

ATTACHMENT C

The Johns Hopkins Center for a Livable Future
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Disclaimer: The opinions expressed herein are our own and do not necessarily reflect the views of The Johns Hopkins University.

To Whom It May Concern:

We are researchers at The Johns Hopkins Center for a Livable Future, based at the Bloomberg School of Public Health in the Department of Environmental Health Sciences. The Center engages in research, policy analysis, education, and other activities guided by an ecologic perspective that diet, food production, the environment, and public health are interwoven elements of a complex system. We recognize the prominent role that food animal production plays regarding a wide range of public health issues surrounding that system.

Below, we summarize the peer-reviewed scientific literature on the human health concerns associated with industrial broiler production, a model characterized in part by specialized operations designed for a high rate of production and large numbers of broilers confined at high density. This information is highly relevant to Wicomico County, because in 2012 the county had an inventory of 11 million broilers – the fourth largest of any county in Maryland (1). In 2012, there were 110 broiler operations in the county, 76 of which sold between 200,000-499,999 birds per operation, and 35 of which sold over 500,000 broilers per operation (1). Wicomico is adjacent to counties with the largest (Somerset) and second largest (Worcester) broiler inventories in the state (1).

We are writing to present the known human health concerns associated with industrial broiler production, focusing on those that may affect citizens living near broiler operations in Wicomico County.

Human health concerns associated with industrial broiler production include:

- Infections resulting from the potential transmission of harmful microorganisms from broiler operations to nearby residents, for example, via flies or contaminated air and water;

- Health effects, including asthma, bronchitis, allergic reactions, associated with exposures to air pollution from broiler operations;
- Health effects (e.g. thyroid problems, methemoglobinemia, neurological impairments, liver damage) associated with exposures to nitrates, drug residues, and other hazards that may be present in ground and/or surface waters contaminated by manure from broiler operations.

Disease transmission

Crowded conditions in industrial broiler operations present opportunities for the transmission of bacterial pathogens among animals, and between animals and humans (2). Human exposure to infectious agents can occur through multiple routes, including breathing contaminated air and drinking contaminated water (3-7).

Of additional concern is exposure to pathogens that are resistant to antibiotics used in human medicine. The non-medicinal use of antibiotic drugs as a means for growth promotion¹ in animals has become commonplace—an estimated 80 percent of antibiotics sold for human and animal uses in the U.S. are sold for use in food-producing animals (8). Administering antibiotics to animals at levels too low to treat disease fosters the proliferation of antibiotic-resistant pathogens. Resistant infections in humans are more difficult and expensive to treat (9) and more often fatal (10) than infections with non-resistant strains.

A growing body of evidence provides support that pathogens can be found in and around broiler operations. In broiler operations that administer antibiotics for non-therapeutic purposes, broilers have been shown to be carriers of antibiotic-resistant pathogens (11-14) and these resistant pathogens have also been found in the environment in and around broiler production facilities, specifically in the litter (15), flies (16), and manure (17). Additionally, *Salmonella* and *Campylobacter* are highly prevalent among U.S. broilers, and *Campylobacter* is found in about 50% of manure samples (18). *Campylobacter* infections in people have led to gastrointestinal illness, neuromuscular paralysis, and arthritis (18).

Several studies have shown that workers in broiler operations are disproportionately exposed to pathogens: in a Dutch study, 5.6% of broiler workers were carriers of methicillin-resistant *Staphylococcus aureus* (MRSA) (19) vs. 0.01% of the general population, and broiler workers on the Delmarva Peninsula were found to have 32 times the odds of carrying gentamicin-resistant E.

¹ U.S. Food and Drug Administration (FDA) voluntary industry guidelines continue to endorse the use of antibiotics in livestock production for “disease prevention”, which allows for dosing that is largely indistinguishable from growth promotion, thus tolerating business as usual (40).

coli compared with other residents in the community (3). Colonized or infected workers may transport pathogens into their communities (3).

Manure runoff from broiler operations may introduce harmful microorganisms, such as *Campylobacter* (17), into nearby water sources. Land application of broiler manure may present an opportunity for pathogens contained in the manure to leach into the ground or run off into recreational water and drinking water sources, potentially causing a waterborne disease outbreak (17).

People living near broiler operations may be exposed to harmful microorganisms, which have been found to be spread in the air up to 3,000 meters from broiler operations (4). The shape and spread of this airflow varies with changes in wind patterns, making it difficult to predict which residents might be most affected (4). Still, infectious agents have been found on deposits of particulate matter several miles from operations (4). Harmful bacteria such as *Campylobacter* have been reported to enter and leave poultry operations via insects and massive ventilation systems (6). One study on Maryland's Eastern Shore found that current methods of transporting chickens in open-air trucks releases microorganisms into the surrounding environment, likely exposing nearby residents to these pathogens (7).

The elevated presence of flies near broiler operations can be more than just a nuisance; it also may facilitate residents' exposure to pathogens, including antibiotics-resistant strains of *Enterococci* and *Staphylococci* (6, 16). One study found that residences within 0.5 mile of broiler operations were found to have 83 times the average number of flies of control households (19).

Air pollution from broiler operations

The air inside broiler operations contains elevated concentrations of gases, particulate matter, pathogens, endotoxins, and other hazards (5, 6, 16, 20-22). Airborne contaminants from broiler operations are transported from broiler houses through large exhaust fans and may pose a health risk to nearby residents (4, 6, 17, 23-28). Ammonia (29), particulate matter (17), endotoxins (27), and microorganisms (4, 6, 17) have been detected in air samples surrounding poultry operations. While there are currently few data available on odor, nitrous oxide, hydrogen sulfide, and non-methane volatile organic compound levels surrounding poultry operations, odors associated with air pollutants from intensive livestock hog operations have been shown to interfere with daily activities, quality of life, social gatherings, and community cohesion (25, 30, 31).

Exposure to airborne contaminants from broiler operations has been associated with a range of adverse health effects. Ammonia emissions have been implicated in respiratory health, with up to 50% of poultry workers suffering from upper respiratory illnesses that are believed to be due to ammonia exposure (23). Studies have shown that endotoxin exposure can exacerbate pre-existing asthma or induce new cases of asthma, and exposure was found to be a significant predictor of

chronic phlegm for poultry workers (25, 32). Particulate matter—consisting mainly of down feathers, mineral crystals from urine, and poultry litter in broiler operations—may also have detrimental effects on human health, causing chronic cough and phlegm, chronic bronchitis, allergic reactions, and asthma-like symptoms in farmers, and respiratory problems in people living in the vicinities of operations (27). Additionally, poultry workers demonstrated a high prevalence of obstructive pulmonary disorders, with increasing prevalence associated with longer exposure, regardless of smoking status (26).

A 2010 USDA study measured volatile organic compounds (VOCs) inside industrial broiler operations and found that close to 70% of VOCs included acetic acid, 2,3-butanedione, methanol, acetone, and ethanol (33); similar studies have not been conducted outside of broiler operations, and would help to characterize nearby residents' exposure to VOCs. It is important to note that even industrial broiler operations that employ best management practices and mitigation techniques have been shown to generate airborne contaminants (24).

Contaminated ground and surface water

Manure from broiler operations may contain nutrients, heavy metals, drug residues, and pathogens that can leach into groundwater or runoff into surface water (5, 28, 19, 34, 35). Studies have demonstrated that humans can be exposed to waterborne contaminants from livestock and poultry operations through the recreational use of contaminated surface water and the ingestion of contaminated drinking water (22, 35). Furthermore, the disposal and decomposition of diseased poultry carcasses may contaminate water sources and pose a threat to human health (19).

The nutrients nitrogen and phosphorus--naturally occurring in chicken manure--have been found in both ground and surface water near Maryland broiler chicken operations (36) and can have deleterious effects on water quality and human health (17, 19, 22, 26, 35, 37-39). A University of Maryland Eastern Shore pilot study found that 67% of private wells—which residents are responsible for testing and maintaining—failed to meet drinking water standards for total coliform, 36% tested positive for *E. coli*, and 31% failed the standards for total dissolved solids and pH (40). In one study, broiler chicken and corn production were associated with higher nitrate concentrations (naturally occurring in manure) in drinking water in Maryland wells (37). Ingesting high levels of nitrate has been associated with increased risks for thyroid conditions (22, 41, 42), birth defects and other reproductive problems (22, 42, 43), diabetes (22, 42), various cancers (42, 44), and methemoglobinemia (blue baby syndrome), a potentially fatal condition among infants (22, 45). Approximately 60,000 Wicomico County residents rely on private wells for drinking water (46), so there is cause for concern regarding the spread of nitrate into groundwater drinking sources.

Nutrient runoff has also been implicated in the growth of harmful algal blooms (17, 19, 38, 47), which may pose health risks for people who swim or fish in recreational waters, or who consume contaminated seafood. Exposure to algal toxins (such as the toxic dinoflagellate, *Pfiesteria piscicida*) has been linked to neurological impairments, liver damage, stomach illness, skin lesions, and other adverse health effects (38, 39, 48).

Finally, there may be health risks associated with exposure to drug residues and excreted hormones found in chicken manure-contaminated ground and surface water. Of particular concern is estradiol, which is naturally found at high levels in chicken manure and is an endocrine-disruptor in humans (49). Environmental estrogens such as estradiol may be linked to increased incidence of male reproductive tract disorders, reduced sperm counts, and increases in the frequency of female breast cancer (49). Estradiol has been found in Chesapeake Bay tributaries in levels high enough to induce estrogenic effects on aquatic organisms (19, 49). Increasing the number of chickens produced in the bay's tributaries would likely increase the amount of estradiol entering the bay through manure runoff, thereby increasing the potential for endocrine-disruption in humans through water-borne estradiol exposure.

Conclusion

A growing body of evidence has implicated industrial broiler production in the spread of infectious diseases (including antibiotic-resistant strains), the generation and spread of airborne contaminants, and the contamination of ground and surface waters. We hope our letter is helpful in describing some of the public health concerns associated with the potential expansion of broiler operations in Wicomico County. Through our research, we know that health departments face many barriers addressing issues surrounding industrial farm animal production (50, 51), and we are prepared to serve as a resource to your offices. Please do not hesitate to contact us if you have any questions.

Sincerely,

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References

1. United States Department of Agriculture Census of Agriculture. (2012). *Poultry—Inventory and Sales 2007 and 2012*. Washington, D.C.: National Agricultural Statistics Service. Retrieved from http://www.agcensus.usda.gov/Publications/2012/Full_Report/Volume_1,_Chapter_2_County_Level/Maryland/
2. Gomes, A. V. S., Quinteiro-Filho, W. M., Ribeiro, A., Ferraz-de-Paula, V., Pinheiro, M. L., Baskeville, E., ... Palermo-Neto, J. (2014). Overcrowding stress decreases macrophage activity and increases Salmonella Enteritidis invasion in broiler chickens. *Avian Pathology: Journal of the W.V.P.A.*, *43*(1), 82–90. doi:10.1080/03079457.2013.874006
3. Price, L. B., Graham, J. P., Lackey, L. G., Roess, A., Vailes, R., & Silbergeld, E. (2007). Elevated risk of carrying gentamicin-resistant escherichia coli among U.S. poultry workers. *Environmental Health Perspectives*, *115*(12), 1738–1742. doi:10.1289/ehp.10191
4. Baykov, B., & Stoyanov, M. (1999). Microbial air pollution caused by intensive broiler chicken breeding. *FEMS Microbiology Ecology*, *29*, 389–392. doi:10.1016/S0168-6496(99)00033-1
5. Spencer, J. L., & Guan, J. (2004). Public health implications related to spread of pathogens in manure from livestock and poultry operations. *Methods in molecular biology (Clifton, N.J.)*, *268*, 503–515. doi:10.1385/1-59259-766-1:503
6. Graham, J. P., Leibler, J. H., Price, L. B., Otte, J. M., Pfeiffer, D. U., Tiensin, T., & Silbergeld, E. K. (2008). The Animal-Human Interface and Infectious Disease in Industrial Food Animal Production: Rethinking Biosecurity and Biocontainment. *Public health reports*, *123*, 282–299
7. Rule, A. M., Evans, S. L., & Silbergeld, E. K. (2008). Food animal transport: A potential source of community exposures to health hazards from industrial farming (CAFOs). *Journal of Infection and Public Health*, *1*, 33–39. doi:10.1016/j.jiph.2008.08.001
8. U.S. Food and Drug Administration. Letter to The Honorable Louise M. Slaughter: Sales of Antibacterial Drugs in Kilograms. Washington D.C.; 2010.
9. Roberts RR, Hota B, Ahmad I, Scott RD, Foster SD, Abbasi F, et al. Hospital and societal costs of antimicrobial-resistant infections in a Chicago teaching hospital: implications for antibiotic stewardship. *Clin Infect Dis An Off Publ Infect Dis Soc Am.* 2009 Oct 15;49(8):1175–84.
10. Filice GA, Nyman JA, Lexau C, Lees CH, Bockstedt LA, Como-Sabetti K, et al. Excess costs and utilization associated with methicillin resistance for patients with Staphylococcus aureus infection. *Infect Control Hosp Epidemiol.* 2010;31(4):365–73.
11. Davis, M. F., Price, L. B., Liu, C. M. H., & Silbergeld, E. K. (2011). An ecological perspective on U.S. industrial poultry production: The role of anthropogenic ecosystems on the emergence of drug-resistant bacteria from agricultural environments. *Current Opinion in Microbiology*, *14*, 244–250. doi:10.1016/j.mib.2011.04.003
12. Smith, J. L., Drum, D. J. V, Dai, Y., Kim, J. M., Sanchez, S., Maurer, J. J., ... Lee, M. D. (2007). Impact of antimicrobial usage on antimicrobial resistance in commensal Escherichia coli strains colonizing broiler chickens. *Applied and Environmental Microbiology*, *73*(5), 1404–1414. doi:10.1128/AEM.01193-06

13. Price, L. B., Lackey, L. G., Vailes, R., & Silbergeld, E. (2007). The persistence of fluoroquinolone-resistant *Campylobacter* in poultry production. *Environmental Health Perspectives*, *115*(7), 1035–1039. doi:10.1289/ehp.10050
14. Siemon, C. E., Bahnson, P. B., & Gebreyes, W. a. (2007). Comparative investigation of prevalence and antimicrobial resistance of *Salmonella* between pasture and conventionally reared poultry. *Avian Diseases*, *51*(1), 112–117. doi:10.1637/1933-5334(2007)2[e17:CIOPAA]2.0.CO;2
15. Graham, J. P., Evans, S. L., Price, L. B., & Silbergeld, E. K. (2009). Fate of antimicrobial-resistant enterococci and staphylococci and resistance determinants in stored poultry litter. *Environmental Research*, *109*(6), 682–689. doi:10.1016/j.envres.2009.05.005
16. Graham, J. P., Price, L. B., Evans, S. L., Graczyk, T. K., & Silbergeld, E. K. (2009). Antibiotic resistant enterococci and staphylococci isolated from flies collected near confined poultry feeding operations. *Science of the Total Environment*, *407*(8), 2701–2710. doi:10.1016/j.scitotenv.2008.11.056
17. EPA. (2013). Literature review of contaminants in livestock and poultry manure and implications for water quality, (July), 1–137. doi:EPA 820-R-13-002
18. Mulders, M. N., Haenen, a P. J., Geenen, P. L., Vesseur, P. C., Poldervaart, E. S., Bosch, T., ... Van De Giessen, a W. (2010). Prevalence of livestock-associated MRSA in broiler flocks and risk factors for slaughterhouse personnel in The Netherlands. *Epidemiology and Infection*, *138*, 743–755. doi:10.1017/S0950268810000075
19. Gerber, P., Opio, C., Steinfeld, H. (2008). Poultry production and the environment: a review. Animal Production and Health Division, Food and Agriculture Organization of the United Nations. Available online at: http://www.fao.org/Ag/Againfo/home/events/bangkok2007/docs/part2/2_2.pdf
20. Donham, K. J., Wing, S., Osterberg, D., Flora, J. L., Hodne, C., Thu, K. M., & Thorne, P. S. (2007). Community health and socioeconomic issues surrounding concentrated animal feeding operations. *Environmental Health Perspectives*, *115*, 317–320. doi:10.1289/ehp.8836
21. Kirychuk, S. P., Dosman, J. A., Reynolds, S. J., Willson, P., Senthilselvan, A., Feddes, J. J. R., ... Guenter, W. (2006). Total dust and endotoxin in poultry operations: comparison between cage and floor housing and respiratory effects in workers. *Journal of occupational and environmental medicine / American College of Occupational and Environmental Medicine*, *48*, 741–748. doi:10.1097/01.jom.0000216215.39521.3c
22. Burkholder, J., Libra, B., Weyer, P., Heathcote, S., Kolpin, D., Thorne, P. S., & Wichman, M. (2007). Impacts of waste from concentrated animal feeding operations on water quality. *Environmental Health Perspectives*, *115*, 308–312. doi:10.1289/ehp.8839
23. Nahm, K. H. (2005). Environmental Effects of Chemical Additives Used in Poultry Litter and Swine Manure. *Critical Reviews in Environmental Science and Technology*. doi:10.1080/10643380590966208
24. Rice, J. M., Caldwell, D. F. , Humenik, F. J., (Eds.). (2006). Animal Agriculture and the Environment: National Center for Manure and Animal Waste Management White Papers, ASABE: Publ. Number 913C0306, St. Joseph, MI.
25. Heederik, D., Sigsgaard, T., Thorne, P. S., Kline, J. N., Avery, R., Bønløkke, J. H., ... Merchant, J. A. (2007). Health effects of airborne exposures from concentrated animal feeding operations. *Environmental Health Perspectives*, *115*, 298–302. doi:10.1289/ehp.8835

26. Viegas, S., Faisca, V. M., Dias, H., Clérigo, a, Carolino, E., & Viegas, C. (2013). Occupational exposure to poultry dust and effects on the respiratory system in workers. *Journal of toxicology and environmental health. Part A*, 76, 230–9. doi:10.1080/15287394.2013.757199
27. Cambra-Lopez, M., Aarnink, A. J., Zhao, Y., Calvet, S., & Torres, A. G. (2010). Airborne particulate matter from livestock production systems: a review of an air pollution problem. *Environ Pollut*, 158, 1–17. doi:S0269-7491(09)00350-9 [pii]r10.1016/j.envpol.2009.07.011
28. Graham, J. P., & Nachman, K. E. (2010). Managing waste from confined animal feeding operations in the United States: The need for sanitary reform. *Journal of Water and Health*. doi:10.2166/wh.2010.075
29. Fairchild, B. D., Czarick, M., Harper, L.A., Worley, J.W., Ritz, C.W., Hale, B.W. (2009). Ammonia concentrations downstream of broiler operations. *Journal of Applied Poultry Research* (3), 630-639. doi: 10.3382/japr.2008-00126
30. Donham, K. J., Wing, S., Osterberg, D., Flora, J. L., Hodne, C., Thu, K. M., & Thorne, P. S. (2007). Community health and socioeconomic issues surrounding concentrated animal feeding operations. *Environmental Health Perspectives*, 115, 317–320. doi:10.1289/ehp.8836
31. Wing, S., & Wolf, S. (2000). Intensive livestock operations, health, and quality of life among eastern North Carolina residents. *Environmental Health Perspectives*, 108, 233–238. doi:10.1289/ehp.00108233
32. Kirychuk, S. P., Dosman, J. A., Reynolds, S. J., Willson, P., Senthilselvan, A., Feddes, J. J. R., ... Guenter, W. (2006). Total dust and endotoxin in poultry operations: comparison between cage and floor housing and respiratory effects in workers. *Journal of occupational and environmental medicine / American College of Occupational and Environmental Medicine*, 48, 741–748. doi:10.1097/01.jom.0000216215.39521.3c
33. Trabue, S., Scoggin, K., Li, H., Burns, R., Xin, H., & Hatfield, J. (2010). Speciation of volatile organic compounds from poultry production. *Atmospheric Environment*, 44, 3538–3546. doi:10.1016/j.atmosenv.2010.06.009
34. Nachman, K. E., Graham, J. P., Price, L. B., & Silbergeld, E. K. (2005). Arsenic: A roadblock to potential animal waste management solutions. *Environmental Health Perspectives*, 113, 1123–1124. doi:10.1289/ehp.7834
35. Edwards, D. R., & Daniel, T. C. (1992). Environmental impacts of On-Farm poultry waste disposal. A review. *Bioresource Technology*. doi:10.1016/0960-8524(92)90094-E
36. Beckert, K. A., Fisher, T. R., & Oapos;Neil, J. M., & Jesien, R. V. (2011). Characterization and comparison of stream nutrients, land use, and loading patterns in Maryland coastal bay watersheds. *Water, Air, and Soil Pollution*, 221, 255–273. doi:10.1007/s11270-011-0788-7
37. Lichtenberg, E., & Shapiro, L. K. (1997). Agriculture and Nitrate Concentrations in Maryland Community Water System Wells. *Journal of Environment Quality*. doi:10.2134/jeq1997.00472425002600010022x
38. Heisler, J., Glibert, P. M., Burkholder, J. M., Anderson, D. M., Cochlan, W., Dennison, W. C., ... Suddleson, M. (2008). Eutrophication and harmful algal blooms: A scientific consensus. *Harmful Algae*, 8, 3–13. doi:10.1016/j.hal.2008.08.006

39. Dolah, F. M. Van, Roelke, D., & Greene, R. M. (2001). Health and Ecological Impacts of Harmful Algal Blooms: Risk Assessment Needs. *Human and Ecological Risk Assessment: An International Journal*. doi:10.1080/20018091095032
40. Cotton, C., Clemens, S. (2010). Safe drinking water clinics: education homeowners on the Eastern Shore of Delmarva. Abstract retrieved from <http://usawaterquality.org/conferences/2010/PDF's/Cotton.pdf>
41. Aschebrook-Kilfoy, B., Heltshe, S. L., Nuckols, J. R., Sabra, M. M., Shuldiner, A.R., Mitchell, B.D., et al. (2012) Modeled nitrate levels in well water supplies and prevalence of abnormal thyroid conditions among the Old Order Amish in Pennsylvania. *Environmental Health* 11 (1):6.
42. Ward, M. H. (2009). Too Much of a Good Thing? Nitrate from Nitrogen Fertilizers and Cancer. *Reviews on Environmental Health*. doi:10.1515/REVEH.2009.24.4.357
43. Manassaram, D. M., Backer, L. C., & Moll, D. M. (2006). A review of nitrates in drinking water: Maternal exposure and adverse reproductive and developmental outcomes. *Environmental Health Perspectives*. doi:10.1289/ehp.8407
44. Chiu, H.-F., Tsai, S.-S., & Yang, C.-Y. (2007). Nitrate in drinking water and risk of death from bladder cancer: an ecological case-control study in Taiwan. *Journal of toxicology and environmental health. Part A*, 70, 1000–1004. doi:10.1080/15287390601171801
45. Knobloch, L., Salna, B., Hogan, A., Postle, J., & Anderson, H. (2000). Blue babies and nitrate-contaminated well water. *Environmental Health Perspectives*, 108, 675–678. doi:10.1289/ehp.00108675
46. United States Geological Survey (USGS). (2015, Feb 18). *USGS Water Use Data for the Nation*. Retrieved February 18, 2015 from <http://waterdata.usgs.gov/nwis/wu>.
47. Anderson, D. M., Burkholder, J. M., Cochlan, W. P., Glibert, P. M., Gobler, C. J., Heil, C. A., ... Vargo, G. A. (2008). Harmful algal blooms and eutrophication: Examining linkages from selected coastal regions of the United States. *Harmful Algae*, 8, 39–53. doi:10.1016/j.hal.2008.08.017
48. Van Dolah, F. M. (2000). Marine algal toxins: Origins, health effects, and their increased occurrence. *Environmental Health Perspectives*. doi:10.1289/ehp.00108s1143
49. Dorabawila, N., & Gupta, G. (2005). Endocrine disrupter--estradiol--in Chesapeake Bay tributaries. *Journal of hazardous materials*, 120, 67–71. doi:10.1016/j.jhazmat.2004.12.031
50. Fry, J. P., Laestadius, L. I., Grechis, C., Nachman, K. E., & Neff, R. A. (2013). Investigating the Role of State and Local Health Departments in Addressing Public Health Concerns Related to Industrial Food Animal Production Sites. *PLoS ONE*, 8. doi:10.1371/journal.pone.0054720
51. Fry, J. P., Laestadius, L. I., Grechis, C., Nachman, K. E., & Neff, R. A. (2014). Investigating the role of state permitting and agriculture agencies in addressing public health concerns related to industrial food animal production. *PLoS ONE*, 9. doi:10.1371/journal.pone.0089870

ATTACHMENT E

Dear Members of the Oregon Legislature,

I am writing to you as a concerned citizen who has experienced firsthand the devastating impacts of large-scale poultry operations on the health, environment, and quality of life of rural communities. My family and I moved to a beautiful rural area in search of a better quality of life for our child, and we did. We lived across the street from a pasture raised cattle farm for the first eight years. Then our neighbors put the farm for sale and it soon became a nightmare.

The new owners of the farm across the street from our home, who were in agribusiness and politically connected, built four huge long barns, each holding 25,000 chickens. Soon after, a cattle feedlot was constructed on the same property, and our once-idyllic life became a nightmare of rotting flesh, constant stench, and particulate matter from the fans of the enormous poultry houses.

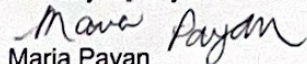
The impact of the large-scale poultry operations on our community was devastating. We could not drive out of the driveway without putting the windshield wash and wipers on because of all the dust and particulate matter from the fans of the enormous poultry houses. My son would get off the school bus in the afternoon and actually vomit from the stench. Every time I looked or stepped out my sliding glass doors, there were vultures circling overhead every day. I would find dead chickens in my yard, which were being dragged out of the compost by foxes. The constant smell of dead poultry and rotting flesh permeated everything.

The environmental impact was just as severe. There were spills from the waste pit on the road by a new employee who did not know how to use the spreader, and 20,000 chickens died and were incorrectly composted onsite. The smell of 20,000 dead birds rotting in the summer heat was too much to bear for our whole community, and fly infestations persisted for months. At this point, there were three occasions where I gave my child a bath, and he had palm-size blisters all over his body. I was rushing him to urgent care. I had dead birds, which were dragged into my yard, at this point, in my freezer, hoping someone could test them.

Our once-vibrant and diverse ecosystem was destroyed, and we could no longer see all the species of butterflies, frogs, and birds that used to call our community home.

I urge you to support the proposed amendments to SB85, which would create a pause moratorium on large CAFOs for seven years. We must address the root causes of the pollution and health issues associated with these operations to protect the health and quality of life of our rural communities. It's time to take action and protect the health and wellbeing of our communities. You have the power to make a difference and not let this happen to your constituents.

Thank you for your attention to this matter.


Maria Payan
Selbyville, DE

ATTACHMENT F

Dear Members of the Oregon Legislature,

As the child who has experienced firsthand the devastating impact of large-scale poultry operations on our community and the environment, I urge you to support the proposed amendments to SB85, which would create a pause moratorium on large tier two CAFOs for seven years.

Growing up in our once-vibrant community, I experienced the joys of playing in the stream behind our house, walking and climbing in the woods, and feeding the horses behind the fence in our yard. However, when the poultry industry moved in, everything changed. The constant stench, particulate matter, and dead poultry in our yard made it difficult to breathe and made us sick. Our once-vibrant ecosystem was destroyed, and we could no longer see all the species of butterflies, frogs, and birds that used to call our community home.

As I grew older, I began to understand the severity of the impact that the poultry industry was having on our community and the environment. The scientific evidence clearly demonstrates the severe consequences of large-scale poultry operations on human health and the environment. Exposure to air pollutants emitted from these operations can lead to respiratory and cardiovascular diseases, cancer, and premature death. The excess manure produced by these operations can contaminate waterways with nitrogen and phosphorus, leading to toxic algal blooms, fish kills, and dead zones in aquatic ecosystems. The overuse of antibiotics in these operations also contributes to the development of antibiotic-resistant bacteria, which can pose a threat to human health.

It breaks my heart to think that other children in rural communities may not be able to experience the joys of playing in nature and enjoying a healthy environment due to the greed and disregard for our health and environment exhibited by the poultry industry. We need to take action to hold the poultry industry accountable for the devastation that they have caused and protect the health and quality of life of our rural communities.

The proposed amendments to SB85 would create a pause moratorium on large CAFOs for seven years, giving time to assess the impact of these operations on our communities and the environment. I urge you to support this moratorium and take action to protect the health and well-being of our rural communities.

Thank you for your attention to this matter.

Sincerely,



Michael Payan
Selbyville, DE

ATTACHMENT G



/ WHAT'S HOT /

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Rude Awakening in America's Farmland

The Crutchfields entered into a contract to raise chickens for Tyson Foods. In the beginning, they mortgaged their debt-free home and land and took out big loans from the Farm Credit to build their first chicken houses. The Crutchfields were loyal to Tyson.

By Scott Edwards, Contributor

Co-Director, Food & Water Justice Project

Nov 13, 2012, 12:21 PM EST | **Updated** Jan 13, 2013

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I'm an environmentalist. So when I think about our industrialized system of agriculture and the proliferation of mega-factory farms across the country, where giant companies like Perdue, Tyson, Smithfield and a handful of others dominate our increasingly fragile landscapes, my first thoughts go to the impacts on watersheds and airways. I tend to dwell on the unsustainability of hundreds of thousands of tons of chicken manure piled high in places like the Eastern Shore of Maryland, where the Chesapeake Bay is dying, or the millions of gallons of fetid hog waste lying in lagoons all across the eastern part of North Carolina, overflowing into the Neuse River every time it rains. But the other night I was told a story about an equally dark side of our industrialized ag system, one where the ruin of our natural resources is matched every bit




every day struggling farmers suffer rude awakenings from the American dream.

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Back in 1987, Karen and Mitchell Crutchfield were living a quiet life in a three bedroom brick home near where the Arkansas River winds through the state of Arkansas. Their home was situated on 17 acres of farmland that was passed down to Karen by her grandfather. Mitchell had spent 16 years working as a towboat engineer on the Mississippi River.

Back then, the Crutchfields decided to take a shot with a business of their own. They weren't looking for shortcuts to get rich quick, or ways to profit off the hard work of others. Karen and Mitchell weren't hoping for fancy cars and big McMansions; theirs was a modest dream. They were going to be chicken farmers, knowing that it meant that they would have to struggle



to a simple and peaceful retirement some decades down the road.

The Crutchfields entered into a contract to raise chickens for Tyson Foods, an Arkansas chicken empire that is one of the largest industrial food producers in the world today, with profits in 2010 of \$780 million. In the beginning, they mortgaged their debt-free home and land and took out big loans from the Farm Credit to build their first chicken houses. The Crutchfields were loyal to Tyson. They even purchased 3,000 shares of the company's stock so they could enjoy some small benefit from the massive profits that Tyson earns off the hard work of their contract growers. And for two and a half decades Karen and Mitchell Crutchfield played by all the rules.

Every time Tyson told them to upgrade the chicken houses or install new equipment or add structures, the Crutchfields complied, even though it meant taking out more loans just to keep up. And at the end of each flock, when Tyson came to pick up the birds that the Crutchfields had so carefully raised according to the company's evolving standards, they only received about half the money they earned. The other half? Tyson sent that directly to the Farm Credit to pay off



up with Tyson's demands.

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The money left over wasn't enough to get by on. So the Crutchfields did what almost every poultry contract grower in the country does -- they took on other jobs to make ends meet. At some points, Karen was working three jobs while Mitchell cared for Tyson's birds. And even though it wasn't fair that Tyson was paying the Crutchfields less than 5 cents per pound of chicken raised in their houses while charging \$1.25 or more per pound at the grocery store, and despite the fact that the Crutchfields had to sell off all their 3,000 shares of Tyson stocks over the years to survive, it was all okay because they were working towards the dream they started 25 years ago, when one day the Farm Credit loans would all be paid off and once again they'd be debt-free

short years from now, when they would be in their mid 60s. They were going to put off retirement until well past the age of 65 so they could spend their golden years with some small margin of comfort. But a year ago, their dream came crashing down. Not only did the Crutchfields get the rug pulled out from under them, they're about to have their entire home and all their land yanked away.

Last year Tyson demanded yet another upgrade to the Crutchfields' chicken houses. This time it was to install computerized ventilation equipment under Tyson's "Premium House Mandate" program. The cost? According to the Crutchfields, somewhere around \$250-300 thousand. Tyson told the Crutchfields that in exchange for the quarter of a million dollar upgrade, they would receive a raise of a penny per pound of chicken. A penny per pound for another \$300,000 in debt -- that's a "raise" none of us could afford to accept.

Even so, in a desperate effort to hold onto at least a fragment of their dream while not putting themselves into a hole out of which they'd likely never be able to climb, the Crutchfields asked the Farm Credit for another loan to update only half of their six poultry houses. The Farm Credit refused, saying it was all or



another \$300,000 deeper, the Crutches did what any responsible person would have done -- they said no to more debt.

Last March, Tyson refused to renew the Crutchfields' contract, abandoning them just a few years short of their finally being able to pay off their debts and after 25 years of loyal service. Tyson's betrayal left them without any steady source of income to pay off the last three years of their Farm Credit loans. It seems that someone at Tyson didn't read the "core values" listed on the company's website, where they claim to "strive to be honorable" and "care about each other," before they kicked the Crutchfields to the curb. And the curb is exactly where this farm family will end up because the Farm Credit is now foreclosing on their property. The foreclosure hearing is taking place in early December of this year, in time for the banks to take the Crutchfields' home and land just as the Arkansas winter sets in.

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Sadly, this tale should be the exception, but it's not; it happens to small farmers on a regular basis all across the country, where big agribusinesses force their contract growers into massive debt while the companies reap huge profits. If you want to see who is destroying sustainable family farming in America, you don't have to look any further than Tyson and Perdue and the other major meat producers. When you're a poultry contract grower, there's never any catching up. The dream you had when you started out stays just that -- an elusive dream. The best that you can hope for is that it doesn't turn into a horrible nightmare, as it has for the Crutchfields.

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BEFORE YOU GO



A new class-action lawsuit claims poultry processors conspire to keep farmers trapped and dependent

by [Joe Fassler](#)

02.01.2017, 11:06am

Business

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Zak Grade

The allegation: Five large poultry companies colluded to create regional monopolies, allowing them to keep suppliers in debt and underpaid.



In 1987, Karen and Mitchell Crutchfield started growing chickens for Tyson Foods. It took a lot of money to get up and running: about \$150,000 to build two chicken houses on their property in Lamar, Arkansas. But, as it turned out, the initial costs were only the beginning. Right away, the couple says, Tyson began requiring costly adjustments. Before it would even make the first shipment of birds, Karen says, the company wanted improvements to the road leading to the houses. Later, it made them change over from water troughs to nipple feeders. Then, it wanted a newfangled freezer system to store dead birds until they could be picked up for composting.

This story has been updated as of 5:38 pm, February 2, 2017.

The upgrades seemed never to stop. Some were comparatively small—\$10,000 here, \$20,000 there—but they added up. As the couple increased production by building four more houses between 1990 and 2000 (an investment that left them with several hundred thousand dollars in 15-year loans), they estimate that Tyson also requested an additional \$150,000 worth of mandatory upgrades. “They just had something all the time that they wanted you to put in new,” says Karen.

Debt made things hard. For every paycheck, the Crutchfields took home only half of what they earned. Tyson sent the other half directly to Farm Credit, the Crutchfield’s lender. Karen took off-farm jobs to help make ends meet, but it wasn’t enough. They sold stock to keep going, including every one of the 3,000 Tyson shares they’d bought. Then they cashed in Mitchell’s 401k. They cut timber from their property and sold it; eventually, they took on equity in the land itself. By 2010, after more than twenty years of hard work, they were almost out of the hole, only about three years away from being free and clear of farm debt, and hoping, for the first time, to actually make some money.

“There was light at the end of the tunnel,” Mitchell says.





Marcello Cappellazzi

Karen and Mitchell Crutchfield were nearly out of debt when Tyson asked for a quarter-million dollar upgrade

Then Tyson came around with another required upgrade.

This time, the couple says, the company wanted digital infrastructure: a state-of-the-art computer system that would help automate water flow, heat, and other parameters inside the barns. The upgrade might have brought along some environmental benefits and utilities savings. But the estimated cost? Between \$250,000 and \$300,000.

At his age, Mitchell says, it made no sense to take on that kind of obligation.

“We couldn’t see taking on another 15 years. There just wasn’t no way,” he says. “I would have been at least 75 years old. You don’t know what your health is going to be. The older you get, the more you got to take care of. It’s just not age-friendly to take on debt like that when you’ve got to do all the labor yourself.”

If Tyson needs six houses in production, Tyson’s going to get six houses in production.

And yet they applied for the loan anyway. They didn’t have a choice, since they were still in debt, and had no other way to make the money back. Karen had a plan: if they updated only the four newest houses, letting the two 1987 originals lapse into obsolescence, they might be able to pull it off. But things didn’t work out when she approached Farm Credit for the ask.

“At first, they told me that I had it. But when they found out I was only going to do four houses, then it came back that I wasn’t going to get my money,” she



says. “Tyson and Farm Credit have a meeting every month to discuss their growers and what they’re going to do with them. So if Tyson needs six houses in production, Tyson’s going to get six houses in production.”

The Crutchfields didn’t put in the computer system. And Tyson stopped delivering new chickens, effectively shutting down the farm. And the couple took the last option they had left: filing for Chapter 12 bankruptcy.



Marcello Cappellazzi

Broiler chickens are raised indoors, and farmers are responsible for the cost of construction. Above, Craig Watts, a poultry industry whistleblower and a plaintiff in the case

The use of debt and low wages to trap producers into a kind of indentured servitude has a long history in American agriculture.

And the fact that it happens in the poultry industry is not exactly news. (One recent and relatively mainstream portrait: the debt-burdened chicken farmer in the 2008 film *Food, Inc.*) What *is* new is the possibility that big companies may conspire to make such exploitative relationships easier to achieve and maintain.



Last Friday, a group of law firms filed a class action lawsuit in the United States District Court for the Eastern District of Oklahoma alleging that five of the country's largest poultry companies—Tyson, Perdue, Pilgrims Pride, Sanderson Farms, and Koch Foods—have colluded for years to keep farmers in debt and underpaid. We've [reported](#) on a similar suit filed in September, which claimed that the same companies, plus about a dozen others, used Agri Stats, a private data clearinghouse, to share trade information and thus manipulate the price of chicken. That suit was on behalf of chicken *buyers*, though. The Oklahoma suit focuses on the other end of the supply chain, claiming that the same collusion also led to lower prices for farmers.

“Defendants and their Co-Conspirators have agreed to and have shared with themselves (but not with Growers) detailed Grower compensation information, with the purpose and effect of suppressing Grower compensation.”

According to the suit, the defendants—referred to as “integrators” because they own entire supply chains, from the grain mills to the slaughterhouses to the birds themselves—work together to create an environment that forces farmers to contract with one and only one parent company. (Economists have a fancy term for this: “monopsony,” a market with only one buyer.) Growers say that arrangement leaves them vulnerable, because without other options—sell to Perdue, say, or sell nothing at all—there's no way to command a fair market price.

That, the plaintiffs say, is just the way the integrators want it. “Since at least 2008, and likely much earlier,” they write in the filing, “Defendants and their Co-Conspirators have agreed to and have shared with themselves (but not with Growers) detailed Grower compensation information, with the purpose and effect of suppressing Grower compensation. This agreement has been bolstered by a parallel agreement among Defendants and their Co-Conspirators not to solicit, hire, or ‘poach’ one another's Growers.”

Or, as one farmer quoted in the filing puts it: “After a few months into the business I realized that the integrators have an unwritten pact with their sister



integrators, “*You don’t take our growers and we won’t take yours.*”

Tyson, for its part, denies the allegations.

“We want our contract farmers to succeed and don’t consult competitors about how our farmers are paid. These are false claims,” Gary Mickelson, Tyson’s senior director of public relations, told *New Food Economy*, in an email. “The farmers are free to discuss the terms of their contracts with whomever they want, including other farmers, and are also free to switch to other chicken processors who operate in their area.”

As long as they can keep you making payments, and in that debt cycle, they can basically pull you into anything.

But the suit also spells out another detrimental practice: the way poultry companies extract farmer loyalty by demanding expensive building and equipment upgrades, trapping them in a cycle of debt. That also has an anti-competitive effect, whether there was collusion or not.

Expensive, unending, mandatory upgrades may really be about evolving technology and increased efficiency. But they also tend to make farmers completely reliant on one single company. Think of it like an iPhone from hell: you have to make every single update Apple puts out, or the apps stop working. Except in this case, the mandatory updates can cost north of \$200,000, and you depend on the apps for your livelihood, and you’ve mortgaged your home to pay for the phone.

According to the suit, that’s by design. “Integrators often monitor Growers’ debt burdens, requiring them to undertake unnecessary and expensive upgrades if they ever do near financial independence—with the intent of keeping Growers debt-laden and subservient to a specific Integrator,” the suit claims. “The increased dependence on their Integrator forces Growers to accept any CFA [Contract Farming Arrangement] amendments and paltry pay offered by the Integrator or risk CFA termination (or nondelivery of flocks, a functional equivalent) and financial disaster.”



Though integrators do ask farmers to take the financial hit on upgrades they need to stay competitive, they do assume other costs that help the farmer. Integrators pay for the birds, for instance, as well as their feed—so farmers don't get squeezed when corn prices spike. (Contract farmers also don't benefit when they drop.) But small and mid-size chicken growers tend [to carry the most debt](#), compared to their assets, in all of agriculture—which is compounded by the fact that their biggest investment, the chicken houses, are often useless to other companies. A Tyson house isn't like a Perdue House, which isn't like a Sanderson Farms house. Each company uses a unique, specific set of technical specs and proprietary equipment, and farmers who aren't up to date will stop getting chicken shipments. This puts farmers in a bad spot: they've spent a fortune on chicken houses that, other than growing birds for one specific company, have no worth.



AREN'T THERE LAWS TO PROTECT POULTRY FARMERS?

Yes and no. GIPSA, the Obama Administration, and the Trump transition

GIPSA

The 2008 Farm Bill included a provision that required an update to the 1921 Packers and Stockyards Act. The update was meant to address many of the practices the Crutchfields struggled with, like Tyson's alleged refusal to deliver chicks and costly requirements for new facilities and technology.

A LONG DELAY

The USDA introduced those new rules in 2010, but they weren't all finalized. The National Chicken Council called the proposed rules "far beyond what Congress had instructed," adding that they would cost the industry an estimated \$1 billion. Congressional gridlock even



attracted the ire of John Oliver, who took on the GIPSA rules in an 18-minute segment in 2015.

DECEMBER 2016

In the twilight of his tenure, the Obama administration issued three rules. They make it easier for chicken farmers to sue integrators and start to define "unfair practices." Those rules have not yet been fully implemented.

WHAT NOW?

Sonny Perdue's confirmation as Agriculture Secretary is pending. If confirmed, he'll have to decide whether to proceed with the new rules or walk them back. There is currently a government-wide 60-day freeze on all new rules.

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THE NEW
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decide to upgrade to premium housing. Integrators also aren't just asking farmers to take the hit—

So I asked Mitchell whether he thought it's true that Tyson wanted to keep him in debt, and if so, why.

Sure they did, he says. "Once [farmers] get out of debt, they can say, 'look, I'm not making no money, I'm going to shut my doors. If you want to come back with the pay, come back and talk to me, and we'll grow



chickens,” he says. “But if you’re in debt, and you’ve got your home and all your stuff tied up with it, you can’t do that. As long as they can keep you making payments, and in that debt cycle, they can basically pull you into anything.”

In his view, debt is wielded as a source of power: it traps farmers in a system that they would otherwise flee if they had free choice.

Karen tells me Tyson gave only one raise in the last ten years they worked: a quarter of a penny per pound of chicken. “And can you imagine how much everything else has went up?” she says.

It wasn’t good enough. But once they’d started, they didn’t see a way out.



Marcello Cappellazzi

Poultry growers contribute millions of dollars to rural economies

RAFI-USA’s Sally Lee says that poultry growers contribute much value to rural economies, even if they’re buried in debt, and even if they’re typically overlooked. After all, they collectively spend millions to build the barns that sustain the entire chicken industry—a significant investment that she feels current practices devalue.

“We have to remember that these are our rural investors. They’re putting up on average a million dollars or more to put up these chicken houses. This is an important link in the backbone of our American economy if we think about rural economies,” she says. “The fact that we have all of these farmers making a low or negative return on that investment, that’s a red flag.”



“We’ll lose about everything.”

Lee is heartened by the new class action suits, though she admits that other suits that seemed promising at first were ultimately unsuccessful. That’s partly why RAFI-USA’s latest effort is to make an appeal to the general public: a documentary that highlights the economic plight of the nation’s of chicken farmers. The film, [Under Contract](#), premieres in New York Wednesday, and will be available on Vimeo On Demand Thursday.

Maybe broader awareness will help reform gain steam. But relief may not come soon enough for farmers like the Crutchfields, who are featured in the film. They’re out of business, but still making payments on their debt. Their last hope is the lawsuit they’ve filed against their old employer, suing Tyson for lost pay due to a terminated contract (the technical term is “promissory estoppel”). No lawyer would take the case, so they’re representing themselves in court—a long-shot effort. The case was initially dismissed, but is currently on appeal.

Under Contract Official Trailer (February 2017)



A successful court ruling would be a victory, but time is running out.

“We’ve just been hanging on, keeping our payments going, and hoping we can get some kind of settlement going out of Tyson in court. We’re going to have to liquidate some of our stuff,” Mitchell says.

“We’ve got maybe a year,” Karen says, “or a year and a half.”



[Farms](#)[Labor](#)Also tagged [poultry collusion](#), [tyson](#)

Joe Fassler is The Counter's deputy editor. His reporting has been included in *The Best American Food Writing* and twice nominated for a James Beard Media Award. A 2019 - 2020 Ted Scripps Fellow in Environmental Journalism at the University of Colorado, Boulder, he's the author of two books: a novel, *The Sky Was Ours* (forthcoming from Penguin Books), and *Light the Dark: Creativity, Inspiration, and the Artistic Process*.

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Monopolies Make Their Own Rules

Zephyr Teachout's new book lays bare the private legal system that shores up their immense power—and hides it from public view.



PHILIPPE HUGUEN/AFP/GETTY IMAGES

Robin Kaiser-Schatzlein /
July 7, 2020

When Mitchell and Karen Crutchfield got into chicken farming,

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they might profit. So they borrowed money and built six massive chicken houses. They had little choice but to sign a contract with a major poultry processor in the area because, as is true in almost all of the United States, chicken processing for the region is monopolized by one of three companies, either Tyson, Perdue, or Pilgrim's Pride. What they didn't realize was, as Karen tells in the documentary *Under Contract*, "they're not going to let you pay it off in 10 years."

RECOVERING OUR FREEDOM from BIG AG, BIG TECH, and BIG MONEY

BREAK'EM UP

FOREWORD BY
BERNIE
SANDERS



Break 'Em Up: Recovering Our Freedom From Big Ag, Big Tech, and Big Money

by Zephyr Teachout

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The contract the Crutchfields signed allowed the processor to do any number of things, including requiring upgrades, and near the end of their first 10 years, they were told three of their older chicken houses needed improvements. This meant they would have to take out another \$250,000 to \$300,000 loan, shoving them back in a debt cycle for at least another 10 years. At the time, they were 60 years old, likely more ready to retire than commit to more. When they told the processor they couldn't make the upgrades, their contract was canceled, and—because they had lost their connection to their processor—they were forced into bankruptcy. In the documentary, their processor isn't identified, but Tyson is the major chicken processor for Arkansas and that part of the country.

The contracts that chicken farmers sign with processors are crammed with other devastating stipulations. While the farmer has a fixed cost to raise the chickens, processors are allowed to pay the farmers a variable rate come time for harvest. Not only are farmers not guaranteed a price, but they can't bargain. (The processors also own the feed and chick-raising companies, so they are the ones setting most of these fixed costs.) And the farmers are contractually barred from discussing their price with fellow farmers, further

the farmers have almost no say in how they raise their chickens. The processors determine everything: what type of feed the farmers buy, what type of chicks they get, the bedding they use, lighting and watering schedules, whether they keep their curtains up or down, and of course, the structure and design of the chicken houses. The processors can experiment on the farmers, by, say, introducing a new feed or new type of chick, which allows the processors to collect mountains of data about chicken farming (which they don't share with the farmer). As one farmer told PBS, his only real job is to remove sickly or dead chickens from the barns. Hopelessness abounds in chicken farming, so much so that when distributors send out twice-monthly checks and price listings, they also include a pamphlet of mental health resources for suicidal farmers.

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What's strange is that people in the U.S. are eating more food than ever, especially chicken. In an alternate reality, this might mean that chicken farmers would be wealthier than ever. But of course, they're not. Chicken is a \$90 billion industry, but 70 percent of

“farmers were paid 40 cents for every dollar we spent on food.” After 40 years of market concentration, today it is closer to 15 cents. But you don’t hear much about the plight of chicken farmers. That’s because, along with every other agency-ablating aspect of their contracts, the farmers sign arbitration agreements. This ensures any problem that the farmer has with the processor stays secret. For Teachout, chicken farming shows “a transformation of citizens into subjects of experimentation and arbitrary power.” Farmers are rendered politically impotent by a monopolized market and system of contracts.

The business model of chicken farming, where the processor controls the market (sometimes called “chickenization”), is notable because it has been replicated and spread widely across the business world: a Macarena for ruthless corporate types. For example, “one way to understand the Amazon marketplace,” Teachout says, “is as a big chicken processor, where all the sellers are chicken farmers. But the scope of Amazon’s chickenization regime is at another level of magnitude.” Amazon not only has its sellers sign arbitration agreements but its customers, too, who are barred from bringing class action lawsuits. And it profits on data collected from both.

Teachout’s thesis is provocative and simple: that monopolistic corporations operate a despotic parallel governmental system.

Teachout’s thesis is provocative and simple: that monopolistic

It is a system of coercive, private power that rivals, and often surpasses, the power of the state. (And they know it: “In a lot of ways, Facebook is more like a government than a traditional company,” Mark Zuckerberg once chirped to Ezra Klein.) You might think that a monopoly is strictly defined as one firm totally dominating a single market, but this isn’t true. Teachout observes that when Standard Oil (considered one of the biggest monopolies ever) was broken up in 1911, it controlled only 65 percent of the oil market. And antitrust action has been brought against firms controlling just over 5 percent of their market. A monopoly, Teachout proposes, is simply “any company that has so much power that it sets the terms of an interaction.”

Teachout looks at the problem of monopoly through the lens of law, instead of say, business or economics. She is a law professor at Fordham University, who specializes in, among other things, campaign finance reform. Her previous book, *Corruption in America*, was an examination of the history of corruption and also the impacts of *Citizens United*, the Supreme Court case that granted large corporate monopolies distinct political influence. *Break 'Em Up* goes beyond that to suggest that while monopoly perverts the political process, it more insidiously runs its own system of government. And all of this is kept under wraps and adjudicated by its own legal system: forced private arbitration.

As Teachout notes, for the last 800 years, open courts, public trials,

watch the proceedings of a trial, the results become public information, and the judges are paid by the state. Arbitration is, of course, the opposite of this process. It is a private trial where the terms are set by a privately negotiated contract, results are secret, and someone privately pays the judge. When coupled with confidentiality agreements, as they often are, the proceedings are permanently secret. This is problematic for many reasons. One is that, researchers find, when an arbitrator (judge) works repeatedly for the same employer, the employer tends to win the arbitration.

Arbitration is a private trial where the terms are set by a privately negotiated contract, results are secret, and someone privately pays the judge.

Prior to the 1970s, arbitration didn't have a long legal history and wasn't often used except in the enforcement of labor union contracts. In 1974, the Supreme Court heard the case *Alexander v. Gardner-Denver Co.*, in which Harrell Alexander, a black man, was suing his former employer Gardner-Denver, claiming he had been fired on the basis of race. The problem was that Alexander had already gone through union arbitration, and a lower court found that he could not claim his civil rights had been violated in federal court because of this. But the Supreme Court found that when it comes to civil rights, the fact-finding capacity of the federal courts is far superior and can't be left to private, contractual agreements.

In 1979, a young lawyer named Jay Bybee discovered *Alexander* and

Alexander set forth, if weakened, could transfer enormous power to businesses. He reframed the discussion over arbitration as one of lowering the cost of litigation. It was in line with other similar neoliberal legal arguments of the time that prioritized “efficiency” in business matters. In 1991, another case about arbitration was brought to the Supreme Court. It concerned a man, Robert Gilmer, who signed an arbitration agreement when he started working for an investment firm. He claimed that his firing constituted age discrimination and thus, as a civil rights matter, should be resolved in court. This time, the court saw things differently: It felt he knowingly entered into the contract, and thus rejected his argument. Antonin Scalia, writing for the majority, said that *Alexander* wasn’t applicable when dealing with private contracts.

The problem Teachout sees with this decision is that, “at the heart of the Scalia logic in the Gilmer case, and the entire series of cases involving arbitration agreements, is a fantasy of choice.” Scalia’s decision rested on the assumption that if someone signs a contract, that is, categorically, an act of freedom. (This is more or less a fiction: Anyone who has actually entered into a contract for say, cable internet or a job with Uber knows that there is no opportunity to negotiate most agreements.) The *Gilmer* decision green-lighted Waks and other corporate lawyers to expand the use of arbitration agreements, effectively stripping huge numbers of workers of their rights. When the case was decided, Teachout notes, only 2 percent of employment contracts had mandatory arbitration clauses. Today, over half of private sector, nonunion contracts have them, as

system now exists, completely controlled by large monopolistic corporations.

If a monopoly business conspires against its customers or discriminates against its workers, the effect of arbitration is that we never hear of it.

Arbitration agreements have only gotten more coercive and similar as corporations increasingly merge and monopolize markets. One example is the new “loser-pays” stipulations, in which the party that loses is forced to pay for the arbitrator and other attorney fees for the winner, even if the case is a serious civil rights violation or the loser is poor. This, of course, discourages employees and consumers from ever raising a complaint in the first place. Once one company thinks of a new, abusive clause, all the others jump on board. “Uber, Seamless, and other tech companies,” Teachout writes, “have been outdoing each other in writing the most draconian arbitration clauses.”

In the last 40 years, lax antitrust enforcement encouraged market concentration in almost every thinkable market, from credit cards to banking, candy, retail, cell phones, pharmaceuticals, book publishing, defense contracting, hospital providers, voting machines, office supplies, and more. The use of arbitration is directly related to the growing power of monopolies. If a monopoly business conspires against its customers or discriminates against its workers—in a way that might say encourage citizens and

arbitration is that we never hear of it. The silence allows the monopolies to continue, largely free from criticism and scrutiny.

For Teachout, the opacity that arbitration engenders partially explains why there is no mass political movement to break up major corporations, as there was, by contrast, 120 years ago, when local towns had antitrust leagues that pushed politicians to take action; why monopoly and corporate concentration, especially in the big tech firms like Facebook, Amazon, and Google, does not feature prominently in presidential debates; and why no politician has lost their job for their silence on the merger wave.

The other problem, she thinks, is that along with the merger wave, the political left has over-embraced ethical consumerism, to the exclusion of almost all other political action. Ethical consumerism argues that the choices we make as consumers, like a decision to buy from Amazon or not, are important political actions. It's the logic behind the phrase "Vote with your feet," which suggests that democracy is enacted when you choose what to buy. While Teachout recognizes the power of a "well-organized boycott," she finds the extent to which the left has relied on such tactics "frankly dangerous." In her view, it expresses an "anti-political" philosophy, one that assumes the best (and possibly only) agent for change is the consumer. "Guilt gets in the way of protest, and complicated chains of self-justification take the place of simple chains of democratic demands," she says.

want to use a bank, you don't choose from 20 or 30 local institutions, you choose from three or four national chains that all use similar contracts. Ethical consumerism is particularly useless "for disciplining companies that play a quasi-governmental role." When a private company like Amazon runs a critical logistical network, it can use this power to unilaterally set the terms of the interaction, making the consumers' choices significantly less meaningful. The magnitude of its power means its ability to discipline us far outpaces our ability to discipline it by withholding purchases. This has never been clearer than during the pandemic, when the options for affordable shopping are Amazon, Walmart, and Target. For families struggling to make ends meet, with almost no other choices, ethical consumerism fails to provide any answers.

Why should we boycott the services we get from Amazon, when we could simply demand that Amazon be broken up into, say, 60 or more different companies?

Why should we boycott the services we get from Amazon, when we could simply demand that Amazon be broken up into, say, 60 or more different companies? In Teachout's treatment, reviving antitrust activism feels not only possible but potentially effective. But it also brings into sharp relief how strange it was that a certain segment of the professional commentariat was crowing about the possible authoritarian tendencies of the Trump administration when monopolistic corporations had been sadistically infringing on

political parties. Other theorists besides Teachout have made this argument—it was the subject of Elizabeth Anderson’s *Private Government* in 2017—but unfortunately, the idea has not been taken up widely.

What’s the best way out of a decades-long process of concentration? Should we nationalize companies that have become so large they function more like public utilities? Or should we break them up, so that lots of smaller companies can compete in the same space? Teachout argues that we need to do both. A mix of approaches would work best, for example, in the health care system. It would be best, she proposes, to nationalize health insurance, so that a handful of gigantic insurers are no longer the ones deciding who is and is not covered; in their place, we could instead create a single-payer system. But if we don’t decentralize the ownership of pharmaceutical companies, we will be stuck buying from companies that can raise the price of the EpiPen by another 400 percent whenever they feel like it.

Teachout already sees increased attention being paid to antitrust by its main enforcer, the Department of Justice, especially when it comes to tech companies. But to really give teeth to the antitrust law, that portion of the department needs to be better funded and do away with the “consumer welfare” standard that, since the 1980s, has limited monopoly busting only to instances in which consumers are being overcharged. We need to turn our focus back to the welfare of workers, suppliers, the environment, and

movement that demands antitrust action across the board. A movement that elects and pushes lawmakers to create and enforce policies that, among other things, give labor unions, small businesses, and consumers the bargaining power and ability to demand the world they want.

Recent events have demonstrated the dangers of the monopoly power of chicken processors like Tyson. Scores of employees at their plants came down with Covid-19 after working in close proximity with little protection. Their jobs were already dangerous, with one worker losing a finger or limb each month, on average. Oxfam found that bathroom breaks were so short that workers either wore diapers or dangerously restricted their intake of fluids. The processing plants were initially deemed nonessential and forced to close during the pandemic, which threatened to eat into Tyson's profits. Tyson flexed its monopoly power and placed a full-page ad in *The New York Times*, after which Trump issued an order to reopen it for business, putting scores of workers back at risk.

“We need a ‘fuck-off’ economy,” Teachout says, “an economy where everyone always knows that they can say ‘fuck off’ to their boss, and still survive.” For the Crutchfields, this would mean they wouldn't have to choose between crushing debt and bankruptcy. For workers in general, this decentralized economy would provide freedom by increasing their power to tell bosses that their arbitration clauses are ridiculous. For consumers, it would mean being able to say no to

book even makes you think we need not settle for just a fuck-off economy: We could have a whole fuck-off world.

** A previous version of this article misspelled the Crutchfields's surname.*

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ATTACHMENT H

A Former Growers Perspective on Contract Poultry

I assume that the audience reading this letter are imagining me contributing by detailing the numerous reasons a poultry CAFO is a bad idea for your community by stating the many reasons why CAFOs are bad for the environment and the health hazards at risk when living on or near one of these operations. While all the negatives I could write surrounding those topics are truths, I am sure you will be inundated with letters detailing those hard facts. Instead I will approach this from a different perspective, a perspective I had to learn about the hard way.

I will attempt to give you my top three reasons for keeping poultry CAFOs out of Oregon. I am going to start with the most shocking truth I woke up to only after I became a poultry producer. I know no other way to put it other than commercially raised chickens are just plain gross. It would be naive to think that all chickens in the grocery store were healthy when they died. Many farm chickens are sick for much of their lives due to living in unsanitary and overcrowded conditions. They spend their lives walking through piles of their own excretion burning their eyes from the ammonia that results. Factory chickens' immune systems are weakened making them more susceptible to catching diseases from other chickens. There have been many catch days where I would just shake my head in disbelief as the company's crews would be collecting these sickly looking chickens and hauling them to the slaughter house for processing. I would be thinking, asking myself if those chickens would be sold to the grocery chains for people to consume. Sadly I knew the answer to that question and when the catch was over I would head back up to the house almost ashamed of the contribution I was making in feeding America. I couldn't believe or wrap my head around the fact that what people were eating wasn't even suitable for my pet dog. If it weren't for me owning an actual CAFO I would have never known how bad our food actually is. Everyone should be given a personalized tour of the living environment inside one of those commercial barns and not some staged photo shoot, I mean a raw no holds barred come unexpected visit. I've toured many facilities and that my friend is cold hard truth. They ALL suffer the same reality. It is a pure impossibility to correct. You can't grow healthy birds fit for human consumption in that type of environment. So do yourself a favor, try to visit a factory farm unexpectedly, ask for a tour, I bet you wouldn't make it past the gate. If these truths didn't exist and there was nothing to hide, a modern CAFO would be treated much like any other farm from back in the day, they would welcome neighbors, visitors, children to come on by and see how farming is done. There is a pride from deep within to share the sacrifice that every farmer makes to contribute to our society. Farming was a noble profession, however, corporate corruption has taken away the honor of farming. There is a reason for the secrecy in today's commercial farming system: it's just plain gross.

On to my second reason. If the first doesn't hit home then I am sure this one will. Plummeting property values. Imagine building the house of your dreams. You take out a loan, commit to the standard 30 year mortgage and diligently pay towards what is usually the biggest financial investment of one's life. At the end of that 30 year term we are accustomed to benefitting from a historically stable real estate assumption, the theory of housing appreciation. One of the primary draws to modern real estate. Enter the era of modern day CAFO construction. Pray Oregon that

these large mega barn facilities do not start taking over the landscape of your beautiful state. Ask many North Carolinians what the industrial agriculture movement has done to their local communities with collapsing property values. Do not fool yourself by going to government backed data making claims of created jobs and added tax revenues. Go to the grassroots community members that have had these megastructures come up right down the road. See what happened when they pulled in. As for the megabarn, that may be the only form of housing that I know of worth less the very next day post construction. These loans are as bad as new cars. Again I'll ask you to tour the backroads of many North Carolina highways and see the old barns that were once new just sitting there left to rot. The only form of construction that I can think of that would be considered a depreciating asset and rest assured they all will live out their time. They will run their course and that is a guarantee. I've seen 100 year old houses still selling and being maintained, providing shelter for people generations later, there is not a chicken house around that could stand that test of time. The result is often the same, abandoned real estate left to rot collapsing everyone and everything in its path.

Third and last lies another illusion of created jobs. While poultry corporations would like to skew your focus and steer you towards a viewpoint where they control the narrative, I hope I can at the very least give you enough exposure to let you dig for yourself and uncover the truths behind the facade. I had a four house farm totalling 100,000 square feet of barn space. It was a one man operation. Two on occasion. There simply just isn't enough revenue to offer and hire consistent paid help. My facility cost over a million dollars and basically generated one and a half jobs at most. That is not good economics no matter how you cut that pie. It wasn't that the help wasn't needed, it was not afforded. Poultry facilities boast of the jobs they create at the plants, the hatcheries, the feedmills, however, the barns which raise these animals that make the wheels spin generate minimal employment. It's the skewed reality of integrated poultry and a truth that engulfs this industry since its inception. The biggest profits for the least expense. These giants steadily make record breaking profits on the backs of farmers, employees, communities and government. Their model is to suck every bit of life out of everyone and everything they can get control of, just ask the chickens housed in those barns, if they could talk I'm sure they would give you a mouthful.....no pun intended.

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