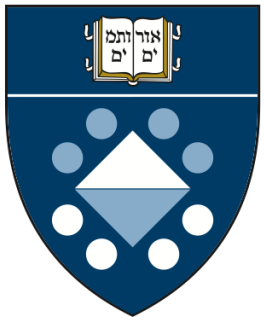

Yale University

Thurman Arnold Project

Competition Policy Modules

Agriculture Team

Updating Antitrust and Competition Policy: Agriculture Issues

June 2021

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Introduction

Farming is critical to the United States economy and is the lifeblood of rural communities. However, the decline of agricultural competition has changed the farming landscape and contributed to the degradation of our rural communities. Over the past 30 years, monopolies and monopsonies have emerged across virtually the entire food production system, spanning production inputs, farms themselves, food processors, and retail distributors. More than half of current U.S. farm productions, for example, come from farms with sales over $1 million, up from about one third in 1990.[1]

This increase in market power has created a stark imbalance between small family farmers and the corporations that dominate most farms and the supply chain. Farmers have seen increasing costs for their inputs, such as seeds and equipment, while also receiving dwindling prices for their products. The impacts of this power dynamic stretch beyond the individual farmers to rural communities at large. Research throughout the 20th and early 21st centuries has consistently found a connection between a healthy industrialized agricultural supply chain and rural well-being. Agriculture and food service contribute 22.2 million jobs to the U.S. economy,[2] and one in five rural counties depends on this sector as its primary source of income.[3] Consolidated corporate players have been allowed to suppress wages, which has had a disproportionate impact on people of color, as nearly 70% of farm laborers are non-white and nearly 60% are Mexican.[4] Unsurprisingly, areas impacted by these corporations are associated with greater income inequality, higher unemployment, declining population size, increased health issues, and increased water and air quality problems.[5]

This brief highlights five areas of the agriculture sector: the labor market, two on the input side (seeds and equipment), and two on the output side (meat and dairy processing). We propose the following areas for federal enforcement and reform:

- **Enforcement**:
  There are some cases against monopolists and monopsonists in this sector already underway. We have highlighted a few areas where additional cases or investigations are warranted.
  - Bring Sherman Act §2 monopolization cases against consolidated meat processors to increase choice among farmers;
  - Bring Sherman Act §1 labor market monopsony cases against farmers and ranchers that use associations to fix wages and labor conditions;
  - Investigate instances of potential collusion among poultry processors;
  - Investigate agrochemical companies and equipment manufacturers for anticompetitive conduct, including illegal monopolization and collusion, with an eye towards potential antitrust cases;
  - Investigate the IP and licensing practices of large agrochemical companies with the potential for reforms, especially in the area of agbiogenerics;

[1] JAMES M. MACDONALD, ROBERT A. HOPPE & DORIS NEWTON, U.S. DEP'T OF AGRIC., ECON. RESEARCH SERV., ECON. INFO. BULL. NO. 189, THREE DECADES OF CONSOLIDATION IN U.S. AGRICULTURE (2018).
[2] *Ag and Food Sectors and the Economy*, U.S. DEP'T OF AGRIC., https://www.ers.usda.gov/data-products/ag-and-food-statistics-charting-the-essentials/ag-and-food-sectors-and-the-economy/ (last updated Dec. 16, 2020).
[3] CLAIRE KELLOWY & SARAH MILLER, FOOD AND POWER: ADDRESSING MONOPOLIZATION IN AMERICA'S FOOD SYSTEM 2, OPEN MARKETS INSTITUTE (MAR. 2019).
[4] *Farm Labor*, U.S. DEP'T OF AGRIC., https://www.ers.usda.gov/topics/farm-economy/farm-labor/#demographic (last updated Apr. 22, 2020)
[5] Linda Lobao & Curtis W. Stofferahn, *The Community Effects of Industrialized Farming: Social Science Research and Challenges to Corporate Farming Laws,* 25 AGRIC. AND HUM. VALUES 219 (Jul. 2007).

- Give agencies the authority and resources to protect family farmers against unfair contracts and abusive practices on the part of monopolists and monopsonists.

- **Legislation**:
  - Reform existing legislation to ensure cooperatives and checkoff programs work to the benefit of small farmers and market interests rather than consolidated interests;
  - Increasing funding for agricultural research, especially seed breeding and genetics programs;
  - Reform existing immigration regulation (8 U.S.C. § 1188(a)(1) specifically) that allows farmers and ranchers to import foreign workforce by fixing wages in the U.S;
  - Reform existing regulation (8 U.S.C. § 1188(d) specifically) that allows farmers and ranchers to form associations that act as employers on the labor market which creates considerable labor market power.

While we do not present an exhaustive list of the anticompetitive issues in the agricultural sector, we believe the issues in this brief represent opportunities for targeted reforms to improve the lives of farmers and the health of the American food production system.

A. Problem: Labor Market Monopsony in the Agriculture Sector

The United States has a long legacy of importing labor, specifically relying on Mexico to provide workers in the Southwest.[6] Labor market failures in the agriculture sector are rooted in decades of wage depression under the Bracero program, the predecessor to today's H-2A program.[7] Immigration law exacerbates labor market power and allows corporations to evade antitrust scrutiny. The text of the immigration statute governing the H-2A program and its administration leads to depressed wages and anticompetitive conducts by employers. Because of the United States' increasing reliance on H-2A workers (see Figures 1.1 and 1.2 below), this issue has become more pressing.

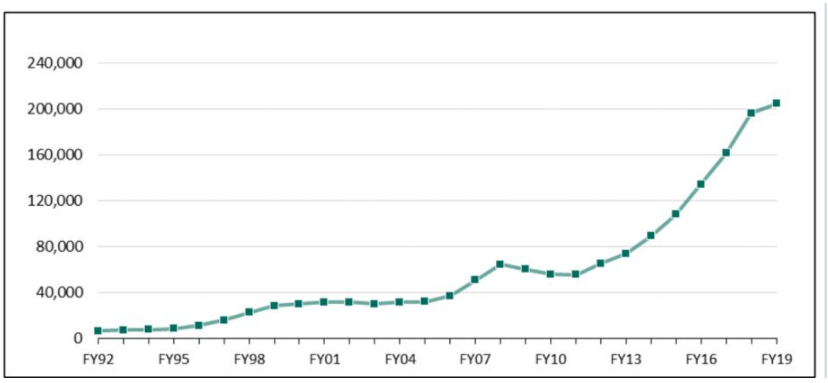

Figure 1.1: H-2A Visas Issued, FY 1992-FY 2019 (FY: Fiscal Year) (source: CRS presentation of data from U.S. Department of State, Bureau of Consular Affairs).

Rankings based on number of positions certified

	FY2018		FY2019	
Ranking	State	Positions Certified	State	Positions Certified
1	Georgia	32,364	Florida	33,598
2	Florida	30,462	Georgia	29,480
3	Washington	24,862	Washington	26,226
4	North Carolina	21,794	California	23,321
5	California	18,908	North Carolina	21,605
6	Louisiana	10,079	Louisiana	10,816
7	Michigan	8,359	Michigan	9,096
8	New York	7,634	Kentucky	8,315
9	Kentucky	7,604	New York	8,104
10	Arizona	7,497	South Carolina	6,082
	Total, All States	**242,762**	**Total, All States**	**257,667**

Source: CRS presentation of data from U.S. Department of Labor, Employment and Training Administration, Office of Foreign Labor Certification, *H-2A Temporary Agricultural Labor Certification Program - Selected Statistics, FY 2018*, and *H-2A Temporary Agricultural Labor Certification Program - Selected Statistics, FY 2019*.

Figure 1.2: H-2A Labor Certifications: FY2018 and FY2019

The statutory framework. In order for an employer to hire a nonimmigrant foreign worker as an H-2A worker, the employer must petition the Secretary of Labor for a temporary labor certification. To issue this

[6] Garry G. Geffert, *H-2A Guestworker Program, A Legacy of Importing Agricultural Labor*, *in* THE HUMAN COST OF FOOD 113 (Charles D. Thompson, Jr. & Melinda F. Wiggins eds., 2002).
[7] KITTY CALAVITA, INSIDE THE STATE: THE BRACERO PROGRAM, IMMIGRATION, AND THE I.N.S. 71 (1992).

certification, the Secretary of Labor is statutorily required to ensure that (A) "there are not sufficient workers who are able, willing, and qualified, and who will be available at the time and place needed, to perform the labor or services involved in the petition,"[8] and (B) "the employment of the alien in such labor or services will not adversely affect the wages and working conditions of workers in the United States similarly employed."[9]

The primary means by which the Secretary of Labor meets this statutory obligation is through a regulation requiring that employers utilizing the H-2A program offer a wage that is at least "the highest of the AEWR [Adverse Effects Wage Rate], the prevailing hourly wage or piece rate, the agreed-upon collective bargaining wage, or the Federal or State minimum wage."[10] The AEWR is the highest of these wages for approximately 92 percent of farmworkers working for H-2A program employers.[11] Employers must also offer to U.S. workers "no less than the same benefits, wages, and working conditions that the employer is offering, intends to offer, or will provide to H-2A workers."[12]

In the 2015 rulemaking which established the currently governing regulation, the Department of Labor indicated its concern that the H-2A program could prevent the normal economic process of wage increases for domestic workers during labor supply shortages. But it determined that because the AEWR approximates the equilibrium wage, the AEWR "serves to put incumbent farm workers in the position they would have been in but for the H-2A program."[13]

Contrary to the DOL's determination, the AEWR does not put incumbent farm workers in the same position they would have been in absent the H-2A program. In fact, experts have long noted that the AEWR effectively prevents domestic employees from receiving higher wages.[14] This is because (for non-range jobs) the AEWR is calculated as the "annual average hourly gross wage for field and livestock workers" as reported in the USDA Farm Labor Survey (FLS). This calculation bases the equilibrium wage on the wage offered to a labor pool that already includes H-2A workers. Absent those workers, the remaining domestic workers would be able to demand higher wages, raising the AEWR and subsequent wages as shown in Figure 1.3. Furthermore, if there is an increase in demand for labor, the H-2A program allows employers to hire H-2A workers at the prevailing wage rather than first increasing domestic wages to attract more workers as shown in Figure 1.4.

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[8] 8 U.S.C. § 1188(a)(1)(A).
[9] 8 U.S.C. § 1188(a)(1)(B).
[10] 20 C.F.R. §655.120(a). *See also* Temporary Agricultural Employment of H-2A Aliens in the United States, 75 Fed. Reg. 6884, 6891 (explaining that the AEWR is intended to meet the DoL's statutory obligation that it must certify that the H-2A program will not depress domestic wages).
[11] United Farm Workers v. U.S. Department of Labor, 2020 WL 7646406 (E.D. Cal. 2020).
[12] 20 C.F.R. §655.122(a)
[13] Temporary Agricultural Employment of H-2A Aliens in the United States, 75 Fed. Reg. at 6891 ("[E]conomic theory holds that, under conditions of an emerging labor shortage, the previously observed wage (prevailing local wage) may not reflect the equilibrium wage. Instead, adjustments would occur over time and the observed wage would increase by an amount sufficient to attract more workers until supply and demand were met in equilibrium. Absent an increase of workers under the H-2A program, wages would rise above the currently observed wage in order to dispel the labor shortage until sufficient additional domestic labor was attracted into the market from neighboring geographic areas or other occupations. By computing an AEWR to approximate the equilibrium wage that would result absent an influx of temporary foreign workers, the AEWR serves to put incumbent farm workers in the position they would have been in but for the H-2A program. In this sense, the AEWR avoids adverse effects on currently employed workers by preventing wages from stagnating at the local prevailing wage rate when they would have otherwise risen to a higher equilibrium level over time.")
[14] William G Whittaker, *Farm Labor: The Adverse Effect Wage Rate (AEWR)* 15, 5–6.

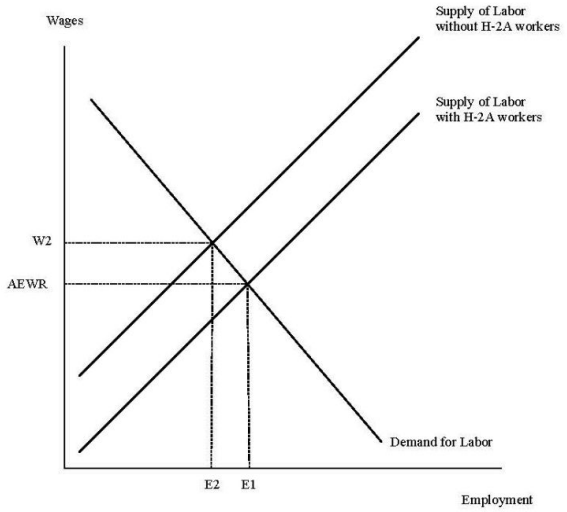

Figure 1.3. The Effect of the Current AEWR Methodology on Wages[15]

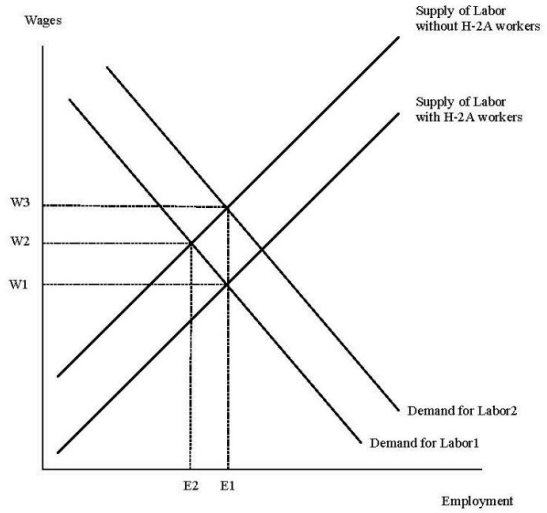

Figure 1.4 The Effect of the H-2A Program on Wages[16]

[15] An increase in labor supply due to the presence of H-2A workers, from E2 to E1, leads to a lower wage. Without the increased labor supply, wages would be at W2. If the AEWR were calculated from a labor pool without H-2A workers, then equilibrium wages would increase from AEWR to W2, which would become the new AEWR offered to farm workers.

[16] If after the wage rate increases from W1 to W2, there is an increase in the demand for labor, then wages should further increase from W2 to W3. But the H-2A program would allow employers to offer W2 to H-2A workers rather than W3 to domestic workers. Even if there is an insufficient domestic labor supply to reach E1, there are likely some domestic laborers willing to work for some wage between W2 and W3. The remaining available jobs would then be filled by H-2A workers, meaning both domestic and H-2A workers would receive higher wages.

In sum, "but for" the H-2A program, domestic and H-2A workers would receive a higher wage. The current AEWR methodology adversely affects the wages of domestic workers in violation of the Department of Labor's (DOL) statutory obligations under 8 U.S.C. §1188 (a)(1).

Agricultural associations are vehicles of collusion. Wages may also be depressed due to labor monopsonies in agricultural markets.[17] Congress has explicitly permitted agricultural associations to make collective decisions about hiring migrant labor, including decisions about their wages.[18] Essentially, agricultural associations are allowed to act as a sole employer in the context of the H-2A certification.[19] Associations have labor market power because they represent large shares of the labor market and allow employers to act in unison with regard to the certification process.[20] When agricultural associations of ranchers decide who they want to hire and at what price, and when they have labor market power, they are "restraining trade," and potentially violating Section 1 of the Sherman Act.

Employers can artificially simulate a "labor shortage" through misleading job postings. To receive certification to recruit H-2A workers, employers must show that there suffering from a "labor shortage." To demonstrate that, they must attempt to recruit U.S. workers by posting job offers on their state's website. Currently, while employers go through the recruitment process as required by the Department of Labor (DOL), they signal on job postings that they are recruiting H-2A workers, effectively preventing domestic workers from applying to those jobs.[21] Job descriptions often include some language requirements, such as "[m]ust be able to understand work & safety instructions in English or Spanish, the languages spoken and written in the workplace." The wage is also determined by the employer between $14.77 and $16.05 an hour, the recommended wage for H-2A workers.[22] By signaling to U.S. workers that these jobs are not for them, employers are artificially creating a labor shortage, which allows them to recruit H-2A workers.

Solutions:

Enforcement Actions:

- **The Department of Labor should provide more oversight** to prevent employers from artificially creating labor shortages justifying the import of migrant labor at depressed wages. The key procedural safeguards should address the content of job postings and the complete verification of migrant workers' working conditions. The agency should prohibit postings on a state's website with H-2A signaling elements, especially the explicit inclusion of the phrase "H-2A."
- **The DOL should carefully check migrant workers' petitions.** The Office of Foreign Labor Certification (OFLC), an office responsible for certifying H-2A applications,[23] has regularly

[17] *See* Gibbons et al., *Monopsony Power and Guest Worker Programs*, 64 ANTITRUST BULL. 540 (2019).

[18] *See* Llacua v. Western Range Ass'n, 930 F.3d 1161, 1178 (10th Cir. 2019) (explaining that the two associations at issue hire 91 percent of shepherds, giving them considerable labor market power).

[19] *See* 8 U.S.C. § 1188(d)

> If an association is a joint or sole employer of temporary agricultural workers, the certifications granted under this section to the association may be used for the certified job opportunities of any of its producer members and such workers may be transferred among its producer members to perform agricultural services of a temporary or seasonal nature for which the certifications were granted.

[20] *Llacua*, 930 F.3d 1161.

[21] *See* CALJOBS, https://www.caljobs.ca.gov (search terms used: "crop" and "farming, fishing, and forestry occupations" category), https://perma.cc/6Y35-FA3A. *See also id.* (search terms used: "harvester" and "farming, fishing, and forestry occupations" category), https://perma.cc/Q4X4-YHU7; CONNECTING COLORADO, https://www.connectingcolorado.com/ (search term used: "herder"), https://perma.cc/SJG8-L96K.

[22] *See id.*

[23] Labor Certification Process for Temporary Agricultural Employment in the United States (H-2A Workers), 20 C.F.R. § 655.10 (2015).

approved deficient applications and failed to properly verify H-2A workers' working conditions.[24] Making sure that when the Office of Foreign Labor Certification (OFLC) approves a migrant worker's petition, the petition is not defaillant and the agency has verified migrant workers' working conditions. The OFLC should only approve petitions that:

    - **Compliance with wage regulation**. The petition must comply with the H-2A wages and "the employer must agree to pay at least the AEWR, the prevailing hourly wage rate, the prevailing piece rate, the agreed-upon collective bargaining rate, or the Federal or state minimum wage rate, in effect at the time work is performed, whichever is highest and pay that rate to workers for every hour or portion thereof worked during a pay period."[25]
    - **Inclusion of appropriate and "normal" working conditions**. Working conditions the employer provides in the application must be "normal" and comparable to working conditions for non-H-2A workers.[26] However, employers routinely impose productivity standards despite the fact that the state's normal practice did not include any productivity requirement. The DOL still approves such applications.
- **The DOJ should investigate possible Sherman Act §1** labor market monopsony cases against farmers and ranchers that use associations to fix wages and labor market conditions.

Administrative Actions:

- **Review the AEWR calculation methodology**: the DOL can meet its statutory obligation by using its rulemaking authority to increase the AEWR. One rough but simple adjustment would be to calculate the AEWR based on a multiple of the FLS wages, so that the AEWR reflects a hypothetical labor market without monopsony power or H-2A workers.
- **Correct the incentive structure** by making clear that under the statute, "willingness" to do a job does not depend on wage. Other factors might include, for example, whether employers are willing to relocate to an area for a season to do the job. Otherwise, employers need only set low wages to demonstrate a lack of "willing" candidates.

Legislative Actions:

- **Congress should change the requirements of Section 1188(a)(1)(A)**, which requires domestic workers to be "able, willing, and qualified," but adds the constraint that they be "at the time and place needed." These statutory constraints allow employers to easily and artificially create labor shortages and to depress wages. By setting wages below the competitive level, they can claim that no domestic worker is "able" or "willing" to work. It is important to remove such wording from the statute to encourage competition in the labor market.
- **Congress should change the requirements of Section 1188(d)**. Forbid an association of farmers or ranchers to act as an employer on behalf of its members. By allowing this practice, these associations may facilitate collusion and increase employers' labor market power.[27] Preventing this will ensure that courts do not treat Section 1188(d) as a carveout to antitrust law.

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[24] *See* Alison K. Guernsey, *Double Denial: How Both the DOL and Organized Labor Fail Domestic Agricultural Workers in the Face of H-2A*, 93 IOWA L. REV. 277, 292–95 (2007) (explaining that the OFLC has regularly approved defaillant petitions).

[25] 20 C.F.R. § 655.

[26] 20 C.F.R. § 655.102(c) ("Occupational qualifications . . . shall be consistent with the normal and accepted qualifications required by non-H-2A employers in the same or comparable occupations and crops, and shall be reviewed by the OFLC Administrator for their appropriateness.").

[27] *See generally*, José A. Azar et al., *Concentration in U.S. Labor Markets: Evidence from Online Vacancy Data* (Nat'l Bureau of Econ. Research, Working Paper No. 24395, 2018).

B. Problem: Lack of Competition Among Seed Suppliers

Market Context

Four companies – Bayer, Corteva, ChinaChem and BASF – control an estimated 60% of global proprietary seed sales.[28] The trend of concentration in global seed supplies initially began with the **commodity crops of corn, cotton and soybeans.** For example, today in the United States four companies control an estimated 82% of corn seed sales, 91% of cotton seed sales, and 76% of soybean sales[29] (*see* Figure 2.1[30]). The past two decades have also seen increased concentration in seed sales for vegetables, fruits and other grains. For example, in the mid-2000s, Monsanto undertook a series of acquisitions of fruit and vegetable seed companies, such as the acquisitions of Seminis in 2005 (which, at the time, controlled an estimated one third of U.S. fruit and vegetable seeds[31]) and De Ruiter Seeds in 2008. Unfortunately, there is little publicly available data regarding the degree of concentration in regional markets for a particular seed variety, but anecdotal reports from farmers often point to even greater levels of concentration within those markets. These four companies are also the dominant agrochemical companies, controlling 70% of global pesticide sales.[32] Thus, as Figure 2.2[33] below illustrates, the current market for seeds and agrochemicals centers around agrochemical companies that focus on the development of agricultural chemicals such as herbicides, insecticides, and fungicides. These chemical companies own seed companies, which specialize in the production and breeding of seed varietals.

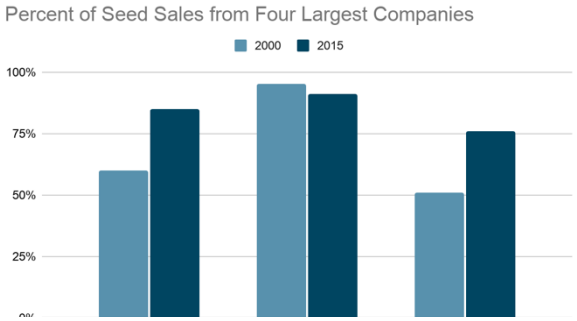

Figure 2.1

While the market for agricultural chemicals has always been somewhat concentrated, current levels of consolidation in seeds is a relatively new phenomenon driven by mergers and acquisitions. In the 1970s, thousands of small, family-owned companies cultivated and distributed seeds in the United States.

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[28] Pat Mooney, INTERNATIONAL PANEL OF EXPERTS ON SUSTAINABLE FOOD SYSTEMS, TOO BIG TO FEED: EXPLORING THE IMPACTS OF MEGA-MERGERS, CONSOLIDATION AND CONCENTRATION OF POWER IN THE AGRI-FOOD SECTOR (2017), http://www.ipes-food.org/_img/upload/files/Concentration_FullReport.pdf. Note that most market concentration estimates were conducted in anticipation of the mega-mergers that occurred between agrochemical companies between 2016 and 2019. Better estimates of concentration in 2021 are not yet available. Moreover, there is significant dispute over the true level of market concentration, as the data needed for more precise estimates is not publicly available. *See* Koen Deconinck, *Concentration in Seed and Biotech Markets: Extent, Causes, and Impacts*, 12 ANN. REV. RESOURCE ECON. 129 (Oct. 2020), https://www-annualreviews-org.yale.idm.oclc.org/doi/pdf/10.1146/annurev-resource-102319-100751.

[29] Rebecca Bratspies, *Owning All the Seeds: Consolidation and Control in Agbiotech*, 47 ENVTL. L. 583, 588 (2017). Chart copied from USDA Economic Research Service.

[30] James MacDonald, *Mergers and Competition in Seed and Agricultural Chemical Markets*, USDA Economic Research Service (Apr. 2017), https://www.ers.usda.gov/amber-waves/2017/april/mergers-and-competition-in-seed-and-agricultural-chemical-markets/.

[31] Scott Kilman, *Monsanto Co. to Pay $1 Billion For Produce-Seed Firm Seminis*, N.Y. TIMES (Jan. 25, 2005), https://www.wsj.com/articles/SB110657737846133969?mod=searchresults_pos14&page=1.

[32] Pat Mooney, *Too Big to Feed: Exploring the impacts of mega-mergers, concentration, concentration of power in the agri-food sector,* INTERNATIONAL PANEL OF EXPERTS ON SUSTAINABLE FOOD SYSTEMS (Oct. 2017), http://www.ipes-food.org/_img/upload/files/Concentration_FullReport.pdf. Note that most market concentration estimates were conducted in anticipation of the mega-mergers that occurred between agrochemical companies between 2016 and 2019. Better estimates of concentration in 2021 are not yet available.

[33] Phil Howard, *Global Seed Industry Changes Since 2013* (2018), https://philhoward.net/2018/12/31/global-seed-industry-changes-since-2013/.

Beginning in the late 1980s, large seed and chemical companies began acquiring small, regional seed companies. For example, Monsanto's American Seeds Inc. is a holding company established in 2004 to acquire regional seed companies, primarily in corn and soybeans. Over time, these acquisitions led to the "big six" agrochemical companies- Monsanto, Bayer, BASF, Dow Chemical, Dupont, Syngenta - which had global market power in agricultural chemicals and seeds. Then, in the late 2010s, a series of mega-mergers caused the big six became the "big four." ChemChina acquired Syngenta in 2017; Bayer acquired Monsanto in 2018; and DowDupont created Corteva in 2019 as a spinoff of its agricultural units. The four remaining major companies were Corteva, Bayer, ChemChina and BASF.

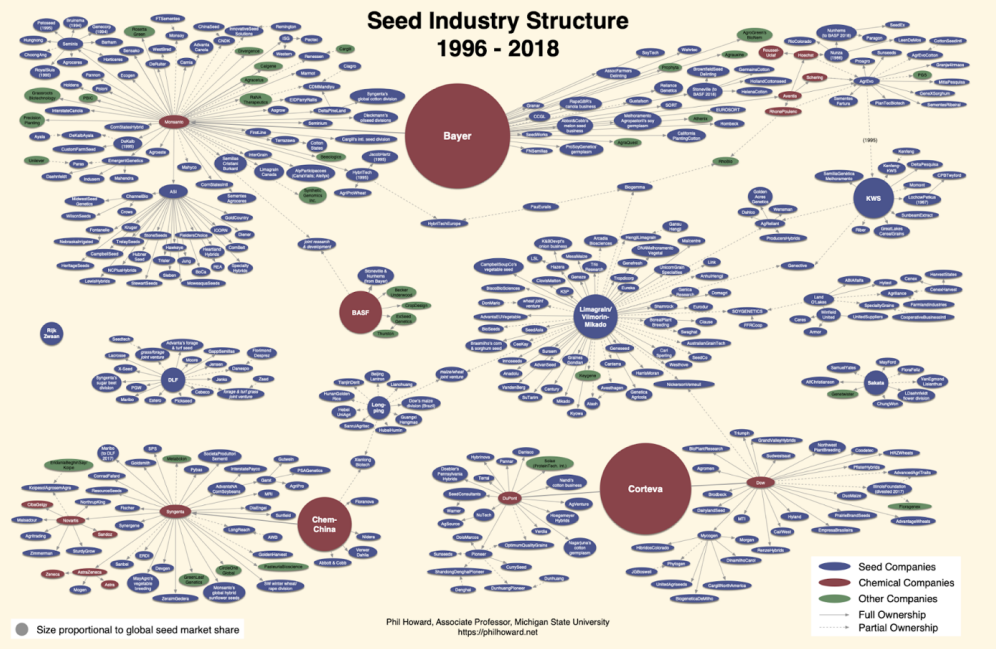

Figure 2.2

The global seed and chemical industry is R&D-driven. Technological developments have delivered improvements in seeds (germplasm), biotechnology (genetic engineering), and agricultural chemicals over the past fifty years. Reflecting these innovations, the yield of virtually every crop in the United States has improved dramatically over the past thirty years, according to USDA estimates.[34] Similarly, one study estimated that 60-80% of the yield improvements in corn since the 1930s were due to genetic improvements.[35] R&D intensity provides incentives for consolidation, to combine R&D efforts.[36] Additionally, the incentives to combine intellectual property portfolios provides another strong incentive for consolidation.[37]

[34] *See Charts and Maps,* U.S. DEP'T OF AGRIC, https://www.nass.usda.gov/Charts_and_Maps/Field_Crops/index.php.
[35] Koen Deconinck, *Concentration in Seed and Biotech Markets: Extent, Causes, and Impacts.* OECD ANNUAL REVIEW OF RESOURCE ECONOMICS (May 2020), https://www-annualreviews-org.yale.idm.oclc.org/doi/pdf/10.1146/annurev-resource-102319-100751.
[36] *Id.*
[37] *Id.*

The United States' intellectual property regime is critical for understanding this current market structure.[38] A novel plant variety might be eligible for patent protection under three different regimes, depending on the nature of the innovation. Under the **Plant Patent Act of 1930**,[39] a new variety developed through breeding (or other human efforts, such as genetic engineering) can be granted a plant patent if it is asexually reproduced (e.g., through grafting**). The Plant Variety Protection Act of 1970 (PVPA)**,[40] provides breeders IP protections for sexually reproduced seeds and tubers for new varieties that are "new, distinct, stable and uniform." The PVPA provides protection certificates rather than patents, and imposes exceptions for both research and other plant breeding programs. Importantly, both the Plant Patent Act and the PVPA are limited to plant varieties, such as a particular variety of corn that can be clearly defined. A much more comprehensive variety of protections are available through **utility patents**, which is the general patent regime for inventions of new and useful products, processes or machines under U.S. patent law.[41] In the context of agriculture, utility plants might cover (non-exhaustively) plant varieties, groups of plants (e.g., an infra short-day type strawberry plant), particular genes (e.g., those granting chemical resistance[42]), methods of breeding plants, methods of producing gene-edited plants, plant parts, individual plant cells, or particular agricultural chemicals.[43] The extension of utility patents to plant varieties and genes began with the Supreme Court decision of *Diamond v. Chakrabarty (1980)*, which explicitly allowed the patenting of living organisms. This decision was explicitly extended to plants in 1985 in *Ex parte Hibberd.* Furthermore, in *J.E.M. Ag Supply, Inc. v. Pioneer Hi-Bred International, Inc.*, 534 U.S. 124 (2001) the Supreme Court officially held that plant varieties could be patented under utility patents, stating that the existence of the PVPA and Plant Patent Act should not be interpreted as limiting the scope of utility patents. As a result of this decision, many plant varieties that were once only eligible for the weaker protections of the PVPA are now eligible for the stronger protections granted by utility patents. Moreover, utility patents offer broader protections, covering plant characteristics and processes for developing new plants. From an international perspective, most countries, except for the United States, restrict the patenting of living organisms, allowing the plant patents only in specific contexts, such as those outlined by the International Union for the Protection of New Varieties of Plants (UPOV).[44] (The PVPA is the U.S. implementation of the UPOV). Thus, the United States offers a more expensive array of patent protections for plants than virtually any other country. The strong IP protections create incentives to innovate; they also provide incentives for consolidation, in order to control as much of the intellectual property as possible that goes into a single seed.[45]

The IP landscape for seed traits is reaching a critical juncture. In 2014 the patent expired on the widely used Roundup Ready 1 trait, which gave resistance to glyphosate herbicides.[46] This raised the possibility for the first time that universities or third-party seed companies might develop seeds with a generic version of the

[38] *See generally,* Holthuis et al., *Plant Variety Rights Versus Plant Patents: Legal Developments and Frictions in a Regional Perspective*, 20 BUS. L. INT'L 96 (May 2019), https://media2.mofo.com/documents/190501-regional-perspective.pdf.
[39] 35 U.S.C §§ 161-164.
[40] 7 U.S.C. §§ 2321-2582.
[41] 35 U.S.C §§ 101-105.
[42] *Some of the Best Ways to Protect Plant Related Inventions*, RIKER DANZIG, https://riker.com/publications/some-of-the-best-ways-to-protect-plant-related-inventions.
[43] Daniel J. Knauss et al., *Protecting Plant Inventions*, 11 LANDSLIDE (Aug. 5, 2019), https://www.americanbar.org/groups/intellectual_property_law/publications/landslide/2018-19/july-august/protecting-plant-inventions/.
[44] *Id.*
[45] Deconinck *supra* note 35.
[46] Brianna M Schonenberg, *Twenty Years In the Making: Transitioning Patented Seed Traits Into the Generic Market*, 97 MARQ. L. REV. 1039, 1041-42 (2014).

Roundup Ready 1 trait. The development of a generic market would enable farmers to continue spraying their crops with Roundup without needing to pay a premium for the newer technologies.[47]

Bayer/Monsanto have continued to develop and patent new seed traits which might render their older technologies obsolete. For example, the newer "Roundup Ready 2 Yield" technology reportedly increases soybean yields to an extent that generic seeds are not the most profitable option.[48] Bayer has also released the even newer "Roundup Ready 2 Xtend" technology which gives plants resistance to two different herbicides. Yet these innovations have not doomed the possibility of "agrobiogenerics"[49] but have simply delayed their entrance. The patents associated with Roundup Ready 2 Yield are set to expire in 2025 as shown in Table X. And the patents associated with the newest Roundup Ready 2 Xtend technology are expected to expire by the end of the decade. Further, Roundup Ready 2 Xtend seeds may not remain commercially viable until the end of the decade based on recent reports that the herbicide dicamba is prone to drift outside of the area it is sprayed, potentially harming adjacent crops.[50] While the Trump Administration's EPA approved the use of dicamba for five years, there is ongoing litigation seeking to enjoin its use.[51]

Table I. Roundup Ready 2 Yield and Roundup Ready 2 Xtend Soybean patents

Patent No.	Roundup Ready 2 Yield	Roundup Ready 2 Xtend	Priority Date	Expiration Date
6,949,696	✓	✓	**12/15/00**	**12/15/20**
7,608,761	✓	✓	**05/26/06**	**05/26/26**
7,632,985	✓	✓	**05/26/06**	**05/26/26**
8,053,184	✓	✓	**05/26/06**	**05/26/26**
9,944,945	✓	✓	**05/26/06**	**05/26/26**
10,738,320	✓	✓	**05/26/06**	**05/26/26**
7,838,729		✓	**06/05/07**	**06/05/27**

[47] David J. Jefferson et al., *The Emergence of Agbiogenerics*, 33 NATURE BIOTECHNOLOGY 819, 821 (2015).
[48] Sophia Chen, *Generic GMOs Aren't Going to Bring Down Monsanto's Empire*, WIRED, Aug. 05, 2015, https://www.wired.com/2015/08/generic-gmos-arent-going-bring-monsantos-empire/.
[49] Jefferson et al., *supra* note 47.
[50] Dan Charles, *Pesticide Police, Overwhelmed by Dicamba Complaints, Ask EPA for Help*, NPR: THE SALT, February 6, 2020, https://www.npr.org/sections/thesalt/2020/02/06/800397488/pesticide-police-overwhelmed-by-dicamba-complaints-ask-epa-for-help.
[51] Chuck Abbott, *Lawsuit Would Overturn EPA Approval of Dicamba*, SUCCESSFUL FARMING, December 22, 2020, https://www.agriculture.com/news/business/lawsuit-would-overturn-epa-approval-of-dicamba.

7,884,262		✓	**06/05/07**	**06/05/27**
7,939,721		✓	**06/05/07**	**06/05/27**
9,447,428		✓	**09/17/09**	**09/17/29**
RE45,048		✓	**06/05/07**	**06/05/27**
RE46,292		✓	**08/26/10**	**08/26/10**

Harms from Consolidation and Anticompetitive Conduct

Both horizontal and vertical consolidation in the agrochemical seed industry present potential challenges to competition. The potential horizontal effects from these mergers will emerge from increased consolidation in particular seed markets. Reduced competition within the market for a particular seed might lead to higher prices for farmers, fewer choices for farmers, or the foreclosure of certain innovations relevant to that crop. Vertical integration might also harm competition if a company uses its market power in one part of the supply chain to harm competition downstream, such as denying critical inputs to competitors of downstream affiliates or using distribution channels to block competitors' access to customers. Moreover, consolidation generally increases firms' ability to engage in implicit collusion, whether that involves coordinated price increases or exclusionary IP practices. Despite the gains delivered by innovation over the past few decades, there is also evidence of undesirable features of the seed and chemical market that might be caused by anti-competitive conduct.

1. High seed prices are squeezing farmers' margins. Farmers' overall cost of inputs is increasing at a faster rate than prices for their crops. Rising seed prices are contributing to this squeeze; for example, between 1995 and 2011, the cost of growing soybeans and corn increased by about 325% and 291%, respectively, but yields rose by only about 18.9% and 29.7% respectively.[52] In recent years, prices, have increased by as much as 30% per year.[53] There is also evidence of similar trends for vegetable seeds, as Figure 2.3 demonstrates.[54] Although some of the high prices farmers paid for seeds are attributable to the admirable and important R&D work performed by these firms, several pieces of evidence suggest that some of these higher prices are attributable to supracompetitive prices enabled by the large agrochemical company's market power in regional seed markets. For example, some academic studies have found evidence that increased market concentration causes an increase in seed prices for specific crops in specific markets.[55] In the case of GE cotton, researchers identified a relationship between concentration in IP

[52] As alleged in Class Action Complaint, Piper v. Bayer Cropscience, 2021 WL 2002588 (S.D.Ill.)
[53] Rebecca Bratspies, Owning All the Seeds: Consolidation and Control in Agbiotech, 47 ENVTL. L. 583, 599-600 (2017).
[54] Kiki Hubbard, *Bayer-Monsanto Merger is a Bad Deal for Vegetable Farmers*, SEED ALLIANCE (Aug. 2, 2017), https://seedalliance.org/2017/vegetable-seed-consolidation/.
[55] *E.g.,* Shi et al., *Pricing of Herbicide-Tolerant Soybean Seeds: A Market-Structure Approach*, 12 AGBIOFORUM, 326 (2009) (finding a relationship between market concentration and increased corn seed prices in the United States).

ownership and prices.[56] In addition, academic studies have found evidence that, for some crops, agrochemical chemical companies are increasingly capturing a greater share of the surplus enabled by innovations than farmers.[57]

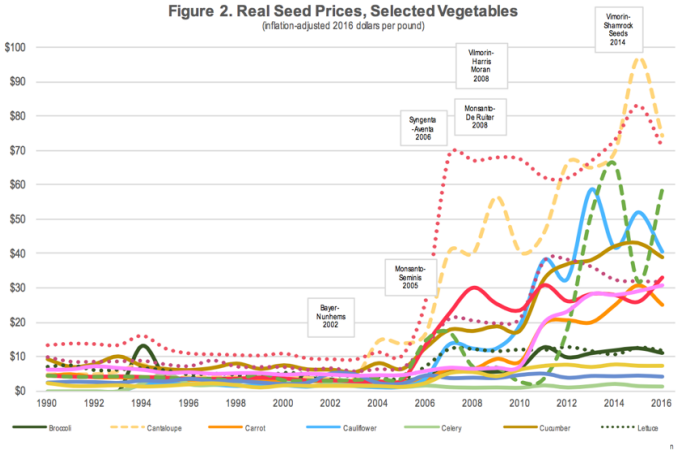

Figure 2.3

From an antitrust perspective, while high prices alone are not sufficient to bring an antitrust case, high prices are evidence of direct harm to farmers, and through supply chains, to consumers, if the seed companies are maintaining market power through anticompetitive means. Moreover, according to the complaint in the 2021 case *Piper v. Bayer* (which has not yet gone to trial), the Big Four might maintain artificially higher prices in part through anticompetitive measures. According to the complaint, the large agrochemical companies placed pressure on distribution networks to maintain price opacity. When an electric agricultural input platform arose to enable price transparency, which would likely lead to greater price competition and lower prices, the large agrochemical companies, distributors and retailers allegedly coordinated to block the platform's entry into the market.[58]

2. Reduced Variety and Choice. From a seed variety perspective, according to some reports, farmers have increasingly fewer varietal options. As part of cost-cutting initiatives, consolidated agrochemical companies have allegedly dropped regional varieties from their catalog, especially those native to low-income regions.[59] Although those seed varietals might be the highest-performing variety for a particular area, it might be more profitable for a large agrochemical company to discontinue that variety and force farmers to substitute it for the seed variety with a larger market. Similarly, in the United States, for certain crops, there might be fewer non-GE varietals available than a competitive market would deliver. For example, in 2016, non-GE sugar beet seeds were virtually impossible to buy in the United States, increasing the United States reliance on foreign beet sugar as a source of organic sugar. (While the status of non-GE seeds is extremely controversial, a competitive market would see non-GE seeds available to the extent there was sufficient demand.) While the discontinuation of less profitable varietals is not an antitrust violation itself, it is a harm resulting from market concentration, which is illegal if illegally maintained. A pattern of acquisitions that result in the discontinuation of varietals that competed with a variety offered by the acquirer also might be evidence that the acquisitions were motivated by a desire to foreclose a competitor.

From the perspective of farmer choice in GE traits and chemicals, there is also evidence that farmers are not being given the level of choices that a competitive market might be supplying. For example, another

[56] Shi et al., *An Analysis of Pricing in the U.S. Cotton Seed Market*, (Selected Paper prepared for presentation at the Agricultural & Applied Economics Association 2009 AAEA & ACCI Joint Annual Meeting, July 26-29, 2009), https://EconPapers.repec.org/RePEc:ags:aaea09:51617 (finding that the stacking of bundled biotech traits through vertical integration leads to higher prices than under a cross-licensing model).

[57] *E.g.,* Ciliberto et al., *Valuing Product Innovation: Genetically Engineered Varieties in US Corn and Soybeans*, 50 RAND J. OF ECON., 615 (2019) (analyzing the welfare impact of GE corn and soybean seed, finding that farmers capture a greater surplus from GE soybean, while the seed industry obtains a greater surplus of GE corn).

[58] As alleged in Class Action Complaint*, Piper v. Bayer Cropscience*, 2021 WL 2002588 (S.D.Ill.)

[59] ROLAND MCREYNOLDS, CAROLINA FARM STEWARDSHIP ASSOCIATION, FARMERS AND PUBLIC PLANT BREEDING PROGRAMS:OPPORTUNITIES FOR PARTNERSHIP (2016), https://saaesd.org/wp-content/uploads/2016/09/SAAESDASRED-Public-Plant-Breeding-2.pdf.

common target of cost-cutting initiatives are seeds with less complex GE-traits; allegedly, agrochemical companies work with distributors to incentivize farmers to purchase the most complex seed variety, which is the most profitable to the agrochemical company, even if the farmer prefers a simpler seed. As discussed in the recommendations section, this practice might constitute collusion, which is per se illegal under the Sherman Act §1. Similarly, a new practice has reportedly emerged in which seeds are pre-coated with a variety of chemicals, meaning that farmers seeking to access a particular seed varietal may not have the option of using an off-brand chemical treatment program. By using market power in seeds to reduce competition in chemicals, this behavior might be illegal attempted monopolization under Sherman Act §2.

3. Innovation in areas of public interest, such as nutrition and conservation, is stagnating. Agrochemical companies predominantly focus their research on commodity crops, such as corn and soybeans, and chemical resistance, rather than other potentially desirable traits. Meanwhile, public financing for agricultural research, which is more likely to focus on health or the environment and other crop varieties, has been in decline since the early 2000s. Additionally, many seed breeding programs – both public and private - have been discontinued, with most breeding efforts being concentrated in the commodity crops of corn, soybean and cotton, for the varietals in select segments of the United States. Indeed, as Figure 2.4 illustrates,[60] virtually all yield improvements in corn have been concentrated in the Midwest, with corn yields actually shrinking throughout much of the South and mid-Atlantic. Similarly, there is limited evidence that the volume of R&D, even among the Big Four has declined since the completion of the mergers, which, if true, might bode poorly for the next few decades of agricultural innovation.

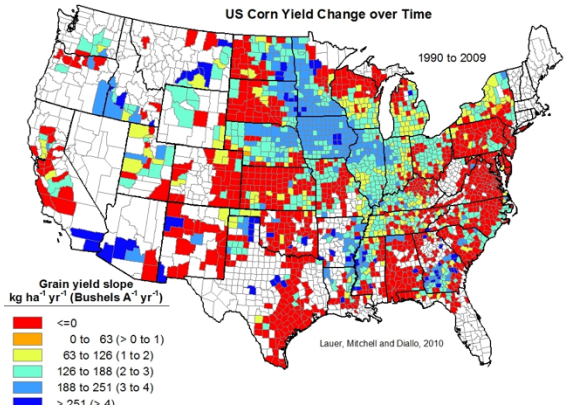

Figure 2.4

From an antitrust perspective, there are two key issues here. First, low innovation may be an effect of concentration, due to the lower incentives for innovation that a monopolist has. Second, exclusionary behavior by the Big Four might be directly linked to lowering innovation through the exclusionary enforcement of IP. Nonetheless, solutions to these challenges may lie outside of antitrust, especially in cases where insufficient demand (e.g., for regional varietals or GE traits) means that improved competition will be unlikely to deliver further research. The recommendations section will also discuss increased public funding as another potential remedy for driving innovation in key areas. Additionally, a review of the current IP regime for agriculture and its enforcement might also give rise to recommendations for statutory or regulatory changes.

Solutions

1. Facilitate the development of agbiogenerics. In anticipation of this wave of patent expirations, the major industry players have entered into a private sector agreement known as "The Accord" intended to facilitate the transition to generic biotechnologies.[61] Among its most important provisions is a mechanism for maintaining international regulatory approval for GE crops, an expensive burden which is necessary for

[60] *Wisconsin Agriculture*, UNIVERSITY OF WISCONSIN, DIVISION OF EXTENSION (last updated Feb. 2014), http://corn.agronomy.wisc.edu/management/l005.aspx.

[61] *The AgAccord*, http://www.agaccord.org/ (last visited June 7, 2021). The Accord contains two agreements. Generic 2 Event Marketability and Access Agreement (GEMAA) and Data Use and Compensation Agreement (DUCA).

those crops to remain exportable.[62] The Accord is controversial because it may exclude public sector and smaller private seed breeders.[63] Additionally, the Accord does not provide protection for seed companies that want to develop generic seeds prior to the expiration of the patent.[64] Congress and the relevant regulators should investigate to determine whether the Accord is sufficient to ensure the development of a robust agbiogeneric seed market. Congress should also consider proposals for a safe harbor akin to the provision for pharmaceuticals in the Hatch-Waxman Act, which would allow third-party researchers to develop generic forms of patented seed traits prior to the expiration of the patent.[65]

2. Support third-party research. Agrochemical companies have placed significant restrictions on the ability of third-party researchers to conduct research on their seeds. In 2009, a group of scientists submitted a statement to the EPA stating that "as a result of restricted access, no truly independent research can be legally conducted on many critical questions regarding [GE seeds]."[66] In response, the American Seed Trade Association released a statement recommending that member companies provide public sector researchers and institutions the opportunity to conduct studies on commercially available, patent-protected seed products.[67] Each company was allowed to decide which universities to make research agreements with, and many of these agreements contain restrictions on licensee's conduct.[68] These agreements merit further research to determine whether they are too restrictive.

Smaller seed companies may also be placed at a competitive disadvantage due to their inability to acquire the same type of agreements as universities. Notably, the 2021 Technology Stewardship Agreement that Bayer requires farmers to sign contains the restriction:

> Grower Agrees . . . Not to plant any Seed, or any Seed produced from Seed, for crop breeding, research, molecular analysis or generation of herbicide or other registration data. Grower may not conduct research on Grower's crop produced from Seed other than to make agronomic comparisons and conduct yield testing for Grower's own use.[69]

The agreement notes that "Bayer makes available separate license agreements to academic institutions for research"[70] but has no similar disclaimer for other entities. These clauses should also be further investigated to determine whether they are chilling competition in the seed industry.

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[62] Jefferson et al., *supra* note 47, at 819.
[63] *Id.* at 821.
[64] *Id*.
[65] Schonenberg, *supra* note 73, at 1069–82.
[66] The Editors, *Do Seed Companies Control GM Crop Research?*, SCI. AMERICAN, August 1, 2009, https://www.scientificamerican.com/article/do-seed-companies-control-gm-crop-research/; *see also*, Doug Gurian-Sherman, *No Seeds, No Independent Research*, L.A. TIMES, February 13, 2011, https://www.latimes.com/archives/la-xpm-2011-feb-13-la-oe-guriansherman-seeds-20110213-story.html; Andrew Pollack, *Crop Scientists Say Biotechnology Seed Companies Are Thwarting Research* (Published 2009), N.Y. TIMES, February 20, 2009, https://www.nytimes.com/2009/02/20/business/20crop.html; Emily Waltz, *Under Wraps*, 27 NATURE BIOTECHNOLOGY 880 (2009); Bruce Stutz, *Companies Put Restrictions on Research into GM Crops*, YALE E360, May 13, 2010, https://e360.yale.edu/features/companies_put_restrictions_on_research_into_gm_crops.
[67] AMERICAN SEED TRADE ASSOCIATION, RESEARCH WITH COMMERCIALLY AVAILABLE SEED PRODUCTS (2009).
[68] Nathanael Johnson, *Genetically Modified Seed Research: What's Locked and What Isn't*, GRIST, August 5, 2013, https://grist.org/food/genetically-modified-seed-research-whats-locked-and-what-isnt/.
[69] BAYER, TECHNOLOGY USE GUIDE 76 (2021), HTTPS://TUG.BAYER.COM/.
[70] *Id*.

Congress should also consider increasing support for independent seed research through universities and small seed companies.[71] Funding for public plant breeding has been declining since the 1980s and reversing this trend could improve competition and choice in agricultural markets.[72] Furthermore, regulators should consider supporting projects that might keep seeds in the public domain such as a proposed online database that would allow patent examiners to easily search for prior art.[73]

3. The FTC should launch a 6(b) study and the Department of Justice should launch preliminary investigation into antitrust violations by the big four agrochemical companies. Unfortunately, there is insufficient publicly available data to definitively state whether any of the large agrochemical companies have engaged in anti-competitive conduct. Demonstrating this behavior and the channels agrochemical companies use to maintain their market power will require detailed analyses of the contractual terms of licensing arrangements, informal and formal agreements with seed distributors, contracts with farmers, and a granular analysis of regional markets for particular seeds. Nonetheless, given the degree of concentration in the market and the challenges relating to price, choice and innovation in the market, such an investigation is warranted. Based on publicly available information, an antitrust investigation should focus on potential anticompetitive conduct in the below four areas: (A) Illegal tying between seeds, GMO traits, and chemicals; (B) monopolization through acquiring smaller rivals; (C) collusion with seed dealers. These four areas are not an exhaustive list, and an antitrust investigation might reveal anti-competitive conduct not in this list.

- **A. Illegal tying: The practice of "bundling" seeds and chemicals might constitute illegal tying under §2 of the Sherman Act and §3 of the Clayton Act.**

Bundling or "tying" can constitute a violation of antitrust laws, under the following conditions:[74] "(1) There must be separate tying and tied products; (2) there must be "evidence of actual coercion by the seller that in fact forced the buyer to accept the tied product"; (3) the seller must possess "sufficient economic power in the tying product market to coerce purchaser acceptance of the tied product …"; (4) there must be "anticompetitive effects in the tied market …"; and, (5) there must be "involvement of a 'not insubstantial' amount of interstate commerce in the tied product market ..." Bunding can be illegal under Sherman §2 or Clayton §3 or FTC Act §5.

As discussed in the harms section, bundling allegedly occurs through pre-coating a seed with an herbicide/ insecticide,[75] contractually requiring a particular herbicide's usage with the seed, or distributor programs that incentivize the joint purchase of the seed and chemical. The effect is that farmers must use the company's herbicide/ insecticide with a particular crop rather than a cheaper generic alternative. This practice leverages agrochemical companies' market power in patented germplasm or GE traits to harm competition in agricultural chemicals. There are also instances where market power in germplasm might be used to harm innovation in GE research or where market power in GE traits is used to harm competition among seed varietals. The case of pre-coating seeds with pesticides is particularly analogous to Microsoft's practices of bundling Internet Explorer with Microsoft Windows, using market power in Windows to foreclose competition from Netscope. This was found to be illegal bundling in *United States*

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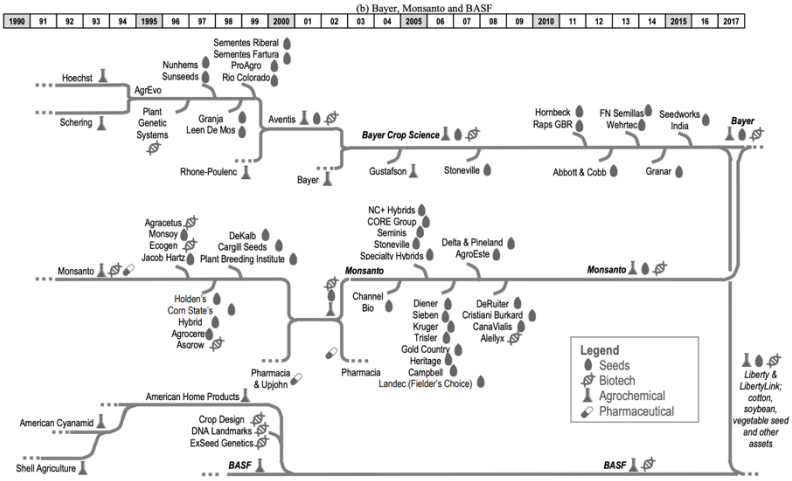
[71] *See generally*, Alexandra Lyon, Harriet Friedmann & Hannah Wittman, *Can Public Universities Play a Role in Fostering Seed Sovereignty?*, 9 ELEMENTA: SCI. ANTHROPOCENE (2021).
[72] *Id.* at 4.; See also Johnson, *supra* note 68.
[73] Lela Nargi, *Could a Simple Database Prevent Massive Ag Companies from Patenting and Guarding Seed Varieties?*, COUNTER, May 13, 2021, https://thecounter.org/seed-diversity-utility-patents-prior-art-bayer-monsanto/.
[74] The Supreme Court has not provided a controlling test, but the test provided in Yentsch v. Texaco, Inc., 630 F.2d 46, 53 (2d Cir. 1980) is a good summary of the test that most circuits tend to follow.
[75] *Pesticide Seed Coatings are Widespread but Underreported,* SCI. DAILY (Mar. 17, 2020), https://www.sciencedaily.com/releases/2020/03/200317215632.htm.

v. Microsoft Corporation, 253 F.3d 34 (D.C. Cir. 2001). Furthermore, now that the patents for the initial generation of chemicals (e.g., glyphosate/ Roundup) have expired, agrochemical companies have an additional incentive to use bundling to maintain market power in chemicals. Patent expiration will also allow a bundling challenge to overcome adverse precedent. In *Monsanto Co. v. Scruggs*, 459 F.3d 1328 (Fed. Cir. 2006), a farmer challenged Monsanto's practice of requiring growers using glyphosate herbicide in connection with Roundup Ready (R) seeds to use Roundup rather than a generic alternative. The court found no antitrust violation because at the time (late 1990s), Roundup was the only EPA-approved glyphosate herbicide on the market at the time. With several glyphosate competitors in existence now, an antitrust case is more tenable.

An antitrust investigation should focus on identifying the actual mechanisms through which agrochemical companies bundle germplasm, traits, and chemicals and how these practices harm competition from generics or competition from competing seed companies.

- **B. Monopolization through acquiring rivals: The Big Four's pattern of acquiring smaller seed companies, especially those with competing seed portfolios, may constitute the illegal elimination, suppression, and deterrence of rival's growth in order to maintain a monopoly in seed development, a violation of Sherman Act §2.**

Most small seed research and development companies have been acquired by one of the big four agrochemical companies. Indeed, there have been more than 400 ownership changes in the seed industry in the past 25 years. As an example, Figure 2.5[76] illustrates the major acquisitions of seed companies by Bayer, Monsanto, and BASF between 1990 and 2017. These acquisitions are in addition to several acquisitions of smaller seed companies. These acquisitions are parallel to Facebook's acquisitions of Instagram and Whatsapp, which was challenged in lawsuits by 46 states and the FTC. An antitrust case here would be need to be grounded in the market for regional seed varietals, and should focus on acquisitions of seed companies with germplasm portfolios that directly compete with the existing portfolio of the acquirer. This might be found in the acquisitions made by ASI (a subsidiary of Monsanto) in the mid-2000s of several regional corn seed companies or later acquisitions made by Monsanto of fruit and vegetable seed companies after its acquisition of the large fruit and vegetable seed company, Seminis. By reducing horizontal



Note: Only showing major acquisitions in seeds, agrochemicals and biotech. *Source*: Adapted from OECD (2018). *Concentration in Seed Markets: Potential Effects and Policy Responses*. Paris: OECD Publishing.

Figure 2.5

[76] Deconinck *supra* note 35.

competition in seeds, these acquisitions likely contributed to increased seed prices (as discussed in the harms section). These acquisitions also likely enabled other types of anti-competitive conduct, such as giving Big Four companies greater leverage in negotiating with distributors and more channels for the bundling of seeds, traits and chemicals, discussed above.

The Big Four will likely argue that these acquisitions were motivated by the efficiencies inherent in combining germplasm IP with chemical and genetic research programs. However, it is possible that a more efficient market solution would have involved the licensing of GE traits to independent seed companies, allowing those companies to independently breed and sell competing seeds, while paying royalties to one of the Big Four for the use of a particular trait.

Another area to monitor is the acquisition of digital farming companies. These start-ups leverage big data to improve farming practices. The Big Four companies are independently developing these capabilities and have already made several acquisitions, such as Monsanto's acquisition of Climate Corp in 2013 and Dupont's acquisition of Granular in 2017. Like the Instagram and Whatsapp acquisitions, further acquisitions might be motivated by a desire to eliminate competition from rival data companies rather than any need for proprietary data processes. Furthermore, there is genuine need for independent companies in this space, as some precision farming companies focus on data-driven ways to manage crops without heavy use of pesticides. Such methods pose a threat to the business model of agrochemical companies, but given consumer demand for organic options and the rise of pesticide-resistance, these businesses should be given an opportunity to independently develop.

- **C. Investigation into dealer/ distributor relationships**: **The facts in *Piper v. Bayer* suggest that the Big Four might be colluding with distributors to exclude rivals and maintain supracompetitive prices, which may constitute illegal monopolization under Sherman Act §2 or illegal collusion under Sherman Act §1.**

A common pathway through which monopolists block the entrance of competitors is through exclusive control of intermediaries, such as exclusive deals. There are indications that such control of intermediaries might be occurring through seed company control of dealers and local seed companies. As discussed in the section on prices above, the Big Four might be coordinating with distributors to exclude nascent entrants, such as electronic platforms, and it might be appropriate for the DOJ to join *Piper* or launch a case focused on similar behavior. Similarly, if the Big Four are coordinating with distributors to restrict farmers' menu of seed/ trait/ chemical combination, this might also be collusion. Both of these actions might be §1 violations. It is also possible that rather than colluding with distributors, the Big Four are pressuring distributors to not sell the products of nascent competitors through exclusivity arrangements, a potential §2 violation. An antitrust investigation should focus on the explicit agreements between seed companies and distributors in addition to evidence of implicit agreements or pressure through patterns of conduct.

4. The USDA should review patterns in utility patents, licensing restrictions, and cross-licensing to ensure that the current regime best promotes innovation, leaving the door open for potential statutory or regulatory changes.

From an antitrust perspective, there is always inherent tension between intellectual property rights and competition, as a patent grants the patent holder a monopoly on the patented item or technology for a specified period. Generally, antitrust jurisprudence in the United States defers to the state-granted monopoly provided by the patent, and several reviews of the U.S. patent regime for plants have nodded to the positive incentives IP protections provide for innovation. Nonetheless, the current deployment of patents by the Big Four raises concerns that the pendulum may have gone too far in the direction of deference to patent-holders, warranting a review. IP across germplasm, GE traits and chemicals is heavily concentrated among the Big Four. The ways the Big Four enforce their IP rights might enable the exclusion of nascent

competitors and foreclose the innovations that might come from the research programs and ideas of competitors with similar or different goals. In particular, the USDA should review the following practices.

- **A. Exclusionary Licensing Fees**: There are allegations that the Big Four charge extremely high licensing fees to smaller companies seeking to use or conduct research on a patented trait, while more freely cross-licensing these traits among each other. Theoretically, the Big Four might find it profitable to charge licensing fees so high as to be exclusive to small research companies, even if those companies are conducting research in complimentary areas.
- **B. Denying Access to Critical Inputs**: Similarly, the Big Four's patents on germplasm (seed varieties) gives them the ability to exclude potential competitors in biotech or chemicals, by denying these nascent competitors access to the highest-yielding seed varietals, which would be the basis for competitors to develop competing chemical programs or GE traits. Conversely, patents on key genetic traits, such as herbicide resistance, can be used to foreclose the entrance of potential competitors in germplasm, as these competitors might need access to the herbicide resistance trait to incorporate it into their breeding program. Anecdotal reports on licensing agreements indicate that they often include conditions that restrict research conducted by farmers, academics, and, in at least one documented instance, regulators.[77] (Interestingly, similar exclusionary conduct was the focus of a lawsuit between Dupont and Monsanto, in which Dupont accused Monsanto of illegal monopolization for its exclusive licensing practices. Dupont dropped the lawsuit in 2013 when the two reached a cross-licensing agreement.)[78]
- **C. Extremely Broad Utility Patents**: Another area of concern is the extremely broad utility patents granted for entire groups of plants, breeding techniques, and gene characteristics. Structurally, due to the cross-licensing arrangements, the Big Four have little incentive to challenge these broad patents; these broad patents enable them to exclude nascent rivals, but due to the cross-licensing arrangements, do not practically constrain their access to vital technologies.

Based on a review of these practices, some changes that may be warranted are: (1) Regulations that ensure better access to germplasm and GE traits for academic research; (2) Guidance that limits the breadth of utility patents so as not to give patent-holders a right over similar, but independently derived, inventions; (3) Better access to germplasm and GE traits for independent breeders, under certain conditions; (4) Grants of greater autonomy to farmers with regard to their use of seeds (such as limiting the ability of seed companies to impose restrictions on replanting).

[77] Howard, Philip H. *How Corporations Control our Seeds* in BITE BACK: PEOPLE TAKING ON CORPORATE FOOD AND WINNING (Saru Jarayaman & Kathryn De Master, eds., 2020).
[78] Carey Gillam, *Monsanto, DuPont Strike $1.75 Billion Licensing Deal, End Lawsuits*, REUTERS (Mar. 26, 2013), https://www.reuters.com/article/us-monsanto-dupont-gmo/monsanto-dupont-strike-1-75-billion-licensing-deal-end-lawsuits-idUSBRE92P0IK20130326.

C. Problem: Monopolization of Farm Equipment

The market for agricultural equipment is dominated by two firms: Deere ("John Deere") and CNH Industrial. John Deere controls 53% of the North America market share for large tractors and 60% for combines, while CNH Industrial controls 35% of the large farm tractors' share and 30% of the share of combines.[79] Farm equipment is increasingly a software business, and high-tech tractors can deliver precision and time-savings that would have been unimaginable a generation ago. However, this growing sophistication trades off with the time-old agricultural practice of farmers repairing, rebuilding and customizing their own farm equipment.

John Deere places software restrictions on equipment that blocks farmers from repairing or updating machines themselves. John Deere's "Service Advisor" system will shut down equipment at the onset of even minor errors and require farmers to repair equipment with licensed John Deere service representatives.[80] Due to these restrictions, farmers cannot change engine settings, retrofit old equipment or modify tractors to meet new environmental standards without going through the manufacturer. To justify these restrictions, John Deere claims that farmers have purchased a license to operate a tractor or combine rather than the full control implied by ownership, despite farmers often paying up to $800,000 for these machines.[81] These restrictions increase the cost of equipment repairs, with even minor repairs costing thousands of dollars.[82] Moreover, this system also costs farmers time, which they often can't afford during a limited window for harvesting or planting.[83] Self-repairs or local repairs are often significantly faster than taking tractors to a John Deere representative.

John Deere controls the data collected with its farm equipment, giving farmers no control over how this data is used or who gets to use it.[84] This takes surplus from farmers. Farmers created this data on their property, with their labor and management, and with equipment they purchased; they should have ownership and control of this data. Indeed, data from precision agriculture is highly valuable in agriculture commodities futures trading.[85] There is a risk that John Deere and the agrochemical companies to whom it frequently sells the data will gain an informational edge in futures markets, potentially allowing them to take positions against farmers. Moreover, by sharing this data with agrochemical companies rather than making it available to independent researchers, like the USDA and university agricultural extensions, this practice harms innovations in agriculture. Data-hoarding also creates a barrier to entry for nascent rivals anticipating entering the market.[86]

Solutions:

1. Congress should pass legislation that gives farmers greater control, information and ownership over their equipment and data.

- **"Right to Repair" legislation**: Legislation should ban the practice of requiring farmers go through a licensed service representative, giving farmers the right to take their equipment to an independent

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[79] Thomas Jeffrey Horton and Dylan Kirchmeier, *John Deere's Attempted Monopolization of Equipment Repair, and the Digital Agricultural Data Market - Who Will Stand Up for American Farmers?* CPI ANTITRUST CHRON. 2 (Jan. 2020), https://ssrn.com/abstract=3541149.

[80] *Id*.

[81] Peter Waldman & Lydia Mulvany, *Farmers Fight John Deere Over Who Gets to Fix an $800,000 Tractor*, BLOOMBERG, Mar. 5, 2020, https://www.bloomberg.com/news/features/2020-03-05/farmers-fight-john-deere-over-who-gets-to-fix-an-800-000-tractor.

[82] *Id*.

[83] Horton, *supra* note 79, at 2.

[84] *Id*., at 5-7.

[85] Neal Rasmussen, *From Precision Agriculture to Market Manipulation: A New Frontier in the Legal Community*, 17 MINN. J. L., SCI. & TECH. 489 (2016).

[86] Horton, *supra* note 79, at 5-7.

dealer or attempt to repair the equipment themselves. To ensure the competency of these repairs, John Deere should be required to provide independent repair shops the same repair information they provide to licensed John Deere repair representatives (a framework modeled on a similar 2014 agreement[87] reached in the auto industry). Finally, Congress should consider creating an exemption to 17 U.S.C. §1201(a), which John Deere argues prohibits circumvention of software protections.

- **Information on the cost of repairs**: Farm equipment manufacturers should be required to provide upfront information about the average lifespan of equipment, average lifetime cost of repairs, and average time to repair for a relevant geographical area before a farmer purchases a machine. Given John Deere's monopoly in repairs, John Deere should possess this information. If greater competition is introduced, government resources can be allocated to assist data collection for repairs from independent shops and farmers.
- **Data control legislation:** Farmers should be given ownership and control over data collected on their farms with their equipment and labor.

2. The DOJ should bring a §2 monopolization case against John Deere for its anti-competitive practices in the markets for equipment, after-market repairs, and agricultural data.

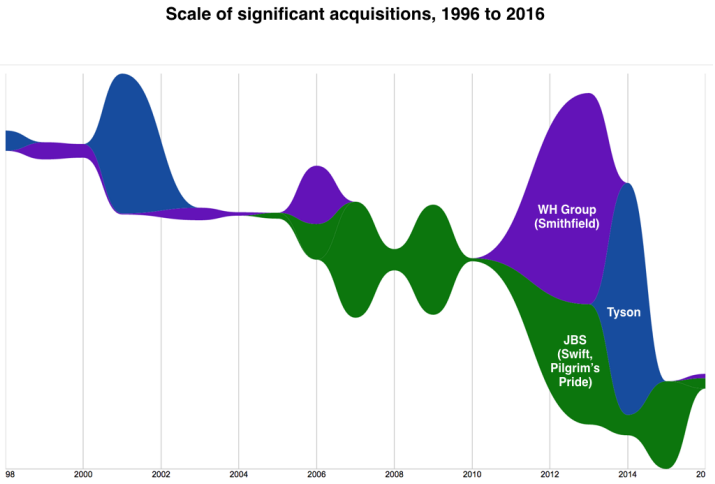
- **Aftermarket repairs:** John Deere uses its monopoly power in farm equipment to give it an advantage in the market for repairs, foreclosing competition from farmers and independent repair shops.[88] Key anticompetitive actions include the requirement that farmers repair machinery with licensed service representatives and software that blocks farmers from performing repairs or overriding minor service warnings.
- **Agricultural data:** John Deere uses its monopoly power in equipment to give it an advantage in the market for agricultural data. Farmers should be allowed to share in this surplus, as they contribute to the production of this data. Equipment company control over this data also forecloses competition from rival equipment manufacturers.

[87] Christopher Jensen, *Carmakers to Share Repair Data*, N.Y. TIMES (Jan. 31, 2014), https://www.nytimes.com/2014/02/02/automobiles/carmakers-to-share-repair-data.html.

[88] There is precedent for an antitrust violation when a company controls the market for repairs of its own products. *Eastman Kodak Co. v. Image Tech. Servs* (1992). The antitrust case against John Deere is even stronger in this instance, because John Deere has market power in both original farm equipment sales and after-market repairs.

D. Problem: Output Issues in Meat Processing and Dairy

History of Consolidation and Ensuing Harms: **Over the last several decades, the agriculture industry has seen significant vertical and horizontal consolidation of meat production**. Roughly fifty plants across the United States are responsible for 98% of slaughtering and processing.[89] Half of chicken farmers work in areas dominated by only one or two chicken processors,[90] and more than 8 in 10 hogs were sold to packer conglomerates since 2001.[91] The result is that farmers are increasingly offered lower prices for their animals, pushing many—primarily small farmers—to the brink of financial instability and even business failure. Since 1980, about 17,000 cattle ranchers have gone out of business each year,[92] and nearly 70% of hog farmers have gone out of business since the mid-1990's.[93] Although newly-appointed agriculture secretary Tom Vilsack has opposed breaking up conglomerate meatpackers because of the jobs it would cost,[94] a truly jobs-conscious approach would reach an opposite conclusion: breaking up meatpacking conglomerates combats monopsony power (see labor section) and will raise output and payments to farmers.



The harm of meat processor consolidation is not just borne by farmers. **Consumers also pay increasingly high prices for meat and are at risk of greater food insecurity** due to market power on the selling side, which meat processors also have.[95] Disruptions at a single, conglomerate meat processing plant can negatively affect millions of people, which was precisely the case during the COVID-19 pandemic when

[89] Rian Wanstreet & Savannah McKinnon, *Meating the COVID Moment: Creating a Stronger Processing System*, Big Ag & Antitrust Conference, Yale Law School (Jan. 16, 2021).
[90] CLAIRE KELLOWY & SARAH MILLER, OPEN MARKETS INSTITUTE, FOOD AND POWER: ADDRESSING MONOPOLIZATION IN AMERICA'S FOOD SYSTEM 3 (2019)
[91] *Id.* at 4.
[92] *Id.* at 2-3.
[93] *Id.* at 4.
[94] Alan Rappeport & Michael Corkery, *Biden's Choice of Vilsack for U.S.D.A. Raises Fears for Small Farmers*, N.Y. TIMES, Dec. 21, 2020, https://www.nytimes.com/2020/12/21/us/politics/vilsack-usda-small-farmers.html (In response to policies being promoted by other Democratic presidential candidates that would break up corporate agriculture conglomerates, Mr. Vilsack stated that "There are a substantial number of people hired and employed by those businesses here in Iowa...You're essentially saying to those folks, 'You might be out of a job.' That to me is not a winning message.")
[95] Bill Billard, *Chronically Besieged: The U.S. Live Cattle Industry*, Big Ag & Antitrust Conference, Yale Law School (Jan. 16, 2021).

public health outbreaks at processing plants left farmers with thousands of poultry that could not be processed or delivered.[96]

Further, chicken producers have been able to limit chicken supply to maintain prices with the help of data company Agri Stats. The independent company collects data from 95% of poultry processors in real time and disseminates unusually detailed reports to its members.[97] This information sharing among competitors allows them to anticipate each others' strategies and predict future supply in the market. It also creates a necessary condition for collusion in that each company would have a way of knowing if its competitors were following through with any agreement.

A similar phenomenon of consolidation has occurred in the dairy industry, where massive milk cooperatives, such as Dairy Farmers of America or Land O'Lakes, team-up with milk processors and take advantage of small-scale producers. Using their combined power, these groups push down the price that small producers receive for their milk and leave them little negotiating room.[98] The result is that since 2014, the price farmers receive for their milk has fallen by a whopping 40% and about 4,600 dairy farms have closed every year for the past two decades.[99] Beyond the harm to dairy farmers, these anti-competitive practices also have environmental costs. Large, consolidated dairy farms have a higher environmental footprint, from groundwater pollution and air pollution, compared to smaller farms.[100]

The Legal and Regulatory Scheme: **These trends in the meat and dairy industries have been facilitated by relaxed regulatory schemes and underenforcement of the antitrust laws**. For example, the Packers and Stockyards Act, passed in 1921 and expanded several times to protect farmers from unfair contracts and abusive practices on the part of meatpackers, has historically been underenforced.[101] In 1994, the Grain Inspection, Packers, and Stockyards Administration (GIPSA) was established in order to help enforce the Act. Since GIPSA's founding, however, it has lacked the funding and, at times, the will to operate effectively. During the Clinton administration, the agency closed the regional Packers and Stockyards offices, centralizing operations in just three cities,[102] and the agency under George W. Bush deliberately suppressed investigations.[103] The Obama administration introduced a set of rules to give GIPSA more teeth, including regulations prohibiting any conduct that is unfair, discriminatory, or deceptive, and explicit affirmations that proof of harm to competition is *not* necessary to establish a violation of the Act.[104] However, due to lobbying efforts by meatpackers, these rules did not go into effect until Obama's last year in office. Even so, with the onset of the Trump presidency, these rules were promptly withdrawn and GIPSA was dissolved into the Agricultural Marketing Service, severely undermining its enforcement capabilities and the effectiveness of the Packers and Stockyards Act.[105]
Similarly, the Sherman Act has also been underenforced against monopsonists and processing plants with too much buying power. Even though monopsony is a cognizable violation under the antitrust laws, courts

[96] Wanstreet & McKinnon, *supra* note 89; *see also* Rappeport & Corkery, *supra* note 94 ("The closure of just a few slaughterhouses, even for a few weeks in April, reduced pork production by as much 5 percent, leading to the mass killings and waste of thousands of hogs that could not be processed").
[97] Christopher Leonard, *Is the Chicken Industry Rigged?: Inside Agri Stats, the Poultry Business's Secretive Info-Sharing Service*, BLOOMBERG BUSINESSWEEK, Feb. 15, 2017.
[98] KELLOWY & MILLER, *supra* note 3, at 5-6.
[99] JAMES M. MACDONALD ET AL., U.S. DEP'T OF AGRIC., ECON. RES. SERV., REP. NO. 274, CONSOLIDATION IN U.S. DAIRY FARMING (JULY 2020).
[100] *Id.*
[101] U.S. DEP'T OF AGRIC., AGRIC. MARKETING SERV., THE PACKERS AND STOCKYARDS ACT (July 2020).
[102] CHRIS LEONARD, THE MEAT RACKET 254 (2014).
[103] Lina Khan, *Obama's Game of Chicken*, WASH. MONTHLY (November 2012).
[104] Implementation of Regulations Required Under Title XI of the Food, Conservation and Energy Act of 2008; Conduct in Violation of the Act, 75 Fed. Reg. 35338 (proposed June 22, 2010) (to be codified at 9 C.F.R. pt. 201).
[105] Leah Douglas, *Antitrust in Food and Farming Under President Trump,* J. FOOD & L. POL'Y (2013).

have effectively limited the laws' applicability to monopsonies by recognizing cases only where there has been tangible injury to the consumer.[106] If the harm is limited to the farmer, by receiving low prices for goods due to a lack of buyer options, antitrust violations are rarely recognized. Indeed, in 2012, the Department of Justice (DOJ) and the U.S. Department of Agriculture (USDA) convened a multi-day workshop to address deficiencies in the prosecution of monopsonies and the harms of buyer power in the seed, hog, livestock, poultry, and dairy industries.[107] Although the DOJ has since reiterated a commitment to preventing harmful buy-side monopsonies in agriculture,[108] few prosecutions have been pursued.

Solutions:

1. **Restore the Grain Inspection, Packers, and Stockyards Administration with adequate funding, and reinstate the Obama-era Farmer Fair Practices Rules for the agency**
    - **Offices and Funding**: Reopen regional Packers and Stockyards offices to give GIPSA officials the local context and access needed to adequately investigate potential violations. Restore adequate funding to GIPSA, and have DOJ attorneys work together with GIPSA to help pursue cases if GIPSA is unable to take appropriate and timely action
    - **Unfair Contracts**: Because growers do not often have more than one buyer to work with, they must accept contracts with unfavorable terms. Through these contracts, the growers typically own the fixed assets required to raise the animals, such as poultry houses and equipment, while the processors own the animals. Growers are often required by the processors to make large upfront investments in equipment improvements with a promise of higher prices in the future. However, it is not uncommon for processors to renege on this agreement, keeping all of the additional profits from efficiency for themselves and causing financial hardship for the growers. This practice is referred to as "hold-up." *The Farmer Fair Practices Rules would make such hold-ups a per se violation of Section 202(a) of the Packers & Stockyard (P&S) Act.*[109]
    - **Retaliation:** The Obama administration's listening tour with farmers in 2012 revealed a fear of retaliation among growers for speaking publicly about such unfavorable conditions or joining a union.[110] The Farmer Fair Practices Rules should also curtail two of the primary forms of retaliation.
        - **Breach of contract:** There have been reports of farmers' contracts being terminated due to unsubstantiated accusations of violations of some law or regulation. The rules would make it a violation of the P&S Act Section 202(b) to take such action unless there is a clear charge of a violation against a grower by a government agency. The rules would also require processors to provide the growers with ample time to remedy any potential breach. Lack of adequate notice would be a *per se* violation of Section 202(a) of the Act.[111]
        - **Favoritism in pay:** Processors also vary their price to growers, paying premiums to some and discounted prices to others. This system can be used as another tool for retaliation. The Obama-era rules would make it a violation of Section 202(b) of the P&S Act to base price decisions on anything other than the quality of the animals at the time of sale. To keep processors from using an arbitrary definition of "quality," the updated rules should also require them to publish their fee schedules, make it a violation of Section 202(a) to use

[106] John D. Shively, *When does Buyer Power become Monopsony Pricing*, 27 ANTITRUST L. J. 87 (2012).
[107] DOJ, COMPETITION AND AGRICULTURE: VOICES FROM THE WORKSHOPS ON AGRICULTURE AND ANTITRUST ENFORCEMENT IN OUR 21ST CENTURY ECONOMY AND THOUGHTS ON THE WAY FORWARD 7 (2012), available at www, justice.gov/atr/public/reports/ 283291.pdf (describing the concern by some participants that "retailers are extracting a greater and greater share of the consumer food dollar, leaving producers with an ever decreasing share, and at the same time imposing price increases on consumers").
[108] *Monopsony Issues in Agriculture: Buying Power of Processors in our Nation's Agricultural Markets: Hearing Before the S. Comm. on the Judiciary*, 108th Cong. 36 (October 30, 2003).
[109] Unfair Practices and Undue Preferences in Violation of the Packers and Stockyard Act, 81 Fed. Reg. 92703 (proposed Dec. 20, 2016).
[110] DOJ, *supra* note 107, at 7.
[111] *See supra* note 109.

inaccurate scales to obfuscate pricing decisions, and allow growers to [work together] to audit those decisions.[112]

- **Harm to competition:** Finally, any such rules should make clear that any of the actions on the part of processors listed above need not cause harm to competition in order to be in violation of the P&S Act. There are times when a processor's actions may not impact competition but do cause significant harm to the growers. Even when processor actions do harm competition, the need to prove that harm can create additional hurdles for growers when filing complaints. As such, the rules should make clear that these unfair or deceptive practices are violations of the Act regardless of proof of such harm. Suggested language: "Whereas, Congress has found that unfair terms for growers harms entry and investment in growers, which expands output and raises productivity, and so such showing is unnecessary."

2. **Bring monopsony cases against consolidated meat processors under Sherman Act § 2 and clarify the legal standards for monopsony cases to ensure consistency across jurisdictions.**
   - **Focus on the harms to the farmer, and not exclusively to the downstream consumer**: Under the erroneous belief that the Sherman Act is merely a consumer welfare prescription, courts and agencies typically require proof that the monopsonist's willful conduct harmed consumers downstream.[113] But the Sherman Act seeks to protect *competition,* not just consumer welfare.[114] As a result, monopsony cases should not be limited only to those cases where there was tangible injury to the downstream consumer. Monopsonists inherently harm trade and competition by offering contracts on a "take-it-or-leave-it" basis that lower prices to farmers below the competitive level, resulting in both less output and lower quality.[115] This monopsonist behavior weakens incentives for farmers to provide as much output, since they receive less per quantity, and decreases incentives for them to invest in capacity, innovation, and quality.[116] Farmers with less money to purchase goods may also have a negative environmental impact where those farmers end up "cut[ting] corners by polluting more, engaging in less sustainable farming, allowing a more dangerous workplace, and hiring underage workers or illegal aliens."[117] The market harms that result from

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[112] *Id.*

[113] *See, e.g.*, Phillips Getschow Co. v. Green Bay Brown Cnty. Prof'l Football Stadium Dist., 270 F. Supp. 2d 1043, 1047–48 (E.D. Wis. 2003) ("As the antitrust laws protect competition rather than competitors, whether the injury to a competitor is really antitrust injury often may be ascertained by looking for related harm to consumers.")

[114] *See* 21 CONG. REC. 2461 (1890) (statement of Sen. John Sherman during the Act's passing, arguing for a federal competition law based on "rusts and combinations [that] are great wrongs to the people . . . They increase beyond reason the cost of the necessaries of life and business, and they decrease the cost of the raw material, the farm products of the country. They regulate prices at their will, *depress the price of what they buy* and increase the price of what they sell.") (emphasis added); *see also* Gregory J. Werden, Essay, *Monopsony and the Sherman Act: Consumer Welfare in a New Light*, 74 ANTITRUST L. J. 707, 714 (2007) ("The legislative history leaves no doubt that Congress intended to protect sellers victimized by trusts and other conduct within the scope of the Sherman Act's prohibitions."). In addition, early cases under the Sherman Act also recognized that monopsonies could engage restraints of trade, even where the harm was only to a farmer/seller and not the consumer. United States v. Swift & Co., 122 F. 529 (C.C.N.D. Ill. 1903), modified, 196 U.S. 375 (1905) ("The [Sherman Act], thus interpreted, has no concern with prices, but looks solely to competition, and to the giving of competition full play, by making illegal any effort at restriction upon competition. Whatever combination has the direct and necessary effect of restricting competition, is, within the meaning of the Sherman [A]ct as now interpreted, restraint of trade."); *see also* Mandeville Island Farms, Inc. v. Am. Crystal Sugar Co., 334 U.S. 219, 235–36 (1948).

[115] Maurice E. Stucke, *Looking at the Monopsony in the Mirror*, 62 EMORY L. J. 1509, 1517 (2013).

[116] Hiba Hafiz, Big Ag's Monopsony Problem: How Market Dominance Harms U.S. Workers and Consumers, CTR. EQUITABLE GROWTH: COMPETITIVE EDGE, (Feb. 18, 2021), https://equitablegrowth.org/competitive-edge-big-ags-monopsony-problem-how-market-dominance-harms-u-s-workers-and-consumers/

[117] Stucke, *supra* note 115, at 1550.

monopsonists' exploitation of their buyer power are therefore plentiful, and ought not be limited only to the harm of higher prices for the downstream consumer.

- **Strike the requirement of market-share thresholds**: The market share normally needed to determine that a company is a monopolist should not identical for monopsonies. Monopsonists function differently than monopolists, and can exercise significant power even if they own less than 50% of the market. For example, in *Toys "R" Us, Inc. v. FTC*, the FTC recognized that even though Toys "R" Us only accounted for 20% of the national wholesale market, the fact that they caused the 10 major toy manufacturers to reduce their output of toys to avoid having to meet the Toys "R" Us's price demands was anticompetitive behavior in violation of the Sherman Act.[118] Accordingly, rather than relying on a standard greater than 50% market share threshold to determine that a buyer is a monopsonist, courts also should consider other factors that suggest coercion, such as an inelastic supply curve in the input market or an inability for new buyers to enter the market.[119]

[118] 221 F.3d 928, 937 (7th Cir. 2000).

[119] FTC & DOJ, IMPROVING HEALTH CARE: A DOSE OF COMPETITION ch. 6, at 17 (2004) (suggesting that courts should consider three factors in determining monopsony power: "1) a large market share on the part of the purchaser; (2) an upward sloping or somewhat inelastic supply curve in the input market; and (3) an inability or unwillingness for new purchasers to enter the market or current purchasers to expand the amount of their purchases").