In 1901, Monsanto’s inception began to change the United States’ farming industry forever. As of 2018, Monsanto’s patents control the growth of 93% of U.S. soybean seeds and 80% of U.S. corn seeds. Additionally, 40% of all U.S. crops use Monsanto’s products. As Monsanto’s control over the U.S. farming industry has grown, American farmers have begun to see this impact their own farming practices. As a result, many farmers are left with difficult decisions to make. This Note will explore Monsanto’s control over the farming industry through its seeds in Section II, an analysis of Monsanto’s impact on U.S. farmers in Section III, a recommendation for altering Monsanto’s control of the farming

2 Id.
3 Id.
seed market in Section IV, and will conclude in Section V. As Monsanto continues to monopolize the farming seed industry, American farming slowly loses its inherent independence.

II. BACKGROUND

With Monsanto controlling 93% of U.S soybean seeds and 80% of U.S. corn seeds, U.S. farmers are faced with few options when purchasing genetically modified (GM) seeds, especially with Monsanto monopolizing an industry that was once a product of competition cultivated by family farmers. As a result, most farmers purchase their seeds from Monsanto. These seeds come with a hefty licensing agreement, which forces farmers to agree to follow Monsanto’s farming procedures. In addition, farmers must grant Monsanto access to their fields and records, all of which can be investigated at any time Monsanto chooses. The 2011 Monsanto Technology/Stewardship Agreement stated the following:

Grower Agrees: . . . To acquire Seed from authorized seed companies (or their authorized dealers) with the applicable licensees. To use Seed containing Monsanto Technologies solely for planting a single commercial crop. Not to save or clean any crop produced from Seed for planting, not to supply Seed produced from Seed to anyone for planting, not to plant seed for production other than for Monsanto or a Monsanto licensed seed company under a seed production contract. Not to transfer any Seed containing patented Monsanto Technologies to any other person or entity for planting. To plant and/or clean Seed for Seed production, if and only if, Grower has entered into a valid, written Seed production agreement with a Seed company that is licensed by Monsanto to produce Seed. Grower must either physically deliver to that licensed Seed Company or must sell for non-seed purposes or use for non-seed purposes all of the Seed produced pursuant to a Seed production agreement. Grower may not plant and may not transfer to others for planting any Seed that the Grower has produced containing patented Monsanto Technologies for crop breeding, research, or generation of herbicide registration data. Grower may not conduct research on Grower's crop produced from

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4 Id.  
5 Id.  
6 Id.
Seed other than to make agronomic comparisons and conduct yield testing for Grower's own use.\textsuperscript{7}

Monsanto also encourages neighbors and community members to report farmers who use Monsanto’s seeds without a license by providing them with a toll-free hotline.\textsuperscript{8} The licensing agreement forces farmers to buy new seeds each year that they plan on harvesting.\textsuperscript{9} As a result, farmers cannot “save seeds” and reuse them the following year. Often times, crops naturally regrow the following year without farmers replanting seeds. This causes problems, as farmers are faced with patent-infringement lawsuits if they choose not to purchase additional seeds, yet patented Monsanto crops grow.\textsuperscript{10}

Each year, Monsanto spends $10 million on investigating roughly 500 farmers who are suspected of patent infringement.\textsuperscript{11} This has led to numerous court cases in which family farmers are forced to go up against a multi-billion-dollar company. In fact, as of November 2012, Monsanto had taken 410 farmers and 56 small businesses dealing with farming to court, leading to a collective total $24 million payout.\textsuperscript{12} Additionally, many cases don’t even reach court, as they are settled in pretrial. The total estimated payout that Monsanto has received from pretrial settlements and court cases is somewhere between $85 million and $160 million.\textsuperscript{13}

In 2001, Monsanto sued Homan McFarling, a Mississippi farmer whose net worth was estimated around $75,000.\textsuperscript{14} Monsanto alleged “breach of contract and infringement of patents claiming herbicide-resistant plants, seeds, genes, and method of producing the genetically modified plants.”\textsuperscript{15} McFarling bought

\textsuperscript{7} Monsanto Technology/Stewardship Agreement, FARMER’S LIFE BLOG (2011), https://thefarmerslife.files.wordpress.com/2012/02/scan_doc0004.pdf.
\textsuperscript{8} Id.
\textsuperscript{10} Id.
\textsuperscript{11} Id.
\textsuperscript{12} Id.
\textsuperscript{13} Id.
\textsuperscript{14} Monsanto Co. v. McFarling, 302 F.3d 1291, 1300 (Fed. Cir. 2002).
\textsuperscript{15} Id. at 1291.
Roundup Ready® soybean seed in 1997, paid Monsanto their required licensing fee, and signed the licensing agreement in which he agreed to plant the seeds only in the 1997 planting season and to not save any seeds and replant them in any future planting season.\textsuperscript{16} McFarling saved 1,500 bushels of soybeans and planted them in the 1998 planting season and the 1999 planting season.\textsuperscript{17} As a result, Monsanto brought McFarling to court. The court ruled in favor of Monsanto and granted an injunction against McFarling, however, when McFarling appealed in 2002, he argued that Monsanto had violated antitrust laws.\textsuperscript{18} The court, again, ruled in favor of Monsanto and found that Monsanto had not made any antitrust violations.\textsuperscript{19} Monsanto brought another case against McFarling in 2004 to determine damages, which resulted in the court setting the damages amount at $375,000 in 2007.\textsuperscript{20}

When Monsanto sued Scruggs Family Farm in 2001 for infringement, Scruggs argued “that the plaintiff’s decision to obtain utility patents in lieu of certificates under the Plant Variety Protection Act is an impermissible attempt to cut off farmers' practice of saving seed for future planting, a practice long rooted in history and tradition.”\textsuperscript{21} The court also ruled in favor of Monsanto in this case, granting injunction against Scruggs.\textsuperscript{22}

In another case, Monsanto sued William Strickland, a South Carolina farmer, in 2009 for patent infringement.\textsuperscript{23} Monsanto accused Strickland of saving seeds and planting them in a later planting season than the planting season they were initially bought for.\textsuperscript{24} The court, again, ruled in favor of Monsanto and ordered Strickland to pay Monsanto $44,200 for royalty fees and attorney fees in addition to $19,55.18 for infringement.\textsuperscript{25}

\textsuperscript{16} Id. at 1293.
\textsuperscript{17} Id.
\textsuperscript{18} Id. at 1294.
\textsuperscript{19} Id. at 1299.
\textsuperscript{20} Monsanto Co. v. McFarling, 488 F.3d 973, 974 (Fed. Cir. 2007).
\textsuperscript{21} Monsanto Co. v. Scruggs, 249 F. Supp. 2d 746, 748 (N.D. Miss. 2001).
\textsuperscript{22} Id.
\textsuperscript{24} Id. at 809.
\textsuperscript{25} Id. at 805.
These are only three of a long list of cases in which Monsanto sued U.S. farmers for infringement. As a result of these cases, many farmers are faced with financial detriment due to the multi-billion-dollar company. The importance on whether farmers have a choice of which seeds to purchase and whether this choice affects the U.S. economy has started to become recognized, and these issues will be main topics of discussion in this note.

III. ANALYSIS

In 2015, Monsanto’s patent for Roundup Ready® soybean seed expired after twenty years.26 A second version was already patented, giving Monsanto more time to enforce its strict licensing standards as it stopped selling its first version of the seeds and began to only sell the second version.27 Even with the first patent having expired, regulatory files will be kept up to date through 2021.28 This has allowed Monsanto to continuously enforce its licensing agreement of its first version of Roundup Ready® soybean seed even though the patent has expired. Even with a second patent in place, Monsanto is already in the process of gaining approval of a third version of Roundup Ready® soybean seed that it can patent.29

Farmers are left with few choices when it comes to purchasing Monsanto’s seeds and agreeing to their licensing agreement, especially because GM seeds are becoming increasingly crucial to the farming industry. Additionally, farmers are at a disadvantage when it comes to bargaining power in order to negotiate favorable licensing terms against corporate giant Monsanto. As of 2017, 96% of cotton in the U.S., 94% of soybeans in the U.S., and 92% of corn in the U.S. is produced through some sort of genetic engineering.30 Because

27 Id.
28 Id.
29 Id.
Monsanto has such a strong hold on the market of these seed varieties, most farmers choose to buy Monsanto. Monsanto’s technology is difficult to beat, especially because their GM seeds are purposefully engineered to survive glyphosate, something other seeds on the market can’t do. This component attracts many farmers, as glyphosate is the main herbicide U.S. farmers use. If farmers can produce a crop that is resistant to the main herbicide they use, then they can produce a higher yield. This ultimately increases probable profits and minimizes loss. However, this comes at the price of agreeing to Monsanto’s licensing agreement, which has bankrupted many farmers as a result of not adhering to Monsanto’s strict guidelines. With Monsanto’s dead hand control over seed practices, many farmers are left helpless when confronted with doing what is reasonable and commonly accepted and doing what will help make a profit for Monsanto.

Additionally, farmers are currently facing a difficult farming economy, as crop prices have decreased and seed prices have increased drastically over the last few years. Between 1995 and 2011, the average per-acre cost of GM corn seed and GM soybean seed has increased 325% and 259% in acreage, respectively. One of the results of this has been a decrease in the number of farms and acreage of farming in the U.S. Between 2008 and 2015, U.S. farmland decreased by about 6.6 million acres. Within those eight years, it is estimated that the U.S. farming base has shrunk by 7%. While the amount of farms has decreased, the size of farms has increased as large companies are able to gain more acreage and farming

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31 Regalado, supra note 26.
33 Jacob Bunge, As crop prices fall, farmers focus on seeds, WALL ST. J. (Oct. 16, 2016, 10:05 PM), https://www.wsj.com/articles/as-crop-prices-fall-farmers-focus-on-seeds-1476669901.
36 Id.
share as private farmers are forced out of the industry; regardless, U.S. farming has still decreased.  

In 2016, the U.S. population grew by 0.7%. With the U.S. population growing year by year and U.S. farming decreasing year by year, the U.S. is forced to import its food from other countries. While this can create an exchange of goods that helps relations between the U.S. and other countries, it also takes business away from the U.S. economy. Additionally, it places a strong dependency on countries that may not be able to produce the amount the U.S. needs in different times of growth and expansion. This dependency can be dangerous, especially in politically uncertain times, as relations with foreign countries can turn volatile or unproductive to the needs of both parties. Food security and food access becomes an issue that can impact the country as a whole. However, U.S. citizens are left to trust the farming of other countries in order to meet their own food needs.

In discussing the U.S. economy in relation to farming, Farm Aid published the following:

A frequently overlooked source of economic development and job creation, [farmers] are standing on the cutting edge of flourishing local and regional food systems that are sustaining economies, nourishing communities and creating a strong foundation for a stable and prosperous future. In a time when we risk losing tens of thousands of family farmers and ranchers from our land, protecting and fostering their potential and properly investing in local and regional food system development offers our nation a sound path forward.

Farming creates jobs as it centers most of its activity in the country in which it produces. Most farm workers affected by the farming decrease come from low-

37 Id.
income households. As these jobs are forced to be vacated, workers are at a loss when looking for comparable work, especially in rural areas. This increases the unemployment rate while diminishing the quality of life in the U.S. Additionally, in losing these farms, America is losing a vast amount of small businesses that cultivate and positively influence the economy by creating jobs and providing one of the necessary resources all U.S. citizens need.

IV. RECOMMENDATION

With farming declining and seeds being a major factor in the decline, Monsanto holds the reigns in that regard. To remedy their contribution to the decline in farming, it might be advantageous for Monsanto to change its licensing agreement to something more sustainable for farmers, particularly their seed saving provision. Most of the cases brought to court by Monsanto against farmers feature seed saving. Although Monsanto requires all purchasers not to plant saved seeds in following planting seasons, perhaps allowing a two-year window to be able to plant these seeds will help alleviate some of the problems farmers have been facing as a result of Monsanto’s practices. Although Monsanto may face a small decrease in profits by changing its licensing agreements in such a way, it can determine if this change directly impacts the U.S. farming practice on by implementing such a change on a trial basis.

Additionally, Monsanto’s patents revolving around their glyphosate engineering do not allow for much variation and competition. Because of this, many farmers looking to plant the more sustainable and affordable GM seeds are left with few options. Perhaps if the U.S. court system were able to open channels to allow more competition in engineering seeds that are able to tolerate popular chemicals used in herbicides, such as glyphosate, more competition would be created. The amount of variation of such engineering is so minimal, that Monsanto’s patents knock out a majority of comparable seeds.

V. CONCLUSION

Although Monsanto is not the main reason for the decline in farming, the company is likely a contributing factor. Monsanto’s practices and licensing agreements have placed farmers in a subordinate position that can close their farms if they do not comply with Monsanto’s demands. While the U.S. government can enforce competition by minimizing the amount seed engineering of chemicals used in herbicides within patents, it’s more likely that Monsanto will change their licensing agreement to be more operable for farmers. Only time will tell whether the government will step in or Monsanto will change their practices as the U.S. economic climate becomes increasingly impacted by the decline in U.S. farming.