18
<i>Animal Operations - Swine Lagoons</i> , NC DEQ (Oct. 9, 2018) .....	28
Ashley DeDecker, PhD., <i>The Smithfield Experience: Comparing ESF and Trough Feeding for Group Housed Sows</i> 28, SMITHFIELD (2016) .....	12
Bernice Wuethrich, <i>Chasing the Fickle Swine Flu</i> , 299 SCIENCE 1502 (2003) .....	27
Betsy Freese, <i>Pork Powerhouses® 2018: Ramping Up</i> , SUCCESSFUL FARMING (Sept. 30, 2018) .....	12
C. Rosenzweig, M.L. Parry, <i>Potential Impact of Climate Change on World Food Supply</i> , NATURE 367, 133 (1994) .....	31
C.M. Wathes, <i>Aerial Pollutants from Weaner Production</i> , THE WEANER PIG: NUTRITION AND MANAGEMENT 259-271 (CAB International Publishing, M.A.	

Varley, J. Wiseman eds., 2001) .....	20
<i>Carolinas Farms Could Take Billions in Losses From Florence</i> , WWAY TV3 (Sept. 22, 2018) .....	29
Catherine Donaldson-Evans, <i>North Carolina Slaughterhouse Workers Fired for Brutally Abusing Pigs</i> , FOXNEWS.COM (May. 18. 2015).....	21
Cherie J. Ziemer, <i>Fate and Transport of Zoonotic, Bacterial, Viral, and Parasitic Pathogens During Swine Manure Treatment, Storage, and Land Application</i> , 88 J. ANIM. SCI. (2010) .....	24
<i>Corporate Social Responsibility Report 2009/10</i> 54-55, SMITHFIELD .....	17
D. Smulders et al., <i>Tail and ear biting lesions in pigs: an epidemiological study</i> , 17 ANIMAL WELFARE (2008).....	18
D.B. Lobell et al., <i>Greater Sensitivity to Drought Accompanies Maize Yield Increase in the U.S.</i> , MIDWEST. SCI. (2014).....	32
Defendant's Motion in Limine to Exclude Evidence of Animal Welfare at Trial, <i>McKiver, et al., v. Murphy-Brown, LLC</i> , No. 7:14-cv-00180-BR, Doc. 129 (filed Mar. 12, 2018) .....	1
Doug Bock Clark, <i>Why is China Treating North Carolina Like the Developing World?</i> , ROLLING STONE (2018) .....	32
Dylan Mathews, <i>America's Largest Pork Producer Pledged to Make Its Meat More Humane. an Investigation Says It Didn't</i> , VOX (May 8, 2018).....	15
<i>Farmers Join to Form HSUS Agriculture Advisory Council of the Virginias</i> , HSUS (Apr. 12, 2018) .....	4
Gidon Eshel et al., <i>Land, Irrigation Water, Greenhouse Gas, and Reactive Nitrogen Burdens of Meat, Eggs, and Dairy Production in the United States</i> , 33 PNAS 11999, fig. 4A (2014) .....	31
<i>Global Environment Outlook 6</i> 498, UNITED NATIONS ENVIRONMENT PROGRAMME, (Mar. 4, 2019) .....	28
<i>Hard To Digest: Greenwashing Manure Into Renewable Energy</i> , FOOD AND WATER WATCH (Nov. 2016) .....	30
Helen Harwatt, <i>Including Animal to Plant Protein Shifts in Climate Change Mitigation Policy: A Proposed Three-Step Strategy</i> , <i>Climate Policy</i> , 19:5, 533- 541 (November 2018) .....	27
<i>How Big Meat and Dairy are Heating Up the Planet</i> , IATP, GRAIN (July 18, 2018).....	27
Humeyra Pamuk et al., <i>U.S. Farmers Face Devastation Following Midwest Floods</i> , REUTERS (Mar. 20, 2019).....	29
J.F. Robertson, D. Wilson, and W.J. Smith, <i>Atrophic Rhinitis: The Influence of the Aerial Environment</i> , 50 ANIMAL PRODUCTION (1990) .....	20

Jacob Bunge, <i>After Florence, Smithfield Plans Fresh Look at Disaster Prep</i> , WSJ (Sept. 27, 2018) .....	28
Jerome A. Paulson, Theoklis E. Zaoutis, <i>Nontherapeutic Use of Antimicrobial Agents in Animal Agriculture: Implications for Pediatrics</i> , 136 PEDIATRICS e1670 (2015) .....	17
Jim O'Neill et al., <i>Tackling Drug-Resistant Infections Globally: Final Report and Recommendations</i> , THE REVIEW ON ANTIMICROBIAL RESISTANCE 1, 24 (2016) ..	23
Jon Day, Heleen Van de Weerd, and Sandra Edwards, <i>The Effect of Varying Lengths of Straw Bedding on the Behaviour of Growing Pigs</i> , 109 SCIENCE DIRECT (2008) .....	19
Jonathan Lovvorn, <i>Climate Change Beyond Environmentalism Part I: Intersectional Threats and the Case for Collective Action</i> , 29 Geo. Envtl. L. Rev. 1, 40 (2017) .....	30, 31
Jonathan Lovvorn, <i>Climate Change Beyond Environmentalism Part II: Near-Term Climate Mitigation in a Post-Regulatory Era</i> , 30 Geo. Envtl. L. Rev. 224 (2018) .....	32
Josh Gabbatiss, <i>Meat and Dairy Companies to Surpass Oil Industry as World's Biggest Polluters, Report Finds</i> , INDEPENDENT (July 18, 2018) .....	27
Julia Kravchenko, MD, PhD, et al., <i>Mortality and Health Outcomes in North Carolina Communities Located in Close Proximity to Hog Concentrated Animal Feeding Operations</i> 79 N.C. MED. J. (2018) .....	25
K. Kumar et al., <i>Antibiotic Uptake by Plants from Soil Fertilized with Animal Manure</i> , 34 J. Envtl. Quality 2082 (Nov./Dec. 2005) .....	24
Karen L Tang et al., <i>Restricting the Use of Antibiotics in Food-Producing Animals and Its Associations with Antibiotic Resistance in Food-Producing Animals and Human Beings: A Systematic Review and Meta-Analysis</i> , THE LANCET PLANETARY HEALTH e316 (2017) .....	25
Kieran T. Bhatia et al., <i>Recent Increases in Tropical Cyclone Intensification Rates</i> , NATURE (Feb. 7, 2019) .....	29
KJ Donham, <i>Association of Environmental Air Contaminants with Disease And Productivity in Swine</i> , 52 AM. J. OF VETERINARY RES. (1991) .....	20
Letter from FSIS to Smithfield Fresh Meats Corp., M18079/P27232, <i>Notice of Intended Enforcement</i> , USDA (Jan. 9, 2019) .....	22
Letter from FSIS to Smithfield Fresh Meats Corp., M18079/P27232, <i>Notice of Intended Enforcement</i> , USDA (Oct. 11, 2018) .....	6
Lisa Sorg, <i>The plot thickens on SBI investigation of Duplin County employee over hog lagoon tests</i> , NC POLICY WATCH (June 6, 2018) .....	6
Maryn McKenna, <i>The Coming Cost of Superbugs: 10 Million Deaths Per Year</i> ,	



WIRED (Dec. 15, 2014) .....	25
<i>Media Release: Nature's Dangerous Decline 'Unprecedented'; Species Extinction Rates 'Accelerating',</i> IPBES (2019) .....	30
Neville Gregory and Temple Grandin, <i>ANIMAL WELFARE AND MEAT PRODUCTION</i> 108-109 (CABI 2d ed. 2007) .....	19, 20
<i>Our Big Pig Problem</i> , SCIENTIFIC AMERICAN (Apr. 1, 2011) .....	23
P. Wallgren, L. Melin, <i>Weaning Systems in Relation to Disease</i> , THE WEANER PIG: NUTRITION AND MANAGEMENT 309-316 (CAB International Publishing, M.A. Varley, J. Wiseman eds., 2001) .....	18
P.D. Warriss, <i>The Welfare of Slaughter Pigs During Transport</i> , 7 <i>ANIMAL WELFARE</i> 365 (1998) .....	16, 17
Palmer Holden PJ and M.E. Ensinger, <i>SWINE SCIENCE</i> 375-378 (Pearson Prentice Hall, 7 <sup>TH</sup> 3D. 2006) .....	19
<i>Petition calling for regulations under the Humane Methods of Livestock Slaughter Act and Federal Meat Inspection Act that will decrease cruelty to farm animals at slaughter</i> , at 29 (Sept. 1, 2015) .....	21
Phil Walzer, <i>Smithfield Fires Three in Probe of Abuse on Pig Farm</i> , THE VIRGINIAN-PILOT (Dec. 22, 2010) .....	22
<i>Precautionary Moratorium on New Concentrated Animal Feed Operations</i> , AM. PUB. ASS'N (2003) .....	24
<i>Press Kit: Investigation Exposes Piles of Dead Piglets Rotting In Mother's Feces At Smithfield</i> , DIRECT ACTION EVERYWHERE .....	12, 21
<i>Press Release: High-Level Meeting on Antimicrobial Resistance</i> , GEN. ASSEMBLY OF THE UNITED NATIONS (Sept. 21, 2016) .....	23
Rebecca Goldberg et al., <i>The Risks of Piggling Out on Antibiotics</i> , 321 <i>Science</i> 1294 (2008) .....	24
<i>Resolution Adopted by the Human Rights Council</i> 3 (2010) .....	31
Ritter MJ et al., <i>Effect of floor space during transport of market-weight pigs on the incidence of transport losses at the packing plant and the relationships between transport conditions and losses</i> , 84 <i>J. ANIMAL SCI.</i> 2856 (2006) .....	16
Ryan McCrimmon, <i>Farmers Brace for Hurricane Florence</i> , POLITICO (Sept. 12, 2018) .....	29
Shylo E. Wardyn et al., <i>Swine Farming is a Risk Factor for Infection With and High Prevalence of Carriage of Multidrug-Resistant Staphylococcus Aureus</i> 61, <i>CLINICAL INFECTIOUS DISEASES</i> (2016) .....	24
Shylo E. Wardyn et al., <i>Swine Farming is a Risk Factor for Infection With and High Prevalence of Carriage of Multidrug-Resistant Staphylococcus Aureus</i> , 61 <i>Clinical Infectious Diseases</i> 59 (2016) .....	24



Smith et al. <i>Origins and evolutionary genomics of the 2009 swine-origin H1N1 influenza A epidemic</i> , 459 NATURE 1122 (2009).....	26
<i>Smithfield Foods Makes Landmark Decision Regarding Animal Management</i> , SMITHFIELD (Jan. 25, 2007).....	14
<i>Smithfield makes more progress on gestation-crate-free pledge</i> , HSUS (Jan. 8, 2018).....	12
<i>Statistics by Subject</i> , “Hogs - Slaughtered, Measured in Head,” USDA (May 4, 2018).....	4
Sundar S. Shrestha et al., <i>Estimating the burden of 2009 pandemic influenza A (H1N1) in the United States (April 2009-April 2010)</i> , 52 CLIN. INFEC. DIS. S75-82 (2011) .....	26
<i>Tackling Climate Change Through Livestock: A Global Assessment of Emissions and Mitigation Opportunities</i> 35, FAO (2013).....	27, 32
Testimony of Christine Lawson, Artis, et al., v Murphy-Brown, No. 7:14-cv-00237-BR, Doc. 249 at 144 (July 30, 2018) .....	6
Testimony of Dr. Terry Coffey, Artis, et al., v. Murphy-Brown, LLC, No. 7:14-CV-237-BR, Doc. 262 at 138, 143-49 (July 26, 2018).....	15
<i>The Future of Food and Agriculture: Trends and Challenges</i> 41-44, FAO (2017).....	31
<i>The Judicious Use of Medically Important Antimicrobial Drugs in Food-Producing Animals</i> , FDA CTR. FOR VETERINARY MED. (June 28, 2010).....	23
<i>The welfare of intensively kept pigs: Report of the Scientific Veterinary Committee</i> 4.1.3, (Sept. 30, 1997) .....	19
Timothy Blackwell, <i>Production Practices and Well-Being: Swine</i> , THE WELL-BEING OF FARM ANIMALS: CHALLENGES AND SOLUTIONS 241-269 (Blackwell Publishing, G. John Benson, Bernard E. Rollin eds., 2004) .....	20
Trifonov et al., <i>The Origin of the Recent Swine Influenza A(H1N1) Virus Infecting Humans</i> , 14 EURO SURVEILL. (2009) .....	26
<i>Undercover at Smithfield Foods</i> , HSUS (2010) .....	13, 14, 21
<i>USDA Continues to Prevent African Swine Fever from Entering the U.S.: Provides New Resources to Raise Awareness of the Deadly Disease</i> , USDA APHIS (Mar. 3, 2019).....	26
Yogesh Chander et al., <i>Antibacterial Activity of Soil-Bound Antibiotics</i> , 34 J. ENV'T. QUALITY 1952 (2005) .....	24

## I. INTRODUCTION

In support of Plaintiffs-Appellees (“Plaintiffs”), the Humane Society of the United States (“HSUS”) respectfully submits this *amicus* brief<sup>1</sup> with the consent of all parties to assist the Court in understanding a critical aspect of this case—one that is wholly ignored by Defendant-Appellant (“Appellant” or “Smithfield”) but which is central to the nuisances it creates—that is the millions of animals harmed in its production of pigs.<sup>2</sup> HSUS seeks to provide this Court with this missing important information, which will assist it in understanding the context within which to evaluate the decisions below. The animals in Appellant’s facilities matter—they are gentle creatures with surprising intelligence, outperforming most companion animals—and improving their welfare would go far to abate the nuisances at issue in this case.

Appellant and its *amici* paint a picture for this Court of a longstanding, well-regulated industry that is too big to fail, where independently owned pig-farming

---

<sup>1</sup> No party’s counsel authored this brief in whole or in part, and no person or entity other than *amicus* and its counsel contributed to the preparation and submission of this brief.

<sup>2</sup> This is unsurprising given Appellant’s attempts to exclude evidence of animal welfare at trial. *See* Defendant’s Motion in Limine to Exclude Evidence of Animal Welfare at Trial, *McKiver, et al., v. Murphy-Brown, LLC*, No. 7:14-cv-00180-BR, Doc. 129 (filed Mar. 12, 2018).

operations have been established for years with prudent environmental safeguards. This characterization is wholesale misleading. For far too long large animal agricultural corporations have been operating *carte blanche* with complete disregard of, and little consequences for, the harms they create. Much of the environmental and public safety harms Plaintiffs experience are caused by extreme animal confinement and the industrialized practices of factory pig farming—practices used by Smithfield.

These practices include confining breeding pigs in crates, overcrowding animals indoors where they live in their own excrement on concrete floors, and feeding them antibiotics so they can survive in this unnatural environment. These pigs are born in complete confinement, in crates where their mothers are kept for weeks at a time with no opportunity to move around. Crating sows is an inhumane practice that forces animals to live in a space barely larger than their bodies. Smithfield publicly promised to phase out their use, but the company still has a crate policy that inhumanely confines sows for over a third of their lives. Consequently, Appellant's history of not meaningfully upholding its promises should inform this Court in its consideration of Appellant's current claims.

Further, Appellant and industry interests have successfully pressured legislative bodies to help protect their ability to operate in a way that harms animals,

the environment, and people like Plaintiffs. Accordingly, they have every incentive to continue cruel and harmful practices, which pose grave economic and public health threats, and to keep them hidden from public scrutiny.

This poses an existential threat to rural life and livelihood, and to us all, as the industry's lack of transparency and accountability perpetuates its risks, especially its contribution to climate change. If continued unchecked, catastrophic outcomes, such as the loss of wildlife and habitable, crop yielding land, will result from the industry's impact on climate. The solution is not to grant factory farms the right to harm but to acknowledge their threat and protect public interests. Accordingly, there are strong reasons to eliminate current incentives which spur cruel, senseless practices that threaten both public health and the U.S. economy. As such, this Court should let stand the lower court's judgment on the jury's verdict.

## **II. INTERESTS OF AMICUS CURIAE**

The HSUS, a non-profit organization based in Washington, D.C., is the nation's largest animal protection organization. HSUS is committed to protecting and enhancing the lives of all animals, and to fostering the humane treatment of farm animals, including pigs held in intense confinement at concentrated animal feeding operations ("CAFOs"). HSUS endeavors to protect farm animals through litigation, investigation, legislation, advocacy, and education. HSUS works to improve farm

animal management in order to promote animal welfare and public safety.

HSUS supports farmers and their businesses. HSUS partners with farmers who share its passion for high standards of animal welfare—for the sake of animals, family farmers, the land, and local communities.<sup>3</sup> HSUS has a dedicated Farm Animal Protection team that, among other things, engages in corporate outreach to help companies transition to more humane practices. Smithfield has been one of those companies, as alluded to in its sustainability report. JA6479.

HSUS is particularly concerned with the treatment of farm animals and factory farming's massive contribution to climate change, which negatively effects the lives of all animals. The impact of this and similar cases advances *Amicus*' efforts to protect farm animals from horrific animal welfare practices that result in community nuisances and global environmental harms.

### **III. INDUSTRY AND REGULATORY BACKGROUND**

Yearly, over 100 million pigs are raised and slaughtered in the U.S.<sup>4</sup> Smithfield, through its subsidiary, Murphy-Brown, produces the largest share of those pigs—nearly 20 million annually—making it the largest pork producer in the

---

<sup>3</sup> See *Farmers Join to Form HSUS Agriculture Advisory Council of the Virginias*, HSUS (Apr. 12, 2018), <https://tinyurl.com/yxmx2rn7>.

<sup>4</sup> See *Statistics by Subject*, “Hogs - Slaughtered, Measured in Head,” USDA (May 4, 2018), <https://tinyurl.com/y6tfg2tg>.

world. *See* JA6457. These pigs are raised using large-scale, industrialized, factory farming techniques that cause animals extreme pain and suffering.

The suffering begins at birth. Smithfield's pigs are born and weaned intensively in total confinement operations to mothers who are kept crated so intensely they cannot move for roughly a third of their lives—an incredibly cruel practice (*see* discussion *infra* pp. 11-15). Smithfield's 975,000 U.S. sows (JA8941), female pigs, are used to spawn piglets in sow facilities to be grown at finishing operations, like Kinlaw Farms. *See* JA5676. The sows spend approximately four weeks at a time weaning their piglets in farrowing crates without enough space to turn around. Their piglets are then transported by truck to finishing operations where they are held in crowded warehouses, raised on concrete slats, fed antibiotics, and then transported again on trucks to a slaughterhouse. At slaughter, pigs are shot in the head with a bolt gun, shackled upside down and slit with a blade from end to end.

While there are laws in place that aim to promote humane methods of slaughter, they are routinely violated and under-enforced. Smithfield's plants have been cited by federal inspectors for violations of the Humane Methods of Slaughter Act. 7 U.S.C. § 1901 *et seq.* At a Smithfield plant in North Carolina that slaughters approximately 30-40,000 pigs daily (JA8309), a shackled and hanging pig with a

bolt hole in his head was still conscious, in violation of 7 U.S.C. § 1902(a), which requires that animals be rendered insensible to pain before being shackled.<sup>5</sup> This is a recurring problem at this facility (*see* discussion *infra* pp. 21-22).

There are no federal laws that regulate the treatment of animals on the farm. State laws do little to fill in the gap. While Smithfield speaks highly of state laws that monitor waste reports and other such activity on the farm (*see, e.g.,* O. Br. 4-7), there are many deficiencies including that “[i]t’s possible that the facility could be in violation and it’s possible that we might not find out.” Testimony of Christine Lawson, *Artis, et al., v Murphy-Brown*, No. 7:14-cv-00237-BR, Doc. 249 at 144 (July 30, 2018). Just as troublesome, several scandals have emerged about under or false reporting in waste reports.<sup>6</sup>

In fact, many state laws favor the industry and make it difficult to ensure humane treatment on the farm. In North Carolina, big agricultural interests, commonly referred to as “Big Ag,” aggressively lobbied for the passage of a Right to Farm Act and its various amendments. N.C. Gen. Stat. § 106-701, *et seq.* This law

---

<sup>5</sup> Letter from FSIS to Smithfield Fresh Meats Corp., M18079/P27232, *Notice of Intended Enforcement*, USDA (Oct. 11, 2018), <https://tinyurl.com/y2r7tr6f>.

<sup>6</sup> *See, e.g.,* Lisa Sorg, *The Plot Thickens on SBI Investigation of Duplin County Employee Over Hog Lagoon Tests*, NC POLICY WATCH (June 6, 2018), <https://tinyurl.com/y48flst8>.



shields industrialized agricultural businesses from liability related to their harmful practices. Appellant and its *amici* now seek to make this law retroactive (*see, e.g.*, O. Br. at 42-43), which would limit the rights of North Carolinians, like Plaintiffs, and insulate Big Ag from liability for the myriad harms they inflict.

There are also no federal laws that regulate greenhouse gas (“GHG”) emissions from agricultural operations—regardless of size or total annual emissions. The industry strongly resists attempts to include large farms in emissions reporting requirements. One such effort involves exempting CAFOs from reporting under the Emergency Planning and Community Right-to-Know Act (EPCRA), 42 U.S.C. § 11000 *et seq.*,—a law that would allow people, like Plaintiffs, to discover if they live in a community that has been contaminated by a dangerous release of a regulated gas, like hydrogen sulfide. *See Rural Empowerment Association for Community Help, et al., v. U.S. Environmental Protection Agency, et al.*, No. 1:18CV02260 (D.D.C 2018).

Across the country, Big Ag is attempting to curtail transparency on the farm by supporting laws that prevent video recording at animal enterprises. These so-call “Ag-Gag” laws functions to limit free speech and the dissemination of truthful information. North Carolina’s legislature passed an Ag-Gag law over the governor’s veto that is now the subject of ongoing litigation. N.C. Gen. Stat. § 99A-2; *People*

*for Ethical Treatment of Animals, Inc., et al., v. Stein, et al.*, No. 1:16-CV-00025 (M.D.N.C. 2017). Other similar laws have been found unconstitutional in violation of First Amendment and equal protection rights. *See, e.g., Animal Legal Defense Fund v. Reynolds*, 353 F.Supp.3d 812 (S.D.Iowa 2019), *appeal docketed*, No. 19-1364 (8<sup>th</sup> Cir. Feb. 22, 2019); *Animal Legal Defense Fund v. Herbert*, 263 F.Supp.3d 1193 (D.Utah 2017). By criminalizing recording at CAFOs and slaughter facilities and subjecting whistleblowers to significant exemplary damages, North Carolina's Ag-Gag law has a chilling effect on uncovering unethical or illegal treatment of animals and disseminating such information to the public. N.C. Gen. Stat. § 99A-2(d)(4).

North Carolina's Department of Environmental Quality is also limiting transparency by maintaining that citizen complaints to the agency regarding CAFOs are exempt from public disclosure unless or until a formal agency sanction against the offender is issued, which happens rarely. *See* N.C. Gen. Stat. §143-215.9D. The evident purpose of these anti-access laws is to prevent precisely the kind of open and transparent access that would document the real farm conditions, expose animal abuses, and verify nuisance sources. Access and transparency frighten Big Ag because the unfiltered reality is that their practices harm animals, the environment, public health, and cause the nuisances affecting Plaintiffs.

#### IV. **ARGUMENT**

##### A. **Extreme Animal Confinement and Related Practices Cause Egregious Animal Suffering that is Intrinsicly Linked to the Nuisances at Issue.**

There is a tight connection between intensive and cruel confinement and the environmental and public health threats faced by Plaintiffs.

##### 1. **Animals at Smithfield Finishing Facilities, like Kinlaw Farms, are Raised in Extreme Confinement.**

Cruel and inhumane practices of industrialized factory farming include producing animals indoors in extreme confinement with no outdoor access. Kinlaw Farms, for instance, held thousands of pigs in concrete floored warehouses licensed to hold 14,688 pigs. JA140-41, 5202, 5208. These animals, like millions of others produced by Appellant each year, live in extreme confinement and filthy conditions (*see, e.g.*, JA6758-64) generating millions of gallons of waste that is released into the environment causing Plaintiffs' nuisance. JA6201.

The photographs Plaintiffs took on their site visits to Kinlaw Farms revealed overcrowded pigs covered in feces:



JA6762. Contrast this reality with the pristine feces-free pictures of the purported interiors of confinement sheds on Smithfield's website and sustainability reports:



JA6458. In HSUS's experience Plaintiffs' photos are more representative of mass pork production than those featured in the company's marketing materials.<sup>7</sup>

Crowding pigs in extreme confinement causes stress, abnormal behaviors, and increases the spread of disease, not only amongst the pigs but also to human populations.<sup>8</sup> Indeed, ten percent of pigs die in confinement most likely due to complications from their overcrowded environment and lack of individualized veterinary care. JA5201-02, 9014. These dead pigs are then placed in bins outside the finishing facility – contributing to the odor and fly nuisances of which Plaintiffs complain. *See, e.g.*, JA2517, 4956, 7286.

**2. Animals at Smithfield Sow Facilities are Kept in Crates and Piglets are Born and Weaned in Extreme Confinement.**

Another of Appellant's extreme confinement practices is holding mother pigs in gestation and farrowing crates—small metal cages that individually confine and restrict sows. Smithfield keeps 975,000 breeding sows in the U.S. and more than 1.2 million worldwide, many, if not all, of which live for weeks on end in torturous

---

<sup>7</sup> *See An HSUS Report: The Welfare of Animals in the Pig Industry*, HSUS, <https://www.humanesociety.org/sites/default/files/docs/hsus-report-pig-industry-welfare.pdf>.

<sup>8</sup> *Id.*

isolation unable to move freely.<sup>9</sup> JA8941. For approximately six weeks after the sows are inseminated and four weeks after they give birth Smithfield confines sows in cruel crates, where they are unable to even turn around.<sup>10</sup>

As Smithfield euphemistically explains, “Sows are kept in individual stalls for 35 – 42 days after breeding.”<sup>11</sup> The sows are then moved to group confinement for 67 days—which means that for more than a third of the sow’s life, Smithfield is still confining her in a small, individual, metal crate, which the company misleadingly calls an “individual farrowing stall.”<sup>12</sup>

HSUS investigations at a Smithfield facility have documented horrific crating

---

<sup>9</sup> Betsy Freese, *Pork Powerhouses® 2018: Ramping Up*, SUCCESSFUL FARMING (Sept. 30, 2018), <https://www.agriculture.com/livestock/pork-powerhouses/pork-powerhouses-2018-ramping-up>.

<sup>10</sup> See *Smithfield makes more progress on gestation-crate-free pledge*, HSUS (Jan. 8, 2018), <https://blog.humanesociety.org/2018/01/smithfield-makes-progress-gestation-crate-free-pledge.html> (“While we laud the company's progress, we also don't want to overstate it”); compare, *Press Kit: Investigation Exposes Piles of Dead Piglets Rotting In Mother's Feces At Smithfield*, DIRECT ACTION EVERYWHERE, <https://www.directactioneverywhere.com/press-costcos-bloody-secret/>.

<sup>11</sup> Ashley DeDecker, PhD., *The Smithfield Experience: Comparing ESF and Trough Feeding for Group Housed Sows* 28, SMITHFIELD (2016), <https://tinyurl.com/yyrskyoc>.

<sup>12</sup> *2017 Sustainability Report: Housing of Pregnant Sows*, SMITHFIELD, <https://www.smithfieldfoods.com/integrated-report/2017/animal-care/housing-of-pregnant-sows>; see also JA6479.



practices.<sup>13</sup>



14

An investigator, working for over a month inside a Smithfield/Murphy-Brown breeding facility housing more than 1,000 sows, documented sows confined inside crates so small the animals could barely move for virtually their entire lives; sows so frustrated by their extreme confinement had bitten their bars so incessantly that blood from their mouths coated the fronts of their crates; sows suffering from open pressure sores and other ulcers and wounds that developed from their confinement and inability to change positions; sows with abscesses that sometimes formed from

---

<sup>13</sup> *Undercover at Smithfield Foods*, HSUS (2010), <https://tinyurl.com/y5ctdvsvr>.

<sup>14</sup> *Id.*



simple scratches due to ever-present bacteria; and piglets born prematurely in gestation crates that fell through the slats and died in manure pits.<sup>15</sup>

For humane reasons, several states have banned the use of gestation crates. *See, e.g.*, Cal. Health & Safety Code §§ 25990-94; Mich. Comp. Laws § 287.746. In 2007, Smithfield announced they were “convert[ing] from gestation stalls to group housing” by 2017 in a commitment to improved animal welfare.<sup>16</sup> Indeed, Smithfield claims to have “reached [its] industry-leading goal to convert to group housing for pregnant sows on all company-owned farms in the United States.”<sup>17</sup> Smithfield even touts earning HSUS’s praise regarding its commitment to transition to group housing. JA6479.

Yet, Smithfield has failed to meaningfully uphold its promise to transition its pigs to a crate free environment. For instance, as noted above, sows at Smithfield facilities are still crated for over a third of their lives—creating a loophole that

---

<sup>15</sup> *Id.*

<sup>16</sup> *Smithfield Foods Makes Landmark Decision Regarding Animal Management*, SMITHFIELD (Jan. 25, 2007), <https://tinyurl.com/yygyxnkk>.

<sup>17</sup> *2017 Sustainability Report: Sustainability Goals & Targets*, SMITHFIELD, <https://www.smithfieldfoods.com/integrated-report/2017/governance-management/sustainability-goals-targets>.

seriously undermines Smithfield's commitments.<sup>18</sup> As exposed in an undercover investigation, several Smithfield facilities in North Carolina between June 2017 and February 2018 were still using crates for pregnant and lactating pigs.<sup>19</sup> Misleadingly, Smithfield's commitments are only for company-owned operations, but do not pertain to any of its contract sow breeders such that many of the pigs used in Smithfield's pork production continue to be crated for life.<sup>20</sup> Indeed, even a Smithfield Vice President of Hog Production who owns a Smithfield contract sow farm testified that his sows are still being crated and the company has done nothing to incentivize transitioning to more humane options. *See* Testimony of Dr. Terry Coffey, *Artis, et al., v. Murphy-Brown, LLC*, No. 7:14-CV-237-BR, Doc. 262 at 138, 143-49 (July 26, 2018).

Smithfield's disregard for its public promises to animal welfare are likely emblematic of its current commitments to any nuisance abatements or environmental improvement plans.

---

<sup>18</sup> *Supra* n.17 ("Sows are moved into individual farrowing stalls where they give birth and nurse their piglets until they are weaned").

<sup>19</sup> Dylan Mathews, *America's Largest Pork Producer Pledged to Make Its Meat More Humane. an Investigation Says It Didn't*, VOX (May 8, 2018), <https://tinyurl.com/y5j2hmd3>.

<sup>20</sup> *See supra* n.17.

### **3. Smithfield Pigs are Transported in Extreme Confinement.**

Mass pig transport is yet another practice where pigs are intensely confined, causing extreme stress and suffering. Pigs are transported in slatted trucks, like the trucks Plaintiffs claim cause noise pollution (*e.g.*, JA7156, 7248, 7260-61, 7271-72), in which pigs are crammed in crates that are sometimes stacked. Handling and transport are highly stressful procedures, and some pigs become so fatigued, injured, or sick that they become non-ambulatory, unable to stand and walk. Roughly 1% of all transported pigs arrive at slaughter plants either dead or non-ambulatory due to injury, fatigue, or illness.<sup>21</sup>

During transport pigs can experience several stressors, including rough handling, crowding, temperature extremes, unfamiliar surroundings, and social regrouping, which may lead to fighting.<sup>22</sup> Pigs also experience hunger, dehydration, and accompanying stress and fatigue in response to nutrient withdrawal in

---

<sup>21</sup> See Ritter MJ et al., *Effect of floor space during transport of market-weight pigs on the incidence of transport losses at the packing plant and the relationships between transport conditions and losses*, 84 J. ANIMAL SCI. 2856 (2006), available at <https://www.ncbi.nlm.nih.gov/pubmed/16971589>.

<sup>22</sup> See, *e.g.*, P.D. Warriss, *The Welfare of Slaughter Pigs During Transport*, 7 ANIMAL WELFARE 365 (1998), available at <https://www.ingentaconnect.com/contentone/ufaw/aw/1998/00000007/00000004/art00002>.

preparation for transport.<sup>23</sup>

**4. Antibiotic Use Threatens Human Lives and Makes Extreme Confinement Possible, Thus Facilitating Animal Suffering.**

Keeping animals alive in extreme confinement requires the use of antibiotics and other drugs to stave off disease and infection. While Smithfield claims to not use “medically important antibiotics,” it does admit to using antibiotics for four main purposes: to treat disease, prevent disease, control disease, and promote growth. JA6474.<sup>24</sup> Such claims imply that antibiotic use is limited to specifically targeted animals, however in reality the drugs are administered herd-wide. JA6478.

To control the spread of infection, antimicrobial agents are administered not only to sick animals but also to those that are likely to encounter ill animals.<sup>25</sup> Because of the close quarters, if one animal is sick, every pig in the herd is susceptible to illness. Antibiotic use is thus harmful to animals because it allows for the continued use of extreme confinement practices. Dosing pigs with antibiotics

---

<sup>23</sup> See *id.*

<sup>24</sup> See also *Corporate Social Responsibility Report 2009/10* 54-55, SMITHFIELD, available [https://www.smithfieldfoods.com/pdf/past-reports/smi\\_csr\\_10.pdf](https://www.smithfieldfoods.com/pdf/past-reports/smi_csr_10.pdf).

<sup>25</sup> See Jerome A. Paulson, Theoklis E. Zaoutis, *Nontherapeutic Use of Antimicrobial Agents in Animal Agriculture: Implications for Pediatrics*, 136 PEDIATRICS e1670 (2015), available at <http://pediatrics.aappublications.org/content/136/6/e1670>; see also JA5205.

also harms animals because the ailments of individual pigs often go overlooked as nontherapeutic use can mask issues.<sup>26</sup> This practice in turns harms people, like Plaintiffs, by allowing the extreme confinement to continue, thus continuing its harmful effects, and leaching these antibiotics into the environment (*see* discussion *infra* pp. 22-26).

**5. Additional Animal Suffering Associated with Factory Farming Practices Used by Smithfield.**

In addition to the tight confinement, animals suffer from the barren, unclean environments in which they are raised. As seen in Plaintiffs' photos, pigs are raised in warehouse-like conditions with concrete, slatted flooring and absolutely no enrichments. *See, e.g.*, JA5209. These unnatural environments do not foster pigs' natural disposition as social, curious, clean creatures, and offer little opportunity for pigs to display their full range of complex foraging and exploratory behavior.<sup>27</sup>

Consequently, behavioral abnormalities, such as tail or ear-biting and aggression, arise due to environmental and social deficiencies.<sup>28</sup> Even Smithfield

---

<sup>26</sup> P. Wallgren, L. Melin, *Weaning Systems in Relation to Disease*, THE WEANER PIG: NUTRITION AND MANAGEMENT 309-316 (CAB International Publishing, M.A. Varley, J. Wiseman eds., 2001).

<sup>27</sup> *See* Andrew Fraser, *Farm Animal Behaviour* 181 (Baillière Tindall., 2d ed. 1980).

<sup>28</sup> D. Smulders et al., *Tail and ear biting lesions in pigs: an epidemiological study*, 17 ANIMAL WELFARE (2008).

acknowledges an increase in these tendencies, especially when ammonia levels are high. JA6807. Tail biting can result in injury, abscess, systemic infection, and, in severe cases, can escalate into cannibalistic behavior.<sup>29</sup>

This behavior can be reduced by providing additional space, straw, and other enrichments.<sup>30</sup> Straw bedding is usually eliminated in indoor operations due to cost and incompatibility with slatted floors.<sup>31</sup> This is troublesome since the surface on which pigs are kept affects their welfare—poor flooring can cause pigs to suffer from lameness and a variety of foot problems.<sup>32</sup>

Poor air quality caused by dust from feed particles, dander, and fecal material, and odors and noxious gases, including ammonia, hydrogen sulfide, and methane,

---

<sup>29</sup> See Neville Gregory and Temple Grandin, ANIMAL WELFARE AND MEAT PRODUCTION 108-109 (CABI 2d ed. 2007); *The welfare of intensively kept pigs: Report of the Scientific Veterinary Committee* 4.1.3, (Sept. 30, 1997), available at [https://ec.europa.eu/food/sites/food/files/animals/docs/aw\\_arch\\_1997\\_intensively\\_kept\\_pigs\\_en.pdf](https://ec.europa.eu/food/sites/food/files/animals/docs/aw_arch_1997_intensively_kept_pigs_en.pdf).

<sup>30</sup> See Jon Day, Heleen Van de Weerd, and Sandra Edwards, *The Effect of Varying Lengths of Straw Bedding on the Behaviour of Growing Pigs*, 109 SCIENCE DIRECT (2008).

<sup>31</sup> See Palmer Holden and M.E. Ensinger, SWINE SCIENCE 375-378 (Pearson Prentice Hall, 7<sup>TH</sup> 3D. 2006).

<sup>32</sup> See *supra* n.29.

from decomposing animal waste, may lead to additional health problems.<sup>33</sup> Serious health consequences for pigs from dust and gases include pneumonia, pleuritis, and increased neonatal mortality.<sup>34</sup> High concentrations of ammonia and dust do not only create a nuisance for Plaintiffs but can also reduce the ability of pigs to resist bacterial infections, including infectious atrophic rhinitis, and may lead to other diseases, like enzootic pneumonia, porcine reproductive and respiratory syndrome, and swine influenza.<sup>35</sup>

## **6. Animal Cruelty Witnessed at Smithfield's Facilities.**

The harsh practices used by Smithfield in its production of pork often cultivates an attitude of extreme disregard to animals under its care. Witnessing or engaging in animal cruelty can lead to even more acts of cruelty.<sup>36</sup> HSUS and other

---

<sup>33</sup> See *supra* n.29, Gregory and Grandin at 110.

<sup>34</sup> See KJ Donham, *Association of Environmental Air Contaminants with Disease And Productivity in Swine*, 52 AM. J. OF VETERINARY RES. (1991), available at <https://www.ncbi.nlm.nih.gov/pubmed/1767997>.

<sup>35</sup> See J.F. Robertson, D. Wilson, and W.J. Smith, *Atrophic Rhinitis: The Influence of the Aerial Environment*, 50 ANIMAL PRODUCTION (1990); C.M. Wathes, *Aerial Pollutants from Weaner Production*, THE WEANER PIG: NUTRITION AND MANAGEMENT 259-271 (CAB International Publishing, M.A. Varley, J. Wiseman eds., 2001).

<sup>36</sup> See, e.g., Timothy Blackwell, *Production Practices and Well-Being: Swine*, THE WELL-BEING OF FARM ANIMALS: CHALLENGES AND SOLUTIONS 241-269 (Blackwell Publishing, G. John Benson, Bernard E. Rollin eds., 2004).



groups have documented willful acts of abuse and cruelty to pigs by workers at large-scale farm operations, uncovering widespread cruelty.

For instance, investigators documented several employees at a North Carolina pig breeding facility owned by Appellant dragging and beating animals.<sup>37</sup> At a Smithfield sow facility, HSUS's investigator observed employees jabbing a lame sow's neck and back with gate rods to force her to move, and witnessed a pig had been thrown into a dumpster alive and breathing after the animal had been shot in the forehead with a captive bolt gun.<sup>38</sup> A later investigation found similar shocking treatment of animals.<sup>39</sup>

Instances of egregious acts of cruelty are also often documented by federal inspectors at slaughterhouses including those owned by Smithfield. At a Smithfield plant in Virginia, a worker directed ambulatory pigs to trample a crippled pig.<sup>40</sup> A

---

<sup>37</sup> See Catherine Donaldson-Evans, *North Carolina Slaughterhouse Workers Fired for Brutally Abusing Pigs*, FOXNEWS.COM (May. 18. 2015), <https://tinyurl.com/y65egbm7>.

<sup>38</sup> *Undercover at Smithfield*, HSUS (2010), <https://tinyurl.com/y5ctdvsvr>.

<sup>39</sup> *Press Kit: Investigation Exposes Piles of Dead Piglets Rotting In Mother's Feces At Smithfield*, DIRECT ACTION EVERYWHERE, <https://www.directactioneverywhere.com/press-costcos-bloody-secret/>.

<sup>40</sup> *Petition calling for regulations under the Humane Methods of Livestock Slaughter Act and Federal Meat Inspection Act that will decrease cruelty to farm animals at slaughter*, at 29 (Sept. 1, 2015), <https://tinyurl.com/y4nhada4>.

FSIS inspector observed a worker at a Smithfield plant in NC attempting multiple times to restrain and stun a non-ambulatory, condemned pig while it was pinned against a wall, squealing, and trying to get away.<sup>41</sup> Time and time again the industry claims these acts are perpetrated by a few bad apples.<sup>42</sup> But this habitual pattern is not isolated to a few criminals; animal cruelty is a byproduct of the extreme production practices used by Smithfield.

**B. The Risk of Future Harm is Substantial, Not Just for Plaintiffs and the Pigs in Appellant's Care, but for All Animals.**

Future injury is certain should Smithfield continue to operate using extreme confinement and lagoon and sprayfield waste management practices. These practices cause the nuisances Plaintiffs experience, are massive threats to public health and safety, and contribute to the growing existential threat of climate change.

**1. Smithfield's Operations Threaten Public Safety with Major Biosecurity Risks.**

Large-scale pork operations are a serious threat to public health. The problems associated with them, including the spread of antibiotic-resistant bacteria and lethal viruses, carry nationwide economic and health consequences. Pigs grown in

---

<sup>41</sup> Letter from FSIS to Smithfield Fresh Meats Corp., M18079/P27232, *Notice of Intended Enforcement*, USDA (Jan. 9, 2019), <https://tinyurl.com/y6aqd9c5>.

<sup>42</sup> See, e.g., Phil Walzer, *Smithfield Fires Three in Probe of Abuse on Pig Farm*, THE VIRGINIAN-PILOT (Dec. 22, 2010), <https://tinyurl.com/y2wacq4r>.

cramped, unclean conditions are far more likely to carry a multitude of dangerous diseases, including swine influenza (*see discussion supra* p. 20), which can harm farm workers and the public and potentially punch a multi-billion-dollar hole in the U.S. economy.

Disregarding broad scientific consensus that the continuous, herd-wide use of antibiotics to raise pigs leads to the development and spread of antibiotic-resistant bacteria,<sup>43</sup> Smithfield continues to use antibiotics on a mass scale (*see discussion supra* p. 17). This type of administration is the “perfect recipe for disaster” because administering low-dose antibiotics through feed introduces only enough drugs to kill the non-resistant strains, which leaves more opportunities for harder-to-kill resistant strains to develop.<sup>44</sup> Antibiotic- resistance is a “most urgent global risk.”<sup>45</sup>

Pork finishing operations are particularly susceptible to the development of

---

<sup>43</sup> *See, e.g.,* Jim O’Neill et al., *Tackling Drug-Resistant Infections Globally: Final Report and Recommendations*, THE REVIEW ON ANTIMICROBIAL RESISTANCE 1, 24 (2016), available at [https://amr-review.org/sites/default/files/160518\\_Final%20paper\\_with%20cover.pdf](https://amr-review.org/sites/default/files/160518_Final%20paper_with%20cover.pdf).

<sup>44</sup> *Our Big Pig Problem*, SCIENTIFIC AMERICAN (Apr. 1, 2011), <https://www.scientificamerican.com/article/our-big-pig-problem/>; *see also The Judicious Use of Medically Important Antimicrobial Drugs in Food-Producing Animals*, FDA CTR. FOR VETERINARY MED. (June 28, 2010) at 14, available <https://tinyurl.com/y48q62w3>.

<sup>45</sup> *Press Release: High-Level Meeting on Antimicrobial Resistance*, GEN. ASSEMBLY OF THE UNITED NATIONS (Sept. 21, 2016), available <https://tinyurl.com/y5upsqxv>.

antibiotic-resistant bacteria.<sup>46</sup> Antibiotic-resistant bacteria can thrive in pig waste and swine manure has been associated with zoonotic bacterial pathogens such as “*Bacillus anthracis*, *Brucella* spp., *Campylobacter* spp., *Chlamydia* spp., [enteropathogenic] *Escherichia coli*, *Leptospira* spp., *Listeria monocytogenes*, *Mycobacterium* spp., *Salmonella* spp., and *Yersinia* spp.”<sup>47</sup>

Antibiotic-resistant bacteria from manure can jump to human populations via various environmental pathways—through the air as dust, up from the soil into edible crops, and into groundwater and surface waterways. Moreover, a high percentage of feed antibiotics “pass unchanged into manure waste” and end up in nature.<sup>48</sup> This is especially worrisome since the pigs at Kinlaw Farms produced 153,000 pounds of pig waste every day. JA9027. The threat of disease along with other associated harms contribute to low life expectancy in North Carolina

---

<sup>46</sup> See Rebecca Goldberg et al., *The Risks of Pigging Out on Antibiotics*, 321 SCIENCE (2008); Shylo E. Wardyn et al., *Swine Farming is a Risk Factor for Infection With and High Prevalence of Carriage of Multidrug-Resistant Staphylococcus Aureus* 61, CLINICAL INFECTIOUS DISEASES (2016).

<sup>47</sup> Cherie J. Ziemer, *Fate and Transport of Zoonotic, Bacterial, Viral, and Parasitic Pathogens During Swine Manure Treatment, Storage, and Land Application*, 88 J. ANIM. SCI. (2010); see also JA5205-06.

<sup>48</sup> *Precautionary Moratorium on New Concentrated Animal Feed Operations*, AM. PUB. ASS’N (2003), available <https://tinyurl.com/yyz7xu4l>; see also Yogesh Chander et al., *Antibacterial Activity of Soil-Bound Antibiotics*, 34 J. ENV’T. QUALITY 1952 (2005).

communities near pig CAFOs.<sup>49</sup>

Globally, about 700,000 people die every year due to infections that antibiotics once reliably treated.<sup>50</sup> “By 2050, an estimated 10 million deaths per year globally will be attributable to antimicrobial resistance, with a cumulative economic cost of US \$100 trillion.”<sup>51</sup> If realized, this number would exceed the combined number of deaths from cancer and diabetes worldwide each year.<sup>52</sup>

The spread of mutant viruses is also on the rise. Just this March, USDA confiscated 1 million pounds of pork products smuggled in from China, Smithfield’s home country, “where there is an outbreak of African swine fever[,] the highly contagious and deadly disease [that] affects both domestic and feral (wild) pigs and

---

<sup>49</sup> Julia Kravchenko, MD, PhD. et al., *Mortality and Health Outcomes in North Carolina Communities Located in Close Proximity to Hog Concentrated Animal Feeding Operations* 79 N.C. MED. J. (2018), available at [www.ncmedicaljournal.com/content/79/5/278.full](http://www.ncmedicaljournal.com/content/79/5/278.full).

<sup>50</sup> Maryn McKenna, *The Coming Cost of Superbugs: 10 Million Deaths Per Year*, WIRED (Dec. 15, 2014), [www.wired.com/2014/12/oneill-rpt-amr/](http://www.wired.com/2014/12/oneill-rpt-amr/).

<sup>51</sup> Karen L Tang et al., *Restricting the Use of Antibiotics in Food-Producing Animals and Its Associations with Antibiotic Resistance in Food-Producing Animals and Human Beings: A Systematic Review and Meta-Analysis*, THE LANCET PLANETARY HEALTH e316 (2017), available at [https://doi.org/10.1016/S2542-5196\(17\)30141-9](https://doi.org/10.1016/S2542-5196(17)30141-9).

<sup>52</sup> *Supra* n.50.

there is no treatment or vaccine available for it.”<sup>53</sup>

In 2009, an H1N1 swine-origin flu pandemic sickened 60.8 million Americans, hospitalized 274,304, and killed 12,469, including more than a thousand children, as estimated by the Centers for Disease Control and Prevention.<sup>54</sup> The genetic fingerprinting of this flu was traced back to North Carolina pig farms.<sup>55</sup> This is not surprising because North Carolina is the second largest pork producing state. JA4863. And assuming most are run like Smithfield’s facilities, where pigs are left to wallow indefinitely in Salmonella-contaminated pens, the disease incubation potential is extremely high. Influenza strains can rapidly spread continent wide, as they did within a year of emerging in North Carolina, thanks to long-distance pig transport.<sup>56</sup>

---

<sup>53</sup> *USDA Continues to Prevent African Swine Fever from Entering the U.S.: Provides New Resources to Raise Awareness of the Deadly Disease*, USDA APHIS (Mar. 3, 2019), <https://content.govdelivery.com/accounts/USDAAPHIS/bulletins/237c928>.

<sup>54</sup> Sundar S. Shrestha et al., *Estimating the burden of 2009 pandemic influenza A (H1N1) in the United States (April 2009-April 2010)*, 52 CLIN. INFEC. DIS. S75-82 (2011).

<sup>55</sup> Trifonov et al., *The Origin of the Recent Swine Influenza A(H1N1) Virus Infecting Humans*, 14 EURO SURVEILL. (2009), available <http://www.eurosurveillance.org/ViewArticle.aspx?ArticleId=19193>.

<sup>56</sup> See Smith et al., *Origins and evolutionary genomics of the 2009 swine-origin H1N1 influenza A epidemic*, 459 NATURE 1122 (2009), <https://www.nature.com/articles/nature08182.pdf>; Bernice Wuethrich, *Chasing the*

## **2. Smithfield's Practices Increase Climate Change Risks and Environmental Harms that Impact All Animals.**

Smithfield's use of industrialized practices not only causes the nuisances Plaintiffs' suffer but also contributes to global climate change, which represents a massive threat to human and animal life around the globe. Industrialized agricultural is one of the top contributors to greenhouse gas ("GHG") emissions—releasing 14.5-16.5 percent of all human-produced GHG emissions<sup>57</sup>—and is set to surpass the oil industry as the biggest GHG-emitter.<sup>58</sup> Should Big Ag continue as it has, the industry will take up 81% of the maximum allotted amount of GHG emissions under the Paris Agreement by 2050, leaving little room for other industries to function and meet this goal.<sup>59</sup> This is deeply concerning especially in the context of a United Nations study warning that air pollution related to climate change could cause millions of

---

*Fickle Swine Flu*, 299 SCIENCE 1502 (2003), available <http://science.sciencemag.org/content/299/5612/1502.full>.

<sup>57</sup> Helen Harwatt, *Including Animal to Plant Protein Shifts in Climate Change Mitigation Policy: A Proposed Three-Step Strategy*, *Climate Policy*, 19:5, 533-541 (November 2018), available <https://www.tandfonline.com/doi/full/10.1080/14693062.2018.1528965>; see also *infra* n.77 at xii.

<sup>58</sup> See *How Big Meat and Dairy are Heating Up the Planet*, IATP, GRAIN (July 18, 2018), <https://www.iatp.org/emissions-impossible>; see also Josh Gabbatiss, *Meat and Dairy Companies to Surpass Oil Industry as World's Biggest Polluters*, *Report Finds*, INDEPENDENT (July 18, 2018), <https://tinyurl.com/y8rj78h5>.

<sup>59</sup> *Id.*



premature deaths by 2050.<sup>60</sup>

We do not have to wait until 2050, however, to face the consequences of the industry's willful disregard of its environmental harms. Industrialized pig production facilities are already a major source of water and air pollutants, which have devastating impacts on the environment and public health. Such harms are well documented in North Carolina. *See, e.g.*, JA1051-1093. These harms are exacerbated by the many hurricanes that have devastated the area. Most recently, Hurricane Florence ravaged North Carolina, causing dozens of pig manure lagoons to overflow, releasing waste into the environment,<sup>61</sup> and reportedly killing 3.4 million chickens and 5,500 pigs.<sup>62</sup>

The damage from hurricanes and severe weather events is predictable and will continue to worsen. Researchers at the National Oceanic and Atmospheric Administration have suggested that hurricanes in the Atlantic Ocean have grown

---

<sup>60</sup> *Global Environment Outlook 6* 498, UNITED NATIONS ENVIRONMENT PROGRAMME, (Mar. 4, 2019), <https://tinyurl.com/y2f7s84h>.

<sup>61</sup> *Animal Operations - Swine Lagoons*, NC DEQ (Oct. 9, 2018), <https://deq.nc.gov/news/deq-dashboard#animal-operations---swine-lagoon-facilities>.

<sup>62</sup> Jacob Bunge, *After Florence, Smithfield Plans Fresh Look at Disaster Prep*, WSJ (Sept. 27, 2018), <https://www.wsj.com/articles/after-florence-smithfield-plans-fresh-look-at-disaster-prep-1538070269>.

considerably worse and more frequent due in large part to climate change.<sup>63</sup> Just two years earlier, Hurricane Matthew flooded waste lagoons and caused \$400 million in damage to major crop fields in North Carolina and killed 1.9 million chickens and roughly 2,800 swine.<sup>64</sup> JA4099. In 1999, Hurricane Floyd caused about 21,500 swine deaths and the flooding and breach of several pig waste lagoons.<sup>65</sup>

These climate-enhanced weather events are costing billions in losses.<sup>66</sup> The Midwest is experiencing the same kind of losses from severe flooding, with early estimates of lost crops and livestock approaching \$1 billion in Nebraska alone.<sup>67</sup> Big Ag is caught in a pernicious cycle wherein the industry drives the climate change that enhances extreme weather events that in turn harms the industry and small farmers, including HSUS partners who are trying to compete using more humane

---

<sup>63</sup> Kieran T. Bhatia et al., *Recent Increases in Tropical Cyclone Intensification Rates*, NATURE (Feb. 7, 2019), available <https://www.nature.com/articles/s41467-019-08471-z>.

<sup>64</sup> Ryan McCrimmon, *Farmers Brace for Hurricane Florence*, POLITICO (Sept. 12, 2018), <https://tinyurl.com/y5hv7ckl>.

<sup>65</sup> *Id.*

<sup>66</sup> *See Carolinas Farms Could Take Billions in Losses From Florence*, WWAY TV3 (Sept. 22, 2018), <https://www.wwaytv3.com/2018/09/22/carolinas-farms-could-take-billions-in-losses-from-florence/>.

<sup>67</sup> Humeyra Pamuk et al., *U.S. Farmers Face Devastation Following Midwest Floods*, REUTERS (Mar. 20, 2019), <https://tinyurl.com/y4nyqd2c>.

and sustainable production practices.

Smithfield's various proposed solutions, such as anaerobic digesters, do not meaningfully reduce air or water pollution from the production process.<sup>68</sup> So long as these methods of production continue, primarily the practice of concentrating large numbers of pigs, waste and its emissions will continue to exacerbate climate change, and thus harm both people and animals.

The devastating effects of climate change have also increasingly impacted global wildlife populations.<sup>69</sup> Animals are uniquely defenseless against climate change because, unlike humans, they cannot plan, mitigate, or, in many cases, migrate to avoid the impacts of climate change.<sup>70</sup> Wildlife impacts include, but are not limited to, habitat loss or destruction by rising seas, wildfires, or warming

---

<sup>68</sup> *Hard To Digest: Greenwashing Manure Into Renewable Energy*, FOOD AND WATER WATCH (Nov. 2016), [https://www.foodandwaterwatch.org/sites/default/files/ib\\_1611\\_manure-digesters-web.pdf](https://www.foodandwaterwatch.org/sites/default/files/ib_1611_manure-digesters-web.pdf).

<sup>69</sup> Jonathan Lovvorn, *Climate Change Beyond Environmentalism Part I: Intersectional Threats and the Case for Collective Action*, 29 Geo. Envtl. L. Rev. 1, 40 (2017), available at <https://gielr.files.wordpress.com/2017/04/zsk00117000001.pdf>; see also *Media Release: Nature's Dangerous Decline 'Unprecedented'; Species Extinction Rates 'Accelerating'*, IPBES (2019), <https://www.ipbes.net/news/Media-Release-Global-Assessment>.

<sup>70</sup> *Id.*

oceans, and the spread of parasites and pathogens, now thriving in warming areas, that could kill animals directly or destroy key food sources.<sup>71</sup>

Appellant's *amici* claim that Big Ag helps provide food security (*see, e.g., Br. of the Am. Farm Bureau Fed'n, et al.* 3, 5, Doc. 28-1). But this claim is a red herring, in part because the industry's large-scale model and climate change contributions have already affected productivity. Better use of resources—including not wasting land, water, and calories by diverting each to fatten warehoused farm animals—would result in more food production and greater food security.<sup>72</sup> The food security Smithfield claims to provide is hindered by its climate change inducing practices that in turn lead to crop depletion.<sup>73</sup> Global assessments predict changes in crop yield under climate change and suggest disparities in food availability will escalate.<sup>74</sup> For

---

<sup>71</sup> *Id.* at 40-47.

<sup>72</sup> *See, e.g.,* Gidon Eshel et al., *Land, Irrigation Water, Greenhouse Gas, and Reactive Nitrogen Burdens of Meat, Eggs, and Dairy Production in the United States*, 33 PNAS 11999, fig. 4A (2014), [www.pnas.org/cgi/doi/10.1073/pnas.1402183111](http://www.pnas.org/cgi/doi/10.1073/pnas.1402183111); *see also* Resolution Adopted by the Human Rights Council 3 (2010), [http://www2.ohchr.org/english/bodies/hrcouncil/docs/13session/A.HRC.RES.13.4\\_AEV.pdf](http://www2.ohchr.org/english/bodies/hrcouncil/docs/13session/A.HRC.RES.13.4_AEV.pdf).

<sup>73</sup> *The Future of Food and Agriculture: Trends and Challenges* 41-44, FAO (2017), <http://www.fao.org/3/a-i6583e.pdf>.

<sup>74</sup> *Id.*; *see also*, C. Rosenzweig, M.L. Parry, *Potential Impact of Climate Change on World Food Supply*, NATURE 367, 133 (1994).

example, weather-related factors caused declines in global maize and wheat production—foods that are largely grown to feed agricultural animals.<sup>75</sup>

As meat consumption in the U.S. continues to decline, while China and other Asian countries are increasing their meat intake, the true costs of large-scale industrial agriculture are shifting. *See* JA257.<sup>76</sup> The global demand for meat is the primary cause of agricultural methane emissions and many international companies, like Chinese owned Smithfield, use this nation's fertile lands to produce livestock. While swine naturally produce significantly less methane than other livestock, like cows, pigs still factor for roughly 9 percent of the livestock sector's emission outputs (caused mainly by feed production and liquid manure storage for the animals).<sup>77</sup> Thus, American food security is not promoted by Smithfield's practices, Americans are instead paying the environmental costs of the production.<sup>78</sup>

---

<sup>75</sup> *Id.*; *see also*, D.B. Lobell et al., *Greater Sensitivity to Drought Accompanies Maize Yield Increase in the U.S.*, MIDWEST. SCI. (2014).

<sup>76</sup> *See also* Jonathan Lovvorn, *Climate Change Beyond Environmentalism Part II: Near-Term Climate Mitigation in a Post-Regulatory Era*, 30 Geo. Envtl. L. Rev. 224 (2018), available at <https://gielr.files.wordpress.com/2018/06/gt-gelr180001.pdf>.

<sup>77</sup> *Tackling Climate Change Through Livestock: A Global Assessment of Emissions and Mitigation Opportunities* 35, FAO (2013), <http://www.fao.org/3/i3437e/i3437e.pdf>.

<sup>78</sup> *See* Doug Bock Clark, *Why is China Treating North Carolina Like the Developing World?*, ROLLING STONE (2018), <https://tinyurl.com/y7bjmetl>.

Plaintiffs have a strong interest in preventing and mitigating harms that agricultural induced climate change poses to human health, animals, and the environment, including increased heat-related deaths, damaged coastal areas, increased wildfire risk, disrupted ecosystems, more severe weather events, and longer and more frequent droughts, as these effects will only exacerbate the nuisances they experience and will inevitably cause them continuing harm.

## **V. CONCLUSION**

Smithfield's harmful practices create the nuisances Plaintiffs experience and these practices subject millions of animals to constant pain and misery. Its actions contribute significantly to climate change, which has massive economic and life-threatening consequences. Therefore, it is essential that Smithfield not continue to operate virtually unchecked and must not be allowed to carry on operating with wanton disregard for Plaintiffs, the animals in its care and in the wild, and the greater public.

Therefore, HSUS urges this Court to uphold the judgment below.

Dated: May 6, 2019

Respectfully submitted,

/s/Anna Frostic

Anna Frostic (D.C. Bar No. 977732)  
The Humane Society of the United States

1255 23<sup>rd</sup> Street, NW  
Suite 450  
Washington, DC 20037  
Phone (202) 676-2333, Fax (202)778-6126  
[afrostitic@humanesociety.org](mailto:afrostitic@humanesociety.org)

Laura Fox (Va. Bar No. 85558)  
Peter Brandt (D.C. Bar No. 982936)  
The Humane Society of the United States  
1255 23<sup>rd</sup> Street, NW  
Suite 450  
Washington, DC 20037  
Phone (202) 676-2334, Fax (202)778-6126  
[lfox@humanesociety.org](mailto:lfox@humanesociety.org)

Attorneys for *Amicus Curiae*  
The Humane Society of the United States



**CERTIFICATION OF COMPLIANCE WITH TYPE-VOLUME  
LIMITATION, TYPEFACE REQUIREMENTS, AND TYPE STYLE  
REQUIREMENTS**

1. This brief complies with the type-volume limitation of Federal Rule of Appellate Procedure 32(a)(7)(B), because this brief contains 6,468 words, excluding the parts of the brief exempted by Federal Rule of Appellate Procedure 32(f).
2. This brief complies with the typeface requirements of Federal Rule of Appellate Procedure 32(a)(6), because this brief has been prepared in a proportionally spaced typeface using Microsoft Word version 2010 in 14-point Times New Roman font.

/s/Anna Frostic

Anna Frostic (D.C. Bar No. 977732)  
The Humane Society of the United States  
1255 23<sup>rd</sup> Street, NW  
Washington, DC 20037  
(202) 676-2333  
[afrostic@humanesociety.org](mailto:afrostic@humanesociety.org)

Attorney for *Amicus Curiae*  
The Humane Society of the United States

**CERTIFICATE OF SERVICE**

I certify that on May 6, 2019, the Brief of the Humane Society of The United States as Amicus Curiae in Support of Plaintiffs-Appellees was served on all parties or their counsel of record through the CM/ECF system.

/s/Anna Frostic

Anna Frostic (D.C. Bar No. 977732)  
The Humane Society of the United States  
1255 23<sup>rd</sup> Street, NW  
Washington, DC 20037  
(202) 676-2333  
[afrostic@humanesociety.org](mailto:afrostic@humanesociety.org)

Attorney for *Amicus Curiae*  
The Humane Society of the United States

UNITED STATES COURT OF APPEALS FOR THE FOURTH CIRCUIT  
**APPEARANCE OF COUNSEL FORM**

**BAR ADMISSION & ECF REGISTRATION:** If you have not been admitted to practice before the Fourth Circuit, you must complete and return an [Application for Admission](#) before filing this form. If you were admitted to practice under a different name than you are now using, you must include your former name when completing this form so that we can locate you on the attorney roll. Electronic filing by counsel is required in all Fourth Circuit cases. If you have not registered as a Fourth Circuit ECF Filer, please complete the required steps at [Register for eFiling](#).

**THE CLERK WILL ENTER MY APPEARANCE IN APPEAL NO.** \_\_\_\_\_ as

☐ Retained ☐ Court-appointed(CJA) ☐ Court-assigned(non-CJA) ☐ Federal Defender ☐ Pro Bono ☐ Government

**COUNSEL FOR:** \_\_\_\_\_

as the

(party name)

appellant(s)    appellee(s)    petitioner(s)    respondent(s)    amicus curiae    intervenor(s)    movant(s)

\_\_\_\_\_  
 (signature)

**Please compare your information below with your information on PACER. Any updates or changes must be made through PACER's [Manage My Account](#).**

\_\_\_\_\_  
 Name (printed or typed)

\_\_\_\_\_  
 Voice Phone

\_\_\_\_\_  
 Firm Name (if applicable)

\_\_\_\_\_  
 Fax Number

\_\_\_\_\_  
 Address

\_\_\_\_\_  
 E-mail address (print or type)

**CERTIFICATE OF SERVICE**

I certify that on \_\_\_\_\_ the foregoing document was served on all parties or their counsel of record through the CM/ECF system if they are registered users or, if they are not, by serving a true and correct copy at the addresses listed below:

\_\_\_\_\_  
 Signature

\_\_\_\_\_  
 Date