DEFINING PROPERTY RIGHTS TO FOSTER INNOVATION: THE POLITICAL ECONOMY OF LAWS AND REGULATIONS GOVERNING SEED VARIETIES IN ARGENTINA

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Abstract

In recent years, there has been a strong push for introducing strong intellectual property rights regarding seed varieties worldwide. Through its TRIPs agreement, the WTO pushed for regulatory reforms in many developing countries. Furthermore, the changing innovation environment in developed countries, particularly in the United States, produced a powerful lobby from multinational companies to appropriate the benefits of their inventions around the world. Regulatory reform, however, does not happen in a vacuum, and the political system and interest groups influence those reform efforts.

This study analyzes the attempt to pass legislation to protect property rights in new seed varieties in Argentina. In the last few decades, several international institutions and private companies have pushed Argentina to institute regulatory reform to bring its legislation in line with the Union for the Protection of New Varieties of Plants (UPOV) 1991 guidelines. Enhancing property rights protection is essential given Argentina's relevance in world agriculture markets and China's strong demand for agricultural commodities. As this paper shows, different stakeholders lobbied Congress in 2018-19 to pass such legislation. However, these efforts did not succeed, underscoring the need for a careful study of the environment for legal/regulatory reform.

This paper offers a political economy analysis of the regulatory reform for furthering innovation, underscoring the difficulties of enacting legislation that promotes such innovation. This study is particularly relevant for the United States—as the political system is similar to the one in Argentina—and where different property rights reforms, especially concerning pharmaceuticals, privacy laws, artificial intelligence, and other technology areas, are under scrutiny. This study helps to understand how the political system is critical in establishing the type and scope of property rights protection, and how important it is to reach a consensus regarding

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legal/regulatory reform that permits the necessary innovation to occur.

I. INTRODUCTION

In recent decades, the world of agribusiness has been booming worldwide, and the search for higher yields and productivity is one of the main driving forces behind the innovation in this sector.[1] Investments seeking new discoveries of seed varieties have fueled intense competition at the global level.[2] Several companies and research organizations have veered towards innovative seed development to benefit from this booming agribusiness sector.[3] While the legal environment offers substantial protection to

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1. *See* PAUL VLEK, *Foreword* to DIGITAL ECOSYSTEM FOR INNOVATION IN AGRICULTURE vii (Sanjay Chaudhary et al. eds., Springer Nature Singapore 2023); Andrew R. Kniss et al., *Commercial Crop Yields Reveal Strengths and Weaknesses for Organic Agriculture in the United States*, PLOS ONE 1 (Aug. 23, 2016); Xiaoyun Li et al., *Patterns of Cereal Yield Growth across China from 1980 to 2010 and Their Implications for Food Production and Food Security*, PLOS ONE 1 (June 12, 2016); Yawei Zhao et al., *Impact of Government Policies on Seed Innovation in China*, AGRONOMY 1 (Apr. 12, 2022); Sutardi et al., *The Transformation of Rice Crop Technology in Indonesia: Innovation and Sustainable Food Security*, AGRONOMY 1 (Dec. 20, 2022); Thomas P. Tomich et al., *Food and agricultural innovation pathways for prosperity*, 172 AGRIC. SYS. 1 (2019); Jeffrey Alwang et al., *Pathways from research on improved staple crop germplasm to poverty reduction for smallholder farmers,* 172 AGRIC. SYS. 16 (2019); Keith Fuglie, *R&D Capital, R&D Spillovers, and Productivity Growth in World Agriculture*, 40 APPLIED ECON. PERSPS. & POL'Y 421 (2018); Peter Langridge, *Innovation in Breeding and Biotechnology*, *in* 2 AGRICULTURE AND FOOD SYSTEMS TO 2050: GLOBAL TRENDS, CHALLENGES AND OPPORTUNITIES 245, 245 (Rachid Serraj & Prabhu Pingali eds., 2019).

2. *See* James M. MacDonald, *Mergers and Competition in Seed and Agricultural Chemical Markets*, U.S.D.A ECON. RSCH. SERV. (Apr. 3, 2017), https://www.ers.usda.gov/amber-waves/2017/april/mergers-and-competition-in-seed-and-agricultural-chemical-markets; Diana L. Moss, *Competition and transgenic seed systems*, 56 ANTITRUST BULLETIN 81 (2011); James M. MacDonald et al., *Concentration and Competition in U.S. Agribusiness*, U.S.D.A. ECON. RSCH. SERV. 1 (June 2023).

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> At the same time that U.S. seed markets became more concentrated, seed prices rose significantly, especially for GM varieties . . . . However, the evidence is mixed on whether market concentration led to higher seed prices or whether other factors, such as IPR and the higher development costs of GM seed, may have been more important determinants of seed price inflation.

MacDonald et al., *supra* note 2, at 15.

investors and discoverers of new varieties in developed countries, this is not the case in developing countries.[4] Several developing countries see themselves as consumers of new technologies and do not see the benefits to them from offering strong property rights protections.[5] As a result, they prefer weak regimes that allow farmers to take advantage of new seed varieties at low or no cost.[6] However, these policies come a price for these countries since they usually sacrifice any long-term development of new technologies in agriculture, which could enhance their agricultural productivity. One such developing country is Argentina.[7]

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4. *See* Carlos M. Correa et al., *The status of patenting plants in the Global South*, 23 J. WORLD INTELL. PROP. 121 (2020); David J. Spielman & Xingliang Ma, *Private Sector Incentives and the Diffusion of Agricultural Technology: Evidence from Developing Countries*, 52 J. DEV. STUD. 696 (2015); Vinícius Eduardo Ferrari et al., *Patent network analysis in agriculture: a case study of the development and protection of biotechnologies*, 30 ECON. INNOVATION & NEW TECH. 111, 112 (2021); Pamela J. Smith & Erik S. Katovich, *Are GMO Policies "Trade Related"? Empirical Analysis of Latin America*, 39 APPLIED ECON. PERSP. & POL'Y 286, 287 (2017).

5. *See* C.S. Srinivasan, *Plant Variety Protection, Innovation, and Transferability: some Empirical Evidence*, 26 APPLIED ECON. PERSP. & POL'Y 445, 445-71 (2004); Deepthi E. Kolady & William Lesser, *Does Plant Variety Protection Contribute to Crop Productivity? Lessons for Developing Countries from US Wheat Breeding*, 12 J. OF WORLD INTELL. PROP. 137-52 (2009); Graham Brookes, & Peter Barfoot, *GM Crop Technology Use 1996-2018: Farm Income and Production Impacts*, 11 GM CROPS & FOOD 242, 242-61(2020); Viktoriya Galushko, *Do Stronger Intellectual Property Rights Promote Seed Exchange: Evidence from U.S. Seed Exports?*, 42 AGRIC. ECON. 59, 59-71 (2012); Jeniffer Clapp, *Mega-Mergers on the Menu: Corporate Concentration and the Politics of Sustainability in the Global Food System*, 18 GLOBAL ENV'T POL. 12, 12–33 (2018).

6. *See* Felipe Amin Filomeno, *State Capacity and Intellectual Property Regimes: Lessons from South American Soybean Agriculture*, 35 TECH. IN SOC'Y 139, 139-52 (2013); Felipe Amin Filomeno, *Patterns of Rule-Making and Intellectual Property Regimes. Lessons from South American Soybean Agriculture*, 46 COMPAR. POL. 439, 439-58 (2014); Guilherme Fowler A. Monteiro & Decio Zylbersztajn, *Heterogeneity of Property Rights in a Global Context: the Case of Genetically Modified soybean Seeds*, 5 GLOBAL STRAT. J. 69, 69-83 (2015); Marcos P. Fuck, Sergio Salles-Filho, Sergio Paulino de Carvalho, & Maria B. M. Bonacelli, *Intellectual property protection, plant breeding and seed markets: a comparative analysis of Brazil and Argentina*, 7 INT'L J. OF TECH. MGMT. & SUSTAINABLE DEV. 223, 223-35 (2008); Alejandro Barragán-Ocaña, Gerardo Reyes-Ruiz, Samuel Olmos-Peña, & Hortensia Gómez-Viquez, *Production, Commercialization and Intellectual Property of Transgenic Crops in Latin America. A State of the Art Review*, 19(4) J. OF AGRIBUSINESS IN DEVELOPING & EMERGING ECON. 333, 333-51 (2019).

7. *See* Jay P. Kesan & Andres A Gallo, *Insecure Property Rights and Plant Varieties: The Effects on the Market for Seeds and on Farmers in Argentina*, *in* AGRICULTURAL BIOTECHNOLOGY AND INTELLECTUAL PROPERTY: SEEDS OF CHANGE 216-30 (2007), https://doi.org/10.1079/9781845932015.0216; Andres A. Gallo & Jay P. Kesan, *Property Rights Legislation in Agricultural Biotechnology: United States and Argentina*, 7 MINN. J. L. SCI. & TECH. 565 (2006); Jay P. Kesan & Andres A. Gallo, *Property Rights and Incentives to Invest in Seed Varieties: Government Regulations in Argentina*, 5 AGBIO FORUM 118, 118-26 (2005); Marcos Paulo Fuck, Sergio Salles-Filho, Sergio Paulino de Carvalho & Maria Beatriz M Bonacelli, *Intellectual Property Protection, Plant Breeding and Seed Markets: A Comparative Analysis of Brazil and Argentina*, 7 THE INT'L J. OF TECH. MGMT. & SUSTAINABLE DEV. 223, 223-35 (2008); Nicolas Trivi, *La Ley de Semillas en Argentina: la disputa por el control y el futuro de la agricultura*, 7 REVISTA DE ESTUDIOS SOBRE ESPACIO Y PODER 57, 57-75 (2016); Tamara Perelmuter, *Propiedad Intelectual en Semillas: los dispositivos del cercamiento jurídico en Argentina*, 19 MUNDO AGRARIO (LA PLATA, ARG. 2018).

Argentina's prominence in international agricultural markets is well-known, and the country has been well-positioned for more than a century as one of the leading exporters of meat and grains in the world.[8] In recent decades, Argentina's prominent trade with China, especially in soybeans, has attracted investors and produced an essential source of revenue for the country.[9] As a result, soybean production has exploded, and exports of soybeans and other agricultural products have recovered the luster from earlier periods.[10] In addition, Argentina has enough know-how, research and investment capabilities, and human research talent to become one of the leaders in research and development for new seed varieties, especially in biotechnology.[11] That said, the current legal system in Argentina does not offer enough protection in the marketplace for inventors to appropriate the benefits from their innovations, and certified seed use is not widespread.

Recently, there has been a significant debate on the benefits of reinforcing the legal environment and providing further property rights protection to inventors to foster further innovation and the adoption of last-generation seeds. Different views have brought to the forefront—issues of fairness, exploitation of small producers, and how national interests have been threatened by these legal changes.[12] As a result of these divergent views, development opportunities are impeded.

This paper presents the political economy of these divergent views, how they interact with different actors, and the political stalemate that delays any possible solution. This analysis highlights, indeed lays bare, the impediments to legal reforms in developing countries, and the need for solutions to overcome those obstacles.

This paper is organized as follows. First, we discuss how this case study has important implications for upcoming debates

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8. *See* Food & Agriculture Organization, *Trade of Agricultural Commodities (2005-2022)*, https://www.fao.org/statistics/highlights-archive/highlights-detail/trade-of-agricultural-commodities-(2005-2022)/en (Last visited Aug. 6, 2024).

9. Emiko Fukase & Will Martin, *Who Will Feed China in the 21st Century? Income Growth and Food Demand and Supply in China*, 67 J. AGRIC. ECONOMIES 3, 3-23 (2016); Jinling Yan, Yongjie Xue, Congna Quan, Bo Wang & Yanan Zhang, *Oligopoly in Grain Production and Consumption: An Empirical Study on Soybean International Trade in China*, 36 ECON. RSCH. 1, 1-16 (2023).

10. Birgit Meade et al., *Corn and Soybean Production Costs and Export Competitiveness in Argentina, Brazil, and the United States,* U.S.D.A. ECON. RSCH. SERV. ECON. INFO. BULLETIN 154 (2016).

11. *See* Clara Craviotti, *Agrarian trajectories in Argentina and Brazil: multilatin seed firms and the South American soybean chain*, 15 GLOBALIZATIONS, 56, 56-73 (2018); Marin, Anabel, et al., *Growing from the South in the seed market: Grupo Don Mario*, 12 J. AGRIBUS. IN DEV. & EMERGING ECONOMIES 656, 656-72 (2022).

12. *See* Fischer, Klara, et al., *Social Impacts of GM Crops in Agriculture: A Systematic Literature Review*, 7 SUSTAINABILITY 8598, 8598-620 (2015).

regarding property rights in the United States and other developed countries. Second, we summarize and compare the current legal environment in the United States and Argentina, and how this framework affects markets. Third, we present the economic and political actors interested in property rights protection in new seed varieties. We describe their specific preferences and support for different changes in agricultural property rights. Fourth, we analyze the divergent proposals presented in Congress, and how they favor different economic and political actors. Fifth, we analyze the status quo and the possibility of consensus emerging from these opposing views. Finally, we analyze the opportunities for reform in the near future, and the implications for economic efficiency and research and development in Argentina's agricultural sector.

II. PROPERTY RIGHTS AND THE POLITICAL PROCESS: LESSONS FOR THE UNITED STATES

When analyzing the political economy of property rights, we need to consider how the political system shapes the definition of laws and regulations regarding enforcement through various regulatory and judicial changes and the enactment of new legislation. In the case of the United States, we understand how different constituencies, stakeholders, and economic groups lobby Congress to shape the legislation according to their preferences and interests.[13] A previous study by us showed how various stakeholders lobbied the U.S. Congress to pass intellectual property legislation.[14] This study showed how the votes in Congress were correlated with each corporation's lobbying efforts, and how these constituencies shaped legislative changes.[15] Accordingly, by studying different cases of property rights reforms, we can establish diverse patterns and understand the political forces at play that can define the direction of legislative efforts. Nonetheless, the fact that different economic and stakeholder groups push and lobby for favoring their preferred characteristics does not mean that the resulting

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13. *See* Jay P. Kesan & Andres A. Gallo, *The Political Economy of Intellectual Property Reforms, in* RESEARCH HANDBOOK ON THE ECONOMICS OF INTELLECTUAL PROPERTY LAW 482-509 *(*Ben Depoorter, Peter Menell, & David Schwartz eds., Edgar 2019), https://doi.org/10.4337/9781789903997. (The authors describe the influence of different lobby groups in Congress and the different pieces of legislation targeted. By using publicly available data on lobbying, the authors are able to understand how legislation takes shape and how we should take into account such lobbying efforts when it comes to property rights legislation.)

14. Jay P. Kesan & Andres A. Gallo, *The Political Economy of the Patent System*, 87 N.C. L. REV. 1341 (2009).

15. *Id.*

legislation will be optimal.[16] As a result, the regulatory framework for protecting property rights is not based on optimizing the best possible system, but on the political and economic forces driving legislation.

In this regard, economic analysis of institutions and how they shape interest groups is essential in understanding their evolution. Alston et al. (2023) develop a model for understanding the factors behind institutional change affecting transaction costs and property rights.[17] These reform proposals produce different results for the various stakeholder groups, which will then lobby the political system to either sustain the status quo or introduce modifications. However, most changes are marginal ones that modify an existing property rights system. More profound changes require the existence of specific circumstances combined with political entrepreneurs, who can effectively change the system. As Alston (2017) explains:

> To the extent that outcomes match expectations, members of the dominant network will stick with their belief, perhaps changing it on the margin, for example, more or less state intervention. When beliefs only change on the margin the dominant network will put in place institutions that only change on the margin. Countries are always passing laws so there is change, but most legislation tends to simply maintain the country on its same economic, political, or social trajectory. To the extent that a country has a binding constitution, the dominant network passes laws under the shadow of the court.[18]

Accordingly, when we observe shocks in the economic results that affect the political status quo, there will be opportunities to introduce further changes. While we can develop the main

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16. *See* Jay P. Kesan & Andres A. Gallo, *Why Bad Patents Survive in the Market and How Should We Change - The Private and Social Costs of Patents*, 55 EMORY L. J. 61, 122 (2006) (As the authors conclude, "As we have demonstrated using our model, improvidently granting a patent (i.e., issuing a "bad" patent) will result in one of three possible market outcomes: (a) the 'bad' patent survives as any other patent; (b) the 'bad' patent survives as the result of a private agreement with the possible challengers; or (c) the 'bad' patent is invalidated by a court. Each one of these possibilities has a different probability. Consequently, judicial processes and market forces do not necessarily extinguish incorrectly granted patent claims. Rather, these patents can survive and impose significant social costs.").

17. *See* Eric Alston, Lee Alston, & Bernardo Mueller, *New Institutional Economics and Cliometrics*. NBER WORKING PAPER SERIES (2023).

18. *See* Lee Alston, *Beyond Institutions: Beliefs and Leadership*, 77 THE J. OF ECON. HIST. 353, 353–72 (2017); *Id.* at 356.

mechanisms in which different groups interact politically, and how the political system can interpret those preferences and produce results, we do not have a comprehensive theory that can predict how those changes will occur or the specific direction of the changes.[19] That said, using different case studies and how political institutions and economic results interact helps elucidate the direction of institutional change.[20]

This study presents a case study of the attempt to change agricultural property rights in seed varieties in Argentina. We describe the status quo and the diverse stakeholders and economic groups trying to influence changes to a system that does not favor secure property rights. This case study adds to the understanding of the factors behind the political economy of property rights. It helps us better understand the political processes that shape legislation not only in Argentina but also in countries such as the United States. In particular, the similarities between both countries allow us to draw parallels between the pressure groups and their preferences, while debating and contesting legislation. Argentina possesses a Constitution similar to the United States, with a strong Federalist system, where the Provinces (which are similar to the States in the U.S.) were initially independent and delegated their powers to the National government through the Constitution. Accordingly, Argentina has a presidential system with two Chambers: a Senate (where the provinces are represented) and a Deputies Chamber (i.e., the House), where the Congresspersons are selected by the population. As a result, the legislative committees and the channels through which legislation is proposed and advanced have similar characteristics to the Congressional committees in the United States. Furthermore, pressure from different stakeholders and interest groups is exerted in these committees to shape legislation.

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19. Christina Parajon Skinner, *Capitalism Stakeholderism*, 47 SEATTLE U. L. REV. 643 (2024).

20. *See* Alston, *supra* note 6, at 359-60.

> By construction, concepts in frameworks need to be defined and appear relatively black and white, whereas the developmental process is much fuzzier and messy. For this reason, I advocate case studies to see to what extent the framework helps us better understand the development process. Groups of case studies utilizing the same framework will help us judge the degree to which the framework will help us judge the degree to which the framework has general applicability for understanding development. With enough case studies, one can see patterns begin to form testable hypotheses. But at this stage of our knowledge, we need to first better understand before we can formally test the processes involved with development.

The system of property rights system in the U.S. has been the target of numerous legal and regulatory changes.[21] These attempts at reform/change come at different times in history because of the various issues at stake.[22] We can find enough examples of this from the past and new attempts to further define and develop property rights with the advent of new technologies and artificial intelligence.[23] For instance, we have analyzed efforts to introduce changes to the patent system due to the pressure of technology companies, which prefer a more flexible patent system, as opposed to the pharmaceutical sector, which relies on a stricter/stronger definition of property rights.[24] More recently, we have issues related to privacy in our interconnected world. Consumers' advocates try to enforce privacy rights and limit companies' use of private information.[25] Artificial intelligence and the question of who owns the content it produces adds a new debate with political implications.[26] A similar debate is brewing over copyright in digital environments and expanding to take into account the intersection of technology, climate change, and property rights.[27] Furthermore, all these issues are relevant not just nationally, but also globally.[28]

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21. Natalie Peters, *Determining What's Not Obvious: Should a Reasonable Expectation of Success Invalidate Patent Applications?*, 18 U. MASS. L. REV. 122 (2022); Alvaro Cure Dominguez, *Maximizing Social Welfare Through the Tailoring of Patent Duration and Using Algorithms to Calculate Optimal Patent Duration*, 19 NW. J. TECH. & INTELL. PROP. 191 (2022).

22. *See* Steven Wilf, *How Patents Became Politics,* U. CONN. SCH. OF L. 632 (2023); Elizabeth Winston, *Bargaining for Innovation*, 66 VILL. L. REV. 119 (2021).

23. Walter G. Johnson & Lucille M. Tournas, *The Major Questions Doctrine and the Threat to Regulating Emerging Technologies,* 39 SANTA CLARA HIGH TECH. L. J. 137 (2023).

24. *See* Kesan & Gallo, *supra* note 7.

25. Anne Logsdon Smith, *Alexa, Who Owns My Pillow Talk? Contracting, Collaterizing, and Monetizing Consumer Privacy Through Voice-Captured Personal Data*, 27 CATH. U. J. L. & TECH. 187 (2018); Fordham IPLJ, *IP Interrupted: Diverse Voices in Intellectual Property*, 32 FORDHAM INTELL. PROP. MEDIA & ENT. L. J. 302 (2022); Xiyin Tang, *Privatizing Copyright*, 121 MICH. L. REV. 753 (2023); Sabrina Ortega, *The Digital Millennium Copyright Act – In Need of a Major Software Update*, 12 MICH. BUS. & ENTREPRENEURIAL L. REV. 75 (2023); Perla Khattar, *What You Don't Know Will Hurt You: Fighting the Privacy Paradox by Designing for Privacy and Enforcing Protective Technology*, 18 WASH J. L. TECH. & ARTS. (2023).

26. W. Keith Robinson, *Artificial Intelligence and Access to the Patent System,* 21 NEV. L. J. 729 (2021); Mizuki Hashiguchi, *Constitutional Rights of Artificial Intelligence*, 19 WASH J. L. TECH. & ARTS 24 (2024); Max Stul Oppenheimer, *The Perks of Being Human*, 80 WASH & LEE L. REV. ONLINE 323 (2023).

27. Megan Grantham, *Problems in the Copyright Industry: Making the Case for a Corrected CASE Act*, 71 CLEV. ST. L. REV. ET CETERA 27 (2023); Samuel Cayton, *The "Green Patent Paradox" and Fair Use: The Intellectual Property Solution to Fight Climate Change,* 11 SEATTLE J. TECH. ENV'T & INNOVATION L. 214 (2020).

28. Mattias Rättzén, *Closing the Patent Loophole Across Borders*, 20 UIC REV. INTELL. PROP. L. 358 (2021); Nicholas Eitsert, *Indian Pharmaceutical Patenting Under Section 3(D): A Model for Developing Countries,* 12 IP THEORY 117 (2023); Julien Chaisse & Xinjie Luan, *Revisiting the Intellectual Property Dilemma: How Did We Get to a Strong WTO IPR Regime?*, 34 SANTA CLARA HIGH TECH. L. J. 153 (2018); Darya Haag, *Time to Pay the Dues or Can Intellectual Property Rights Feel Safe With the WTO?*, 8 RICH. J. GLOBAL L. & BUS. 427 (2009); Peter K. Yu, *Three Megatrends in the International Intellectual Property Regime*, 41 CARDOZO ARTS & ENT. L. J. 457 (2023).

In an interconnected world, content produced in one place gets distributed globally, and the question of jurisdiction and different regulatory environments becomes very real. It follows that studying international issues regarding the definition of property rights can provide important insights into the current debates, and how these conflicting tensions might be resolved. A diverse set of case studies that bring to the forefront the analysis of the political economy of property rights can help us to understand the direction of the changes, the ability of the political system to interpret stakeholder preferences, and how the proposed changes can affect the status quo and the economic efficiency of existing regulatory regimes or those that are being contemplated.

III. LEGAL FRAMEWORK FOR SEED VARIETIES

The legal framework for protecting property rights governing new seeds varies worldwide. Different countries offer different types of protection and levels of enforcement of property rights[29]. This issue is prominent given the global market for seeds and the preeminence of the private sector in research and innovation. Agricultural markets are highly integrated globally, and the leading players operate across multiple countries and continents. As a result, market changes in a specific jurisdiction will impact international trade and markets. In addition, in the last decades, research and development in agriculture has become more prominent in the private sector, which requires more substantial property rights protection to develop and introduce new technologies into the market. The combination of these two global forces requires a certain degree of standardization and harmonization in the rules and regulations across countries. The United States and Argentina countries are two of the most important players in global agricultural markets.

To address these coordination issues, two main worldwide initiatives exist for coordinating and harmonizing a set of rules. First, the World Trade Organization (WTO) has proposed the Trade-Related Aspects of Intellectual Property Rights (TRIPs), which all member countries should follow. Nonetheless, intellectual property rights protection continues to be one of the most contentious issues in the WTO, without reaching a widespread agreement, especially in the case of developing and emerging countries, who perceive themselves as consumers of new technologies and not as producers

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29. *See* Dhabir H. Wani et al., *Intellectual Property Rights System in Plan Breeding*, 29 J. PLANT SCI. RSCH. 112, 113-24 (2013).

in the short term.[30] Furthermore, the collapse of the WTO negotiation round and the recent backlash from developed countries, such as the U.S., have called into question the WTO's legitimacy and ability to navigate global diplomacy. The further weakening of WTO support across several countries diminishes the power and influence of TRIPs as an effective tool for property rights protection. In short, multinational companies cannot rely on these instruments to adequately protect their property rights.

Second, for new seeds and agricultural research, the International Union for the Protection of New Varieties of Plants (UPOV) represents the leading global regulatory effort. This international organization works with a large group of countries that are active members and pledged to agree on the standard rules and guidelines for the protection of property rights. The first UPOV general agreement came to light in 1962 and established basic guidelines for protecting new plant varieties. These protections were widened in 1978 and then again in 1991. The UPOV 1978 agreement was the first one to introduce a system for protecting property rights through commercialization rights for the creators of new plant varieties. These rights allow companies and private actors exclusive rights to sell registered new varieties. For many countries, this was a novel and valuable system. They were able to organize their innovation efforts, create databases, and reward innovation. However, for other developed countries, including the U.S., this system fell short of providing adequate protection for new varieties. The equivalent system in the U.S. is the certificates granted by the Plant Variety Protection Act (PVPA), but they are not the most popular instrument for protecting inventions in new seeds, with most private actors preferring to rely on the utility patent system to protect their innovation.

Meanwhile, the European Union has supported UPOV and its agreements. While the UPOV agreements offer broad guidelines, the organization lacks any enforcement power to ensure active compliance. Individual member countries are charged with creating active enforcement of the agreement. This leads to different levels of enforcement around the world, especially in developing countries, which depend on imported technologies for their seeds. This is one of the main reasons why UPOV has many member countries that promise to abide by their resolutions but preserve their autonomy when it comes to enforcement. As a result, there are limits to changes that UPOV can implement or require for its member countries.

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30. *See* Debra M. Strauss, *The Application of TRIPS to GMOs: Intellectual Property Rights and Biotechnology*, 45 STAN. J. INT'L L. 287, 287-320 (2009).

Given the difficulties in establishing an international system for property rights protection, the global regulatory environment continues to be fragmented. Companies need to adapt to the local reality in each country, and inventions are not easily shared across the globe. In addition, due to the importance of large multinational corporations in producing seeds and the recent concentration of economic power in a few companies, there are strong pressures and lobbies to change and adapt local rules to benefit different constituents and economic actors. Then, each country's regulatory framework is not simply the result of objective and efficient decision-making by governing bodies, rather they arise from the interaction of different political and economic interests in a growing and valuable market for seeds. Understanding the political economy of property rights protection in agriculture in each country allows us to assess the direction and challenges for property rights protection reform efforts.

A. Property Rights in the United States

To understand the institutional framework in Argentina, we would like to offer a short description of the system in the United States to serve as a point of reference. First, most global private sector actors understand the system in the United States and use it when looking at other countries' rules and regulations. Second, it is well-established that the United States provides one of the most comprehensive and exhaustive protections for property rights in seeds. Then, the reader can better assess the level of protection that a given system offers by evaluating its distance from the U.S. system. Finally, in developing countries that consider themselves consumers of new technologies and innovation, the U.S. provides a definitive framework to protect innovators and companies that produce new seed varieties.

In the United States, inventors of new seed varieties can obtain a PVP certificate or a utility patent or both for protecting a new seed variety. The PVP certificates were first established by the Plant Variety Protection Act of 1970 (PVPA). This regulatory system was similar to the UPOV agreements, and the U.S. government amended the PVPA framework to satisfy the UPOV agreement of 1991. As a result, the PVPA offers researchers the same level of protection established by UPOV internationally. Second, seed producers can select to protect their invention by a utility patent, according to the Patent Act of 1952.[31] In addition, the U.S. Supreme

[31] *See* 35 U.S.C. § 101 (2000). This greatly expanded the subject matter eligible for

Court has explicitly endorsed the expansion of property rights protection for seeds and plants. In the critical cases of *Diamond v. Chakrabarty* and *J.E.M. Ag Supply, Inc. v. Pioneer Hi-Breed Int'l, Inc.*,[32] the Supreme Court gave seed producers full protection for their new varieties.[33] These legal developments opened the gates to a substantial investment in research and innovation in the private sector. Increasingly, patents for biotechnology and plant varieties became extremely common, fostering even more growth in research and innovation. As a result, the U.S. system provides an example of a system with strictly enforced property rights, where inventors can fully benefit from their discoveries, and farmers pay royalties accordingly. This regulatory system is usually held as an extreme example of a market approach when discussing policy changes in Argentina. It is important to remember this when describing the current Argentine system and the proposed changes in the following sections.

B. Legal Protection in Argentina: An Unfinished Debate

Argentina's legal system for seed protection is not as well defined as in the United States. Furthermore, one of the most critical issues is the lack of enforcement of property rights which

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protection:

> The *Patent Act of 1952 (P.A.)* extends patent rights to agricultural innovations under a much more general category that includes "any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvements thereof." Patent protection under the P.A. covers agricultural machinery, equipment, chemicals, production processes, and similar inventions and is termed "utility patent protection." More importantly, the P.A.'s broad definition of what may be entitled to patent protection leaves an essential opening for covering biotechnology and genetic engineering innovations.

Jorge Fernandez-Cornejo, *The Seed Industry in U.S. Agriculture: An Exploration of Data and Information on Crop Seed Markets Regulation, Industry Structure, and Research and Development,* U.S. DEP'T. AGRIC. ECON. RSCH. SERV 19 (Jan. 1, 2004).

32. J.E.M. Ag Supply, Inc. v. Pioneer Hi-Bred Int'l, Inc., 534 U.S. 124 (2001).

33. *See id.* at 145.

> In a 6-2 decision handed down in December 2001, the U.S. Supreme Court confirmed that plants are eligible subject matter for protection under the utility patent regime, notwithstanding the existence of limited forms of intellectual property protection for plants under the Plant Patent Act (P.P.A.) and the Plant Variety Protection Act (PVPA). The case, *J.E.M. Ag Supply v. Pioneer Hi-Bred*, endorsed a longstanding practice of the U.S. Patent and Trademark Office (P.T.O.), under which the P.T.O. has issued hundreds of utility patents on plants since 1985.

Mark D. Janis & Jay P. Kesan, *Intellectual Property Protection for Plant Innovation: Unresolved Issues After J.E.M. v. Pioneer,* 20 NATURE BIOTECHNOLOGY 1161 (2002).

leads to abuses by some farmers and complaints from companies and other producers of new technologies. While Argentina's prominence in global agricultural markets and its high level of education and sophistication in agriculture should provide an excellent environment for the development of local, novel technologies, and in many cases it does, there is also a vision of a country that is a developing and emerging economy that consumes most of the innovation from developed countries. As a result, legislative and regulatory efforts reflect this tension of countervailing effects regarding agricultural innovations. [34] Furthermore, Argentina is not a common law country, like the United States, but a Civil Code country, which implies that the Government has a much more substantial role in creating regulations compared to the judicial system. As a result, the efforts to regulate new seed varieties have advanced through three parallel avenues, which we will analyze in more detail. First, we have the patent system, which several multinational companies have tried to use in a manner similar to the United States. Second is the use of Seed Laws, the primary mechanism to regulate and establish guidelines and directives for innovations in seed varieties. This regulatory framework followed the UPOV agreements. Finally, creating a specific regulatory framework for genetically modified organisms depends, in part, on the second regulatory framework. Then, changes in these three areas have produced several attempts to pursue a definitive Seed Law, an analysis of the political economy of which we provide in the latter sections of this work.

1. Patent Legislation in Argentina

The patent system in Argentina was initially regulated by Law 111 from 1864. Articles 3 and 4 of this Law established the matters subject to patenting,

> Art. 3. New discoveries or inventions are: new industrial products, new means, and the new

[34] Oscar H. Cerquera, *Derechos de Propiedad y Ley de Semillas: Distorsiones y Regulaciones, Caso Argentino,* 31 REVISTA DE CIENCIAS AGRÍCOLAS 106 (2014); Tamara Perelmuter, *Ley de semillas en Argentina: avatares de una reforma que (aún) no fue* 47 REVISTA INTERDISCIPLINARIA DE ESTUDIOS AGRIARON 73 (2017); Nicolás A. Trivi, *La Ley de Semillas en Argentina: la disputa por el control y el futuro de la agricultura,* 7 REVISTA DE ESTUDIOS SOBRE ESPACIO Y PODER 57 (2015); Andres A. Gallo & Jay P. Kesan, *Property Rights Legislation in Agricultural Biotechnology: United States and Argentina,* 7 MINN. J. L. SCI. & TECH. 565 (2006); Nicolás Pérez Trento, *Las transformaciones globales en la producción de semillas y su impacto en el conflicto por el uso propio en Argentina*, 30 CIENCIA, DOCENCIA Y TECNOLOGÍA 236 (2019); Miguel A. Rapela, *Ley 20.247 de Semillas y Creaciones Fitogenéticas: las razones para su actualización y los proyectos bajo análisis en Argentina*, REVISTA INTERDISCIPLINARIA DE ESTUDIOS AGRARIOS 69 (2016).

> application of known means to obtain a result or an industrial product.
>
> Art. 4. Pharmaceutical compositions, financial plans, discoveries, or inventions that have been sufficiently published in the country, or outside of it, in printed works, brochures, or newspapers to be executed prior to the application are not subject to patents, those that are purely theoretical without indicating their industrial application, and those that are contrary to good customs or the laws of the Republic.[35]

Article 3 seems to limit the matter of patents to industrial products by including this classification very specifically. Furthermore, Article 4 offers a wide variety of matters excluded from patents. Furthermore, including matters "contrary to good customs or the laws of the Republic" leaves a wide degree of discretion about exclusion.

In addition to defining what could be patented, the Law established a Patent Office at the national level, provided the necessary staff, and described the procedures and fees to obtain a patent. It also established term limits for patents, 5, 10, and 15 years, depending on the merit of the invention, and the penalties for falsification and other procedural abuses. Law 111 was in place for an extended period until it was modernized in 1995 and 1996 by an array of Laws and Decrees. In May 1995, Congress passed the Law 24481, modifying Law 111. Then, that same year, Congress passed the Law 24,572, which modified some of the articles of the Law 24,481. The Executive Power enacted the Decree 590 of 1995, regulating the implementation of these two new laws and Law 111. Then, in 1996, Congress passed Law 24,603, which established that Law 24,481 and its modification by Law 24,572 replaced Law 111, and that these new laws were following the international agreements of TRIPS (from the WTO) and Paris Convention for the Protection of Property Rights, Stockholm Act, of 1967. Finally, the Executive Power enacted the implementation of Decree 260 of 1996, enacting the final Patent Law. This flurry of changes in a short period brought significant changes to the Patent system in Argentina, but it did not open the door to patent protection for agricultural varieties. The new Patent Law offered a much more comprehensive array of matters that could be patented:

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35. Law No. 111, Oct. 11, 1864, 352 (Arg.) (Author's translation of art. 3, 4).

> ARTICLE 4 - Product or procedure inventions will be patentable, provided they are new, involve an inventive activity, and are capable of industrial application.
>
> a) For the purposes of this Law, any human creation that allows matter or energy to be transformed for use by man shall be considered an invention.
>
> b) Likewise, any invention that is not included in the state of the art will be considered novel.
>
> c) The state of the art should be understood as the set of technical knowledge that has been made public before the filing date of the patent application or, where appropriate, of the recognized priority, through an oral or written description, by the exploitation or by any other means of dissemination or information, in the country or abroad.
>
> d) There will be inventive activity when the creative process or its results are not deduced from the state of the art in an obvious way for a person generally versed in the corresponding technical matter.
>
> e) There will be industrial application when the object of the invention leads to obtaining a result of an industrial product, understanding the term industry as comprehensive of agriculture, forestry, livestock, fishing, mining, industries of transformation itself, and services.[36]

This article specifies that new products or procedures that involve inventive ability and are capable of industrial application can be patented. Furthermore, part (a) establishes that "any human creation" can be considered an invention. Finally, in part (e) agriculture is included as one of the industries where these patents can be applied. By casually reading this article, one may conclude that seeds could be a matter of patents. However, Articles 6 and 7 quickly dispel such ideas:

> ARTICLE 6 - The following will not be considered inventions for the purposes of this Law:
>
> a) Discoveries, scientific theories, and mathematical methods;

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[36] Decree No. 260/96, Mar. 20, 1996 [28360] B.O. 1 (Arg.) (Author's Translation of art. 4).

> b) Literary or artistic works or any other aesthetic creation, as well as scientific works;
>
> c) The plans, rules, and methods for the exercise of intellectual activities, for games or economic-commercial activities, as well as computer programs;
>
> d) The forms of presentation of information;
>
> e) Surgical, therapeutic, or diagnostic treatment methods applicable to the human body and those related to animals;
>
> f) The juxtaposition of known inventions or mixtures of known products, their variation in shape, dimensions, or materials, except in the case of their combination or fusion in such a way that they cannot function separately or that the characteristic qualities or functions of they are modified to obtain an industrial result that is not obvious to a person skilled in the art;
>
> g) All kinds of living matter and pre-existing substances in nature.
>
> ARTICLE 7 - The following are not patentable:
>
> a) Inventions whose exploitation in the territory of the ARGENTINE REPUBLIC must be prevented to protect public order or morality, health or life of people or animals or to preserve plants or avoid severe damage to the environment;
>
> b) The totality of the biological and genetic material existing in nature or its replication in the biological processes implicit in animal, plant, and human reproduction, including the genetic processes related to the material capable of conducting its duplication under normal and free conditions such as it happens in nature.[37]

Section (g) of Article 6 prevented patenting "living matter and pre-existing substances in nature." Furthermore, Article 7, section (b) prohibits patenting biological and genetic material. As a result, new inventions in seeds and plant varieties are ineligible for patent protection, leaving researchers to resort to other legal mechanisms for protection.

More recently, this legislation was modified by Law 25,859, enacted in January 2004. The new legislation introduced minor

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[37] Decree No. 260/96, Mar. 20, 1996 [28360] B.O. 1 (Arg.) (Author's Translation of art. 6, 7).

changes to some of the articles in the 1996 Law. Other procedural changes intended to expedite procedures were introduced by Law 27,444 in May 2018 and complemented by Executive Decree 403 of 2019. While increasing the eligible areas for patenting, the modifications to the patent system did not include the patenting of organisms and plants.

Table 1: Evolution of Patent Legislation[38]

Legislation	Year	Notes
Law 111	1864	Established a patent system in the country
Law 24,481	1995	Significant changes to Law 111
Law 24,572	1995	Introduced some changes to Law 24,481
Decree 590	1995	Enacted changes from Laws 24,481 and 24,572
Law 24,603	1996	Unified laws 24,481 and 24,572. Brought together international Agreements: TRIPS and the Paris Agreement for Industrial Property Protection.
Decree 260	1996	They enacted laws 24,481, 24,572, and 24,603, setting up the new patent system in Argentina.
Law 25,859	2004	Modified some articles in the previous Law
Law 27,444	2018	Procedural changes to expedite processes across the National Administration
Decree 403	2019	Enacted changes in Law 27,444

Despite not including genetically modified organisms and organic material in its patent laws, Monsanto challenged this system and pushed for a patent regime in Argentina. In February 1996, Monsanto presented a claim for a patent of a genetically modified seed to the Instituto Nacional de la Propiedad Industrial (INPI), the agency in charge of evaluating and granting patent claims. This request coincided with the enactment of the new patent law, and it was a clear challenge to the spirit of the new regulatory framework. After reviewing the case and seeking expert opinions on this matter, the INPI denied this patent request in 2000. This

[38] Own elaboration, based on Law texts. Information can be found at: http://www.infoleg.gob.ar/.

verdict followed the reading of the Law and Article 6 mentioned above. Monsanto reapplied, noting the TRIPS agreements and the existence of a previous patent in the United States, but it was denied again by INPI in 2004. As a result, Monsanto sued INPI under the argument that its decision contradicted the WTO's TRIPS agreement, that the specific genotype was not in pre-existence, and that Article 6 of the Patent law and other implementation ordinance articles were unconstitutional. In the first instance, the court decided in 2007 that the matter was patentable under Argentine Law and that INPI should grant a patent to Monsanto.[39] This verdict would change Argentine seed legislation by opening patent protection as an option to protect seed innovation. Nonetheless, INPI appealed that ruling to a Federal Appeal Court, which determined in November 2015 that INPI was right and that the matter was not patentable under Argentine Law. INPI specified in its Resolution 283/2015 that plants and organic components are not subject to patents.[40] Afterwards, Monsanto appealed to the Supreme Court, which decided in April 2019 that the appeal would not be considered. As a result, Monsanto lost its quest to obtain a patent. However, despite Monsanto's failure, this example shows the instability of the legal system in Argentina and the evolving nature of these matters. Currently, other challenges are trying to access the patent system for genetically modified organisms and plant varieties.

This is not the only challenge to the patent laws in Argentina. In 2005 and 2006, Monsanto analyzed the DNA of soybeans exported from Argentina to the European Union, and it determined that these seeds were protected under a European Union patent (C-428/08, Monsanto Technology L.L.C. c. Cefetra BV y otros - 6-7-2010).[41] Then, Monsanto put forward a claim at the Hague Court, requesting a prohibition against importing soybean grains from a country that does not recognize the E.U. patent. Furthermore, Monsanto claimed that they had stopped selling the Roundup Ready soybean seeds in Argentina, and that the grain exported to the E.U.

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39. *See* Felipe Filomeno, *How Argentine Farmers Overpowered Monsanto: The Mobilization of Knowledge-users and Intellectual Property Regimes,* 5 J. OF POL. IN LATIN AM. 35, 35-71 (2013); Marcelo Dias Varella, & Maria E. Pinto Marinho, *Contesting Monsanto's Patent on Life: Transnational Judicial Dialogue and the Influence of the European Court of Justice on Soybean-Exporting Countries,* 16 TULANE J. OF TECH. & INTELL. PROP. 79, 79-104 (2013).

40. *See* National Institute of Industrial Property, Resolution 283/2015, *https://www.argentina.gob.ar/normativa/nacional/resoluci%C3%B3n-283-2015-252851/texto* (last visited Feb. 12, 2025).

41. *See* Tribunal de Justicia de la Unión Europea, https://www.csjn.gov.ar/dbre/Sentencias/ueMonsanto.html.

was from seeds that farmers used without paying royalties.[42] However, in 2010, the European Union Court decided that Monsanto had no claim in this case, and that they could not stop imports from Argentina since the soybeans were used in a jurisdiction away from the European Union.[43]

2. Regulatory Framework for New Seed Varieties

Since the legislation and jurisprudence in Argentina do not allow for patents to protect new seed varieties, there is a need for different regimes to obtain legal protection for seed innovation. This system is based on the use of commercialization rights granted by the National Government to innovators and breeders of new varieties. The Law of Elevadores de Granos, Law 12,253 of 1935, established the first regulatory framework for registering new varieties in the country, creating a registry for varieties and a process of approval at the National level. However, this Law did not provide adequate legal protection for seed producers. In the following decades, different governments put different agencies in charge of the registry, without significantly modifying the legal system. In 1956, the creation of the Instituto Nacional de Tecnología Agropecuaria (INTA) by Decree/Law 21,680 gave an impulse to public investment in research and technology in agriculture. Besides the creation of INTA, there has not been much change in property rights legislation for decades. Finally, a Military Government enacted Law 20,247 in 1973, known as "Ley de Semillas" (Seeds Law).[44] This was the first piece of legislation focused on property rights in seeds and new plant varieties in agriculture in the country. Among the main changes, we highlight the following. First, the Law created the Comisión Nacional de Semillas (CONASE).[45] This Commission is comprised of ten members from the government and the private sector. These members were appointed by the National Ministry of Agriculture and Livestock (Article 5, Law 20,247). This Commission was in charge of proposing rules and regulations for the enforcement of Law 20,247, naming the varieties of seeds to be included under the Law, determining different technical issues suggested by the Ministry, advising on various pieces of legislation at the National

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42. *See* Jon W. Miller, *Monsanto pierde caso clave contra Argentina*, LA NACION, July 7, 2010, https://www.lanacion.com.ar/economia/monsanto-pierde-caso-clave-contra-argentina-nid1282429/.

43. *See id.*

44. *See* Law No. 20.247, Mar 30, 1973, P.E.N. (Arg.) (providing the text of the law).

45. CONASE is the National Commission of Seeds—Law 20,247, at http://www.infoleg.gob.ar/.

and Provincial level related to the matters of the Law 20,247, proposing penalties according to the Law, mediating conflicts between the National Ministry and companies, and proposing fees for the services provided under the Law. The Commission proposed changes and improvements to the legislation (Article 7). Second, the Law requires that all seeds be identified; the Law also created a category of "inspected" seeds for those verified and certified by the Government (Articles 9 and 10). Third, the Ministry was in charge of maintaining a registry for seed producers (national and representatives of international producers), the National Registry of Seed Commerce and Inspection (Registro Nacional del Comercio y Fiscalización de Semillas, Article 13). Fourth, the Law created a National Registry of Cultivars (Registro Nacional de Cultivares, Article 16), tracking every new commercial variety in the country. In addition, the legislation specified regulations, term limits, and other rules regarding registering new varieties (Table 2).

Table 2[46]

Item	**Legislation**
Registering new varieties	Specification of procedure, terms, and other details necessary for completing the procedure (Articles 17 and 18)
Goal of Registry	To protect inventors' property rights for those original varieties (Articles 19 and 20)
Agency Verifying Original Variety	Ministry of Agriculture and Livestock (Article 21)
Term of Property Right	10 to 20 years, depending on the species and regulations (Art. 22).
Other specifications and regulations	Transfer of property rights, international applicants (Art. 23 to 27)
Public Use	The Government could determine the "restricted" public use of a seed under certain circumstances (Article 28), but for no more than two years (Article 29).

Fourth, the Law established fees and subsidies for the registry system (Articles 31 to 34). Finally, it established monetary penalties for using non-identified seeds and the ability of control and enforcement by the National Ministry of Agriculture and Livestock (Articles 35 to 48). Finally, in addition to the "restricted" public use, the Law 20,247 established the right of farmers to save their seeds:

[46] Law No. 20.247, Mar 30, 1973, P.E.N. (Arg.), available at http://www.infoleg.gob.ar/.

> It does not infringe the property right over a cultivar who delivers, under any title, its seed with the authorization of the owner, or who saves and sows seed for their own use, or who uses or sells as raw material or food the product obtained from the cultivation of such phytogenetic creation.[47]

As a result, even though the Law establishes property rights for creating and registering new varieties, it leaves different uses under certain private and public circumstances. Over time, this characteristic made this legislation insufficient for private companies, especially the multinational ones. As we explained in the previous section, Monsanto's efforts to patent its soybean seeds represented an attempt to obtain more robust property protection than the one offered by this Law and its modifications. Law 20,247 was finally implemented by Decree 1,995 of 1978, which set up the National registry for new varieties and seed producers in motion. As a result, all official data on new varieties in Argentina can be traced back to 1978. In the early 1990s, the Government sought to bring the legislation closer to the general guidelines established by the UPOV 1978 agreement and its latter version, UPOV 1991. To that end, the Decree 2183 of 1991 modified the regulatory structure of the Law 20,247. First, it created the Servicio Nacional de Semillas (National Service of Seeds - SENASE), which would support the regulatory and enforcement tasks assigned to the CONASE. Second, it specified a more detailed definition of seeds and their diverse types. Third, the Decree detailed the information necessary for the National Registry of Cultivars and the National Registry for Seed Commerce and Inspection. The SENASE would maintain both registries. Fourth, it established the specific rights, scope, and restrictions on property rights over a new variety. In this crucial aspect, the decree waived the need for authorization or knowledge from the owner for seeds used for research on new varieties. Furthermore, the Decree re-emphasized the waivers for "restricted" public use and for farmers saving their seeds (Articles 46 and 44, respectively). While this decree produced a more specific institutional framework and better defined some of the concepts in Law 20,247, it does not increase property rights protection beyond what was already established. A few months later, Decree 2817/91 created the Instituto Nacional de Semillas (National Institute of Seeds—INASE), which replaced the SENASE.[48]. The Decree transferred all regulations from the SENASE to the newly created

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47. *Id.* at art. 27(Author's translation).
48. *See* Decree No. 2817/91, Apr. 6, 1991 [27363] B.O. 3 (Arg.).

INASE, established the structure of its Board of Directors, and defined its relationship with the Secretary of Agriculture, Livestock and Fishing. In addition, it defined the penalties that INASE could establish upon infringement of property rights. These penalties ranged from a written warning to the closure of premises (Article 20). This decree finalized the institutional setup that is still in place today.

Another significant change happened in 1994, with the passage of Law 24,376, which ratified the international agreement of UPOV 1961 and UPOV 1978, bringing the Argentine legislation in conformity with these international guidelines.[49] The INASE continued to manage, review, and enforce the property rights regulatory system for Argentine farmers. However, during the economic crisis in 2000, the Government suddenly eliminated the INASE (Decree 1104/2000).[50] The Government explained that the National Ministry of Agriculture could accomplish INASE's task, and that this decision was based on rationalizing and modernizing the State. However, this decision was not well accepted, and the INASE was reestablished by Law 25,845 of 2004.[51] Despite these institutional changes, the INASE has been in charge of regulating property rights in seeds.

One of the main areas where the INASE has a vital role is in defining the right to save seeds by farmers. One of the most significant changes introduced in 1994, with the passage of Law 24,376, which ratified the international agreement of UPOV 1961 and UPOV 1978, was the following:

> The provisions of the Convention, which is approved by this law, shall prevail, with regards to the States that are part of it, over the Law 20,247.[52]

The UPOV agreement takes precedence over Law 20,247, implying that the farmer's right to save seeds is curtailed. The UPOV 1978 document established exceptions to property rights for research into new varieties but not for farmers. Then, the INASE issued a resolution in 1996.[53] This Resolution specified, in more precise terms, the farmers' rights to use their seeds, leaving no doubt that Law 20,247 and Decree 2,817/91 were still valid despite

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49. *See* Law No. 24.376, Oct. 25, 1994, O.J. (Arg.).

50. *See* Decree No. 1104/2000, Nov. 28, 2000 [29535] B.O. 1 (Arg.) (Rule repealed Law No. 25.845, Jan. 07, 2004 (Arg.)).

51. *See* Law No. 25.845, Jan. 07, 2004 (Arg.).

52. Own translation: Las disposiciones del Convenio, que por la presente ley se aprueba, prevalecerán, con respecto a los Estados que de él sean parte, sobre la Ley 20.247 at art. 2.

53. Resolution No. 35/1996, Mar. 14, 1996, [28,354] B.O. 23 (Arg.).

the confirmation of the UPOV 78 agreement through Law 24,376. Accordingly, the Resolution established that:

> The conditions for setting up the "farmer exception" provided for in article 27 of Law 20,247 are those mentioned below:
>
> a. Being a farmer.
>
> b. Having legally acquired the original seed.
>
> c. Having obtained the current seed from the one legally acquired.
>
> d. Reserve from the harvested grain the volume of seed that will be used for subsequent sowing, individualizing it by variety and quantity before processing.
>
> There will be no exception for the farmer when he has acquired the seed to be sown by means other than the reserve itself, either for consideration or free (purchase, exchange, donation, etc.).
>
> e. The reserved seed should be sowed by the farmer and utilized on his farm. Destinations other than sowing by the farmer are not included in Article 27 of Law 20,247.
>
> The destinations of sale, exchange, or exchange by the same farmer or through an intermediary person are expressly excluded.
>
> The exception only benefits the farmer and not third parties.
>
> f. The seed reserved for its use must be kept separate from the grain, preserving its identity and individuality from the moment it is removed from the farm by the farmer and said identity maintained throughout the processing, conditioning, and depositing stage until the moment of its sowing in the farmer's estate.
>
> To become a beneficiary, except for the farmer, the interested party must prove compliance with the conditions indicated in this article.[54]

This definition is much more specific than the broad definition in Law 20,247, but it preserves farmers' use from the international UPOV agreements. As a result, farmers were protected from using saved seeds, and multinational corporations continue to pressure

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[54] Resolution No. 35/1996, Mar. 14, 1996, [28,354] B.O. 23 (Arg.) (Author's Translation from Article 1).

the Government to obtain further protection. However, some farmers' associations were unhappy with the stricter definition and sought this Resolution to indicate that the Government was caving to companies' demands for more strict property rights protection.[55]

The definition of and limits on farmers' rights continued to change. The Secretary of Agriculture, Livestock, Fishing, and Food issued a Resolution in 2003 (Resolution 52/2003) establishing that farmers should indicate to the Secretary the amount and type of seed they were planning to use.[56] Furthermore, they had to provide documentation that they had legally bought that seed. This directive applied only to soybeans, wheat, and cotton.[57] This added further limits to the use of saved seeds. In addition, the Resolution of the INASE in 2007 established a registry for all soybean and wheat farmers (Resolución 80/2007).[58] This Resolution established that this registry was confidential, but the INASE could use this information to establish the origin and legality of the seeds used in each location. In 2015, a new Resolution from the INASE established that the presentation of the sworn declaration on the stock of seeds and saved seeds was obligatory for all farmers planting soybeans (Resolution 187/2015).[59] The only exception was for those farmers in the National Registry of Family Farmers (Article 2, Resolution 187/2015).[60] Furthermore, Resolution 149 of 2016 extended the requirement of an obligatory affidavit to Wheat producers (Resolution 149/2016).[61] Further, Resolution 207 from INASE established that the Institute had the authority to obtain samples of the seeds delivered by farmers. These samples could be requested by the INASE for inspection of their precedence (Resolution 207/2016).[62] However, Resolution 524 from 2016 prorogued this requirement for the season 2016/17.[63] Resolution 799-E/2017 established new parameters for enforcing this affidavit for the campaign 2017/18 (Resolution 799-E/2017).[64] Furthermore, a new resolution extended this requirement to the harvest season 2018/29 (Resolution 109/2018).[65] However, some of the

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55. *See* Tamara Perelmuter, *Ley de semillas en Argentina: avatares de una reforma que (aún) no fue*, 47 REVISTA INTERDISCIPLINARIA DE ESTUDIOS AGRARIOS 75 (2017).

56. Resolution No. 52/2003, July 21, 2003, [30,195] B.O. 3 (Arg.).

57. *Id.*

58. *See* Resolution No. 80/2007, Apr. 25, 2007, [31,142] B.O. 9 (Arg.).

59. *See* Resolution No. 167/2015, Jun. 22, 2015, [33,155] B.O. 14 (Arg.).

60. The National Registry for Family Farmers was created by Resolution No. 255/2007. Resolution No. 255/2007, Oct. 26, 2007, [31,268] B.O. 18. (This Registry includes small farms related to indigenous populations or particular areas of the country).

61. *See* Resolution No. 149/2016, May 19, 2016, [33,382] B.O. 56 (Arg.).

62. *See* Resolution No. 207/2016, Jun. 24, 2016, [33,405] B.O. 41 (Arg.).

63. *See* Resolution No. E 524/2016, Nov. 29, 2016, [33,513] B.O. 36 (Arg.).

64. *See* Resolution No. E 799/2017, Oct. 18, 2017, [33,732] B.O. 38 (Arg.).

65. *See* Resolution No. 109/2018, Oct. 23, 2018, [33,980] B.O. 39 (Arg.).

requirements for submitting the information and how the information was going to be utilized were relaxed.[66] Afterward, the government did not enact significant decisions, and the failed bill presented in Congress in 2018 could not put forward a new definition of fair use by farmers and other important actors in the country.

Consequently, Table 3 summarizes the evolution of the changes in the definition and extent of farmers' right of use in Argentine legislation.

Table 3[67]

Legislation	**Year**	**Farmers' Rights Definition**
Law 12,253	1935	Did not define any specific legal protection for farmers. Its main definitions were not enforced.
Law 20,247	1973	Defined farmers' right to use in a broad fashion.
Decree 2183	1991	Established INASE and charged it with managing the system. Maintained farmers' rights to use as in Law 20,247.
Law 24,376	1994	UPOV 61 and 78 were established above Law 20,247 and Decree 2183. As a result, farmers' rights seemed extinguished.
INASE Resolution 35	1996	Define farmers' rights very specifically. Moves away from UPOV and back to the Law 20,247 definition.
Secretary of Agriculture Resolution 52	2003	Established a national registry for farmers to declare their Soybean, Wheat, and Corn seeds.
INASE Resolution 80	2007	Established rules and regulations for the Registry and its usage. Limited the regulations for Soybean and Wheat.
INASE Resolution 187	2015	Established a sworn declaration as part of the registry. Just for Soybean.

66. *Id.*

67 Own elaboration based on different legislation.

INASE Resolution 149	2016	Extended the sworn declaration to Wheat.
INASE Resolution 207	2016	Established its authority to request samples of seeds from farmers. Farmers were obligated to sample their crops at the point of delivery.
INASE Resolution 524	2016	Delayed the implementation of Resolution 207 to the next crop season
INASE Resolution 799-E	2017	Delayed implementation for another crop year
INASE Resolution 109	2018	Established more relaxed regulations for Resolution 207 and extended implementation to the next crop season

While this definition has evolved, and the Government introduced changes to make it stricter for farmers to use their saved seeds, there is still a need for a comprehensive definition and enforcement system that could bring together the legislative efforts in patents and the evolution of the commercial rights just described. In addition, genetically modified seeds' appearance and popularity among farmers in Argentina produced the need for a system that could support those innovations.

3. Genetically Modified Organisms: A Special Case

Argentina's farmers were some of the first and fastest to adopt genetically modified seeds in their crops, following a similar development to that of the U.S. However, innovators and multinational companies cannot use the patent system or the cultivar registry in INASE to register their innovations. Accordingly, the Government built a parallel system using the institutional structure of the INASE but with specific rules for biotechnological innovations. In 1991, the Secretary of Agriculture created the Advisory National Commission for Rural Biotechnology (CONABIA, from its name in Spanish, Comisión Nacional Asesora de Biotecnología Agropecuaria). The creation of this Commission, by Resolution 124 from the Secretary of Agriculture, came at almost the same time as the Government put the INASE in charge of the regulatory system for new seed varieties. In this resolution, the government acknowledges the improvements that biotechnology research has brought forth for food production, and the need to

assess the impact on the environment and productive sectors. At the same time, the Government recognizes the need to work together with the private sector to reach an adequate integration of scientific knowledge, the production sector, and the legal/regulatory framework.[68] As a result, the CONABIA had 14 members from the Government, science agencies, Universities, and industry representatives.[69] Accordingly, the duties of the CONABIA were to:

> a. To advise the Secretariat on the technical and biosecurity requirements that genetic materials obtained by biotechnological processes must meet before they are incorporated by any procedure or method and in any capacity (testing, dissemination, etc.) into the biosystem.
>
> b. To propose rules and issue opinions on the issues within its competence.
>
> Collaborate with official bodies that request it within the framework of current legal regulations.
>
> c. To lay down its rules of procedure.
>
> d. To enable and coordinate committees for the treatment of specific issues, which may be permanent and will be integrated under the provisions of its Internal Regulations.[70]

Then, while CONABIA seems to have a broad spectrum of action, in almost every biotechnological issue regarding agriculture, it has no power to set up new regulations or police existing ones. Its power is limited to advising the Secretary of Agriculture on policy matters. Nonetheless, by 1992, the CONABIA recommended that the Secretary of Agriculture, Livestock and Fishing create a set of regulations and requirements for approving experimental trials with genetically modified seeds. This recommendation resulted in Resolution 656/92, which put forward the forms and procedures that

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68. *Id.*

69. Resolution No. 124/1991, Oct. 24, 1991, [24,062] B.O. 27308 (Arg.) ("Article 2. The National Agricultural Biotechnology Advisory Commission will be made up of two (2) representatives of the National Institute of Agricultural Technology (INTA); two (2) representatives from the National University of Buenos Aires (U.B.A.); two (2) representatives of the Argentine Biotechnology Forum; two (2) representatives of the Biotechnology Committee of the Asociación de Semilleros Argentinos (A.S.A.); two (2) representatives of the private livestock sector; two (2) representatives of the National Council for Scientific and Technical Research (CONICET); the National Director of National Production and Marketing; the Director General of the National Seed Service; the General Administrator of the National Animal Health Service (SENASA) and the National Director of Agricultural Production who will perform the functions of General Coordinator.") (Author's Translation from Article 2).

70. *Id.* at art. 3 (Own translation from Resolution 124/91).

must be followed to request approval for using a genetically modified organism in animals.[71] This Resolution establishes that the application for introducing genetically modified organisms should be approved by the Secretary of Agriculture, Livestock, and Fishing, with the support of CONABIA, which would review each application and issue a decision to the Secretary. The regulations for registering new genetically modified organisms in agriculture continue to evolve throughout the years, with new resolutions shaping the characteristics of the requirements.[72]

In this regulatory environment, the introduction of genetically modified seeds continued to grow. In 2003, the Secretary of Agriculture, Livestock, Fishing, and Food decided to create an Area of Biotechnology within the Secretary. This new area was in charge of discussing biotechnology-related regulatory issues and proposing new rules and regulations in coordination with other organisms and industry actors.[73] However, the relationship between the area of biotechnology and the advisory role of CONABIA was unclear. Then, in 2004, the Secretary of Agriculture, Livestock, Fishing, and Food enacted Resolution 244.2004.[74] In this Resolution, the Secretary created the Office of Biotechnology, with a specific budget and staff, to handle all issues related to biotechnology in agriculture and livestock. This office would advise the Secretary on biotechnology-related policies and handle all authorizations concerning new applications for biotechnology uses. Furthermore, the Office of Biotechnology led CONABIA, solving the issues created by the previous Resolution.

One of the most important regulatory changes was the creation in 2004 of a National Registry for genetically modified vegetable organisms and a registry of entities operating in this area.[75] This Resolution created the National Registry of Operators with Genetically Modified Vegetable Organisms (Registro Nacional de Operadores con Organismos Vegetales Genéticamente Modificados (RNOOVGM)).[76] It also created the National List of Genetically

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71. Resolution No. 656/1992, Aug. 11, 1992, [124] B.O. 1 (Arg.).

72. We will not describe all Resolutions complementing these procedures, as we intend to describe the main changes that defined the current regulatory system.

73. *Id.*

74. Resolution No. 244/2004, Feb. 27, 2004, [124] B.O. 30 (Arg.).

75. Resolution No. 46/2004, Jan. 2004, [124] B.O. 30 (Arg.).

76. *Id.* ("Article 1: The National Registry of Operators with Genetically Modified Plant Organisms shall be created under the jurisdiction of the MINISTRY OF AGRICULTURE, LIVESTOCK, FISHERIES, AND FOOD, which will operate within the scope of the Coordination of Special Biotechnology Projects in the Seeds Area, in which all natural or legal persons who experiment, import, export, produce, multiply, and/or carry out any activity with Genetically Modified Plant Organisms (OVGM) not authorized for marketing in the ARGENTINE REPUBLIC must be registered. The Implementing Authority shall establish the relevant categories and fix the tariffs for each of them.") (Author's translation).

Modified Vegetal Organisms. [77] Furthermore, this Resolution included the INASE as the main responsible for authorizing the commercialization of genetically modified vegetable organisms (Organismos Vegetales Genéticamente Modificados (OVGM)).[78] In addition, the Resolution established other regulations regarding registering and handling Genetically Modified Vegetable Organisms. As a result, this Resolution created a well-established procedure for registering and approving new varieties, which would lead to their commercialization.

The legal procedure for approval of Genetically Modified Vegetable Organisms was clearly described by Resolution 763/2011, which spelled out the path for applicants as follows:

> Article 3 — For the purposes referred to in the preceding Article, it shall be established that:
>
> a) The risk assessment, the design of biosecurity measures, and risk management in the various phases of evaluation will be carried out by the NATIONAL ADVISORY COMMISSION ON AGRICULTURAL BIOTECHNOLOGY (CONABIA) with the Directorate of Biotechnology being its Executive Secretariat, within the framework of Resolution No. 124 of October 24 1991 of the former SECRETARY OF AGRICULTURE. , GANADERIA Y PESCA of the then MINISTRY OF ECONOMY AND PUBLIC WORKS AND SERVICES, its amending and complementary rules, and administrative decision No. 175. dated April 9, 2010.
>
> b) The assessment of food suitability for the case of foods derived from, or consisting of, the GENETICALLY MODIFIED ORGANISM (G.M.O.) for human and/or animal consumption will be in charge of the Directorate of Agri-food Quality under the National Directorate of Food Safety and Quality of the aforementioned NATIONAL SERVICE OF HEALTH AND AGRI-FOOD QUALITY (SENASA),

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77. *Id.* ("Article 5: The National List of Genetically Modified Plant Organisms shall be created under the jurisdiction of the Directorate of the Register of Varieties of the Seeds Area of the MINISTRY OF AGRICULTURE, LIVESTOCK, FISHERIES AND FOOD, where any Genetically Modified Plant Organism (OVGM) submitted to the SECRETARY OF AGRICULTURE, FISHERIES AND FOOD must be registered in order to enter the stage of testing or regulated multiplications in accordance with Resolution No. 39 of July 11 2003 of the Registration of the SECRETARY OF AGRICULTURE, LIVESTOCK, FISHERIES AND FOOD or the rules that in the future replace it.") (Own translation).

78. *Id.* at art. 6 -11.

> with the support of the Technical Advisory Committee on the Food Use of GENETICALLY MODIFIED ORGANISMS (GMOS) of the aforementioned NATIONAL SERVICE OF HEALTH AND AGRI-FOOD QUALITY (SENASA).
>
> c) The control of the development of the activities will be in charge of the NATIONAL INSTITUTE OF SEEDS (INASE) and the NATIONAL SERVICE OF HEALTH AND AGRI-FOOD QUALITY (SENASA), both decentralized organisms in the orbit of the MINISTRY OF AGRICULTURE, LIVESTOCK AND FISHERIES following their respective competences. The audit will be carried out by trained personnel.
>
> d) The analysis of the impacts on production and marketing that may arise from the commercial authorization of a GENETICALLY MODIFIED PLANT ORGANISM (OVGM) will be in charge of the Directorate of Agricultural Markets, under the National Directorate of Processing and Marketing of Agricultural and Forestry Products of the UNDERSECRETARY OF AGRICULTURE of the SECRETARY OF AGRICULTURE, GANADERIA Y PESCA of the MINISTRY OF AGRICULTURE, GANADERIA Y PESCA, without prejudice to any regulations that may be established in the future concerning GENETICALLY MODIFIED ANIMAL ORGANISMS (GMOS) and GENETICALLY MODIFIED MICROORGANISMS (M.G.M.).
>
> e) The commercial authorization of genetically modified organisms (G.M.O.s) for agricultural use will be granted by the SECRETARY OF AGRICULTURE, LIVESTOCK, AND FISHERIES once the evaluations made in paragraphs a), b), and d) of Article 3 of this measure have been completed.[79]

As we can see, different offices oversee and approve new varieties and control them. The approval for commercialization of new Genetically Modified Vegetable Organisms is given to the INASE and the Servicio Nacional de Sanidad y Calidad Agroalimentaria (SENASA – National Service of Health and Agri-food Quality), as well as the control of the legal standing of different varieties,

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79. Resolution No. 763/2011, Aug. 23, 2011, [32218] B.O. 30 (Arg.) (Own translation, at art. 3).

> Article 6 — The commercial authorization shall enable the free marketing and use of the GENETICALLY MODIFIED ORGANISM (G.M.O.), following the terms of the authorization granted, which may include the eventual recovery of the product, by any natural or legal person following the regimes applicable to each activity.
>
> Article 7 — Any release and/or marketing carried out without prior authorization shall give rise to the immediate intervention of the materials involved. The SECRETARY OF AGRICULTURE, LIVESTOCK AND FISHERIES of the MINISTRY OF AGRICULTURE, LIVESTOCK, AND FISHERIES, directly or through the intervention of the NATIONAL SERVICE OF HEALTH AND AGRI-FOOD QUALITY (SENASA) and / or the NATIONAL INSTITUTE OF SEEDS (INASE), will arrange the destination of the materials involved, which may include the destruction of the same." (Own translation, articles 6 and 7, Resolution 763/2011)[80]

As a result, the procedure for obtaining the rights to market a genetically modified vegetable organism is well established (Figure 1).[81]

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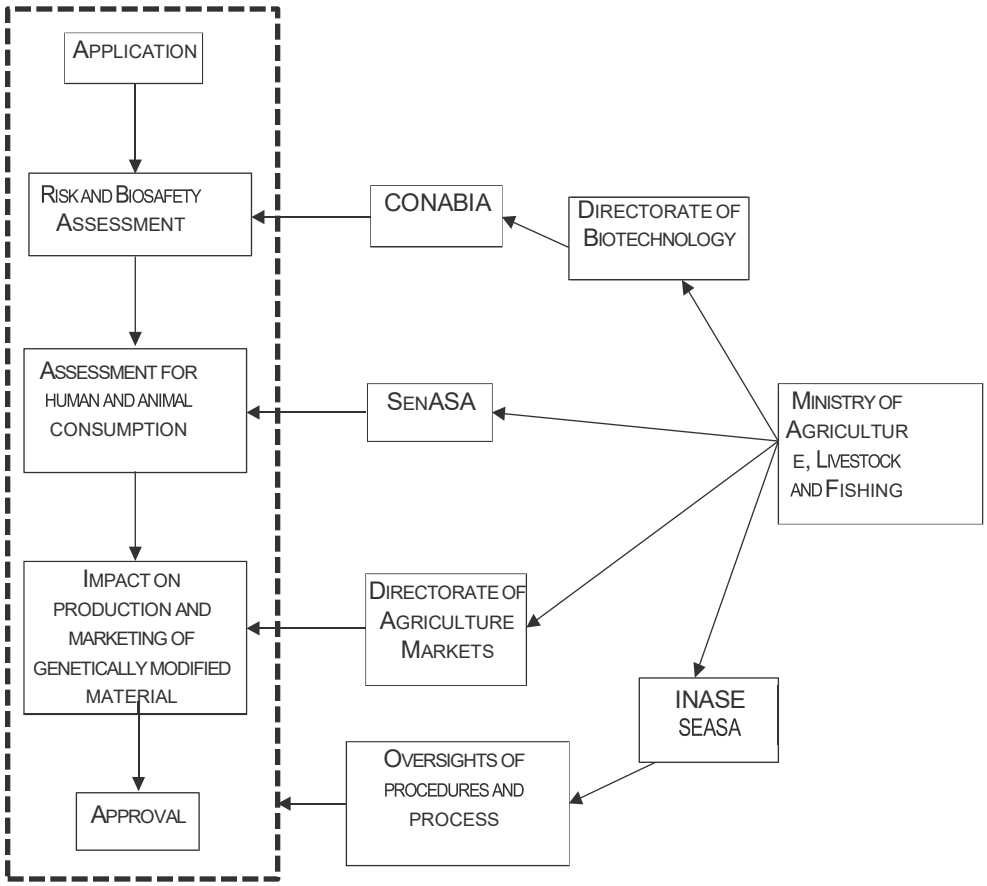
80. *Id.*

81. *See OGM Comerciales,* ARGENTINA.GOB.AR, https://www.argentina.gob.ar/agricultura/alimentos-y-bioeconomia/ogm-comerciales (Last accessed Aug. 22, 2024).

Figure 1



In the last two decades, the procedures to register genetically modified seeds have evolved, and applicants have a better picture of what to expect. However, many bureaucratic procedures and agencies are involved in assessing applications. For example, participation in the CONABIA has dramatically changed from being a technical committee with the involvement of the Government and the Private sectors to being a collegial body with many representatives from many different groups and stakeholders (Table 4).

Table 4: CONABIA Composition[82]

1991		2016-2022		2022	
Organization	**Seats**	**Organization**	**Seats**	**Organization**	**Seats**
National Director of Agricultural Production (Coordinator)	1	Director of Biotechnology (Coordinator)	1	Biotechnology and Innovation Coordinator (Coordinator)	1
Director General INASE	1	INASE	3	INASE	3
Director SENASA	1	SENASA		ECA 6 SENASA	6
INTA	2	INTA	6	INTA	6
CONICET	2	CONICET	6	CONICET	6
Universidad de Buenos Aires	2	Universidad de Buenos Aires	4	Universidad de Buenos Aires	4
Argentine Biotechnology Forum	2				
Asociación Semilleros Arg. (ASA)	2				
Livestock private sector	2				
National Director of Agricultural Production and Trade	1				
		Ministry of Environment and Sustainable Development	2	Ministry of Environment and Sustainable Development	2
		Health Ministry	2	Health Ministry	2
		Universidad N. de San Martin	2	Universidad N. de San Martin	2

[82] Own elaboration based on Decree 124/91, and CONABIA, at https://www.argentina.gob.ar/agricultura/bioeconomia/biotecnologia/conabia; Resolución 112-E/2016 Ministerio de Agroindustria, Secretaría de Valor Agregado, at https://www.argentina.gob.ar/normativa/nacional/resoluci%C3%B3n-112-2016-269419/texto; Resolución 129/2022 Ministerio de Economía, Secretaría de Agricultura, Ganadería y Pesca, at https://www.argentina.gob.ar/agricultura/bioeconomia/biotecnologia/conabia

		Universidad N. de Rosario	2	Universidad N. de Rosario	2
		Universidad N. del Comahue	2	Universidad N. del Litoral	2
		Universidad Católica Argentina	2	Universidad Católica Argentina	2
		Universidad N. de La Plata	1	Universidad N. de La Plata	1
				Universidad N. de Hurlingham	1
		Asociación Arg. de Ecología	1	Asociación Arg. de Ecología	1
		Sociedad Arg. de Tecnologías Embrionarias	1	Sociedad Arg. de Tecnologías Embrionarias	1
		Consejo Prof. de Ingeniería Agrónoma (CPIA)	1		1
		Asociación Arg. de Consorcios Regionales de Experimentación Agrícola, (AACREA)	2		
		Asociación Arg. de Productores en Siembra Directa (AAPRESID)	2		
		Asociación de Cooperativas Arg. (ACA)	1		
		Asociación Santafesina de Biotecnología	1		
		Bolsa de Cereales de Buenos Aires	2		
		Confederaciones Rurales Arg. (CRA)	1		

1991		**2016-2022**		**2022**	
Organizat-ion	**Seats**	**Organization**	**Seats**	**Organization**	**Seats**
				Asociación Argentina de Ciencia y Tecnología de Animales de Laboratorio	2
				Redes de Laboratorios de Biotecnología	3
				Federación Argentina de Ingenieros Agrónomos	1
		Non-Voting Members		**Non-Voting Members**	
		Asociación de Semilleros Arg. (ASA)	2	Asociación de Semilleros Arg. (ASA)	2
		Foro Arg. de Biotecnología (FAB)	2	Foro Arg. de Biotecnología (FAB)	2
		Cámara Arg. de la Industria de Productos Veterinarios (CAPROVE)	2	Cámara Arg. de la Industria de Productos Veterinarios (CAPROVE)	2
		Cámara Arg. de Biotecnología	2	Cámara Arg. de Biotecnología	2
		Consejo Arg. para la Información y el Desarrollo de la Biotecnología (Argenbio)	1	Consejo Arg. para la Información y el Desarrollo de la Biotecnología (Argenbio)	1
				UBATEC S.A.	1
				Asociación de Cooperativas Arg. (ACA)	1
				Asociación Arg. de Productores en Siembra Directa (AAPRESID)	2

				Bolsa de Cereales de Buenos Aires	2
				Confederaciones Rurales Arg. (CRA)	1
				Agricultores Federados Arg. (AFA)	1
				Cámara Arg. de Semilleros Multiplicadores (CASEM)	1
Total 15 voting members + Coordinator		**50 voting members, and 9 non-voting. Total 59 members + Coordinator**		**48 voting members and 18 non-voting. Total 66 members + Coordinator**	

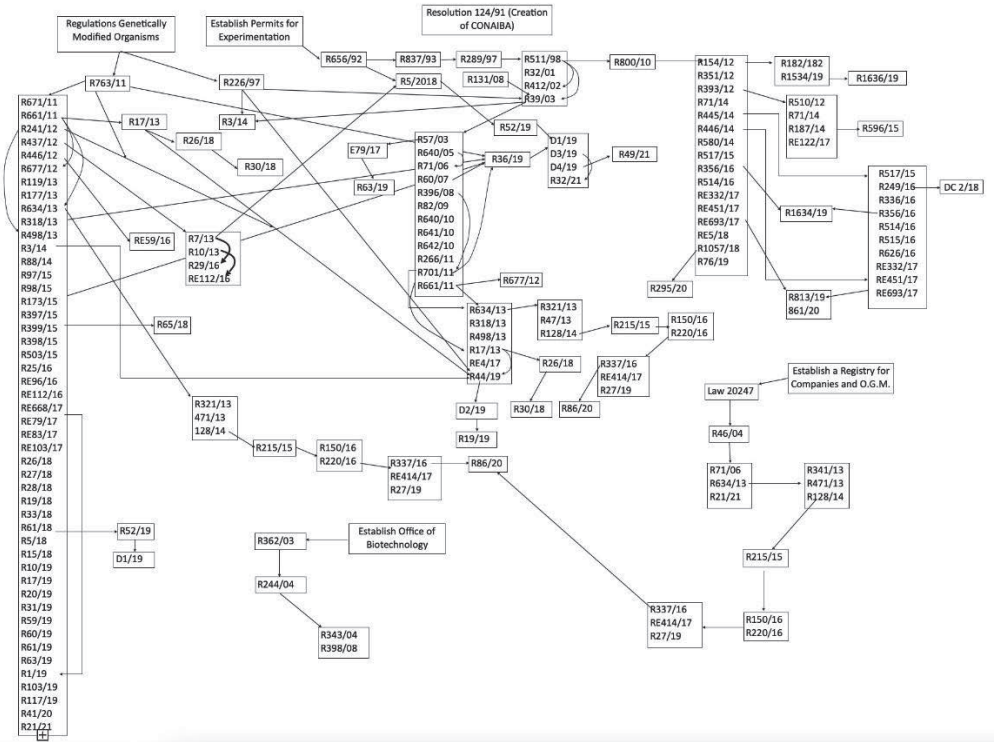
While we cannot be sure that the increase in the number of representatives makes the process more burdensome, it is expected that the more voices are heard, the more challenging it will be to reach any decision. Furthermore, with the change in Government, some stakeholders, especially those representing producers' associations, have been relegated to non-voting members (Table 4). Companies involved in biotechnology have tried different mechanisms, especially the patent system, to avoid this approval process. In the end, they obtain the same certification of commercialization as regular seeds, which are granted through the INASE procedure. Furthermore, as we have seen before, enforcing commercialization rights is not exhaustive.

The current genetically modified plant varieties system is complex and subject to different rules and criteria from all the agencies in charge. Furthermore, the system can change at any time, as different resolutions from the Ministry of Agriculture or even some other agencies, like SENASA or INASE, can alter procedures, rules, and regulations (Figure 2). Accordingly, navigating the complexities of such a system requires companies to adapt and invest resources in knowing the officials in charge. Furthermore, changes in Government can produce essential changes in the regulatory environment.

Accordingly, the policy debate focused on designing new legislation that could create a legal framework incorporating items from the country's three regulatory frameworks: first, defining property rights for new seed varieties; second, addressing the issue of patents concerning new plants and genetic modifications; and finally, incorporating the new biotechnological events system into the same

legal framework. As mentioned above, this task is difficult, as many conflicting interests and perspectives exist.

Figure 2: Regulatory Laws, Decrees and Resolutions

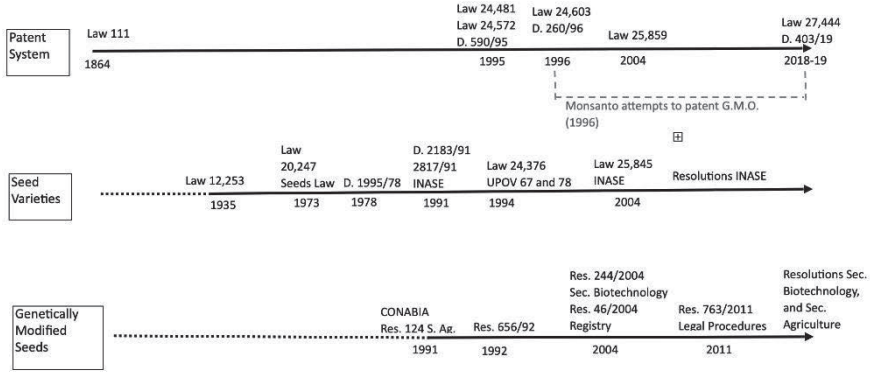


C. Reform Efforts

In the last two decades, the development of property rights in seed varieties moved along the three systems described before. The Seeds Law provided the primary vehicle for registering new varieties and obtaining commercialization rights. As we have discussed, this system followed UPOV's developments to some extent and can be compared to the PVPA system in the United States. At the same time, multinational companies tried to protect their inventions by resorting to the Patent system, which, in Argentina, was primarily focused on industrial inventions. The changes in legislation introduced in 1995 provided some hope for companies. However, this strategy has failed in the Court system. Finally, in the case of genetically modified vegetal organisms, the Government introduced a system that utilizes the Seed Law. However, it complements it with other rules and regulations to ensure the assessment of these

genetically modified seeds before approving their commercialization. As a result, we are in a fragmented system without clear definitions of rules and regulations, which can then be modified depending on the political will of the agencies in charge (Figure 3). This fragmented and cumbersome regulatory system has called for changes to the Seeds Law 1973 to define property rights better and modernize the regulatory procedures for obtaining and enforcing property rights.

Figure 3: Evolution of Regulatory Framework in Argentina[83]



Source: Own elaboration based on the previous section's description of the different systems.

As a result, several proposals for changes in property rights legislation have been put forward in the last decade. Several groups and stakeholders vied for ideas and tried to influence the Government and legislators to introduce reforms. In the next section, we will look at the main stakeholders in the agriculture sector and political groups with a definitive interest in reform. Furthermore, we will assess their preferences regarding the regulatory system's direction. This analysis will allow us to better analyze the political economy of reform, and how the reform attempt in 2018 failed to make progress. However, we cannot study these attempts in a legal vacuum, as the current system represents the status quo and serves as the departing point for every legislative proposal. Currently, the system provides solid protection for farmers' rights through a strong definition of farmers' ability to save their seeds and a lax enforcement effort for current certification of seeds. Moving away from such a system should create winners and losers, and we will get to those issues in the following sections.

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83 Own elaboration based on the previous section's description of the different systems.

IV. PROPERTY RIGHTS AND ECONOMIC INTERESTS

To understand each stakeholder group's position concerning the proposed legislation changes, we must describe their constituency and preferences. The importance of agribusiness, the international competitiveness, and the historical weight of rural stakeholders in local politics present a landscape with many diverse stakeholders.[84] In addition, political groups and parties have definitive ideological positions about the role and influence of agricultural and livestock interests in the sector. Then, we must consider these ideological differences, which are crucial to understanding the different positions for enacting new property rights legislation. Concurrently with the political environment, various stakeholders have diverse economic interests in the rural sector. They are organized into different associations and groups which try to influence legislation of their own accord. As a result, we need to understand their position, as they try to influence the political process leading to legislative changes.

A. Political Parties

Argentina's political landscape is highly divided, and different political parties and factions stay on opposite sides of the spectrum. Regarding property rights in Agriculture, the positions could not be more opposed. On the one hand, the Peronist Coalition, formed by Kirchneristas and more traditional Peronist party factions, espouses a view of the rural sector as very traditional in the country's economic history. According to this view, the rural sector is controlled by large landowners ("Estancieros") who use their power to subjugate small farmers and farm workers, while exerting their political muscle in Buenos Aires. Having direct access to political and economic power, they can influence political processes to their advantage and sustain their privileged position. The Sociedad Rural de Buenos Aires, one of the country's oldest and more aristocratic organizations, representing the more traditional landowner cattle ranchers, symbolizes the political enemy. Then, the Peronist coalition, born in 1945 from the industrial unions representing industrial and urban workers, tried to extend the logic of class warfare from the city to the rural areas. In this view, small farmers and farm workers are the direct victims of large landowners' exploits and the economic system designed to exploit

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84. *See* Pablo Lapegna, *The Political Economy of the Agro-export Boom Under the Kirchners: Hegemony and Passive Revolution in Argentina,* 17 J. OF AGRARIAN CHANGE 313-29 (2017).

them. Accordingly, they are politically allied against the oligarchic components of the society. While this view has a long tradition in Argentine politics, in more recent times, the modernization of agribusiness and the agricultural boom has forced this political group to redefine the enemy in several aspects.

First, large landowners have mutated, and they are not focused on livestock production, but now they can be found in soybean production. In particular, the creation of investment pools ("pools de siembra") has replaced some of the old exploiters of farmers. These investment pools usually rent large tracts of land and proceed to plan soybeans, using their economic muscle to reduce operation costs. This offers significant incentives to invest and higher profits than operating smaller parcels. Second, the eruption of multinational corporations in agribusiness, production, trading, and research and development has provided additional enemies against farmers. Large multinational corporations are usually part of some of the significant investment pools. They also control most of the international trading. This is important because Argentina is leading in global markets, attracting most of these companies to do business there. As a result, the Peronist coalition sees them as exerting their economic power over local traders and farmers. Finally, these international companies introduce their innovations through new seed varieties and genetically modified organisms. While these innovations improve yields and give the country a better position to benefit in international markets, enforcing property rights presents another source of inequity. By enforcing their property rights, these companies try to eliminate farmers' rights to save their seeds, with the long-term goal of exploiting them by providing new seeds for planting. In this respect, they share a common vision that Argentina, a developing country, is primarily a consumer of new technologies in Agriculture, and as such, not enforcing property rights or obtaining favorable conditions for farmers is the right strategy. Nonetheless, this ignores significant local research and development efforts and the problems of technology transfer that insecure property rights may produce.

Accordingly, we are in the presence of a view of agribusiness in which large companies and foreign interests coalesce to exploit smaller farmers and farm workers and, by extension, extract the whole country from their resources in agriculture production. Large landowners, and others not so large, and multinational corporations are allies in setting up a marker system of property rights protection, free enterprise, and free trade, which should increase the productivity of agriculture and livestock production in the Pampean region. Nonetheless, those groups would appropriate those benefits,

leaving everyone behind. As a result, the Peronist coalition looks to interpose social and equity factors into legislation related to property rights and the operation of free markets in this sector.

On the other hand, there is a center-right coalition of disparate forces in the country. This coalition is less well-defined and structured than the Peronist coalition, and over time, it has changed names and leadership. It is best represented by Juntos por el Cambio, an alliance of the more traditional Radical Party and the center-right groups, which brought Mauricio Macri to the presidency from 2015 until 2019. This coalition has a friendlier view of markets and the different private actors in agribusiness. In this view, markets are an essential tool for distributing and allocating resources in this sector. However, they want to create clear rules by which market actors could operate. In this sense, they expect these rules to level the playing field, and the resulting differences in profits should result from differences in productivity, not necessarily due to control of resources or exploitation of small farmers and farm workers.

As a result, we can define the main characteristics of this view. First, even though there are different economic actors of various sizes, that does not necessarily imply that the system is rigged. Well-functioning markets should provide the right incentives and opportunities for everyone to succeed. Accordingly, large landowners, or the large investment pools, are not deemed adverse economic development for the economy, rather they are economic actors like anyone else. Second, a primarily free trading system is essential to incentivize domestic producers and maximize Argentine international opportunities. Participating in international agricultural and livestock markets should lead to the highest possible benefit. Third, to organize the efficient working of markets and to produce incentives to invest in research and development, property rights should be well-defined so that companies or organizations introducing new products or services can profit from their efforts. Finally, all other matters related to equity and distribution should be addressed in different areas of government intervention, not on creating price and property rights distortions at the productive level.

In this case, we have a market-friendly view of the rural sector, which should be more open to considering better definition and enforcement of property rights in seeds. However, since the return to democracy, this coalition has not been in power for many years, and they have not been able to introduce radical changes to the system explained before. As a result, a highly intricate and discretionary system, such as the one in Argentina, is more

susceptible to changes in government and ideologies closer related to the Peronist coalition, which, in its different versions, has been in power most of the time.

B. Private and Governmental Organizations

While the description of the views of the different political coalitions gives a good recount of the current division in terms of property rights proposals, there are critical sectorial groups that exert influential lobby and political pressure over these parties and their constituencies.[85] These groups effectively organize farmers and other economic actors and fight for specific legislation or changes in the Government's decision. For example, in 2008, rural groups rejected additional taxes on soybean exports and cut many rural roads and main highways to protest the Government. This backlash gained widespread support, and Congress finally rejected the proposal to increase taxes. The demonstration of power was an important political win for a decentralized and dispersed group of farmers and companies in agribusiness. More recently, in 2019, the government tried to intervene in the most prominent domestic industrial processor of soybean oil and meal because of financial problems caused by the devaluation of the currency and the mismanagement of the company. Once again, people took to the streets and protested against the Government, which finally had to reconsider and let the courts do their job. This was another political victory against the government's support for the rural sector. Given examples like this, we need to better understand these organizations' views regarding property rights protection in seed varieties.

1. Sociedad Rural Argentina (S.R.A.)[86]

This is one of the most recognized organizations in the country. It was founded in 1866, and it has representatives across the country.[87] The most well-known delegation is the Sociedad Rural de Buenos Aires, which includes the most prominent cattle ranchers in the country and the most politically influential. The S.R.A. strongly believes in defending free markets and protecting property rights. Free markets allow its members to sell meat in international

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85. For a description of the political preferences of organizations that oppose changes to property rights in seed varieties, *see* Nicolas Trivi, *La Ley de Semillas en Argentina: la disputa por el control y el futuro de la agricultura,* 7 GEOPOLITICA(S) 57, 57-75 (2016).

86. *See* https://www.sra.org.ar (Last accessed on August 22, 2024).

87. *See Zone Delegation*, SOCIEDAD RURAL ARGENTINA, https://www.sra.org.ar/delegados-zonales/ (Last accessed on August 22, 2024).

markets, one of the leading exports from Argentina. Limitations in trading and markets hurt ranchers and reduced their efficiency and productivity. In particular, the recent export restrictions imposed by the governing Peronist coalition have reinforced the animosity between both groups. The S.R.A. is the flagship institution that, in the view of the Peronist coalition, represents the interests of large landowners. Accordingly, the S.R.A. has a strong position in defending private property threatened by governmental action or proposals against landowners. Since the mid-1900s, the Peronist coalition tried to pass legislation to expropriate large landowners and redistribute their land to small farmers. As a result, the S.R.A. is a strong proponent of strict property rights protection across the board.

2. Federación Agraria Argentina (F.A.A.)[88]

The F.A.A. was born in 1912 out of a protest by small land renters in the province of Santa Fe. Traditionally, this organization defends the interests of smaller and medium farmers. As a result, while they support free market policies allowing farmers to obtain the best price for their crops and products, they also help farmers' right to use their seed. This positions the F.A.A. against innovation companies, especially multinational ones, as they try to enforce their property rights. Accordingly, the F.A.A. clearly describes:

> [T]he members of the F.A.A. Seed Commission recalled that "technological sovereignty belongs to the whole of Argentina" and warned that "the producers represented in the Argentine Agrarian Federation, we are not willing to give it up." For this reason, they pointed out: "Due to this context, we are obliged to make public once again the defense of THE FREE OWN USE, demanding clarity in the PURCHASE INVOICES, transparency in the control mechanisms, a State present in the defense of the Law and its consecrated rights and we fight for public order in matters of seeds.[89]

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88. *See* FEDERACION AGRAAIA ARGENTINA, http://www.faa.com.ar/Contenido/home.html (Last accessed on August 22, 2024).

89. *See Semillas: FAA alerta que está en peligro el uso propio del agricultor, frente al avance del cobro de regalías extendidas*, FEDERACION AGRIA ARGENTINA, 2020, http://www.faa.com.ar/Contenido/home.html (Last accessed Aug. 22, 2024).

This statement clearly expresses the F.A.A.'s preference for a property rights framework that favors small farmers and their right to seeds.

3. Confederaciones Rurales Argentinas (C.R.A.)[90]

This organization of rural producers operates nationwide, with hundreds of groups and more than 100,000 producers. It receives producers of all sizes and defends farmers' rights. While it has expressed some openness to considering royalty payments, it also wants to have its voice at the negotiation table. Furthermore, it agrees with CONINAGRO that the right to use their seeds should be protected and royalties should be limited to the case of new seeds[91].

4. Confederación Intercooperativa Agropecuaria (CONINAGRO)

This organization represents all rural cooperatives and their interests. Similarly to C.R.A., it represents smaller farmers who would like some flexibility regarding the payment of royalties for using their seeds.[92] Their statements show they understand the need for property rights protection but want some equity in the system to protect their constituents.

5. Federación Argentina de Contratistas de Máquinas Agrícolas (FACMA)[93]

This organization represents all companies that offer their services to farmers during the crop season. In many cases, farmers do not own their machinery for sowing and harvesting their crops, and they hire companies to perform different activities and provide

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90. *See* http://www.cra.org.ar/ (Last accessed Aug. 22, 2024).

91. *See id.*

92. *See supra* note 61.

> Therefore, as our President, Carlos Iannizzotto, said in the debate of the Chamber of Deputies, ratifying our position on this Law:
> • The proper use of the seed is the right of the producer.
> • Such use should be onerous, and the cost should consider the germplasm and the event.
> • Payment must be in the seed.
> • There should be an exception or benefit for the small producer.
> • Control is essential through a simple administrative system, where the power of control must be centralized in the INASE or another public body.
> • The fee must have a specific time and be predictable over time.

93. *See* https://facma.com.ar/ (Last accessed on Aug. 22, 2024).

their machinery. These companies travel across the country, working with farmers in planting, applying fertilizer and insecticides, and harvesting. This organization represents the interests of these companies.

6. Asociación Argentina de Productores en Siembra Directa (AAPRESID)[94]

This organization focuses on applying new technologies in agriculture, particularly direct sowing. Farmers, companies, and other organizations are part of AAPRESID to learn how implementing direct sowing can positively affect soil conservation, cost savings, and other benefits.

AAPRESID is well-known for its annual Congress, which brings together a broad spectrum of companies and organizations working in Argentina's rural sector. As a result, their influence on the opinion and representation of rural interests is significant. During the debate of the Bill in 2018, they supported the government's position for more robust property rights protection.[95]

7. Grupos CREA [96]

This organization is a federation of farmers who meet informally and periodically to discuss new technologies and their applications to the farm. As such, these groups are present nationwide and offer a decentralized, informal network for sharing knowledge and ideas. These groups are highly influential and reliable for farmers wanting to understand new technologies to increase productivity. In this area, CREA favors the adoption of new technologies in agriculture, protecting farmers' rights, but having in place a system that can promote investment in research and development of new seeds.[97] Accordingly, CREA has supported new legislation that recognizes and rewards investments in genetic and biotechnological improvements in seeds.[98]

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94. *See* Argentine No-Till Farmers Association, AAPRESID, https://www.aapresid.org.ar/ (Last accessed Aug. 22, 2024).

95. *See* https://www.aapresid.org.ar/blog/ley-de-semillas-un-instrumento-para-incentivar-la-inversion (Last visited Aug. 22, 2024).

96. *See* https://www.crea.org.ar/ (Last accessed on August 22, 2024).

97. *Id.*

98. *Id.*

8. Asociación Argentina de Protección de las Obtenciones Vegetales (ARPOV)[99]

This association represents more than sixty institutions and private companies that invest in the research and development of new seed varieties. This is one of the leading organizations speaking on behalf of inventors and tries to influence legislators and the Government in enacting laws and regulations to protect property rights in seeds. Domestic and international research companies are part of ARPOV, and, as a result, they are more supportive of the center-right coalition in trying to enact and enforce property rights.[100]

9. Instituto Nacional de Tecnología Agropecuaria (I.N.T.A.)

This is a decentralized government agency in charge of promoting research and development in Argentina. Since the mid-1950s, it has been at the forefront of efforts in agricultural technologies.

10. Federación de Centros y Entidades Gremiales de Acopiadores de Cereales[101]

This organization includes all companies that offer grain storage to farmers. Most farmers need more storage and resort to private companies (Acopiadores) for these services. These companies provide trading services and connect farmers to traders and markets to deliver their crops. Furthermore, they prefer regulations and prices that align with international prices and regulations because the primary demand for crops is in international markets.[102].

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99. *See El Desarrollo Genetico Es La Base Para Generar Nuevas Variedades Y Mejores Rindes,* ARPOV, https://arpov.org.ar/ (last visited Aug. 22, 2024).

100. "'[W]ithout a new seed law, Argentina loses competitiveness, area, yield, sales and investment. In numbers, they said the local producer loses U.S. $ 100 per hectare, compared to Brazil. "We lost 1,800 million dollars of beans exports,' the entity said." Juan Carlos Vaca, *Francisco Iguerabide: no tener una nueva Ley de Semillas equivalió a las pérdidas de la sequía pasada*, AGROVERDAD (Oct. 12, 2018), https://agroverdad.com.ar/2018/10/francisco-iguerabide-no-tener-una-nueva-ley-de-semillas-equivale-a-las-perdidas-de-la-sequia-pasada. (Jay P. Kesan translation).

101. *See* ACOPIADORES, https://www.acopiadores.com/ (last visited Aug. 22, 2024).

102. "The head of the Federation of Stockpilers then asked to 'throw fears, to stimulate planting' and considered that a new seed law would be positive". *Acopiadores de cereales propusieron "empoderar" al Ministerio de Agricultura*, EL ECONOMISTA (May 14, 2020), https://eleconomista.com.ar/agro/acopiadores-cereales-propusieron-empoderar-ministerio-agricultura-n34084. (Jay P. Kesan translation).

11. Asociación de Semilleros Argentinos (A.S.A.)[103]

A.S.A. includes private domestic companies, family-owned companies, cooperatives, and multinational corporations. This organization defends strict property rights for innovators and pursues rules and regulations that foster investment in research and development. Nonetheless, it also wants flexibility regarding farmers' rights to use their seeds.[104] Accordingly, this organization pushes for changes to the legal framework, but with some allowances for farmers' rights.

12. Consejo Argentino para la Información y el Desarrollo de la Biotecnología (Argenbio)[105]

This organization is focused on developing biotechnology in Argentina. It performs different studies concerning the benefits of adopting biotechnology and participates in the policy debate regarding property rights in seeds and biotechnology innovations. While it maintains its independence, some critics point out that a group of multinational companies support Argenbio.[106].

13. Associations by Crop

In addition to the different farmers' associations representing various sectors or agribusiness associations, new actors appear on the scene. These are associations of producers and companies brought together by a specific crop and represent the whole supply chain of that crop. The most important ones are MAIZAR, the Asociación de Maíz y Sorgo Argentino (Argentine Association of Corn and Sorghum),[107] ACSOJA, the Asociación de la Cadena de la Soja Argentina (Association of the Argentine Soybean Chain),[108] ArgenTrigo, the Asociación Argentina de Trigo (Argentine Wheat

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103. *See* ASA SEMILLEROS, https://www.asa.org.ar/ (last visited Aug. 22, 2024).

104. "'The project is very restrictive,' said Alfredo Paseyro, general manager of Argentina's Seedbeds Association. 'We have a definition, as an aspiration: for each use, a recognition," he said.'" Maximiliano Rizzi, *Agricultores argentinos cuestionan proyecto oficial para semillas en medio de conflicto con Monsanto*, REUTERS, Aug. 24, 2016, https://www.reuters.com/article/granos-argentina-semillas-idLTAKCN10Z22Q/. (Jay P. Kesan translation).

105. *Acerca de ArgenBio*, ARGENBIO, https://www.argenbio.org/argenbio (last visited Aug. 22, 2024).

106. *See id.*

107. *See* MAIZAR: ASOCIACION MAIZ Y SORGO ARGENTINO SEMILLEROS, https://www.maizar.org.ar/ (last visited Aug. 22, 2024).

108. *See* ASOCIACION DE LA CADENA DE LA SOJA ARGENTINA, http://www.acsoja.org.ar/ (last visited Aug. 22, 2024).

Association),[109] and ASAGIR, the Asociación Argentina de Girasol (Argentine Sunflower Association).[110] The main goal of all these organizations is to improve productivity and efficiency along the supply chain of each crop. They understand the vital role of technology and research and development in reaching that goal. Most of the members of these organizations are organizations related to agribusiness, domestic and multinational companies, and other organizations. Furthermore, many of the same organizations and companies are part of two or more of these organizations.[111] Most of these organizations are instruments for discussing policies, regulations, and innovations that promote the efficient development of each crop.

While the list of associations and constituents with a stake in the legislative efforts is incomplete, these are the leading organizations in the legislation debate. The following section presents their preferences for the current legislation and the main bills proposed by Congress based on their positions and points of view.

C. Distribution of Preferences

These organizations, political parties, and governmental agencies represent different points of view concerning the development of agriculture. To understand their preferences, we assess their position on the recent Bill on seed property rights. This will help to understand the analysis of the next section, where competing bills were introduced in Congress. Then, we can rank preferences across two main variables of analysis. On the one hand, we have the definition of property rights and enforcement. Across this idea, different actors prefer different definitions of property rights and enforcement levels. Then, multinational seed producers would like to have a stringent definition of property rights and vigorous enforcement across the supply chain. However, farmers organizations like the F.A.A. would prefer a weaker definition of property rights that can account for farmers' rights to save seeds for replanting. They would also like enforcement at specific points of

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109. *See* ASOCIACION ARGENTINA DE TRIGO, https://www.argentrigo.org.ar/2014/ (last visited Aug. 22, 2024).

110. *See* ASOCIACION ARGENTINA DE GIRASOL, https://www.asagir.org.ar/ (last visited Aug. 22, 2024).

111. *See Socios*, MAIZAR: ASOCIACION MAIZ Y SORGO ARGENTINO SEMILLEROS, https://www.maizar.org.ar/institucional.php#socios; s*ee Socios Plenarios,* ASOCIACION DE LA CADENA DE LA SOJA ARGENTINA, https://www.acsoja.org.ar/socios-plenarios/; *see Socios,* ASOCIACION ARGENTINA DE TRIGO, https://www.argentrigo.org.ar/2014/socios.php; *see Integrantes,* ASOCIACION ARGENTINA DE GIRASOL, https://www.asagir.org.ar/acerca-de-integrantes-451.

the supply chain. While the arguments for one or other position depend on many different factors, it is not the goal of this paper to demonstrate the benefits of one over the other in the Argentine case, and we believe that this factor is one of the most contentious ones in developing countries' agricultural markets.

On the other hand, we have the equality or distributive characteristics of the system. That is, the system considers the broad welfare of the rural sector and the country by providing an equitable distribution of resources. Once again, seed producers, especially multinational companies, would prefer a system that rewards productivity and ownership. At the same time, the Peronist coalition would like a system that distributes payments from some more significant actors of the supply chain to the smaller ones. As such, they would refer to policies conducted to provide for food security, national interests, and other purposes beyond the market results.[112]

Then, while there may be other factors to consider and other political preferences across these groups, these are the two main areas of disagreement that define the opposite bills in Congress and the difficulties in reaching a consensus. Accordingly, we can represent these preferences in a two-dimensional graph showing political preferences (Graph 1). According to Graph 1, quadrant I represents a combination of preferences with high definition and enforcement of property rights and a high preference for equity and distribution. This is the case for those organizations that would prefer a system that rewards innovation and protects property rights as a tool to foster investment. At the same time, the system should consider situations that put food security or national interest in danger. In those situations, social issues should take precedence over private interests. Some organizations, such as C.R.A., AACREA, and others, consider the need to enforce rights, understand the importance of innovation, and favor policies that support smaller farmers.

Quadrant II represents a combination of preferences with a high level of distribution and equity in conjunction with a weaker definition and enforcement of property rights. Organizations like the F.A.A. or the Peronist Coalition have traditionally espoused this vision, which describes Argentina's agricultural sector as dependent on international innovation, mostly consuming innovative seeds. Then, strict payment or enforcement of rights would mean

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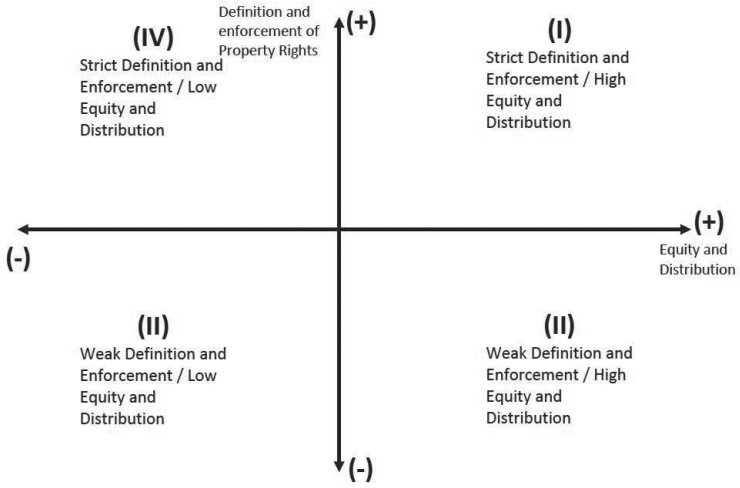
112. *See* Tamara Perelmuter, *Apropiación de Semillas: Soberanía Alimentaria y Tecnológica En Riesgo, Integrating Accommodation*, 1 CIENCIA, TECNOLOGIA Y POLTICA 8 (2018); Pablo Lapegna & Tamara Perelmuter, *Genetically modified crops and seed/food sovereignty in Argentina: scales and states in the contemporary food regime*, 47 J. PEASANT STUDIES 1 (2020).

transferring resources from local farmers to foreign interests. Furthermore, too much dependence on these multinationals could also jeopardize food security and the equitable distribution of the benefits from the agricultural markets. While, in some cases, this attitude is highly combatant, it has strong appeal among a good part of the electorate.

Graph 1: Preferences



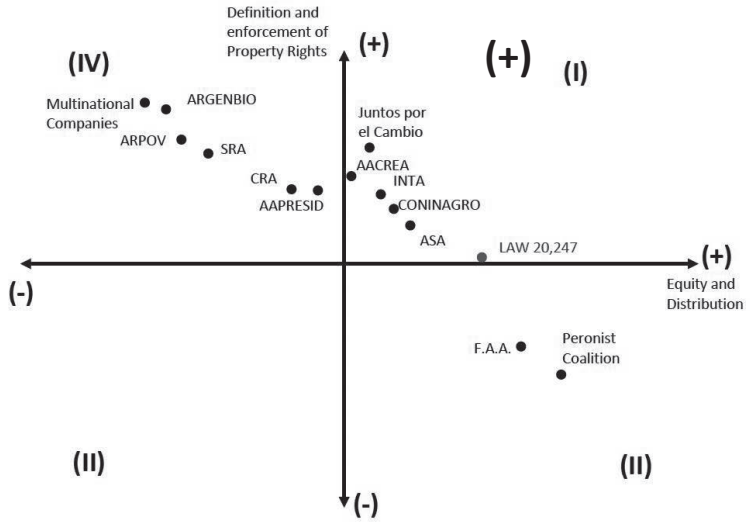
Quadrant III represents an interest situation, with a weak definition and enforcement of property rights and a low concern for equity and distribution. This particular combination is highly unappealing to most people in Argentina, and we do not find organizations or political parties that may be pushing for this type of mix. The main difficulty resides in that it is very rare to hold a position favorable to a system without equity or distributional concerns and, simultaneously, to prefer a weak definition and enforcement of property rights.

Finally, quadrant IV represents another popular combination, which contains substantial support for property rights definition and enforcement, combined with a preference for low concern for equity or distributional issues, except for those of the market system. This position represents a free market situation strongly supported by multinational companies and some local actors. They prefer to let markets take over and have a system based on efficiency and innovation that decides winners and losers in agricultural markets. Furthermore, there is little interest in issues related to equity and distribution since the market distribution should be efficient and fair.

According to this setup, positions (II) and (IV) are at opposite ends of the spectrum, where most disagreement happens. Position (I) is an attempt to strike a balance between (I) and (IV), while position (III) is not pursued at all.

Next, we arrange the different actors across this spectrum of preferences in the current system (Graph 2). While the specific position of each organization can be extensively discussed, the critical issue is how these positions are established according to the current Law (Law 20,247) and the main Bills introduced in Congress.

Graph 2: Constituencies and Stakeholders



Unsurprisingly, multinational companies and organizations like Argenbio, Arpov, and S.R.A. are in area IV, preferring a solid definition of property rights and a free market approach to production and distribution. For many of these actors, the system in the U.S., with a robust patent system, is the main goal for Argentina. Other organizations, like C.R.A., AAPRESID, AACREA, Coninagro, and A.S.A.) expressed the need to improve property rights. However, they are also concerned with some equity issues such as farmers' rights, which a rigorous regulatory environment could hurt. While the exact position of each group can be debated, the main problem is that they understand the need to reinforce the property rights established by Law 20,247. Therefore, they are all located north and west of the status quo. Then, organizations like the F.A.A. are more in line with a more flexible system with lax property rights and strong equity considerations (quadrant II). Regarding the two main political coalitions, the governing coalition

(Juntos por el Cambio) wants to reinforce property rights and decrease equity issues in the system. The opposing coalition, the Peronists, intends to move further away from the status quo, considering much more flexible property rights and widespread equity issues (Graph 2).

The following section analyzes each Bill's characteristics to understand the position of the players and the different Bills presented in Congress. It ranks them according to their protection of property rights and equity considerations.

V. DIVERGENT PROPOSAL OF PROPERTY RIGHTS IN SEEDS

With a new government in power in 2016, a renewed push for modifications to Law 20,247 started to build. Then, in 2017 and 2018, several Bills were introduced in Congress, and the government tried to bring some general agreement among the different actors about new reforms. The main idea was to define property rights better, create a unique and definitive system for new varieties and the protection of those rights, and establish the limits to those rights according to the public interest and social needs. Among the Bills, we have the following:

Table 5: Bills Introduced in Congress

Bill	**Sponsors**	**Party**	**Notes**
Executive Power Bill	President	Juntos por el Cambio	This Bill, introduced in 2016, originated the political debate in Congress.
Peronist Party	José Arnaldo Ruiz Aragon – Corrientes, Gabriela Beatriz Estevez – Córdoba, Andrés Larroque – Ciudad de Buenos Aires, Máximo Carlos Kirchner – Santa Cruz, María Lucila Masin – Chaco, Agustín Oscar Rossi – Santa Fe, Leonardo Grosso – Buenos Aires, Claudio Martín Doñate – Río Negro, José Luis Gioja – San Juán, Eduardo Enrique De Pedro – Buenos Aires, Julio Rodolfo Solanas – Entre Ríos,		This is the most pro-farmers' Bill and against most protections for property rights.

	Mónica Mancha – Buenos Aires, Guillermo Ramón Carmona – Mendoza, Araceli Ferreyra – Corrientes, María Fernanda Raverta – Buenos Aires (Frente para la Victoria – PJ)		
2558-D-2017 (U.C.R. Bill)	Alejandro Echegaray – Buenos Aires	Unión Cívica Radical	It protects some property rights but favors farmers' rights and public use.
4473-D-2018 (FPCS Bill)	Luis Contigiani – Santa Fe Supported by the Cámara Argentina de Semilleros Multiplicadores (CASEM)	Frente Progresista Cívico y Social	Protects property rights and considers farmers' rights and public use.
3187-D-2018 (JC1 Bill)	Cornelia Schmidt Liermann – Ciudad de Buenos Aires	Juntos por el Cambio	Protects property rights, with some limitations.
0977-D2017 (JC2 Bill)	Alicia Tesada - Chaco	Coalición Cívica (Juntos por el Cambio)	Proposed minor changes to Law 20247
FAA Bill	Federación Agraria Argentina		Strong protection of farmers' rights.

These Bills represented different positions from constituency groups and political parties vying to introduce meaningful changes to the Law 20,247. In the following paragraphs, we highlight the

differences between these bills, and the resulting bills that the government brought to Congress.

A. Definition of Property Rights

The most critical issue is the definition of property rights over a new variety. We would like to assess how the different Bills define these rights for local and international companies, the period during which these rights are enforced, and other characteristics.

According to Law 20,247, the owner of a new variety has the right to commercialize such variety. As we analyze above, these rights, while not explicitly defined in the original Law, were later closely matched to the UPOV 1978 agreement. However, the need for a specific definition and scope generated controversies, as we documented. Then, each Bill specifically defines property rights. The Bill sent by the Executive Power to Congress establishes that the property rights established by Law 20,247 are sufficient, but it adds some specificity to Article 24:

> Article 24. - The right to own a cultivar belongs to the person who obtained it. Unless expressly authorized by the latter, persons involved in the work relating to the plant genetic creation or discovery of the new cultivar shall not have the right to exploit it privately.
>
> Article 24 bis: The price paid by any seed acquirer for the same will satisfy all intellectual property rights, without exception, that the seed and the products obtained from the use of the same contain.
>
> Likewise, the purchase of seed must establish the value that the right-holder or its licensee may require for the intellectual property rights referred to in the anterior paragraph for the purposes provided for in the second paragraph of Article 27.[113]

This combination is very straightforward: property rights owners are entitled to payment by users of their innovations. The other Bills introduced in Congress present a variety of definitions (Table 6).

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[113] Law No. 20247, April 16, 1973, [22648] B.O. (Arg.); *see* https://ju-rid-ico-2741.com/wp-content/uploads/2015/10/proyecto-de-ley-20247-wb-minagri-final-6-9-16.pdf.

Table 6

Bill	Property Right Definition
Peronist Party	"Article 7: Prohibition of intellectual property rights. Seeds and parts thereof may not be the subject of patents, breeders' rights, or any other intellectual property right."[114]
U.C.R. Bill	Article 26- It shall continue its operation within the scope of the National Seed Institute, the National Registry of Plant Varieties created by Article 19 of the Law on Seeds and Plant Genetic Creations No. 20.247 with the name of National Registry of the Property of Plant Varieties to protect the intellectual property of plant varieties, recognizing and guaranteeing the Breeder's Right by granting a Breeder's title on the new plant variety. The breeder's right is independent of the provisions governing seed or plant varieties' production, marketing, certification, import, and export. The plant variety protection system provided by this law constitutes the only form of intellectual property protection for plant varieties in the republic. This law recognizes the breeder's right independent of any other protection granted for the same plant variety in other countries. The breeder's title may be transferred, and the respective transfer must be registered in the National Registry of the Ownership of Plant Varieties. Otherwise, the transfer will not be enforceable against third parties. Plant varieties of all botanical genera and species, including, inter alia, hybrids between genera or species, may be subject to the protection provided for in this Law.[115]
FRCS Bill	Article 39: The right of ownership of a cultivar belongs to the person who obtained it and is independent of the provisions regulating the production, marketing, certification, import, and export of plant varieties' seed. Unless expressly authorized, the persons involved in the work relating to the plant genetic creation or discovery of the new cultivar shall not have the right to exploit it privately. Article 44: The intellectual property protection adopted by this Law for innovations in plant varieties is the system of the "Breeder's Right," which grants the owner of a plant genetic creation a temporary exclusive right to produce and market the plant variety, as material of reproduction or vegetative multiplication in its capacity as such.[116]

114. (Own translation Article 7 Peronist Party Bill).

115. See *Tramite Parlamentario No. 49*, DIPUTADOS ARGENTINA (May 5, 2017), https://www2.hcdn.gob.ar/proyectos/proyectoTP.jsp?exp=2558-D-2017.

116. *See Tramite Parlamentario No. 89*, DIPUTADOS ARGENTINA (July 23, 2018), https://www2.hcdn.gob.ar/proyectos/proyectoTP.jsp?exp=4473-D-2018.

JC1 Bill	Article. 19 - The National Registry of The Property of Plant Varieties is created within the scope of the National Seed Institute to protect the intellectual property of plant varieties, recognizing and guaranteeing the breeder's right by granting a breeder's title to the new plant variety. The plant variety protection system provided by this law constitutes the only form of intellectual property protection for plant varieties in the Argentine Republic. The breeder's right is independent of the provisions governing seed or plant varieties' production, marketing, certification, import, and export. The granting of the breeder's right recognized by this Law is independent of any other protection granted for the same plant variety in other countries.[117] The breeder's title may be transferred, and the respective transfer must be registered in the National Registry of the Ownership of Plant Varieties. Otherwise, the transfer will not be enforceable against third parties. Plant varieties of all botanical genera and species, including, inter alia, hybrids between genera or species, may be subject to the protection provided for in this Law.
JC2 Bill	This Bill does not introduce changes to the definition of Property Rights. The author explains that Law 20,247 should be interpreted according to Article 17 of the National Constitution, which establishes strong protection for property rights.
F.A.A. Bill	N/A

Most of these bills define property rights following the UPOV system, which is already in place in Argentina. However, they give more details about the understanding of the definition of property rights and the scope of such definition. However, the Peronist Party Bill presents a more radical departure from the current Law, eliminating any claim of intellectual property rights over seeds. Their authors claim that the public sector should finance all research and development of new varieties. Furthermore, they justify the need to eliminate property rights, arguing that developing new varieties is part of the collaboration of different communities. Then, they conclude the following:

> We, therefore, maintain that those attempts at appropriation and privatization through breeders' rights, patents, or quality standards, as well as restrictions on the proper use of seeds that are being

117. *See Tramite Parlamentario No. 54,* DIPUTADOS ARGENTINA (May 23, 2018), https://www2.hcdn.gob.ar/proyectos/proyectoTP.jsp?exp=3187-D-2018.

> attempted to be imposed on farmers, are a clear threat to the food sovereignty of our peoples and to the autonomy of those who produce healthy and nutritious food for all of us.[118]

This vision is opposed to the main argument explained by the Executive Power when arguing for the need to improve the definitions contained in Law 20,247:

> In this sense, the Ministry of Agroindustry has prioritized among its objectives the management of the regularization of the seed market, transparency in all the links of the production chain, innovation and dissemination of technologies, access to these technologies by potential users, and the fair collection of the same by the holders of intellectual property rights, in a balance between the interests of every one of the actors, from a broad perspective that includes the producer, breeder, multiplier and owner of the new technologies.[119]

Accordingly, while the Executive Power recognizes the existence of a market and the need to create a regulatory environment that balances different interests and stakeholders, the Peronist Party completely ignores the contributions of several of these stakeholders. They portray a vision of innovation as a community-driven process supported by state funding available to all farmers without paying royalties or costs.

The other Bills present some departure from the Executive Power Bill, but those are less striking than the one just shown.

B. Time Limits and Domestic and International Actors

Two important issues in defining intellectual property rights are the time limits to benefit from the invention and the treatment of local versus international actors. Given Argentina's importance in international agricultural markets, multinational companies are clearly interested in taking part in this market. The current Law 20,247 establishes that the property right over a cultivar should be extended for 10 and up to 20 years, depending on the species and the established regulations. [120] Furthermore, in the case of

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118. Own translation of Peronist Party Bill.
119. Own translation of Executive Power Bill.
120. *See* Law No. 20247, April 16, 1973, [22648] B.O. (Arg.).

international inventors, the Law establishes that the person or company requesting the registration of a new variety should have a legal address in the country. In addition, the country of origin of the inventor should recognize similar rights to Argentinean inventors.[121]

The Executive Power Bill does not introduce any changes to either the length of the intellectual property rights protection or the type of inventor requesting such protection. Then, Law 20,247 continues in place, with a minimum of 10 years and a maximum of 20 years.[122]. Accordingly, we want to analyze what the other Bills propose (Table 7).

Table 7

Bill	**Property Rights Term Limits, and International and Domestic Inventors**
Peronist Party	Since this Bill eliminated property rights, it is up to the State to support and fund innovation, which would be open to all farmers. Accordingly, this Bill has no term limits or mention of international actors. However, there is a strong emphasis on using domestic varieties and protecting local seeds, which can be understood as a dismissal of global corporations.
U.C.R. Bill	It guarantees property rights protection to domestic and international investors. It recognizes the rights of countries that have a treaty with Argentina. For countries that do not have a treaty, the right will be recognized as long as that country recognizes Argentinean inventors' rights. The maximum length of the property right is 15 years. However, in the case of vines and certain trees, the protection could be extended to 25 years[123].
FPCS Bill	It guarantees property rights protection to domestic and international investors. The definition is similar to the U.C.R. Bill. The only difference is that the right will be granted in Argentina for the remaining term in the country of the international inventor.[124] Property rights should last at least 15 but not more than 20 years. For certain trees, the minimum length should be 18 years but no more than 25[125].

121. *See* Law No. 20247, April 16, 1973, [22648] B.O. (Arg.).

122. *See* Law No. 20247, April 16, 1973, [22648] B.O. (Arg.).

123. *See Tramite Parlamentario No. 49*, DIPUTADOS ARGENTINA (May 5, 2017), https://www2.hcdn.gob.ar/proyectos/proyectoTP.jsp?exp=2558-D-2017.

124. *See Tramite Parlamentario No. 89*, DIPUTADOS ARGENTINA (July 23, 2018), https://www2.hcdn.gob.ar/proyectos/proyectoTP.jsp?exp=4473-D-2018.

125. *See Tramite Parlamentario No. 89*, DIPUTADOS ARGENTINA (July 23, 2018), https://www2.hcdn.gob.ar/proyectos/proyectoTP.jsp?exp=4473-D-2018.

JC1 Bill	The regulations for local and international inventors are similar to the U.C.R. Bill[126]. The length of the property right should be a minimum of 20 years. In the case of certain trees, the minimum is 18 years, and the maximum is 25 years[127].
JC2 Bill	Not included.
F.A.A. Bill	N/A

Regarding the recognition of property rights, all Bills agree that national and international inventors should be allowed to register their inventions. However, for other countries, a level of reciprocity is expected. The differences between the Bills could be more striking, except for the Peronist Party Bill, which does not even contemplate the participation of international companies. When it comes to the duration of intellectual property rights, the Bill of JC1 is the one more beneficial to inventors, followed by the FCPS Bill, then the U.C.R. Bill, and finally, the Peronist Bill, which, by eliminating property rights, does not need to establish any duration. In these areas, there is room for reaching agreement or consensus among most of the Bills introduced in Congress.

C. Farmers' Seed Use and Innovation

One of the most contentious issues of the reform is the definition of fair use by innovators and farmers. This is one of the more delicate parts of the Bill, where most disagreement occurs. On the one hand, there is the argument that farmers can use the seeds they save from their crops without limit, a prevalent option among farmers and other agricultural constituencies. This argument has a strong following in developing countries, which consider themselves consumers of international technologies and not producers of new knowledge. According to this view, strict protection of intellectual property rights would mean transferring resources from farmers to multinational corporations.

On the other hand, there is an argument for rewarding innovation and using the property rights system to foster domestic innovators and to promote the use of new technologies to improve productivity in agriculture. This argument is boosted by the biotechnological revolution in agriculture, which requires constant investment and has tremendous promises for the future. Accordingly, even if developing countries are primarily consumers

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126. *See Tramite Parlamentario No. 89*, DIPUTADOS ARGENTINA (May 23, 2018), https://www2.hcdn.gob.ar/proyectos/proyectoTP.jsp?exp=3187-D-2018.

127. *See Tramite Parlamentario No. 54,* DIPUTADOS ARGENTINA (May 23, 2018), https://www2.hcdn.gob.ar/proyectos/proyectoTP.jsp?exp=3187-D-2018.

of international innovation, they can benefit significantly from protecting property rights and fostering the development of local innovations. This is an essential factor in Argentina, which has a long tradition of domestic investment in research and development at the private and State levels through INTA.

As we explained before, in the Argentine legislation, the Law 20,247 establishes that:

> Article 25. — Ownership of a cultivar does not prevent other persons from using it for the creation of a new cultivar, which may be registered in the name of its creator without the consent of the owner of the plant genetic creation that was used to obtain it, provided that the latter is not to be used permanently to produce the new cultivar.[128]

> Article 27. — It does not infringe the right of ownership over a cultivar who delivers to any title seed of the same with the authorization of the owner, or who reserves and sows seed for his own use, or uses or sells as raw material or food the product obtained from the cultivation of such plant genetic creation.[129]

The inventor's and farmer's exceptions are established in this Law. Furthermore, due to the adherence to the UPOV 78 agreement, the INASE clearly defined the farmer's rights to use their saved seeds through Resolution 35 in 1996 as follows:

> ARTICLE 1 - The following are the conditions for the configuration of "the exception of the farmer" provided for in Article 27 of Law No 20.247:
>
> a)- Be a farmer.
>
> b)- Have legally acquired the original seed.
>
> c)- Have obtained the current seed from the legally acquired.
>
> d) Reserve the harvested grain, the volume of seed that will be used for subsequent sowing, individualizing it by variety and quantity before its processing.
>
> There shall be no exception to the farmer when he has purchased seed to be sown by any means other

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128. Law No. 20247, April 16, 1973, [22648] B.O. (Arg.).

129. *Id.* at art. 27.

> than that of the reserve itself, either for a profit or free of charge (purchase, exchange, donation, etc.).
>
> (e) The reserved seed must be intended for sowing by the farmer on his holding for his use. They are not covered by Article 27 of Law Ng 20.247 destinations other than sowing by the farmer. The sale, exchange, or exchange by the same farmer or through an intermediary person is expressly excluded.
>
> The exception only benefits the farmer and not third parties.
>
> (f) Seed reserved for own use must be kept separate from the grain, preserving its identity and individuality from the time it is removed from the land by the farmer and maintained throughout the processing, packaging, and delivery stage until the time or of its sowing on the farmer's land.
>
> In order to become a beneficiary of the farmer's exception, he must prove that the conditions referred to in this Article have been fulfilled.[130]

This resolution left no doubt that farmers could use the seeds they had saved for the next season and set up the framework to apply such a right. Nonetheless, the Executive Power Bill drastically challenged this right:

> ARTICLE 3 -incorporates as the second paragraph of Article 25 of Law No. 20.247, the following text:
>
> Where a protected or unprotected variety containing some form on which an intellectual property right is held is used, the holder of the variety may not prevent the use of that variety for the purpose of experimenting with or obtaining a new plant genetic creation, which may be registered in the National Register of Cultivar Property.
>
> Article 4. -Replace Article 27 of Law No. 20.247 with the following text: "Article 27.- The right of ownership shall not be infringed by a cultivar who delivers to any title seed thereof with the owner's authorization or who reserves and sows seed for his use or uses or sells raw material or food, the product

130. Resolution No. 35/1996, Mar. 14, 1996, [28,354] B.O. 23 (Arg.).

> obtained from the cultivation of such plant genetic creation.
>
> In the case of varieties multiplied through seeds, in the strict botanical sense, the holder of the right to a protected variety may require the corresponding payment from the farmer who reserves and uses seed for his use, provided that he has an annual invoice greater than THREE (3) times the amount corresponding to the highest category of the Simplified Scheme for Small Taxpayers, regardless of whether or not he is registered in that scheme, in the following cases:
>
> a) During the THREE (3) multiplications after the acquisition of the seed, all the seed is reserved for own use.
>
> (b) Without time limit, by the differential in which the new sowing exceeds those sown in the original period
>
> Under no circumstances shall farmers registered in the National Register of Family Farming (RENAF) and indigenous peoples who, in the context of family farming practices or a traditional community agricultural environment, exchange or sell seeds or other propagating material among themselves be obliged to pay.[131]

In this case, the executive power would like to preserve fair use for innovation and research of new varieties, but this would curtail farmers' rights to save seeds. Article 3 establishes that farmers should pay for using saved seeds, up to three crops, and unlimited time for the area that exceeds the original sown area. Nonetheless, this Bill excludes smaller farmers, taking into account their annual income, and those categorized as small family farmers and indigenous communities. As a result, the Executive Power Bill tries to strike a compromise between property rights protection and social awareness of some groups, who would be excluded from making payments.

The other bills introduced in Congress also offer an array of exceptions for farmers and innovators (Table 8).

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131. Own translation of art. 3, Executive Power Bill.

Table 8

Bill	Exceptions, farmers, and innovation
Peronist Party	"Article 6. Right to own use of seeds. Any individual or legal person who farms using seeds has the right to the own free use of the seeds of his harvest, without restriction of any kind and prejudice to the provisions of existing intellectual property regulations or to be adopted in the future, within the scope of the entire national territory. The holder of the right to a protected variety may not require any payment from anyone who reserves and uses seed for his use."[132]
U.C.R. Bill	"Article 45- The authorization of the breeder shall not be necessary for third parties to use the protected variety on an experimental basis or for the creation of new plant varieties, which may be registered in the National Registry of Plant Varieties and/or in the National Registry of The Ownership of Plant Varieties in the name of the new breeder. On the other hand, the breeder's authorization will be required for varieties whose production requires the repeated use of the protected variety. Article 46- A farmer whose annual income does not exceed four (4) times the amount corresponding to the highest category of the Simplified Regime for Small Taxpayers, whether or not registered in the said regime, may freely reserve and use on his farm any protected variety when the new sowing comes from the multiplication of seed legally obtained by him and does not exceed the number of hectares sown by the farmer in the previous period. Without prejudice to the first paragraph of this Article, the holder of the breeder's right or its licensee may demand financial compensation where the volume reserved for his use exceeds the volume of seed legally acquired."[133]
FPCS Bill	Article 40 of the FPCS Bill includes the right to use seeds for innovation, similar to other Bills.[134]. Article 47: The right to reserve and sow seed for own use free of charge shall be for those users who meet the definition of farmer outlined in Article 4 paragraph u) of this Law. Those who are not mentioned in this definition and those who have a turnover more significant than that established for the category of Micro-SMEs (following resolution Secretariat of Small and Medium Enterprises (SEPYME) No. 24/01 and

132. Own translation of art. 6, Peronist Party Bill.

133. *See* Tramite Parlamentario No. 49, DIPUTADOS ARGENTINA (May 5, 2017), https://www2.hcdn.gob.ar/proyectos/proyectoTP.jsp?exp=2558-D-2017.

134. *See* Tramite Parlamentario No. 89, DIPUTADOS ARGENTINA (July 23, 2018), https://www2.hcdn.gob.ar/proyectos/proyectoTP.jsp?exp=4473-D-2018.

	amendments, and Resolution 6428 of the Central Bank of the Argentine Republic (BCRA) will not be entitled to it. In order to receive this privilege, the requester must be previously registered and recognized as such in the Register of farmers authorized to make their free use of seeds that INASE will carry. Article 4, paragraph u): "FARMER": For this Law, a farmer means a person who fulfills all the following conditions: (1) who works personally and mainly on a single farm; (2) a significant part of its total annual net income comes from the agricultural holding; 3) that exercises direction and administration in the use and destination of the resources and products that originate in the agricultural exploitation."[135] Articles 51 and 52 of the Bill specify the right of seed multiplier companies to access new varieties and the obligation of innovators to provide those seeds to these companies.[136]
JC1 Bill	Article 30 of this Bill defines the fair use for research and development of new varieties, similar to other Bills.[137]. Article. 32º - The excepted farmer, defined in Article 29 and registered as such in the INASE User Registry, who reserves and uses seed for his use of a protected variety, will not be obliged to pay the Breeder's Rights corresponding to that variety. Any farmer not registered as an excepted farmer shall be liable to pay breeder's fees when reserving seed for using a protected variety. In this case, the reservation and use of seed of a particular protected variety may not exceed the amount of seed originally and legally acquired without the express consent of the breeder. Article 29 (excepted farmer): ... Under no circumstances shall farmers registered in the National Register of Family Farming (RENAF) and formally registered indigenous peoples who exchange or sell seeds or other propagating material among themselves be obliged to pay the fee for their use.[138]
JC2 Bill	Not Applicable
F.A.A. Bill	N/A

135. *Id.* at art. 47, 4 para. u.
136. *Id.* at art. 51, 52.
137. *See* Tramite Parlamentario No. 54, DIPUTADOS ARGENTINA (May 23, 2018), https://www2.hcdn.gob.ar/proyectos/proyectoTP.jsp?exp=3187-D-2018.
138. *Id.* at art. 32, 29.

As we can see, every Bill introduced in Congress makes exceptions to further research and development and farmers' exceptions. While there is not much difference concerning the innovation exception, there are extreme differences regarding the exception for farmers. In the case of the Peronist Party Bill, farmers would never pay any royalties for the use of seeds since these are prohibited, and they can freely dispose of the seeds, according to the Law. The other Bills are more restrictive than the current Law, strengthening property rights and curtailing farmers' rights to save their seeds. However, all Bills provide some exceptions for small farmers and indigenous farmers. The U.C.R., FPCS, and JC1 Bills are closer in spirit to the Executive Power Bill, while the Peronist Party Bill is an outlier.

D. Regulatory System

As we explained in previous sections, the regulatory system in Argentina is difficult to understand and has different components depending on the type of varieties. The INASE regulates most of the current system through the breeders and new varieties Registry. It also enforces property rights. Nonetheless, the government has created a parallel and intermingled system for genetically modified organisms. Furthermore, the lack of clear definitions of the patent system allows some multinational companies to challenge the Government in Court to accept patents for new varieties. Given the current uncertainty and complexity of the system, some of these Bills propose a more unified regulatory environment.

In addition, we need to consider the ability of the regulators to enforce these legal rules. While the INASE oversees enforcing legal property rights, legal enforcement could be stronger. Legal owners of varieties complain about the lack of payment of royalties, and the government's reticence to enforce rules and police regulations.

The Executive Power Bill does not present a new system but reaffirms the INASE as the leading Agency in charge of the regulatory system and policing rules and regulations. [139] Accordingly, the Bill proposes the following structure for the management of INASE:

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139. *See* Executive Power Bill, at art. 5.

Table 9[140]

Number of Representatives	**Appointment**
President	Named by the Ministry of Agroindustry and appointed by the Executive Power
Vice-President	A representative from the Consejo Federal Agropecuario (C.F.A.)
Three members	Representing the Ministry of Agroindustry
One member	Seed producers
One member	Seed Breeders
One member	Tree nurseries
One member	Seed traders
Two members	Seed users
Total: 10 members and the President	

Given this minor change to the system's structure, the Bill does not discuss other modifications to the regulatory framework, which stays the same as the one described in previous sections. As a result, the Executive Power was considering using this Bill to change the definition and enforcement of intellectual property rights without overhauling the system for registering seed varieties. Nonetheless, we can find other ideas when analyzing the content of the other Bills in Congress.

The Peronist Party Bill, which proposes to eliminate property rights on seed varieties, presents some indication of the direction of the new system without providing much detail. First, we need to clarify that under this Bill, both the CONASE and INASE are unnecessary, as the legal property rights are eliminated. However, given the need to set a framework for the production and use of seeds, the Bill presents the need for a "National Seed Plan" (Plan Nacional de Semilla)[141]. Accordingly, this plan should proceed as follows:

> Article 8: Obligations of the State. The following are the obligations of the State to ensure the achievement of food security and SOVEREIGNTY, HEALTH SOVEREIGNTY, TECHNOLOGICAL SOVEREIGNTY, and sustainable agri-food development:

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140 Executive Power Bill, at art. 5.

141. *See* Peronist Party Bill, at art. 8.

> 1. Guide, design, plan, and promote public policies on seed through a National Seed Plan through which the objectives, goals, actions, programs, projects, and resources will be established to guarantee research, innovation, production, protection and protection, distribution, exchange and storage of seed.[142]

Then, this national plan should be the source of the regulatory and incentive system that allows new varieties to flourish and for agriculture to take advantage of them. Nonetheless, there are few details on how this Plan would be structured, which National Agencies will be in charge, or how the necessary new agencies will be. Besides the National Plan, or within its limits, the Government should pursue some additional goals: guarantee farmers' right to use their own seed, protect native, creole seed varieties, protect and foster family and indigenous farmers according to the Law 27,118, give incentives to the community production new seeds, reach Food Sovereignty, promote responsible investment and innovation, propitiate a sustainable agri-food system and preserve biodiversity, promote new production forms based on agricultural-ecological principles instead of cash crops, revalue and re-legitimize local knowledge and practices from indigenous populations and other local communities, guarantee the inalienable human right to participate in political and managerial decisions involving the own use of seeds, protect genetic resources, promote seeds that enhance biodiversity, promote a solidary exchange and free access to native and local seeds, ensure access to information with regards to public policies and implementation of this Law, at all times women farmers' (local and indigenous) access to seeds, and create institutional spaces to guarantee community participation.[143] This long list of goals presents an ambitious plan for the Government to implement. However, the Bill does not spell out the necessary set of agencies to fulfill this mission. In addition, the funding necessary to accomplish such a plan needs to be mentioned. As a result, this is close to a list of ideas that need a clear path towards implementation.

When it comes to investment and development, the Bill explains,

> Article 13: Participatory and co-responsible research. To guarantee the effective achievement of food, health, and technological SOVEREIGNTY involved in seed, the State will promote participatory

142. Own translation of art. 8, Para. 1, Peronist Party Bill.
143. *See* Peronist Party Bill, at art. 8.

> and co-responsible research, training, technical accompaniment, and innovation on agrobiodiversity and agroecology.[144]

However, we cannot find an explanation of how a State-sponsored system will replace the current mixed system in Argentina. Nonetheless, the Bill proposes the creation of a National Participative Counsel for the Protection of Native and Local Seeds (Consejo Nacional Participativo para la Protección y Promoción de las Semillas Nativas y Criollas).[145] This Council will be the main instrument to protect and promote the domestic production of native and local seeds. It will be composed of representatives from the National State and family, indigenous, and peasant agricultural organizations, representing all different regions of the country.[146] This Counsel would fulfill the policy advising role that CONASE provides under the current system.

Finally, when it comes to the government agency in charge of applying this Law, the Bill leaves the door open to the Executive Power to decide the best course of action:

> Article 16: Implementing Authority. The Executive shall define the authority for the application of this Law.[147]

The U.C.R. Bill is much more specific in delineating the regulatory framework for the Seed Law. It does not significantly depart from the current system but proposes modifications to the structure of some organizations in charge. The Bill includes the INASE as the authority in charge of applying the Law.[148] It also preserves the CONASE in its current function.[149] Furthermore, it proposes the following composition:

Table 10[150]

Number of Representatives	**Appointment**
Five members representing the State	One member, Ministry of Agri-industry

144. Own translation of art. 13, Peronist Party Bill.
145. *See* Peronist Party Bill, at art. 15.
146. *Id.*
147. Own translation of art. 16, Peronist Party Bill.
148. *See* Tramite Parlamentario No. 49, DIPUTADOS ARGENTINA (May 5, 2017), https://www2.hcdn.gob.ar/proyectos/proyectoTP.jsp?exp=2558-D-2017.
149. *Id.* at art. 5.
150 U.C.R. Bill, at art. 6.

	Two members, INASE One member, INTA One member, SENASA
One member	Academic Researchers
Two members	Seed producers and traders
Two member	Users: FAA, CONINAGRO, SRA and CRA
One member	Argentina Agronomic Engineering Federation (Federación Argentina de la Ingeniería Agrónoma)
Total: 11 members	The Ministry of Agri-industry will appoint the President and Vice President from its representatives and the two representatives from INASE.

This Bill also maintains the National Registry for all companies or individuals who produce and trade seeds:

> Article 16- Create in the jurisdiction of the National Seed Institute the "National Registry of Trade and Control of Seeds" where any natural or legal person who imports, exports, produces controlled seed, processes, analyzes, identifies or sells seeds must be registered.[151]

The National Registry for Vegetable Varieties, following the current system:

> Article 21- The National Register of Plant Varieties shall be created under the jurisdiction of the National Seed Institute, in which any plant variety that is identified for the first time must be registered. This registration must be sponsored by an agronomist with a national or revalidated degree, or a professional with incumbencies in the field and an equivalent degree, with a qualifying professional registration.[152]

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151. Tramite Parlamentario No. 49, Diputados Argentina at art. 16 (May 5, 2017), https://www2.hcdn.gob.ar/proyectos/proyectoTP.jsp?exp=2558-D-2017.

152. *Id.* at art. 21.

This Bill puts the INASE at the forefront of regulatory efforts regarding property rights registration, assessment, and enforcement. Furthermore, it establishes the authority of INASE to establish all necessary rules for the system to work.[153].

One of the main changes introduced by this Bill is the attempt to include genetically modified vegetables in the National Registry and other seed varieties.[154] While it does not specify the procedures to follow, it charges the INASE to establish all the necessary procedures, biological tests, and other procedures to validate the new variety. Ultimately, the Agency is in charge of assessing a genetically modified seed's benefits and social costs and acting accordingly to protect biodiversity and national food safety.[155]

While this bill does not propose a completely different regulatory framework, it provides enough details to empower the INASE to become the leading agency in charge of regulating and enforcing property rights in regular and genetically modified seed varieties. Furthermore, it continues with the CONASE as the primary policy advisory board for the Ministry of Agri-Industry and the INASE.

The FRCS Bill proposes a similarly detailed regulatory system. This Bill also put the INASE in charge of the system and the CONASE as the primary advisory body. Most of the differences follow the preferences of the authors of the Bill. First, the FRCS Bill puts the INASE in charge of the regulatory system as follows:

> Article 6: Create within the scope of the Ministry of Agroindustry of the Nation, the NATIONAL SEED INSTITUTE (INASE), which shall act as a decentralized body of the national public administration, with economic and financial autarky, with jurisdiction throughout the territory of the Nation and with personality to act in the field of public and private law.
>
> Article 7: INASE shall have the following powers and obligations:
>
> (a) To understand in the national and international certification, following the agreements concluded or to be concluded in this regard, the physiological, physical, and genetic quality of any

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153. *Id.* at art. 39, 40.

154. *See Tramite Parlamentario No. 39-43*, DIPUTADOS ARGENTINA (May 5, 2017), https://www2.hcdn.gob.ar/proyectos/proyectoTP.jsp?exp=2558-D-2017.

155. *Id.* at art. 43.

> plant organ intended or used for sowing, planting, or propagation;
>
> (b) To exercise the police power conferred by this Act;
>
> (c) To issue title deeds to new varieties of plants following national standards and bilateral or multilateral international agreements signed or to be signed in this area;
>
> (d) To conclude agreements with national, provincial, and municipal public bodies or their dependent departments, as well as with international organizations or private or public entities, whether national or foreign, aimed, inter alia, at deregulation and decentralization for the better performance of the functions of the Institute;
>
> (e) To draw up and propose to the Ministry of Agroindustry of the Nation the technical standards for the quality of seeds and plant genetic and biotechnological creations.[156]

A Board composed of a President and nine directors would manage INASE. The Executive Power will appoint the President. The Executive Power will also design another director, representing the Ministry of Agri-industry, who will act as vice president. The Bill specifies the attributions of the INASE's President.[157]

Table 11 INASE[158]

Number of Representatives	**Appointment**
President	Appointed by the Executive Power
Two members representing the State	One member, Ministry of Agri-industry (Vice-president) One member from INTA
One member	SENECA
One member	Consejo Federal Agropecuario
One member	Seed Innovators
One member	Multiplier Seedbeds Companies
One member	Tree nurseries
Two members	Users
Total: 10 members	

156. *Id.* at art. 6, 7.
157. Id. at art. 12.
158 FRCS Bill, at art. 8.

The FRCS Bill establishes the CONASE's attributions and goals, which preserve most of the advisory board's current goals.[159] In terms of its composition, it is very similar to the one described in the other Bills,

Table 12 CONASE[160]

Number of Representatives	**Appointment**
Five members representing the State	Two members from the National Directory of Agricultural Control and Commercialization (Dirección Nacional de Fiscalización y Comercialización Agrícola) One member from INTA One member from CONABIA (Comisión Nacional de Biotecnología Aplicada) One member from SENASA
One member	Seed innovators
One member	Multiplier Seedbed Companies
One member	Argentine Federation of Agricultural Engineers (FADIA)
One member	Seed Traders
One member	Users
Total: 10 members	

The main difference in this Bill is the participation of companies that multiply seeds from breeders to deliver them to sellers. These companies, which were involved in drafting this Bill, appear as members of these two boards.

The Bill also establishes two National Registries, one for the companies involved in the research, production, and trading of seeds, and another for the new varieties. Both registries will be managed and maintained by the INASE,

> Article 25: Create in the jurisdiction of INASE, the "National Registry of Trade and Control of Seeds" which must be registered, following the rules established by regulation, any natural or legal person who imports, exports, produces controlled seed, processes, analyzes, identifies or sells seeds.

159. Id. at art. 18.
160 FRCS Bill, at art. 16.

> Article 28: Create within the scope of INASE, the National Register of Plant Varieties where any plant variety identified for the first time in compliance with article 20 of this Law must be registered; an agronomist with a national or revalidated degree must sponsor the registration. Plant varieties of public knowledge on the date of entry into force of this Law shall be registered ex officio by INASE.[161]

As with the U.C.R.'s Bill, this Bill contains a separate chapter dealing with biotechnology and the new varieties from these events. Accordingly, the Bill continues with the Registry of companies related to research in biotechnology and a separate registry for biotechnology events, as regulated by CONABIA. The INASE will manage these registries.[162] As a result, the Bill proposes to continue with the current regulatory system for biotechnological discoveries.

Finally, the JC1 Bill adds to the proposal of a regulatory system by proposing a system similar to the previous Bills. The INASE would manage and establish regulatory procedures and rules, while the CONSA would continue advising the Government concerning policies related to property rights in seeds. As a result, the Bill proposes the following composition for the CONASE.

Table 13 CONASE[163]

Number of Representatives	**Appointment**
Five members representing the State	One member from the Ministry of Agri-Industry Two members from INASE One member from INTA One member from SENASA
One member	Seed innovators
Two members	Producers and traders
Two members	Users
Total: 10 members	

The Bill does not go into detail about the Board of Directors for the INASE. However, the Bill establishes the creation of four different registries:

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161. *Id.* at art. 25, 28.

162. Promoción de la Producción y Comercialización de Semillas y Creaciones Fitogenéticas. Derogación de la Ley 20247 [Promotion of the Production and Commercialization of Seeds and Plant Genetic Creations. Repeal of Law 20247], 4473-D-2018, Trámite Parlamentario N° 89 Art. 74-80 (2018).

163 JC1 Bill, at art. 5.

> Article. 13º — This Law creates under the jurisdiction of the National Seed Institute:
>
> a) The "National Registry of Trade and Control of Seeds" in which any person who imports, exports, produces controlled seed, processes, analyzes, identifies, or sells seeds must be registered.
>
> (b) The "National Register of Seed Users" in which any natural or legal person using seeds whose final destination is not marketing as propagating material or vegetative propagation or propagation must be registered.[164]

In addition, the Bill proposes continuing the Registry for Vegetal Varieties and the National Registry of Property of Vegetal Varieties.[165]. All these registries are maintained and managed by the INASE, which will set all regulations and rules for these registries.

In summary, while all these Bills have different ideas about the composition of the CONASE and INASE and some rules and regulations, the system has remained the same. The Peronist Party Bill offers the only fundamental departure from the current system. However, beyond some general discussion of a community-based system, there are no definitions to understand how such a system would work. Defining, designing, implementing, and funding the system is left to the Executive Power to figure it out. Then, the different proponents of the new legislation were not interested in introducing significant regulatory changes but in better defining the current system and organizing the new property rights definitions and enforcement around the current system. As a result, extreme proposals, like according patent protection, were not considered part of the legislative agenda.

E. Enforcement and Penalties

One of the most essential issues regarding an effective property rights system is the enforcement and policing of those property rights regulations. While Law 20,247 established a property right definition, in practice, those policies were only pursued to a partial extent of the Law, particularly for the prevalence of substantial

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164. Régimen de Promoción de la Producción y Comercialización de Semillas. Derogación de la Ley 20247, de Semillas y Creaciones [Promotion Regime for the Production and Marketing of Seeds. Repeal of Law 20247, on Seeds and Plant Genetic Creations], 3187-D-2018, Trámite Parlamentario N° 54 Art. 25 (2018).

165. *See id.* at art. 28-31.

farmers' right to save their seed. This section shows the differences in enforcement rules and policing established in each Bill.

The Executive Power Bill establishes the ability of the INASE to use its power to enforce property rights as follows:

> Article 1 – Incorporate as article 15 bis de Law 20,247 the following text;
>
> Article 15 bis – The National Seed Institute shall have access to any crop or product of the harvest in any place that is located, for the purpose of verifying the legality of the seed that gave rise to it, in compliance with this law.[166]

This Article strongly states that the INASE would have the exclusive authority to police and enforce the definitions of this Law as necessary. Despite this definition, the Executive Power Bill does not contain other definitions about the extent of the penalties for those who do not pay for the seeds. Accordingly, we will analyze the rest of the Bills in Congress to determine what legislators have in mind regarding enforcement.

Table 14

Bill	**Enforcement of Property Rights**
Peronist Party	This Bill establishes that the seeds belong to the community, and no one can appropriate the intellectual rights over new varieties. In particular, the Bill defines two issues related to attempts to create property rights, which should be penalized: "Article 4 – Definitions: … Biopiracy: is the appropriation of the knowledge and genetic assets of indigenous communities, farmers and research carried out with public resources, by natural or legal persons who promote their exclusive control, through any form of intellectual property, over said knowledge and goods. Bioprospecting: these are research and development projects that allow the exploration of data and samples of biological diversity and genetic assets and the selective investigation of biodiversity to find genetic resources or create them with the aim of patenting them."[167]

166. Own translation of Article 1, Poder Ejecutivo Bill.
167. Own translation of Article 4, Peronist Party Bill.

	Then, in Article 8, the Bill lists an obligation of the State to prevent Biopiracy and bioprospecting[168]. However, it did not indicate any instruments or agencies in charge of that task.
U.C.R. Bill	This Bill establishes that the INASE would enforce property rights according to the definitions and restrictions established by this Law.[169]. It also requires the INASE to publish the results of inspections and samplings.[170] In terms of policing, the Law establishes: "Article 64- Police Power: the officials acting in compliance with this Law may, at any time and place, inspect properties where seeds are deposited or sown for any purpose, stop vehicles in which seeds are transported, extract all kinds of samples of seeds and even of sown materials, in any vegetative state in which they are found, or of the materials resulting from their harvest; carry out all kinds of analysis with them, intervene and immobilize any batch of seed in alleged infringement until it is placed in legal conditions, and designate depositaries of the intervened materials in the conditions that they determine. If no one assumes the obligations corresponding to the deposit, they may sequester the infringing materials. To this end, and if there is or is considered to be an opposition, they may request a search warrant, the assistance of the security forces, and the cooperation of other public or private bodies. The samples of seeds extracted from containers duly closed and labeled, without signs of manipulation or deterioration, deposited in places suitable for that purpose, make it presumed, unless proven otherwise, that the seed was delivered in the form and conditions in which it is found."[171] The Bill also allows the presumed offenders to appeal to the INASE within ten days. If the INASE resolves to charge them, they can still appeal to the National Appellate Chamber in the City of Buenos Aires.[172]

168. *See* Peronist Party Bill, at art. 8.

169. *See* Semillas y Creaciones Fitogenéticas. Régimen. Derogación de la Ley 20247 [Seed and Plant Genetic Creations .Regime. Repeal of Law 20247], 2558-D-2017, Trámite Parlamentario N° 49 art. 62 (2017).

170. *See id.* at art. 63.

171. *Id.* at art. 64.

172. *See id.* at art. 65-66.

Table 14 (Continued)

FRCS Bill	This Bill also establishes an evident policing power, although this power is not directly granted to the INASE, Article 97: Acting officials, in compliance with this Law, may inspect, extract samples, and perform analysis and tests of seeds deposited, transported, sold, offered, or displayed for sale at any time or place. They shall have access to any premises where seeds exist and may require and inspect any documentation. They may stop and intervene in the sale and mobilization of any batch of seed in alleged infringement for a period not exceeding thirty (30) days. To this end, the Ministry of Agroindustry of the Nation may require the functional cooperation of other official bodies and the assistance of the security forces in all cases it deems appropriate.[173]
JC1 Bill	This Bill establishes that "Article. 49º. — Officials acting in compliance with this Law may, at any time and place, inspect properties where seeds deposited or sown for any purpose are found, stop vehicles transporting seeds, extract all kinds of samples of seeds and even materials sown in any state in which they are located or of the materials resulting from their harvest, carry out all kinds of analysis with them, intervene and immobilize any batch of seed in alleged infringement until it is placed in legal conditions and designate depositories of the materials intervened in the conditions that they determine. If no one assumes the obligations corresponding to the deposit, they may sequester the infringing materials. To this end, and if there is or is considered to be an opposition, they may request a search warrant, the assistance of the security forces, and the cooperation of other official or private bodies. The samples of seeds extracted from containers duly closed and labeled, without signs of manipulation or deterioration, deposited in places suitable for that purpose, make it presumed, unless proven otherwise, that the seed was delivered in the form and conditions in which it is found."[174] It also establishes that INASE could publish the results of inspections and samples. Finally, it offers a 10-day appeal mechanism with INASE and the National Appellate Chamber in the City of Buenos Aires.
JC2 Bill	Does not specify

173. 4473-D-2018, at Art. 97.
174. 0977-D-2017, at Art. 64.

F.A.A. Bill	N/A.

According to these results, the Peronist Party Bill is an outlier, as expected. The other Bills are very similar. Most of them empower the INASE with the policing power, except the FRCS Bill, the U.C.R. Bill, and the J.C. Bill, which offer an appellate system for those accused of property rights infractions to resolve their disputes and have a court decide when there is disagreement. As a result, these Bills go beyond the simple definition established by the Executive Power Bill and offer a more robust enforcement mechanism for intellectual property rights.

Regarding penalties and fines, we have the following descriptions across the different Bills (Table 15).

Table 15

Bill	**Enforcement of Property Rights-Penalties**
Peronist Party	It does not specify penalties or fines for those who violate the rights of communities and farmers to use their seeds or try to obtain payment of royalties for their inventions.
U.C.R. Bill	"Article 61- The National Seed Institute, when the conduct provided for in Article 62 of this Law is configured, shall punish those responsible with: (a) Call for attention. (b) Warning. c) Fine of up to one MILLION (1,000,000) of reference units of sanction (U.R.S.). d) Confiscation of seeds, crops, merchandise, and/or items in violation and/or used to infringe. (e) Temporary or permanent suspension of the relevant Register. (f) Temporary or permanent disqualification. g) Partial or total closure, temporary or permanent, of the premises and/or establishments where the offense has been committed. The penalties listed may be applied separately or jointly by several of them, taking into account the seriousness of the offense, the offender's background and conditions, the recidivism incurred, the seed's economic importance, and the offender's conduct after the infringement.

	The statute of limitations for the action is three (3) years from the commission of the infringement, and its course is suspended during the administrative procedure. The penalty shall be prescribed three (3) years from the time the decision establishing it is final."[175]
FRCS Bill	This Bill lists each possible transgression established in the Bill and does not specify a given fine. The fine and penalty would be established by the INASE's Board, under the supervision of the CONASE.
JC1 Bill	"article. 46º. — The National Seed Institute shall, when the rates of criminal Law provided for in Article 45 are set up, punish those responsible with: (a) Call for attention. (b) Warning. c) Fine of up to one MILLION (1,000,000) of reference units of sanction (U.R.S.). (d) Confiscation of the goods and/or items used to commit the offense. e) Temporary or permanent suspension of the corresponding Registry, including suspensions of AFIP registrations. (f) Temporary or permanent disqualification. (g) Partial or total, temporary or permanent closure of premises. The penalties listed may be applied separately or jointly by several of them, taking into account the seriousness of the offense, the offender's background and conditions, the recidivism incurred, the seed's economic importance, and the offender's conduct after the infringement. The action's limitation period is three years from the commission of the infringement, and its course is suspended during the administrative procedure. The penalty shall be prescribed three (3) years from the time the decision establishing it is final."[176]
JC2 Bill	Not applicable
F.A.A. Bill	NA

175. 2558-D-2017, at art. 61.

176. Semillas y Creaciones Fitogenéticas - Ley 20247 – Modificaciones, Sobre Declaración de Uso Publico Restringido [Seed and Phytogenetic Creations – Law 20247 – Modifications, on Declaration of Restricted Public Use], 0977-D-2017, Trámite Parlamentario N° 15 art. 61 (2017).

Now, we can see again that the U.C.R. Bill and the JC1 Bill offer similar penalties and fines established in the Law. However, the FRCS provides a system of fines and penalties that are open to interpretation and have vague penalties and fines. In addition, it puts two agencies in charge since the INASE would be under the oversight of the CONASE. This structure makes the penalty system less clear-cut and definitive compared to the others.

F. Public Use

A final major issue we will address here is the establishment of instances where the property rights granted under the Law could be subject to public use, that is, cases in which it is necessary to suspend the property rights for a significant social issue. Accordingly, the Law 20,247 established:

> Article 28. — The Title deed of a cultivar may be declared of "Restricted Public Use" by the National Executive on the proposal of the Ministry of Agriculture and Livestock on the basis of equitable compensation for the owner when it is determined that such a declaration is necessary in order to ensure an adequate substitution in the country of the product obtainable from its cultivation and that the beneficiary of the right of ownership is not supplying the public needs of seed of such a cultivar in the quantity and price considered reasonable. During the period for which the cultivar was declared for "Restricted Public Use," the Ministry of Agriculture and Livestock may grant its exploitation to interested persons, who must offer satisfactory technical guarantees and register with that Ministry. The declaration of the National Executive May or may not indicate what the compensation for the owner may be fixed among the interested parties. In case of discrepancy, it will be determined by the National Seed Commission, whose decision will be appealable before the Federal Court. The substantiation of the agreement on compensation shall under no circumstances delay the availability of the cultivar, which shall be immediate to the declaration of the National Executive; in case of opposition, the owner will be sanctioned according to this Law.[177]

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177. Law No. 20247, art. 28, Mar. 30, 1973, [Vol. No.] B.O. 2 (Arg.).

According to the Law, the Government could declare a seed variety of "restricted public use" and dispose of its use, deciding a given compensation to the owner of the property rights. In keeping with this Law, all the proposed Bills contain a public-use clause. In the case of the Executive Power Bill, the same public use specified in Law 20,247 is maintained. Nonetheless, the other Bills introduce their definitions, with the following differences:

Table 16

Bill	**Public Use**				
	Type	**Agency in Charge**	**Compensation**	**Length**	**Appeal Process**
Peronist Party	Not applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
U.C.R. Bill[178]	Restricted	Ministry of Agroindustry	Fixed by the Government or agreed by parties. If there is disagreement, CONASE decides.	2 years. Can be extended by Ministry Resolution	20 Days at the National Appellate Chambers, City of Buenos Aires
FRCS Bill[179]	Restricted	Executive Power upon request from the Ministry of Agroindustry, advised by INASE and CONASE	Executive Power, or agreement among parties. INASE decides if there is a disagreement	Two Years. Executive Power can extend it.	Federal Court
JC1 Bill[180]	Not Restricted	Ministry of Agroindustry, advised by INASE and CONASE	Ministry of Agroindustry, or agreement among parties.	Two Years. A new resolution can extend it.	10 Days period, at National Appellate Chamber, City of

178. *See* 2558-D-2017, , U.C.R. Bill, at art. 50, 51.
179. *See* FRCS Bill, at art. 53, 54.
180. *See* JC1 Bill, at art. 34.

					Buenos Aires
JC2 Bill[181]	Restricted	Law from Congress	Set by Congress	Two years. The new Law can extend it.	Not Defined
F.A.A. Bill	N/A	N/A	N/A	N/A	N/A

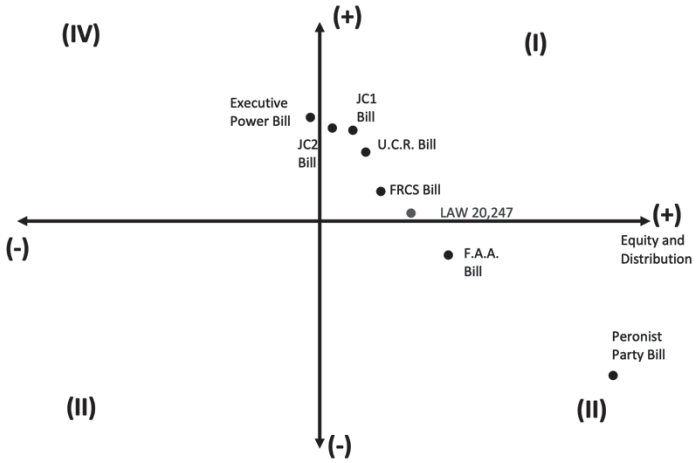
Once again, there are no significant differences across the Bills, and those differences obey the Agency or government branch in charge of deciding the public use of a seed. In this sense, the JC2 Bill is the most restrictive since it requires Congress to pass a Law to make a decision on the public use of a seed variety. On the other hand, the U.C.R. Bill just needed a resolution from the Ministry of Agriculture. There are also some differences in the ability to appellate the decision regarding the price and the time limits to do so. In this sense, the JC2 Bill does not provide any avenue for appeal. The FRCS Bill does not give a time limit for appeals but requires the appellant to resort to Federal Court, which can be a much more difficult enterprise than the options offered by the other Bills.

G. Distribution of Bills Across the Policy Spectrum

Considering the preferences of the different actors regarding the direction of the proposed reform, we can establish the position of the various Bills according to the distribution of preferences across the two main dimensions of property rights and equity and distribution. Accordingly, Graph 3 shows the distribution of these Bills across this spectrum.

181. *See* JC2 Bill, at art. 50-51.

Graph 3



According to the description of each bill offered in the previous section, the Peronist Party Bill eliminates the definition of property rights. It establishes a system based on the issues of equity and distribution, which are the most important factors to consider. In this Bill, the State should have a seed plan that promotes research and development of new seed varieties based on the domestic and indigenous seeds already used by small farmers and indigenous people. Furthermore, these communities should make decisions, and commercialization, own use, and new varieties should be freely available. In this respect, the Peronist Party Bill is the farthest away from the status quo established by Law 20,247 and the modifying legislation that currently defines the legal framework in Argentina.[182] The Bill closest to the status quo is proposed by the Federación Agraria Argentina (F.A.A.). While the F.A.A. has a vision closer to the Peronist Party than the Executive Power, it does not break away from the current legal system. It does not go as far as proposing the elimination of property rights. They propose to change the law while maintaining farmers' rights to use their seeds. Next, we have the FRCS Bill. This bill is also sponsored by CASEM, which includes companies that multiply different seed varieties for sale. Accordingly, this Bill proposed an improvement over the status quo, modernizing the system and providing more incentives for investment in research and development while, at the same time, giving some preferred use to multiplier companies. As a result, several articles are devoted to the specific needs of these companies

182. See the previous section for a description of the current legal system in Argentina.

and the inclusion of some of their representatives in CONASE and INASE.

Then, we move to the three Bills presented by parties who are part of the governing alliance: the U.C.R., A.R.I., and Juntos Por El Cambio. While these Bills are close to the Executive Power Bill, they offer some differences in defining the system and the property rights for seed varieties. In this context, the U.C.R. Bill offers some additional rights for farmers and a less intense definition of property rights—the Bill presented by Juntos por el Cambio (JC1) and A.R.I. (JC2) are the ones closer to the Executive Power Bill. However, it is interesting to note that all the bills presented by the governing groups in Congress differ from those introduced by the executive power. This could indicate that the governing coalition in Congress was aware of the difficulties in passing the Bill proposed by the Executive Power, and they tried to accommodate some changes to make them more appealing to the voting Congress members.

Nonetheless, these four Bills comprise a conglomerate of Bills with minor differences between themselves compared to the other Bills introduced in Congress. To summarize, we proceed to rank these Bills according to the factors analyzed before. Table 17 presents a ranking of each factor according to each Bill. The average ranking (summarized in the last column) reflects the differences in preferences explained in Graph 4.

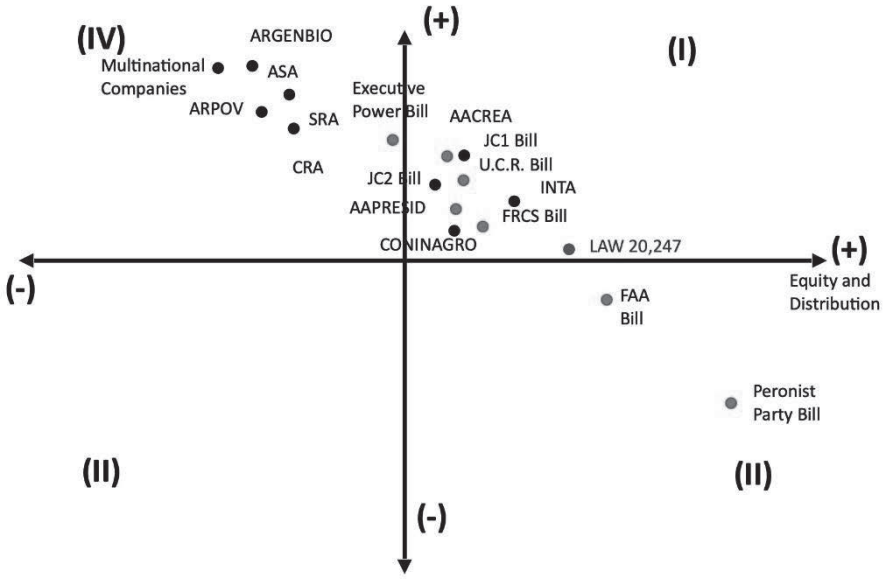
Table 17

Bill	Property Right Definitions	Time Limit	Farmers' Rights	Regulatory System	Enforcement	Penalties	Public Use	Average
Peronist Party	4	5	5	5	5	4	4	4.85
UCR	2	4	3	1	2	1	1	2.29
FRCS	1	3	3	1	3	2	2	2.43
JC1	1	1	2	1	2	1	1	1.43
JC2	1	2		1	1			1.2
FAA	3		4	1	4	3	3	3.33
Executive Power	1	2	1	1	1			1.2

Given this setup, the different Bills were trying to capture the support of different constituencies and stakeholders in the agricultural sector. The Government attempted to reach an agreement that would open a window to pass the Bill in a divided

Congress. Graph 4 shows how the different Bills correspond to the preferences of different stakeholder groups. In this environment, the government sought support from multinational companies, the S.R.A., and other organizations that were heavily involved in researching and developing new seed varieties. While the Executive Power Bill did not provide a perfect system widely supportive of strict property rights, it was considered an advance, given the improvement in the definition and the empowerment of the INASE and other organizations to enforce those property rights. For some agricultural organizations with a broader representation of farmers and other stakeholders, the bill went too far regarding their preferences. However, they understood the need to modernize the system and the advantages of bringing new technologies to the sector. Then, the extra cost to pay for the seeds should be compensated by the expected gains in yield and productivity. Nonetheless, for other organizations, like the F.A.A., the Bill was too far from their preferences, and they would continue to support the status quo of Law 20,2467 and its modifications, which provide them more perceived benefits than the new Bill.

Graph 4



However, the real challenge for the Government was to obtain some support from legislators in the Peronist Party. While the Peronist Party had the majority in the Senate and a strong block in the Chamber of Deputies, the coalition needed to be more monolithic behind their Bill. For the more moderate wing of the Party, their

own Peronist Bill was too extreme, and they would have preferred a Bill that contemplated both an improvement in the system and a definitive support for distribution and equity. Then, the government sought support from the Peronist Party.

The task of bringing together opposite stakeholders was not easy. If the Executive Power decided to move closer to the property suitable interests, it risked alienating some of the Peronist moderates and even some of their legislators. However, moving closer to the Peronist Party could jeopardize the alliance with companies investing in research and development. Furthermore, it could water down a necessary reform to bring the legal framework to the twenty-first century. Accordingly, the Executive Power brought together all the Bills presented by its coalition, together with ideas from different constituency groups. It introduced a final Bill to Congress, hoping to reach enough support to obtain a successful passage.

H. Final Bill to Congress

The final Bill made it to Congress in 2018. The Government hoped to obtain enough votes to move and pass the Bill. If we compare the Bill from the Committee with the one introduced by the Executive Power, we can see the differences introduced to obtain support (Table 18).

Table 18[183]

Item	**Executive Power Bill**	**Final Bill agreed upon in Congress**
Regulatory Power	Gave the regulatory power to the INASE, which could verify and access any field or crop.	Same, INASE. However, it adds that INASE could verify seeds at any stage of the "production chain." In addition, this Agency cannot delegate its powers to any other Government agency.
Price	User pays the price, which satisfies all intellectual property rights without exceptions. It should also include the value the owner could require for the uses	Same. It adds that the value should be established for 5 years, according to Article 27 (own use of seeds).

183. Own elaboration based on the Bills introduced in Congress.

	established in Article 27 (own use of seeds).	
Use for experimentation	Users cannot prevent using a variety for experimentation or obtaining a new variety, which can be registered as a new one.	Same
Own use	The owner can ask for payment in these cases: 1. During 3 multiplications after buying the seeds, all seeds are reserved for their use 2. There is no time limit for the increase in sown area compared to the initial area. Exception: small farmers with gross revenue lower than 3 times the limit for small taxpayers. Exception for farmers registered in the National Registry for Family Farming and native people.	Same. The owner can require future payment for the use of seeds to anyone but the following: 1. Farmers registered in the National Registry for Family Farming and native people. 2. Farmers whose tax category corresponds to the category of Micro-company.
Penalties	Establishes penalties for misinformation and/or falsification about seeds' qualities or conditions.	Same
INASE Structure	The Board of Directors is composed of the following (12 members): 1 President and 1 Vice-president 10 Directors: 1 from the Consejo Federal Agropecuario (C.F.A.), 3 from the Ministry of Agri-industry, 1 from INTA, 1 from Seed Producers, 1 from Seed Innovators, 1 from Plant Nurseries, 1 from Seed Traders, and 2 from Seed users.	The Board of Directors is composed of the following (14 members): 1 President and 1 Vice-president 12 Directors: 1 from the Consejo Federal Agropecuario (C.F.A.), 2 from the Secretary of Agri-industry, 1 from INTA, 1 from Seed Producers, 1 from Seed Innovators, 1 from Plant Nurseries, 1 from Seed Traders, 1 from Seed Multipliers, 1 from Union de Trabajadores Rurales y Estibadores, 1 from

		SENASA, and 2 from Seed users.
Taxes	None	This Bill allows for deducting up to 1.5 times the expense of seeds from the Earnings Tax.

As we can see, the new Bill included provisions to increase the system's equity, protect some constituencies, and reduce the cost of paying for new varieties. First, it better defined the protection for small family farmers and native communities. These groups could reuse their seeds without paying for the owners' property rights. This is consistent with introducing equity in the system and allowing more people to support the Bill. Second, the owner could charge larger farmers for the continuous use of the seeds. Third, the Board of INASE was expanded at the request of some of the lobbying groups. Fourth, the Bill established the INASE as the sole regulator and arbiter, giving this Agency powers over any other agency and allowing for testing at different stages of production. Finally, to bring more farmers' users to support the Bill, a clause allowed users to deduct payments for seeds from their tax bill. This is an important economic incentive introduced to decrease opposition.

However, despite attempts to compromise on some aspects of the Bill, the Government needed more votes to pass it. After much discussion in the Chamber of Deputies Committee, the Bill never reached the floor during the legislative session of 2018.

Afterward, the Government moved the treatment to the next legislative year. The Government tried to agree to bring the Bill to the floor in April 2019, but it was denied.[184] In addition, the economic difficulties in 2019 and the upcoming presidential election frustrated the final attempt, and the Bill was finally dropped in 2019. The Government was unable to reach agreement among the diverse blocs in the lower Chamber and could not bring the Bill to the floor.[185] An opportunity was lost, and disagreement in both Congress and among the different constituency groups prevented the passage of the Bill.

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184. *See* Claudio Vaca, *Diputados trataría la Ley de Semillas, pero hasta último momento no se sabrá si sale* [The Deputies will discuss the Seed Law, but it will not be known until the last moment if it will be approved], AGRO VERDAD (Apr. 24, 2019), https://agroverdad.com.ar/2019/04/diputados-trataria-la-ley-de-semillas-pero-hasta-ultimo-momento-no-se-sabra-si-sale.

185. *See* Claudio Vaca, *La Ley de Semillas perdió estado parlamentario al no ser incluída en la última sesión del año de Diputados* [The Seed Law lost parliamentary status by not being included in the last session of the year of Deputies], AGRO VERDAD, (Nov. 21, 2019), https://agroverdad.com.ar/2019/11/la-ley-de-semillas-perdio-estado-parlamentario-al-no-ser-incluida-en-la-ultima-sesion-del-ano-de-diputados.

Furthermore, the failure of the national elections in 2019 and the change in government prevented any bill from being made to Congress. Accordingly, the agricultural sector was left in the same situation as before, grappling with an insecure property rights framework, which disincentives investment and the introduction of innovation.

VI. IS THERE ANY ROOM FOR AGREEMENT?

In late 2019, the Peronist coalition won the presidential elections in Argentina, and the political willingness to introduce property rights changes in seeds disappeared. While the new President was not part of the more leftist group in the Peronist coalition, the discussion of a new Bill was permanently discontinued. However, the problem remained. The agricultural sector continued dealing with insecure property rights, and different constituency groups pushed the Government to address this issue. One of the main ideas came in 2022 when some groups proposed that the government charge a 1.5% tax to farmers when they sell their crops.[186] Next, this proposal allowed the INASE to distribute that revenue among seed providers. Nonetheless, this proposal generated strong rejection from farmers' groups who saw this as an extra tax, and there was no possibility of avoiding the tax by not discounting this payment from future tax bills.

Accordingly, the treatment of a new property rights proposal will have to wait for a change in Government and for a sentiment in Congress to introduce stronger property rights protections. Without a substantial change in political preferences in the governing coalition, it is challenging to foresee meaningful regulatory changes. The political preferences are so distant from each other that a compromise is not possible now. Nonetheless, the political equilibrium is not necessarily in tune with the needs of the production sector. The agricultural sector, one of the engines of exports for Argentina and one of the main actors in international markets, needs a rational and adequate property rights framework to prosper. Accordingly, this is a case where the political status quo prevents the implementation of proper property rights protection. This case highlights the difficulty in many developing countries establishing adequate institutional mechanisms to sustain strong economic growth.

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186. *See* Redacción Agrovoz, *Otro conflicto con el agro: el Gobierno propone cobrar por el uso propio de semillas de soja y trigo* [Another conflict with the agricultural sector: the Government proposes charging for the use of soybean and wheat seeds], LA VOZ (July 25, 2022), https://www.lavoz.com.ar/agro/agricultura/otro-conflicto-con-el-agro-el-gobierno-propone-cobrar-por-el-uso-propio-de-semillas-de-soja-y-trigo/.

The presidential election in 2023 brought new opportunities for legislation in these matters. A change in Government with more market-friendly positions could open the opportunity for a new attempt at legislation. Nonetheless, given the political fragmentation of different sectors and political parties, finding common ground to move legislation on this matter is complicated. Accordingly, the political status quo seems resilient to reform attempts despite producing an inefficient economic result.

VII. CONCLUSIONS

Argentina is one of the leading exporters of agricultural commodities in the World. The impressive demand from China has propelled agricultural production in Argentina, and crops like soybeans and corn have provided immense opportunities for Argentina. Nonetheless, the full potential of agricultural production depends on innovation in new seed varieties and the adoption of new technologies, especially in genetically modified seeds. The current regulatory framework in Argentina provides a fragmented and incomplete system with different avenues for approval. In addition to the regulatory uncertainty, the system does not protect property rights for the producers of new varieties, who are left to their own devices when enforcing their property rights. This situation has created a need to reform property rights regulations, and many analysts and industry groups recognized the need for a modern regulatory system. However, strong ideological positions regarding property rights, the role of multinational corporations, and the distribution of the profits from agricultural production have dampened reform possibilities.

This paper presents an analysis of the political economy of that struggle. The latest attempt at reform was brought in 2018 as one of the most serious attempts in the last decades. However, given the political divide among political parties, the confrontation between stakeholders and the political environment in an electoral year prevented the Government from enacting the new legislation. This paper describes the position of different groups through the various proposals in Congress. Furthermore, it shows the political distance that separates each constituency and the main points of disagreement. Moreover, this paper provides a valuable tool for understanding the main issues to be addressed if or when new legislative proposals are put forward.