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## The price of progress: American agricultural innovations in relation to economic and social change, 1920-1989

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THE PRICE OF PROGRESS: AMERICAN AGRICULTURAL INNOVATIONS IN  
RELATION TO ECONOMIC AND SOCIAL CHANGE, 1920-1989

An Abstract of a Thesis  
Submitted  
in Partial Fulfillment  
of the Requirements for the Degree  
Master of Arts

Zachary Cass Moye  
University of Northern Iowa  
December 2019

## ABSTRACT

Agriculture is an industry that defines a unique society in the American Midwest. When farming technologies changed, agriculture as a system and society also changed. This thesis explores the critical changes that farmers faced during the 20<sup>th</sup> Century. Those links include a changing educational system, which would guide farmers into the world of mechanical farming technology, and the permeation of that technology in farm society. The economic cost of the changing aspects of agriculture drove social and technological change that took place during the years of the Great Depression through the 1980s Farm Crisis. Finally, this thesis covers the future growth of family corporations as a coping mechanism for families to deal with the increased economic burden that the technological changes brought about for farmers.

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has been approved as meeting the thesis requirement for the

Degree of Master of Arts

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Dr. Fernando Calderon, Thesis Committee Member

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Date

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Dr. Jennifer Waldron, Dean, Graduate College

## DEDICATION

Dedicated to Grandpa, Donald J. Moye. Your life lessons as a farmer and mentor helped create a lasting legacy for our family.



## ACKNOWLEDGEMENTS

I want to start by thanking my parents, Vincent and Julie Moyer for having the patience and faith to help me see my work through from beginning to end. I also thank my father, Vincent Moyer for providing insight into the farming business world and for providing me with the financial benefits that helped me persevere as a student. I would also like to thank my grandmas, Shirley Moyer, and Wilma Harms, for their never-ending interest, love, and financial supports they have given me during my collegiate experience. I want to thank my brother Samuel Moyer for his ideas and comments about my thesis paper, and for remembering to check up to see how I was doing mentally as I continued my research. I want to thank my friend and colleague Travis Carrier for having the willpower to listen and bear with me the trials and tribulations of being a graduate student of history.

Professionally, I want to thank my thesis committee, Dr. Joanne Goldman, Dr. Robert Martin, and Dr. Fernando Calderon. Dr. Goldman acted as my committee chair and thesis adviser, guiding me through the thesis development and offering invaluable insight into my writing style and historical interpretations. Dr. Martin was my second reader and never stopped believing in my ability to complete what I started as a graduate student. Dr. Calderon taught me the value of history in his coursework, which helped rekindle my passion for history. Last, but not least, I want to thank graduate coordinator Dr. Donna Maier, who kept me on track and on schedule with my writing and research, encouraging me to keep moving forward.



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## INTRODUCTION

The land's people inhabit help shape cultures and civilization. Lands and territories offer up civilizations' wealth and materials in many different forms. Mines offer precious minerals and ores; forests contain wood for building houses. One of the essential resources for civilization to flourish is having access to rich topsoil suitable for agricultural sustainability. There cannot be houses or commerce without first providing food and energy to workers. Farming is part of the American cultural experience that spanned all of American history. Farming became engrained in the American way of life and was a symbol of hard work and familial ties to the land. In 1841, the American writer Ralph Waldo Emerson said in his essay "Self-Reliance":

Though the universe is full of good, no kernel of nourishing corn can come to him, but through his toil bestowed on the plot of ground which is given to him to till. The power that resides in him is new in nature, and none, but he knows what that is which he can do, nor does he know until he has tried.<sup>1</sup>

Emerson captured the self-reliant nature of farmers in his quote that would precede farmers into the twentieth century. What farmers or Emmerson may not have realized or understood yet were the drastic changes that would occur in agriculture over the next century. World War I (1914-1918) would fuel prosperity for farmers in the American Midwest as Europe and Russia were in dire need of food after the war as they rebuilt infrastructure and their agricultural economies. This need for sustenance drove the price of food up in Europe. However, this economic prosperity that stemmed from a war-

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<sup>1</sup> R.W. Emerson in D. B. Groves and Kenneth Thatcher, *The First Fifty: History of Farm Bureau In Iowa* (Lake Milles, IA: Graphic Publishing Company, 1968), 26.

torn European economy would not last forever, and prices in America would soon level off and drop to pre-war levels by 1920.<sup>2</sup>

Farmers were not alone in their struggle to survive in the new century of agricultural change and economic upheaval. The American Farm Bureau, created in 1919, would help the federal government educate farmers about new scientific and economic advancements in agriculture and would later influence government representation in Congress by lobbying and sending members to speak to Congress about farm-related issues.<sup>3</sup> Farmers would need this extra support when the Dust Bowl would savage farming ground in the Midwest and would be followed by further economic hardships with the start of the Great Depression in 1929.<sup>4</sup>

World War II followed the Great Depression, and the military demanded higher food and energy production, giving farmers a reason to produce and sell more grains and animals to feed soldiers and allied countries overseas.<sup>5</sup> After World War II, farmers faced this challenge by adopting new technologically intensive farm practices. Chemicals, heavy equipment, and hybrid crops would push farmers to continue to spend more money each year in order to keep up with the increased demand. These innovations would require farmers and their families to learn new skills and adapt to a changing atmosphere. Adapting techniques and knowledge bases would require time and money, which was not

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<sup>2</sup> Carrie Meyer, *Days on the Family Farm: From the Golden Age through the Great Depression* (Minneapolis: University of Minnesota Press, 2007), 153.

<sup>3</sup> Michael J. Grant, *Down and Out on the Family Farm: Rural Rehabilitation in the Great Plains, 1929-1945* (Lincoln: University of Nebraska Press, 2002), 64.

<sup>4</sup> Benjamin Cook, Ron L. Miller, Richard Seager, and James E. Hansen, "Amplification of the North American "Dust Bowl" Drought through Human-Induced Land Degradation." *Proceedings of the National Academy of Science of the United States of America* 106, no. 13 (March 31, 2009): 4997.

<sup>5</sup> Meyer, *Days on the Family Farm*, 258.

always present or available. Therefore, by the time the 1980s Farm Crisis hit at the beginning of the decade, farmers were already in considerable debt, having been told by farming professionals in both the Farm Bureau and United States Department of Agriculture to continue to invest in continually changing technologies.<sup>6</sup> This financial burden would have grave consequences for the farmers that failed to plan for tough times ahead in the future, such as the farm crisis of the 1980s.

The twentieth century was a ground-breaking era for American agricultural studies and history. Historians have studied this century to understand the transformations in the farming business and how events such as the Dust Bowl and World War II led to changes in American agriculture. The historical study of agriculture is not limited to examining these singular events, and they can be combined to form the backdrop for case studies in the evolution of society, technology, and economies throughout the twentieth century.

For historians to better understand events, they break down their focus into sub-categories of farm history to show and explore different aspects. These sub-categories include farm policies and politics, technology, education, and economics. The largest sub-category of study is that of policies and politics that relate to farming in the twentieth century. Professor Deborah Fitzgerald of the History of Technology at MIT focused her studies on the policy altering events of World War I. In Dr. Fitzgerald's article entitled, "Accounting for Change: Farmers and the Modernizing State," she examines the reasons

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<sup>6</sup> Jane Adams, *Fighting for the Farm: Rural America Transformed* (Philadelphia: University of Pennsylvania Press, 2003), 17.

as to why farmers adopted various new technologies between 1910-1940. Dr. Fitzgerald reasoned that America's involvement in World War I was a policy altering event that opened new markets abroad and created a need for more production. The ensuing Agricultural Crash of 1920 would force leaders in government to reexamine how the farm economy would be managed on a national level and led to the adoption of new farm technology.<sup>7</sup> Dr. Fitzgerald blends the study of technology and national policies to create a unique history of economic and technological progress in the face of world upheaval.

History Professor Jane Adams used policy studies as a method of understanding agricultural history in America. Dr. Adams asserts that government policies during post-war and Cold War America created excess food and material abundance that would, in turn, eliminate many farmers from the industry due to harsh economic competition at home and abroad. Dr. Adams goes on to explain that economic competition leads to the creation and expansion of industrial agriculture, which would threaten the environment.<sup>8</sup>

Another proponent of farm policy study is history Professor Jess Gilbert. Dr. Gilbert asserts that farm policies, like the New Deal that was created to solve the Great Depression, were acts of social engineering by the U.S. government. Dr. Gilbert explains that these social engineering projects were founded on research done by the United States Department of Agriculture (USDA) during the Franklin Roosevelt administration. The

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<sup>7</sup> Deborah Fitzgerald, "Accounting for Change: Farmers and the Modernizing State," in *The Countryside in the Age of the Modern State: Political Histories of Rural America*, ed. Catherine M. Stock and Robert D. Johnston (Cornell: Cornell University Press, 2001), 190-192.

<sup>8</sup> Adams, *Fighting for the Farm*, 1-2.

USDA realized that the US farm economy was so large that it needed to be managed by a national plan for agriculture in the form of the Bureau of Agricultural Economics (BAE).<sup>9</sup>

The New Deal is an important topic in twentieth-century farm history, and another scholar that focuses her attention on its effects on the agricultural community is history Professor Lisa Ossian. Dr. Ossian examines the effects of the Great Depression and the subsequent adoption of New Deal policies. Dr. Ossian explains that the New Deal helped spur new industrial approaches to agriculture that favored large scale row cropping and livestock. This preference would be solidified with the need to support the war effort during World War II and lead to large scale modern agricultural practices in the American farm community.<sup>10</sup>

While these historians tend to focus on policies and political events, other historians have chosen to examine the effects of technology on agriculture and society. Farming technology had advanced in strides over the twentieth century due to the advent of the internal combustion engine and the demands of growing human populations around the globe. This technological revolution is one of the main reasons historians have focused their studies on the rise of farming technology.

One scholar who does this is Dr. Miriam Wells. In her article entitled, “The Contingent Creation of Rural Interest Groups,” Dr. Wells asserts that changes in technology during the twentieth century reconfigured the interests of rural farmers. The

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<sup>9</sup> Adams, *Fighting for the Farm*, 130-131.

<sup>10</sup> Lisa L. Ossian, *The Depression Dilemmas of Rural Iowa, 1929-1933* (Columbia: University of Missouri Press, 2012), 181.



methods of production and the introduction of chemicals and industrial farming would lead to social and structural change for families and rural communities around America.<sup>11</sup>

Another scholar of historical technology is History Professor Brad D. Lookingbill. Dr. Lookingbill examined the relationship between farm technology and the American Dustbowl during the 1930s. Dr. Lookingbill argues that the ecological crisis was, in part, human error. Inferior technological farming methods resulted in the loss of topsoil through soil erosion. Dr. Lookingbill explains that if settlers had studied climatology, especially rainfall patterns, and used proper farming methods to conserve topsoil layers, then the Dustbowl would have been prevented.<sup>12</sup> Dr. Lookingbill broadens his assertion by claiming that the improper use of farming technology would go on to cause the Great Depression.<sup>13</sup>

Another major sub-category of farming history is economics. Economics relates to the study of agriculture because it can show, and explain, growth patterns that countries experience when adopting new technologies or experience population growth. Some scholars of history that emphasize the importance of economics in relation to agriculture is Professor Robert D. Johnston, Dr. Burton J. Bledstein and Dr. Catherine M. Stock. Dr. Johnston and Dr. Stock assert in their co-introductory to *The Countryside in the Age of the Modern State* that farmers only affect politics when their economic well-being are threatened by governmental involvement.<sup>14</sup> They believe that the economic

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<sup>11</sup> Adams, *Fighting for the Farm*, 96.

<sup>12</sup> Brad D. Lookingbill, *Dust Bowl, USA: Depression America and the Ecological Imagination, 1929-1941*, (Athens: Ohio University Press, 2001), 77.

<sup>13</sup> Lookingbill, *Dust Bowl*, 5.

<sup>14</sup> Catherine M. Stock, and Robert D. Johnston, *The Countryside in the Age of the Modern State: Political Histories of Rural America* (Cornell: Cornell University Press, 2001), 3.

instability of farmers can act as a lynchpin for farmers and force them to act in political and social arenas. Dr. Johnston and Dr. Bledstein also wrote about this political and economic connection in *The Middling Sorts: Explorations in the History of the American Middle Class, 2001*.<sup>15</sup>

While Dr. Johnston, Dr. Stock, and Dr. Bledstein study economic and political relationships, other scholars mix economics with global and national policies to paint a broader picture of historical agricultural economies around the world. Dr. Giovanni Federico is a professor of economic history. He shows the reader about how agriculture is a source of economic growth and energy for the world's growing population. He also explains how agriculture is a unique industry because of its dependence upon the environment and weather for growth and stability. Dr. Federico ties together agricultural economics with government policies by explaining how the American and European governments' involvement in agriculture after World War I spurred agricultural growth around the world.<sup>16</sup> Dr. Federico's work is groundbreaking because of the size and scope of his study and will serve as an asset to any scholar wishing to explain the sudden increase in farm growth over the twentieth century.

While some scholars study farm economics concerning government and world policies, other scholars wish to focus on a narrower economic field of view — Dr. Dennis S. Nordin and Dr. Roy Scott studied economic history in relation to farming.<sup>17</sup> Dr.

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<sup>15</sup> Burton J. Bledstein, and Robert D. Johnston, *The Middling Sorts: Explorations in the History of the American Middle Class* (New York: Routledge, 2001), 17-297.

<sup>16</sup> Federico Giovanni, *Feeding the World: An Economic History of Agriculture, 1800-2000* (Princeton, N.J. Princeton University Press, 2009), 219.

<sup>17</sup> Dennis Nordin and Roy V. Scott, *From Prairie Farmer to Entrepreneur: The Transformation of Midwestern Agriculture* (Bloomington: Indiana State University Press, 2005), 177.

Nordin and Dr. Scott focused their work on the twentieth century and how farming has changed over time: transitioning from a simple way of life to a major economic and industrial business for the United States. They suggest that the rise of economic prosperity was due in part to the development of agribusiness entrepreneurs, who would, in turn, bring about an end to the rural isolation that had haunted many farming communities during the early years of the twentieth century and into the Great Depression<sup>18</sup>. Dr. Nordin and Dr. Scott have a unique thesis because they disregard agricultural overproduction and instead focuses on the individuals who made modern farming possible, defending the inevitable rise of farming corporations.

While economics and technology are essential to agriculture, one can argue that someone cannot have either in agriculture without proper education on how to use and implement them in the field of agricultural production and marketing. One champion of agricultural education is history Professor Robert D. Hurt. Like many American agricultural historians, Dr. Hurt focuses much of his attention on the twentieth century and the changes that occurred to farming during that period.<sup>19</sup> Dr. Hurt concludes that farmers faced a crisis stemming from technological change and financial difficulties that began early in the twentieth century after the conclusion of World War I. Agricultural was evolving into an extraordinarily complex technological industry that required knowledge and education to compete and be successful.

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<sup>18</sup>Nordin, *From Prairie Farmer to Entrepreneur*, 177.

<sup>19</sup> Robert D. Hurt, *Problems of Plenty: The American Farmer in the Twentieth Century* (Chicago: Ivan R. Dee, 2002), 5.

For this reason, Dr. Hurt argues that farmers turned to the government for knowledge and guidance. His thesis emphasizes that changing technology and economics, which lent to the importance of education.<sup>20</sup>

The sub-category of agricultural education can be narrowed by examining specific roles played by individuals and groups in the advancement of farming practices in America during the nineteenth and twentieth centuries. Professor Nancy Berlage details the rise of Farm Bureaus across the states of Ohio, Illinois, Iowa, and New York during the early twentieth century. Dr. Berlage examines how farmers joined the American Farm Bureau Federation (AFBF) to gain access to new scientific and technological knowledge from speakers and educators that the Farm Bureau hired to increase agricultural knowledge.<sup>21</sup> Through education, farmers then became better at operating and managing their land and homesteads. Dr. Berlage's examines how farmers started to educate themselves and improve their overall production.

While agricultural history involves three main sub-categories of study, that does not limit other historians from examining agricultural history from other angles. Dr. Stephanie L. Sarver writes about historical agricultural literature from the nineteenth and twentieth centuries. She examined the feelings and attitudes Americans had towards

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<sup>20</sup> The collapse of export markets for American farmers at the end of World War I would produce changing views on where and when to sell crops around the world. The postwar period in America would lead to the creation of the Bureau of Agricultural Economics (BAE) under the USDA. The BAE would be responsible for providing market and data analysis to help American farmers sell their crops to varying markets around the world for farms to take advantage of. The study of economics and production would become tantamount for future farming operations to succeed on the world stage. Daniel A. Sumner, Julian M. Alston, and Joseph Glauber, "Evolution of the Economics of Agricultural Policy," *American Journal of Agricultural Economics* 92, no.2 (April, 2010), 404.

<sup>21</sup> Nancy K. Berlage, *Farmers Helping Farmers: The Rise of the Farm and Home Bureaus, 1914-1935*, (Baton Rouge: Louisiana State University Press, 2016), 4-5.

agriculture as a way of life. Through the writings of Ralph Waldo Emerson, Hamlin Garland, and Frank Norris, she shows how the agrarian experience related to the culture of these periods of history.<sup>22</sup>

Literature plays a vital role in telling society how people feel about agriculture, but another essential sub-category of agriculture is labor. Labor history focuses on workers, including sharecroppers and farmers, and the conditions they faced. One of the leading proponents for the study of farm labor history is Dr. Cindy Hahamovitch, discusses the origins of farm labor and the creation of this working-class living in poverty. She discusses the decline of sharecropping and the failure of the government to allow collective bargaining prior to World War II.<sup>23</sup> Labor history is essential for this research because it directly relates to agricultural economics through the movement of human capital as an energy source. This aspect of farm history is vital to understand agriculture in twentieth-century because farm labor was in direct competition with new technologies and would, arguably, become supplanted by farm implements such as tractors and combines as the century advanced.

The literature examined included the subcategories of farm policies and politics, technology, education and economics, literature, and labor. For this research project, the focus is on twentieth-century agricultural history and the combined studies of farm education that stemmed from the creation of the American Farm Bureau Federation with the growth of farming technology. In studying the growth of farming technology

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<sup>22</sup> Stephanie L Sarver, *Uneven Land: Nature and Agriculture in American Writing* (Lincoln: University of Nebraska Press, 1999), 16.

<sup>23</sup> Cindy Hahamovitch, *The Fruits of Their Labor: Atlantic Coast Farmworkers and the Making of Migrant Poverty, 1870-1945* (Chapel Hill: The University of North Carolina Press, 1997), 115.

alongside education, I believe I have opened up new grounds for agricultural historians in answering my thesis research question: Why did some family farms evolve from being self-sufficient family units in the 1920s to thousand-acre corporations by the 1980s? To understand this, I have also explored the economic and social price families and businesses have paid in order to stay viable and competitive in the business of farming through-out the twentieth century. Technology and economic development are essential factors in the study of farming history. A thesis on this subject matter was written by Nicolas P. Sargen. Dr. Sargen's doctoral thesis entitled, *Tractorization in the United States, and It is Relevance for the Developing Countries*, examines the advancements of farm technology over the twentieth century and provides statistical information on this subject matter.<sup>24</sup>

The answer to my thesis lies in the commonly held assumption that technological and educational innovations relate to societal progress. What I have found in my research is that new education and the adoption of new technologies involve societal change.<sup>25</sup> Farmers had to learn about new agricultural techniques: the use of insecticide and fertilizer; and how to use tractors instead of horses to plow and harrow their fields in order to remain competitive and productive. Farmers would also learn to manage their businesses by taking educational courses set up by the American Farm Bureau in conjunction with the United States Department of Agriculture. As farmers adopted new

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<sup>24</sup> Nicolas P. Sargen, *Tractorization in the United States and It's Relevance for the Developing Countries*, (New York: Garland Publishing, 1979), 104.

<sup>25</sup> Education and technology, in my opinion, each play equal parts in the changing of societies around the world. When society is effected by new ideas or beliefs through educational experiences that are either imported or discovered locally, they adapt to that given experience or situation. The same holds true for technology. When new technology enters a society, it reacts and changes accordingly.

technology, they sought education to realize the greater profits that the technology promised.

These changes occurred over the twentieth century with varying degrees of intensity and were influenced by global and regional events such as the Dust Bowl, Great Depression, and World War II. More importantly, the numerous crises farmers faced would lead the outward migration of rural farming communities into the cities and the subsequently expanded size of the family farm. This exodus of farmers would open up farmland for major land expansions that could be taken advantage of by prosperous farmers. American Midwest farmers would transition from the small-scale farming family into the business model of a large corporation.<sup>26</sup> The corporate farming model would be the final stage of their development in the twentieth-century.

These findings contribute to the history of farming in the twentieth-century American Midwest by tying together historical events with technological and social changes. This thesis is vital to the study of history because it will help agricultural historians and scholars of technological change better understand how technology and education can influence the economy, social structures, and business models. These findings continue to be relevant into the current twenty-first century as farming societies have to cope with continuing changes in markets and infrastructures that have unforeseen effects. Society may also have to alter itself in order to cope with this change. An

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<sup>26</sup> A corporation is a legal entity that is separate from its owners. Corporations can make a profit, be taxed, and can be held legally liable. Corporations offer strong protection to owners from personal liability but cost more to form as a business structure and require extensive record keeping and reporting. Corporations can continue to do business after a shareholder, such as a family member in the case of family corporations, leaves the company.

instance of this change can be noted in my studies; as farms grew in size farmers needed tractors and tractor implements to manage the land.

The thesis is sub-divided into four chapters and a conclusion. The first chapter covered the rise of the American Farm Bureau and how it influenced farmers in both education and farm production. This chapter was crucial to the study because it highlighted how farming culture and education could influence farmer's ability to adapt to changing farming technology. It also explores some of the potential directions the Farm Bureau could have taken politically as American fears of communism spread after World War I and into the Cold War. The second chapter focused on changing farm technology and how farmers and workers adopted new technologies such as tractors and combines to their work. Advertisements from *Wallace's Farmer* showed the changing scale of farm technology across the twentieth century and explained how farming grew into an expensive but potentially prosperous business for some farmers that invested wisely. The third chapter examines the rise of farming corporations in the Midwest during the 1950s-70s and explains how these changes affected farming business models. Chapter four wraps up the thesis by tying technology and education together and explains the failure of the new farming system through the lens of the 1980s Farm Crisis. The conclusion ends the thesis and further explains the influence that technology and education had upon the growth and dynamics of farm operations in conjunction with changing farm demographics and farm society.

The thesis paper was written with several primary source documents from 1920-1989. These primary source documents include period articles from newspapers and



magazines that go over the changing aspects of agriculture. Examples of these documents include the American weekly newspaper *Barron's*, which reported heavily on farming during the 1920s and 1930s Farm Crisis and Depression. The *New York Times* and *Wall Street Journal* also reported on agriculture change and the struggles and successes of farmers during the twentieth century. Finally, farm sales that were as advertised in *Wallace's Farmer* detailed the contextual progress of technology throughout the twentieth century.

Another source of primary information I utilized is farm hearings and documentation from the United States Congress. These hearings detail information on farm relief programs and records debates over production values to which the Government believed the agricultural sector should aim. The documents also provide information about the role that the United States Farm Bureau had in agriculture as both an educator and advocate for farmers on the political level.

Through careful examination and study of past historical documents, economic, and social data, this thesis will show readers that agricultural change is affected by changing technological innovations. These innovations, such as the rise of mechanical implements in farming through the adoption of the tractor, would ultimately lead to a recurring cycle of growth and decline throughout the farming industry, as farmers and their family struggled to adapt to the ever-changing landscape of agriculture throughout the twentieth century.

## CHAPTER ONE

## THE AMERICAN FARM BUREAU AND EDUCATION

In 1919 representatives from twelve state farm bureaus joined together to establish the American Farm Bureau Federation (AFBF) as a national network of farmers and educators devoted to providing education and resources to farmers around the country. Aided by government funds for education through the Smith-Lever Act of 1914 that created the Extension Service for educational outreach, the bureau was set to become one of the most influential and powerful forces of change within American farming society and industry.<sup>27</sup> American Farm Bureau founder George A. Cullen addressed the celebratory members of the Broome County Farm Bureau in 1920 to mark the anniversary of the event in which the local farm bureaus of America turned into a nationwide federation of farmers.

When the historian of the future shall write down for the posterity the story of this vital development in the farm life of America, he will first pay grateful homage to that far-seeing, practical man, in whose mind was conceived the fundamental principle of the whole Farm Bureau idea- Professor W.J. Spillman – the Chief of the Bureau of Farm Management of the United States Department of Agriculture.<sup>28</sup>

It was Professor William J. Spillman who first had the vision of what a united front of farmers could accomplish. Spillman was a teacher and educator on farm economics and management who worked at Washington State University. His work focused on economics and methodology for practical agriculture to help assist farmers in

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<sup>27</sup> Nancy K. Berlage, "Organizing the Farm Bureau: Family, Community, and Professionals, 1914-1928," *Agricultural History* 75 (Autumn 2001): 410-413.

<sup>28</sup> George A. Cullen, *The Cradle of the Farm Bureau Idea, and Marketing Possibilities of the Bureau* (New York: Binghamton University Press, 1920), 3.

their daily lives. For his work at Washington State, as educator and researcher, he was offered a position at the U.S Department of Agriculture (USDA) in 1902 as an advisor and researcher.<sup>29</sup>

During his tenure at the USDA, Spillman clashed with people of the industry. Spillman resisted the involvement of the Rockefeller Foundation within the Department of Agriculture and called for congressional investigations into financial corruption within the USDA in 1914. He believed monetary involvement by Rockefeller and other corporations would taint or discredit research done by the USDA. Spillman was weary of the monetary investments made by large corporations through foundations to federal departments and did not want industry influencing opinions that should be based on scientific investigation and research. The congressional investigation would lead to the passage of the Smith-Lever Act of 1914 creation of the Agricultural Extension Service (AES). This encouraged colleges to conduct research of their own and connect universities focused on farming together.<sup>30</sup> The AES would complement the Hatch Act of 1887 that had initially given federal funds to state land-grant colleges to create agricultural experiment stations.<sup>31</sup> The service investigations would alienate some, creating enemies among industrial and corporate leaders for Spillman, but would earn him a reputation as an incorruptible man of science, economics, and learning.

Spillman's vision was that education would help lead farmers into a better future and to promote this, he conceived of the idea that farmers could form local organizations

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<sup>29</sup> Carlson, *William J. Spillman*, 7.

<sup>30</sup> Carlson, *William J. Spillman*, 9.

<sup>31</sup> United States Department of Agriculture, "The Hatch Act of 1887," under "National Institute for Food and Agriculture," <https://nifa.usda.gov/program/hatch-act-1887> (accessed July, 2019).

that employed experts to teach them about modern farming methodology.<sup>32</sup> This contribution and vision, contemporary George A. Cullen believed, would lead to the “lasting happiness of the American people.”<sup>33</sup> This happiness would come through the creation of the Farm Bureau, whose role it was to bring education to the masses of farmers still living a life of poverty and hard labor.

What did Spillman’s sense of education through the American Farm Bureau Federation bring the farmer and his family over the last century? Spillman had reason to worry about the American farmer. Before Spillman’s studies, in 1880, twenty-five percent of all farmers were tenant farmers rather than landowners. This number increased to fifty percent during the depths of the Great Depression in 1935 and prompted President Franklin D. Roosevelt to cite tenancy as one of the leading causes of poverty among farming families.<sup>34</sup> This separation of land ownership from farming was in part due to the rise of large landholders in America. As American agriculture became more technologically intensive into the twentieth century, farming became dependent upon an economy of scale to be profitable. and the farmer had to increase productivity to be profitable as well.<sup>35</sup> While large scale production was good for larger landholding farmers, flooding the market with produce could also lead to price deflation in markets,

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<sup>32</sup> Cullen, *The Cradle of the Farm Bureau Idea*, 3.

<sup>33</sup> Cullen, *The Cradle of the Farm Bureau Idea*, 7.

<sup>34</sup> Osha G. Davidson, *Broken Heartland: The Rise of America’s Rural Ghetto* (Iowa City: University of Iowa Press, 1996), 26.

<sup>35</sup> Ann Crittenden, “Smaller is Better and Private Best for Farming,” *New York Times*, March 21, 1982. Economies of Scale refer to the cost advantage experienced by a firm such as a farming operation, when it increases the level of output through scaling production. As the level of output rises, the cost per unit of production decreases, creating the ability to produce more for less. The greater the quantity of output produced, the lower the per-unit fixed cost. This concept provides a production advantage for businesses that adopt this model of output.

which could make medium and small scale farmers impoverished as a result of too much production.

As the twentieth-century unfolded corporate farming grew out of farm tenancy and came to dominate the agricultural landscape into the 1980s. As farming became more complex and machine-dependent and labor became less valuable, tenant farmers left farming for the cities in search of other jobs. Tenancy and farm labor were replaced by investments in technological capital to perform labor. Furthermore, the 1980s saw a rapid rise in the cost of farming due to the use of chemicals, hybrid crops, and pesticides.<sup>36</sup> These capital-intensive farming practices put into use by corporations and farmers attempting to compete with corporations, degraded topsoil, and cause erosion over time. The 1980s was the decade where the U.S Department of Agriculture noted an increase in topsoil erosion outside of regular areas due to regular flooding and sweeping dry winds. Row cropping had come to dominate farming as a way to increase yields in cash crops such as corn and soybeans but would lead to more significant soil erosion in the Midwest and Southern farming regions of the United States.<sup>37</sup>

In order to understand how American agriculture has changed, historians study the process of change to understand what affected farmer's relationships with each other and the land they worked. In the case of this paper, rising technology because of the subsequent growth of the farming industry in America was part of human and

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<sup>36</sup> Bayard Webster, "Federal Studies Support Rise in Organic Farming," *New York Times*, September 30, 1980.

<sup>37</sup> David. E. Brewster, Wayne D. Rasumussen, and Garth Youngberg, *Farms in Transition: Interdisciplinary Perspective on Farm Structure* (Ames: Iowa State University Press, 1983), 30.

technological association. One such innovation that warrants further examination is the creation of the American Farm Bureau Federation.

The creation of an agricultural education organization is not a new idea in American history. In 1785, the Philadelphia Society For the Promotion of Agriculture was founded to help promote farming activity in the United States. In the nineteenth century, farming organizations began to be formed in the Midwestern states as agricultural activities expanded westward into new territories. Schools on agricultural practices were created to help new farmers expand their knowledge of farm practices best suited to their region. Iowa counties created the Iowa State Agricultural Society in 1853, which would lead to the establishment of Iowa Agricultural College in Ames. This college would become Iowa State University and helped link education and agriculture together as an essential tool in expanding the farming industry and production in Iowa.<sup>38</sup>

When the American Civil War broke out in April of 1861, education and agriculture seemed to be the least of America's concerns. The issue of farmer's education was not the case with Senator Justin Morrill of Vermont who felt that the United States was falling behind in agricultural production compared to European counterparts.<sup>39</sup> Morrill successfully tied agricultural progress and innovation to the "free soil" movement out in the western territories. He convinced his fellow members of Congress that the rural American population would benefit from agricultural and mechanical education. The Morrill Act passed Congress in 1862 and allotted thirty-thousand acres of land per

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<sup>38</sup> Brewster, Rasumussen, and Youngberg, *Farms in Transition*, 2.

<sup>39</sup> Nathan M. Sorber, *Land Grant Colleges and Popular Revolt: The Origins of the Morrill Act and Reform of Higher Education* (Ithaca: Cornell University Press, 2018), Kindle.

congressional representative to each state not in rebellion, to establish agricultural colleges.<sup>40</sup>

The link between agriculture and education further expanded on March 2, 1887, when President Grover Cleveland signed the Hatch Act. The Hatch Act provided funding to states and colleges that managed agricultural experiment stations. Colleges that received this funding would become known as land-grant-colleges. These colleges would help provide data to farmers by testing new farming methods and crop rotations on the experimental farms.<sup>41</sup>

Farming organizations would also link themselves to politics. The National Grange was founded in 1867 by a secret fraternal society of the U.S. Department of Agriculture. The Grange lobbied Congress on behalf of farmers, and they grew as a result. The Grange fought against the railroad industry in the Midwest, who discriminated against farmers by charging unfair shipping rates and demanded farmers only ship grain from their designated loading points on the railroad. The Grange political movement would not last; however, as the secretive nature of the fraternal society did not appeal to everyone. The railroad system had created a transportation and economic boom in America, and fighting it was seen by many as arguing against progress.<sup>42</sup> By the turn of the twentieth century, American farmers were still struggling to influence politics and society.

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<sup>40</sup> Sorber, *Land Grant Colleges and Popular Revolt*, 1192.

<sup>41</sup> Sorber, *Land Grant Colleges and Popular Revolt*, 2203.

<sup>42</sup> Sorber, *Land Grant Colleges and Popular Revolt*, 5. 1192.

The Grange did not answer all problems for the agricultural communities of America. Farmers queried for an organization that knew how to best steer them towards prosperity, and in 1875 the National Farmers Alliance was created among white and black farmers of the Midwest and Great Plains regions of America. The aim of the National Farmer's Alliance was to fix the loan and tax system to better aid farmers and workers who subsisted on substantially lower wages. As the goals and popularity of the Farmer's Alliance grew, this economic alliance of farmers started to take on a more political nature and would eventually turn into the Populist Party.<sup>43</sup>

The Populist Party, founded in 1892, to further the political agendas of farmers grew steadily, and by 1914 had 400,000 members. They would shrink to 110,000 members after the end of World War I.<sup>44</sup> The Populist Party shrank in part from rival farming organizations that sprang up promising to fix the drop in crop prices that ensued after World War I ended in 1918.

The Farm Bureau, established to fill a void from the decreased interest in the Populist Party, differed from other political organizations since it emphasized education rather than politics; they called for farmers to modernize in order to improve their living conditions and position in society. Farmers expected agricultural prosperity that followed the Great War to continue but the steep decline of consumer prices in the 1920s would change this. It reminded farmers that they could not count on free-market economics alone to save them from despair.<sup>45</sup>

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<sup>43</sup> John D. Hicks, *The Populist Revolt: A History of the Crusade for Farm Relief* (Minneapolis: University of Minnesota Press, 1931), 3-5.

<sup>44</sup> Groves and Thatcher, *The First Fifty*, 7.

<sup>45</sup> Berlage, "Organizing the Farm Bureau," 407.



Iowa was an early pioneer state in adopting bureaus to help farmers prosper and learn about agriculture. Clinton County was the first county to organize a farm bureau in Iowa and helped set up the board procedures that would be used for other local bureaus to form committees. The Farm Bureau of Clinton County recognized the need to learn from educational institutions and soon had school board members and agronomists sitting in on farm bureau meetings to help guide discussions.<sup>46</sup> The ideas of the local bureau spread around Iowa and on December 27, 1918, The Iowa Farm Bureau was founded, with seventy-two counties represented.<sup>47</sup>

In Iowa, the bureau continued to push for education for farmers. Programs were created by agricultural professors from Iowa State University to teach about corn improvements, livestock diseases, soil conservation, as well as new farming technology.<sup>48</sup> Exhibits were set up at the Iowa State Fair to advertise this educational experience and bring knowledge to the masses of visiting skeptical farmers who needed to see progress in order to believe it.<sup>49</sup> The efforts to educate farmers paid off and the Iowa Farm Bureau helped pave the way for more technically savvy farmers who would continue to improve production.<sup>50</sup> The Iowa Farm Bureau would go on to serve as an example for other bureaus around the country on how to educate and modernize farming operations.

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<sup>46</sup> Groves and Thatcher, *The First Fifty*, 12.

<sup>47</sup> Groves and Thatcher, *The First Fifty*, v.

<sup>48</sup> Iowa State University (ISU) is the modern designation for the educational institution that was once referred to as Iowa State College (ISC). The modern designation would be enacted on July 4, 1959. <https://digitalinitiatives.lib.iastate.edu/online-exhibits/iowa-state-sesquicentennial> (accessed July, 2019)

<sup>49</sup> Groves and Thatcher, *The First Fifty*, 22.

<sup>50</sup> Wayne Rasmussen, "The Impact of Technological Change on American Agriculture," *Journal of Economic History* 22 (December 1962): 578-99.

Women were also starting to play an important role in Farm Bureau education. 1920 had marked the celebration of women's suffrage, and proponents of women's rights pushed for the creation of a women's auxiliary of the Farm Bureau at state and local levels. This auxiliary sought to educate women on how to manage a farmhouse, garden, cook, sew, and perform other duties associated with running a home. In 1921, three years after the establishment of the American Farm Bureau, the women's auxiliary would become the Home and Community Department. This organization would, in turn, become the Associated Women of the American Farm Bureau Federation on the national level. The organization gave women opportunities to expand their knowledge of education by learning about home economics. Home economics became so crucial to the bureau that they created the Bureau of Home Economics in 1923 and female agents from the bureau would work alongside male counterparts in the field, teaching women about home economics and management skills.<sup>51</sup>

Women also played an essential role in teaching the youth about farm life and values. Youth groups would feature female speakers and teach gardening and homemaking for girls. By helping the Farm Bureau teach children, women helped foster and raise the next generation of farmers and wives.<sup>52</sup>

The Farm Bureau's organizational ability allowed it to merge and ally itself with educational institutions and the U.S. Extension Services to help manage the agricultural

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<sup>51</sup> Berlage, "Organizing the Farm Bureau," 410-424.

<sup>52</sup> Berlage, "Organizing the Farm Bureau," 425.

economy and society of farmers.<sup>53</sup> When the Farm Bureaus joined together as a nationwide institution, the bureau became a non-statist managerial system that focussed on the farming problems of productivity, efficiency, and output.<sup>54</sup> This system was the vision of Dr. Spillman: where farmers would join together to learn about agriculture and advance their progress through community programs and education. However, when the Farm Bureau stepped into the world of politics, its internal and external political strife and power struggles would begin to unravel Spillman's image of cooperative educational progress.

The Farm Bureau's goal of progress through education continued to be bolstered by cries for a national political voice for farmers. A political movement known as the Nonpartisan League (NPL) had formed in 1915 in North Dakota and was campaigning for the voices of Midwestern farmers to bring their concerns to Congress. The NPL was not associated with either Democrats or Republicans but focused on its campaign to improve social order and help underprivileged farmers. This movement founded by Arthur C. Townley, a farmer who had been a former organizer for the Socialist Party of America.<sup>55</sup> The NPL was at first meant for farmers but would later include industrial

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<sup>53</sup> The creation of national Farm Bureau in 1919 allowed farming practices to spread across state and regional borders and standardized farming practices by sharing knowledge. Members of the Farm Bureau saw the Farm Bureau as an educational and social community that focused on problems faced by farmers. This national community allowed for the organization to influence social and cultural norms in farming. Berlage, "Organizing the Farm Bureau," 414.

<sup>54</sup> Berlage, "Organizing the Farm Bureau," 413.

<sup>55</sup> Arthur Townley held socialist principals and believed that party affiliation was not as important as merely getting large groups of people out to vote in favor of social policies in line with the NPL. Townley's concept leaned on the idea that party machinery and workers belonged to the people who did the voting (socialists) and there was no reason not to use political machinery in both major parties (Republican and Democrats) to accomplish Non-Partisan League political and social goals. Samuel P. Huntington, "The Election Tactics of the Nonpartisan League," *The Mississippi Valley Historical Review* 36, no. 4 (March 1950): 616.

laborers in cities within their ranks.<sup>56</sup> The NPL would be a potent political force in the Midwest, electing seats in the state legislatures of North Dakota, Minnesota, Montana, Nebraska, Wisconsin, Oklahoma, and Iowa.<sup>57</sup>

The NPL could have merged or acted as the political wing of the American Farm Bureau but was instead vilified by governors and state representatives who saw the organization as a political threat to farmers' interests. In an Iowa Farm Bureau convention in 1920, Governor William L. Harding addressed the leaders of the Farm Bureau in a patriotic warning:

If the farmers of this country were organized selfishly for the farmer, without taking into consideration the other people of this country, the organization would be a menace to the country. However, if the farmers organize with patriotism and love of neighbor as the keynote and purpose of having prosperity themselves so that others may have it, then they can accomplish wonders.<sup>58</sup>

Farm Bureau leaders in Iowa warned against being "unpatriotic" were they criticized the NPL for having ties with socialism. They actively campaigned against the NPL influence among members. The NPL was eventually defeated, along with a chance for a dominant independent political party for farmers and the working class. Their defeat by Harding Administration set the stage for political, economic, and social turmoil over the right direction for the agricultural community of America.

The Great Depression had already begun by 1930, and farmers were challenged to make a living while also holding onto their farms.<sup>59</sup> The Federal Farm Board issued an annual report in 1930 citing that, "improvements in farm income cannot be obtained from

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<sup>56</sup> Huntington, "The Election Tactics," 616

<sup>57</sup> Groves and Thatcher, *The First Fifty*, 8.

<sup>58</sup> Groves and Thatcher, *The First Fifty*, 9.

<sup>59</sup> Arthur P. Chew, "Farm Reality Below Earnings Basis," *Barron's*, July 8, 1929, 23.

effective cooperative marketing alone but also requires that production be brought in line with consumer demand.”<sup>60</sup> With regards to the American Farm Bureau, it was no longer an organization that single-handedly managed farmers but needed the help of the government to advance and educate farmers about production methods.

Hope for farmers seemed right around the corner in 1933, when the U.S government set up the Commodity Credit Corporation to provide reduced loans to farmers who only had farm products, land, and equipment for security.<sup>61</sup> Congress ratified the Agricultural Adjustment Act (AAA) and the American Farm Bureau Federation, National Grange, and National Farmers Union joined the committee to examine the bill before Congress.<sup>62</sup> The Act passed on May 12, 1933, by a vote of 315-98, and hailed as, “The Magna Charta of American Agriculture.” The goal of the AAA was to grant authority to the USDA administration to raise farm prices to pre-war levels of price matching for consumer produce and grains.<sup>63</sup> The AAA would be granted further authority in 1938 income laws for farmers.<sup>64</sup>

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<sup>60</sup> Clifford V. Gregory “The American Farm Bureau Federation and the AAA,” *The Annals of the American Academy of Political and Social Science* 179 (May, 1935): 154.

<sup>61</sup> Samuel R. Berger, *Dollar Harvest, The Story of the Farm Bureau* (Lexington: Heath Lexington Books, 1971), 97.

<sup>62</sup> The National Farmer’s Union was founded in 1902 as the Farmers Educational Cooperative Union of America out of Point, Texas. This union was organized to advocate for increasing the cooperative rights of farmers and fair market access by all levels of farming operations.

<sup>63</sup> Price Matching was a guarantee by The Agricultural Adjustment Act (AAA) to ensure farmers would be able to sell grains at profit that reflected prices just prior to World War I. Farm parity- a term adopted under the New Deal of 1938 that was used to compare farming income from year to year in comparison to what was relatively productive in the years of 1909-1914. For a farmer to get a hundred percent parity was to earn the full price value for harvest. These laws helped farmers determine the yearly income they would receive from their market harvest values and from the government. Gregory, “The American Farm Bureau Federation and the AAA,” 154-155.

<sup>64</sup> Berger, *Dollar Harvest*, 110.

The 1938 Law limited farm production to conserve soil quality. It authorized the United States to make direct payments to farmers that were formally under bureau influence and to support price matching and the parity laws.<sup>65</sup> Farmers would now rely on government support for their welfare and prosperity instead of looking to the Farm Bureau for all of their help, education, and guidance. This broad monetary power would decrease the influence of the Farm Bureau, and education for farmers became second to the federal bureaucracy. Besides, Farm Bureau members would be forced to contend with governmental politics and influence from within the organization. Farmers would come to rely on government assistance for help, which could lead to the formal decline of Farm Bureau influence among the agricultural community.

The Farm Bureau had reached a turning point in history, and they would turn to businesses and corporations for their support rather than lose influence with their members. The Farm Bureau elected Allan Kline in 1947 as their new national president. Kline was a major agribusiness owner and soon directed bureau money and influence towards business ventures in the name of the Farm Bureau. Kline would establish the Farm Bureau Insurance company in 1947 to further expand bureau influence and power. Kline helped introduce a new Farm Bureau policy that would favor lower price supports by the federal government to increase commodity productions. Farmers would have to produce more grains to receive benefits and would lead to higher federal crop shares. The new policy worked, and government-owned crop shares increased from 1.3 billion

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<sup>65</sup> Berger, *Dollar Harvest*, 100.

dollars in 1952 to 7.7 billion dollars in 1957.<sup>66</sup> The lower price points succeeded in creating a surplus for the United States and allowed large land-holding farmers to maximize profits by increasing production output. The small farmers who could not compete at this price point failed and forced thousands of families into the cities and out of the countryside.<sup>67</sup>

The Farm Bureau did not stop with President Kline changing their general image. Kline had aligned the Bureau with vast landholding farmers but the election of Farm Bureau National President Charles Shuman in 1955 would soon alter the political image of the Farm Bureau. Shuman supported the growth of very large farms at the expense of small farmers. Shuman was also a profoundly conservative and religious man. Shuman decried the federal farm policies of the past several decades that had helped small farmers, calling them, “A rejection of God’s Law in favor of Man’s Law.”<sup>68</sup> Shuman intensified his attacks on governmental farm policies designed to support small farmers, sharecroppers, and anyone that was in favor of them. His attacks became so prominent that the farm journal *Nebraska Farmer* wrote,

We are getting to the point where we wonder about Charles B. Shuman’s purpose in life. As head of the nation’s largest farm organization, Shuman should be fighting for the farmers, it seems to us. But Shuman’s actions seem more and more to be aimed primarily at fighting Secretary of Agriculture Freeman, the Kennedy Administration and the democrats in general.<sup>69</sup>

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<sup>66</sup> Berger, *Dollar Harvest*, 112.

<sup>67</sup> Berger, *Dollar Harvest*, 107-112.

<sup>68</sup> Berger, *Dollar Harvest*, 110.

<sup>69</sup> *Nebraska Farmer* (April 6, 1963) in Berger, *Dollar Harvest*, 110.

Charles Shuman resigned in 1970 but not before helping elect William Kuhfuss, a former CEO of a half-billion dollar farm business network out of Illinois, to the Farm Bureau presidential seat.<sup>70</sup>

Shuman's policies also influenced the role women played in the Farm Bureau. Women were instructed to pass out books and pamphlets at children's clubs and meetings sponsored by the bureau. The Farm Bureau provided anti-communist books at kid's clubs like 4-H meetings. Books by right-wing authors like *The Naked Communist* and *Peaceful Coexistence: A Communist Blueprint for Victory* had been featured prominently at all events. These anti-communist books made it onto what was called the "Freedom Bookshelf" that was part of every Farm Bureau Headquarters under President Shuman. Youth conferences hosted by the Farm Bureau Youth were targeted as places to peddle propaganda. The Farm Bureau would hold "citizenship seminars" and "Freedom Forums" and select high functioning students to attend and then instruct them to spread what they had learned about communism around their school or hold their anti-communist meetings.<sup>71</sup>

As the Farm Bureau became entangled with money, politics, and social affairs, people started to question the integrity of the organization. Representative Joseph Resnick (D) of New York State called for an investigation on rural poverty in 1966 to ask what the Farm Bureau Federation had done to address the issue. Resnick's investigation met little enthusiasm from members of Congress in the Midwest, and Farm Bureau

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<sup>70</sup> Berger, *Dollar Harvest*, 112.

<sup>71</sup> Berger, *Dollar Harvest*, 142.



lobbyists charged that the investigation was a plot to break up farming representation within Congress. Resnick would be defeated in a bid for Senate in 1968 but would continue to pursue complaints that the Farm Bureau was no longer looking after the members it once swore to educate and protect.<sup>72</sup> The leaders of the American Farm Bureau Federation seemed to have forgotten the reason for their existence whose motto once was to be an “Organization of farmers, by farmers and for farmers.”<sup>73</sup> The Farm Bureau was no longer worried about helping farmers but instead was focused on creating an agricultural business empire through government subsidies and political power.

While some in the farming community looked to the government and organizations such as The Farm Bureau and National Farmers Union to protect their interests, others realized they needed to protect their economic welfare themselves. Farmers understood back in 1920 that in order to sell their grains and produce at higher rates, they needed to be able to bargain as a group to demand higher prices. Cooperatives seemed to be the answer to this problem as it would eliminate the speculation of prices and allow fair prices to be fixed by farmers instead of buyers and help to stabilize the industry. The popular saying among farmers went that, “While fertilizer makes more bushels per acre, cooperative farming makes more dollars per man.”<sup>74</sup> The Farm Bureau realized this and sought to capitalize on the idea by buying land and creating their cooperatives.<sup>75</sup> Cooperatives were akin to corporations and would further increase

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<sup>72</sup> Berger, *Dollar Harvest*, 7.

<sup>73</sup> Berger, *Dollar Harvest*, 5.

<sup>74</sup> Cullen, *The Cradle of the Farm Bureau Idea*, 11.

<sup>75</sup> Cullen, *The Cradle of the Farm Bureau Idea*, 11.

production values and efficiency by supporting the ever-growing economy of scale occurring throughout the American free-market economy.

In 1950 twenty-five million farmers live on farms, but by 1970 fifteen million farmers had moved into the cities. Smaller farmers that were able to stay on their land continued to live in increasing poverty.<sup>76</sup> Their neighbors that survived and thrived bought the uninhabited land and the average farm would grow 80% larger than the average farm of 1950 and be 35% more productive. The reduction in land ownership created regions of poverty across America, and by 1971, ten million farmers lived under the poverty line.<sup>77</sup> Farming families that lived in poverty often had family members that would take part-time jobs in neighboring towns or cities in order to continue to make ends meet.

The Farm Bureau was not part of the solution to this problem but was part of the problem. From investing in land interests and creating cooperatives, the Farm Bureau had shifted its direction to that of business and making money instead of supporting the people trying to make a living. By 1983 farmers and policymakers called on the Farm Bureau to lobby members of Congress to deal with the farm structure disparity among family and corporate-run operations. The pleas were ignored by the Farm Bureau who had no enthusiasm for small commodity-based sellers when more abundant cash crops dominated the market and production. The interests of mass suppliers were deemed more important than the smaller farmer who brought little to the sizeable corporate-dominated

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<sup>76</sup> Cullen, *The Cradle of the Farm Bureau Idea*, 11.

<sup>77</sup> Berger, *Dollar Harvest*, 177-178.

market. The economics of the national farming sector and demand for increased growth was seen by the Farm Bureau as too necessary now to be worried about the profits of its constituents and supporters.<sup>78</sup>

Cooperatives were supposed to be non-profit enterprises run by farmers democratically who shared the risks and rewards of being part of the organization. The money earned from collective bargaining on the market would be repaid to farmers who were part of the cooperation. The Farm Bureau had set up cooperatives and created a business model based on stock values. Members could join for benefits, but stock owners made decisions and voted based on stock value, like a corporation. By 1968 the Farm Bureau cooperative, known as FS Services Inc., was operating in the Midwest and claiming influence over farmers in the states of Illinois, Iowa, and Wisconsin and had sales of farm products and chemicals that totaled 164 million dollars.<sup>79</sup> These sales included 34 million pounds of chemicals, 825 thousand tons of fertilizer, 45 million pounds of seed, and 420 million gallons of gas.<sup>80</sup>

The Farm Bureau policies were called into question again, only this time the people questioning their decisions were the very members the Farm Bureau claimed to protect. The Webster County Farm Bureau of Nebraska State sent their representatives to the Senate Committee on agriculture in Washington D.C. to testify that the Farm Bureau's opposition to the latest farm bill was not based on the feelings of farmers and did not represent what grassroots members supported. They accused the Farm Bureau of

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<sup>78</sup> Brewster, Rasumussen, and Youngberg, *Farms in Transition*, 54.

<sup>79</sup> Berger, *Dollar Harvest*, 63.

<sup>80</sup> Berger, *Dollar Harvest*, 53.

representing the interests of themselves and big businesses instead of the interests of farmers that needed the farm bill aid in order to survive as a small family business. The retribution was swift from the Nebraska Farm Bureau, who held a committee hearing and expelled the entire county of Webster from the Bureau.<sup>81</sup> The Farm Bureau had reached a point where they were no longer thinking of their members but protecting their interests and properties in agriculture and would not tolerate any dissenters that questioned their motives and leadership.

By creating their cooperative, the Farm Bureau had moved beyond providing educational experiences to farmers and had become a competitor to farmers and other farmer-run cooperatives everywhere. The Farm Bureau would buy up grain elevators and buy out other cooperatives that competed with them.<sup>82</sup> The system created by the Farm Bureau would mean that farmers would have to rely on the Bureau for not only chemicals but also as a site to sell their grains.<sup>83</sup> If the Farm Bureau wished to sell farmer's grain at a lower rate, the farmer could quit the Farm Bureau and drop out of the cooperative but would have little other options to turn to for economic support in his region of operation. By the end of the 1980s, the organization that once protected and educated young farmers and families were now their most significant competitor in the bid for fair prices.

The historical research suggests that the American Farm Bureau Federation recognized the trend in which farming was destined to become a form of business venture

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<sup>81</sup> U.S. Congress "Resnick Farm Organization Hearings" (August 30, 1967) in Berger, *Dollar Harvest*, 128.

<sup>82</sup> Grain elevators are facilities that are used to store harvested crops from the surrounding region. Elevators store grain in bulk rather than in sacks or bags. Grain elevators emerged during the second half of the nineteenth century in North America due to the shift from subsistence-based agriculture to a cash-market economy based on wheat harvested in the Midwest and Great Plains regions.

<sup>83</sup> Berger, *Dollar Harvest*, 63.

supported by large scale farming operations rather than the small family farm operation that had been the idealized way of American life. This trend would mean that defending the people who were already lost (small-scale farmers) would mean siding with the economic and social failures of history. Since the 1980s, farming has become bimodal; large producers provide most of the output for commercial sale and many small producers account for very little of the total national output of America.<sup>84</sup> The farm industry has also come to encompass other parts of the U.S economy and integrated itself in them through the consumption of equipment, feed, and fertilizers. Consider that in 1930, farmers would spend ten billion dollars on these products, and by 1985, they would be spending over 150 billion dollars.<sup>85</sup>

The Farm Bureau may not be at fault for trying to survive when so many other people and businesses associated with the agricultural industry were failing. The Bureau's methods of survival, however, was ruthless and Darwinist. In order to survive, the Bureau turned on its members it once pledged to educate and protect back in 1919. The Farm Bureau also shunned the political organization known as the NPL, who could have brought the need for agrarian unity to the forefront of political society and kept the message that prosperity was for everyone and not just for the economically well-off.

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<sup>84</sup> "In a bimodal investment strategy there is agricultural development through increases in productivity and output of a minority of large farmers using capital intensive technologies. If land is extremely unequally distributed, most farms would be small and few would be large. The manifestation of this structure in a land distribution plot would be bimodal in the sense that land would be distributed with a mode at large land plots." United Nations: Agricultural Development Economics Division, *Long-Term Farming Trends. An Inquiry Using Agricultural Censuses* by Gustavo Anriquez and Genny Bonomi, ESA Working Paper No. 07-20 (May 2007), 4; Brewster, Rasmussen, and Youngberg, *Farms in Transition*, 5.

<sup>85</sup> Gordon C. Rauser and Kenneth R. Farrell, *Alternative Agricultural and Food Policies and the 1985 Farm Bill* (San Leandro: Blaco Printers, 1985), 66.

Instead, the Bureau chose to follow the path towards money and profit when their leadership was challenged by a liberal government who felt that social legislation was better for the American farming family, such as the AAA of the New Deal. By electing leaders that favored gross economic growth and who had an apparent disdain for social services, and viewed as communistic, the Bureau would create a rift between the rich and poor people of the farming community. The saddest part of this history is that it was all done in the name of progress for the American farmer.

As a historian, it is hard not to want to ponder what would have happened if the bureau had decided to stay the course set up by Spillman when the federation first started in the creation of an educational organization for farmers. The dream and hope for all farmers were captured in American author Ralph Waldo Emerson when he said, “Through the Universe is full of good, no kernel of nourishing corn can come to him, but through his toil bestowed on that plot of ground which is given to him to till.”<sup>86</sup>

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<sup>86</sup> Groves and Thatcher, *The First Fifty*, 26.

## CHAPTER TWO

### TRACTORS AND THE GROWTH OF FARMING TECHNOLOGY

Agricultural advancements would not be limited to education and politics but also came in the form of machinery. The primary purpose of agriculture in society is to provide food for consumption as a caloric energy resource, and machinery in the form of plows, planters, and cultivators aided farmers in production. The growth of populations, shifting migrations of people into larger cities all act to put pressure on food supplies and thus the farming industry to produce more, leading to more significant innovation in machinery.<sup>87</sup> Food acts as the link between the farming industry and population. When altering the link in any way, there can be consequences for both the farming industry and the populations they are designed to support.

Technological innovations in agriculture also stimulated growth in commodities for markets and industries. The linked economic zones rely on agriculture as a major market outlet to justify production.<sup>88</sup> Agriculture as a whole differs from other processes that take place within capitalism because the farmer is far from the user of the product or produce.<sup>89</sup> The economic connection means that the rate of price changes, changes in marketing techniques, or technology from any given market related to farming, will have

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<sup>87</sup> Paul K. Conkin, *A Revolution Down on the Farm: The Transformation of American Agriculture since 1929* (Lexington: University of Kentucky, 2008) 26.

<sup>88</sup> Barry L. Price, *The Political Economy of Mechanization in U.S. Agriculture* (Boulder: Westview Press, 1983), 24.

<sup>89</sup> Sphere of consumption refers to the clothes, products, electronics and foods people buy and “consume” on a regular basis through out a lifetime. A “sphere of consumption refers to the cycle of consumerism and how products and resources come to be consumed. Agricultural crop commodities are removed from the sphere of consumption because they must first be refined for energy, such as ethanol, or consumed by animals for energy, which are then consumed as part of food consumerism.

a greater effect on farm production than it would to that of an industrial activity related to agriculture.<sup>90</sup> This process and its relationship between farming, technology, and production are due to the “acceleration principle” found in industry standards where the industrial demand for a product or resource is different from the derived demand found in agriculture.<sup>91</sup>

Beginning in 1910, the price for farm products and wages for laborers moved mainly in the same direction, up. They rose rapidly during World War I and until 1920 but then dropped, rising again in 1922 until the Great Depression in 1929.<sup>92</sup> Farm machinery prices did not fluctuate significantly during this period due to a constant demand for better equipment for production. Machines continued to take the place of human laborers in production and continued to industrialize farming. This process of industrialization would have profound effects on the farming industry and the lifestyle of farm families.

Prior to the turn of the twentieth century, farm life was somewhat isolated and remote from the rest of society. Families relied on their wagons and farm animals to work and to travel. In Hamlin Garland’s turn of the century novel *Son of the Middle Border* he talks about how life was before the automobile and modern roads:

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<sup>90</sup> Conkin, *A Revolution Down on the Farm*, 37.

<sup>91</sup> The acceleration principle is a concept in economics that explains the link between output and capital investment. It states that an increase or decrease in the demand for consumer goods will cause a greater increase or decrease in the demand for machines required to make those goods. In other words, there is a direct relationship between the rate of output of an economy and the level of investment in capital goods.

<sup>92</sup> Conkin, *A Revolution Down on the Farm*, 132.



In those days, people did not, “call,” they went “vistin.” The women took their knitting and stayed all afternoon and sometimes all night. No one owned a carriage. Each family journeyed in a heavy farm wagon with the father and mother riding high on the wooden spring seat while the children jounced up and down on the hay in the bottom of the box or clung desperately to the side-boards to keep from being jolted out.<sup>93</sup>

The displacement of farm animals and equipment by machines started in 1915 but became more pronounced by 1919, and again after World War I. In 1916 there were 27 million horses on farms around the United States. By 1938, that number had dropped to 15.1 million.<sup>94</sup> Horses were being replaced by cars and trucks for transportation purposes, as families needed to get to town for supplies and social events like Farm Bureau dances and club meetings. The rise of the automobile led to shortening the perceived distances between towns and countryside, which then eliminated most of the isolation that had long been associated with rural America.<sup>95</sup> Modern transportation also helped make the shipping of agricultural commodities regionally a reality. The normalization of cars and trucks led to better road networks and helped expand mobile refrigeration. These innovations allowed the transportation of perishable goods that were once limited to local markets. This infrastructure that was facilitated by the internal combustion engine would help broaden the market size for farmers and let them sell their produce to more people.

Another invention made possible by the internal combustion engine was the tractor. The tractor can be considered one of the primary turning points in the agricultural

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<sup>93</sup> Hamlin Garland, *A Son of the Middle Border* (Minnesota: Borealis Books, 2011). Kindle.

<sup>94</sup> Conkin, *A Revolution Down on the Farm*, 134.

<sup>95</sup> Douglas R. Hurt, *American Agriculture: A Brief History* (Ames: Iowa State University Press, 1994), 276.

revolution of the twentieth century. Tractors were not widely used on farms before the advent of the internal combustion engine, due to the lack of power-driven to the drawbar of steam tractors.<sup>96</sup> Early internal combustion engines used in tractors ran on gasoline and kerosene in the 1910s and 1920s. Kerosene was needed for the war effort during World War I, which increased the appeal of gasoline, and in turn became the dominant fuel source for early tractor engines.<sup>97</sup> By 1920 the semblance of the modern tractor, as we know it, had been completed, which consisted of a one-piece cast frame, replaceable parts, and an enclosed transmission. An example of a tractor from the era is seen in the pictured advertisement below. Note that the advertisement from *Wallace's Farmer* explains how horses cost farmers money and that tractors are the future of farming. The Samson tractor in the image also lacks rubber tires and uses metal wheels instead; for better mobility rubber tires became popular during the 1930s.<sup>98</sup>

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<sup>96</sup> Sargen, *Tractorization in the United States*, 2-3.

Drawbar- A beam across the rear of a vehicle (such as a tractor) to which implements are hitched.

<sup>97</sup> Sargen, *Tractorization in the United States*, 104.

<sup>98</sup> Sargen, *Tractorization in the United States*, 9.

# How Much Do Idle Horses Cost You?

Fifty-six per cent of the pulling jobs on the farm are done with two horses. This is shown by actual investigation. Count up and see how many times your farm jobs require more than two horses.

Yet you have to keep four, six or more for your maximum horse power requirements.

How much do idle horses, kept to meet your occasional peak load, cost you? Their expense goes on just the same whether they are working or not.

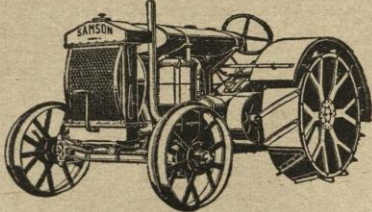
Idle horses are nonproducers. The feed and pasture they require would keep more cows and return you a big profit.

Did it ever occur to you that you could get rid of some of your horses—and do more and better farming, at lower cost, with Samson Tractor Power? Deeper, more rapid plowing, quicker tillage work and planting, speedier harvesting, all done with a margin of cost saved on every field operation. Tractor belt work saves time and labor on the small jobs.

A tractor is not an added expense to your farm. The horses it replaces equal a good part of its first cost. The elimination of horse feed, pasture and lost time pays the cost of the tractor operation with such a wide margin of profit that the tractor is soon paid for. And the tractor will pile up profits year after year.

The Samson Model "M" Tractor is the profitable tractor for the great majority of farms. Thousands of Samson Farmers have proved it this last year by making a profit under the most unfavorable market conditions. They saved on horses—saved on help hire—and made every acre and every head of live stock count.

*How to cut down YOUR operating expenses—and make YOUR farm pay more—This is your problem this year.*



**Write Us Today  
For New  
Information**

*which will help you to lower your operating costs and increase both the quantity and the quality of your yield. Write us now. A post card will do. No obligation.*

Division General Motors Corporation  
SAMSON TRACTOR CO., 505 Industrial Ave., Janesville, Wis.  
*Manufacturers of Tractors, Trucks, Power and Horse-Drawn Implements*

# SAMSON

TRADE MARK REGISTERED U.S. PATENT OFFICE

Figure 1 Samson Tractor Advertisement <sup>99</sup>.

As more farmers adopted tractors for use on the farm, companies that sold equipment that used horsepower advertised to farmers that had used animal power to

<sup>99</sup> Samson, "Samson Tractor Advertisement," in *Wallace's Farmer* (Des Moines: Wallace-Homestead Co, 1921), 295.

complete their plowing and harrowing needs. The following advertisement, also found in *Wallace's Farmer*, targeted farmers in need of a new planter. This advertisement makes use of horses pulling a planter for the image instead of a tractor. Note how the Hayes advertisement appeals to “human hand” nature of the planter and leads the reader to believe that it can aid in increasing yields sizes.<sup>100</sup> The Hayes advertisement claimed that by using their equipment, the owner could ensure he did not have any “bare spots” in his field, thus increasing the amount of crop he had planted per acre. Planting a crop would be as accurate as a human hand would be.

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<sup>100</sup> Hayes, “Hays Planter Advertisement,” in *Wallace's Farmer* (Des Moines: Wallace-Homestead Co, 1921), 63.

**The "Human Hand"  
Planter is a Money Maker**

**W**HY worry about types of corn planters. A system of planting that insures a big yield of corn is what you want. Whether the planter has two wheels or four wheels or a flat or edge drop is entirely beside the point.

Over 35 years of service have proved that the Hayes Human-Hand system positively increases crops—by overcoming the 7 causes of "bare spots." Usually the first year's increase pays for the Hayes Four-Wheel many times over.

Yet, you do not buy the Hayes upon its glorious record of mighty yields, alone. This famous planter is sold with the only Big-Crop Guarantee ever written on a farm implement.

This record smashing guarantee says that if the Hayes Four-Wheel does not produce a better stand of corn you may return it and the full purchase price will be refunded. Have you any other implement that literally guarantees you a bigger crop?

Go see the local Hayes dealer. Order your Hayes Four-Wheel NOW. Every year you put off buying a Hayes means loss. Get your Hayes now.

Hayes Pump & Planter Co., Dept. 2, Galva, Ill.

**HAYES**  
FOUR-WHEEL PLANTER

PLANT LIKE  
HUMAN HANDS

Figure 2 Hayes Planter Advertisement<sup>101</sup>

<sup>101</sup> Hayes, "Hays Planter Advertisement," 63.



Farming is a time-specific process that depends on environmental and seasonal changes. This process means that farmers have a limited window of opportunity to complete their work. By adopting this new technology for seeding, plowing, and planting, farmers could increase their agricultural productivity. Manufacturers used many forms of power ratings to make their tractors appeal to the broadest customer base. Some measured tractor power by how many plow bottoms the tractor could pull, while other manufacturers focused on overall horsepower. In order to understand power ratings for tractors, the manufacturing industry adopted the Nebraska Tractor Tests as an industry standard for measuring tractor power and ability by 1930.<sup>102</sup> An example of a tractor capable of pulling four plow bottoms is in the 1930 McCormick-Deering advertisement below out of *Wallace's Farmer*.<sup>103</sup> As power ratings for tractors increased, so did the capability for manufacturers to produce larger farming implements.

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<sup>102</sup> Sargen, *Tractorization in the United States*, 91-92.

<sup>103</sup> McCormick, "McCormick Plow and Tractor Advertisement," in *Wallace's Farmer* (Des Moines: Wallace-Homestead Co, 1930), 76.



## McCormick-Deering Plows Start Your Crops Off to Good Yields

**T**HIS is the time to see the McCormick-Deering dealer for new plows needed for the Spring—plows that can be depended on for good plowing—that are balanced just right, are light draft, easy running, and built strong.

McCormick-Deering plows embrace a complete line for tractor and horse power—moldboard and disk types—from one bottom up to four (disk plows up to six). There is a wide variety of bottoms to meet all soil conditions—equipment to meet any special requirement.

Now, while you have time, it will pay to look at these plows in the McCormick-Deering dealer's store. Write for information on good plowing.

INTERNATIONAL HARVESTER COMPANY  
606 So. Michigan Ave. of America (Incorporated) Chicago, Illinois

# McCORMICK-DEERING

Tractor and Horse

# PLOWS




Figure 3 McCormick-Deering Plow Advertisement<sup>104</sup>

<sup>104</sup> McCormick, "McCormick Plow and Tractor Advertisement," in *Wallace's Farmer* (Des Moines: Wallace-Homestead Co, 1930), 76.

When tractors were still in their infancy in the 1920s, farmers reluctant to adopt this new technology competed with the early adopters by running more teams of horses. A team of six horses could compete with one tractor in terms of work done in the field.<sup>105</sup> By the 1930s tractors of all sizes were completely dominating horse-power on farms in the Midwest. The reason for this was that farmers had to face the prospect of diminishing returns when adding more horses to compete with neighbors that had tractors.<sup>106</sup> Horses needed more hay, more room, and hired help in order to do the work a man with a tractor could do. Combines had also come into the forefront of farming during the 1930s and required extra auxiliary power to run, making tractors the ideal power tool to pull them. Combines were innovative in that they combined reaping and threshing and winnowing into one machine. The combine machine utilized power from a separate engine and then relied on a tractor or large team of horses to pull it across the field.<sup>107</sup> Consider that a two-person operation with a combine and tractor could accomplish the same work that a six-man operation powered by horses during harvest season, and they did not have to rest the horses.<sup>108</sup> The cost advantage of tractors would eventually lead to their domination of the field.<sup>109</sup> Below is a graph that illustrates the growing advantages of adopting tractors as the size of farms grew more substantial in the 1930s.

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<sup>105</sup> Sargen, *Tractorization in the United States*, 127.

<sup>106</sup> Sargen, *Tractorization in the United States*, 153.

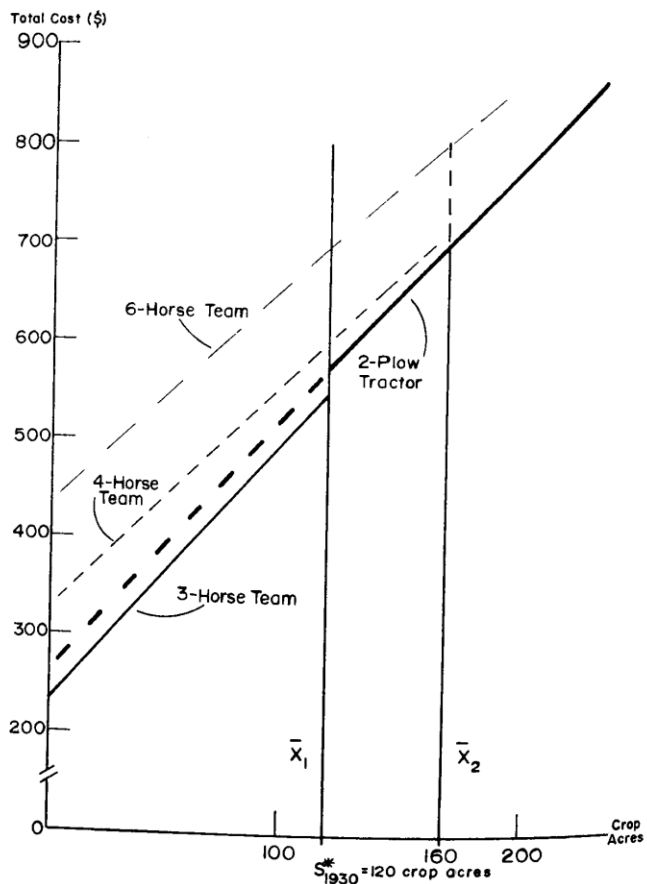
<sup>107</sup> Don McMillian, *The John Deere Tractor Legacy* (Still Water: Voyageur Press, 2003), 118.

<sup>108</sup> Sargen, *Tractorization in the United States*, 171.

<sup>109</sup> Sargen, *Tractorization in the United States*, 153.



FIGURE 4.3  
 GRAPHICAL SOLUTION OF 'TRACTORIZATION'  
 THRESHOLD, 1930's PRICES\*



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Figure 4 Tractorization Threshold<sup>110</sup>

<sup>110</sup> Sargen, *Tractorization in the United States*, 148.

Tractors would become so crucial to the commercial agricultural market for production that the United States Department of Agriculture would remark in 1941 about the role tractors had played in modernizing agriculture and pushing the growth of the grain industry farther westward:

The development of large-capacity tractor equipment had been the foremost cause of the extension of the small grain belt westward into semiarid sections where low yields formally prevented crop production and the extension of cotton production into the high plains of Texas and Oklahoma. By far, the greatest part of the increase in crop acreage from 1919 to 1929 was in these western areas . . . With the tractor as the outstanding source of power.<sup>111</sup>

The success of tractors as sources of power and economic well-being for farmers was apparent to industrialists who helped create and expand the tractor economy in America. In this 1930 tractor Advertisement out of *Wallace's Farmer*, John Deere Company attempted to tie economic prosperity with the adoption of John Deere tractors by equating the user's tractor experience to economic success. The image used for this advertisement shows a John Deere Model D pulling a field plow in the advertisement below.<sup>112</sup>

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<sup>111</sup> Price, *The Political Economy*, 23-25.

<sup>112</sup> John Deere Co, "John Deere Tractor Advertisement," in *Wallace's Farmer* (Des Moines: Wallace-Homestead Co, 1930), 98.

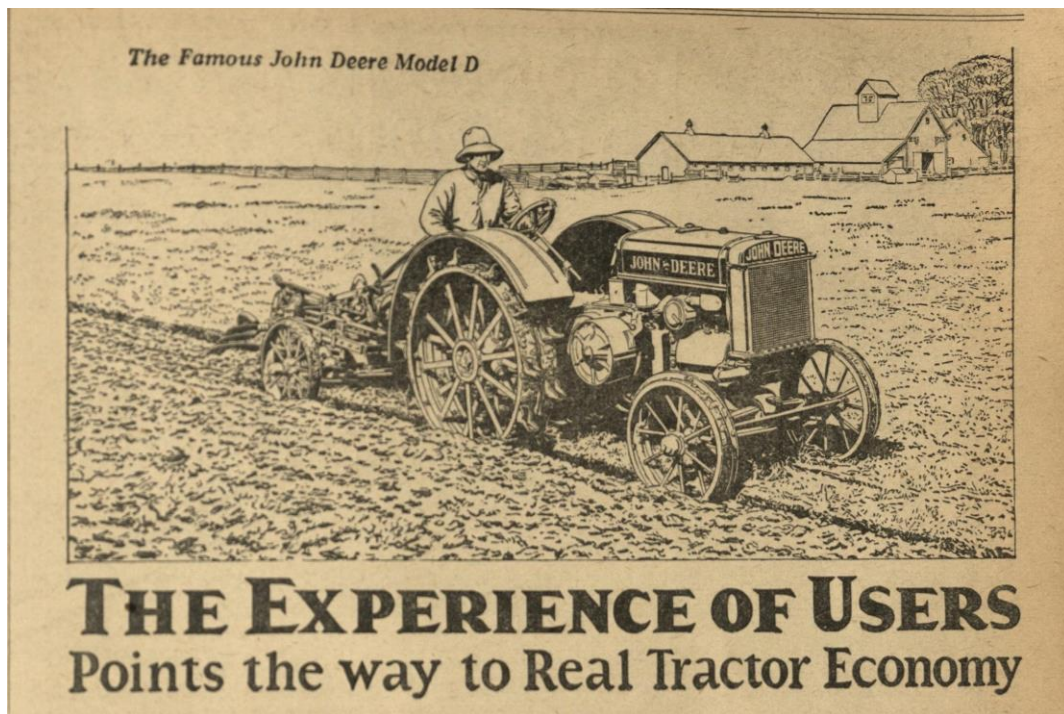


Figure 5 John Deere Tractor Model D Advertisement<sup>113</sup>

The commercial adoption of tractor technology followed a product diffusion pattern in which tractors mainstreamed into farming practices over several decades.<sup>114</sup> Demand for tractors grew steadily from 1920 into the 1930s and then spiked at the end of World War II in 1945.<sup>115</sup> As such, the actual effects of tractorization on farm life took as long to permeate into farming society. One such area of farming society was the state of Iowa. The shift to tractors in Iowa released land allocated to draft animals to the production of crops and increased the total output and surplus while also reducing the

<sup>113</sup> John Deere, "John Deere Tractor Advertisement," 98.

<sup>114</sup> Sargen, *Tractorization in the United States*, 1.

<sup>115</sup> USDA, Economic Research Service, *Demand for Farm Tractors in the United States, A Regression Analysis* by Austin Fox, Agricultural Economic Report No. 103 (Washington D.C.: 1967), iv.

total demand for farm labor.<sup>116</sup> This switchover also meant that the demand for oats, the primary food source for draft horses, would drop drastically in the 1920s and would be replaced by barley in many rural regions such as Iowa as the main cash crop. Oat production in Iowa would grow by 453% from 1925 to 1928 and would reflect the shift from food crops for animals to cash crops fit for the regional and world markets.<sup>117</sup>

Tractors would also have a profound effect on farm hourly labor requirements. Before the advent of tractors, increases in productivity usually meant hiring more laborers per hour of work performed and buying more horses. The tractor would be a dramatic shift away from that formula in the 1930s, as machines replaced horsepower and reduced the number of labor hours needed for every acre cultivated.<sup>118</sup> The displacement of farm labor would drive rural workers into the cities in search of jobs and would lead to the gradual depletion of rural populations. In economic terms, the variable capital of labor that farmers once required got exchanged for constant capital in the form of machinery.<sup>119</sup>

Tractors are part of the history and growth of industrialization in the United States. Tractors are machinery, and the use of machinery is partially determined by the price of labor and work animals. Industrialization adds value to businesses such as farming by substituting labor and animals for equipment, such as tractors. The use of tractors on farms was part of the process of capitalization in the farm industry.

Capitalization involves more financial capital input into the production process of a given

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<sup>116</sup> Price, *The Political Economy of Mechanization in U.S. Agriculture*, 19.

<sup>117</sup> Conkin, *A Revolution Down on the Farm*, 147.

<sup>118</sup> Conkin, *A Revolution Down on the Farm*, 4.

<sup>119</sup> Conkin, *A Revolution Down on the Farm*, 163.

operation. Tractors had a significant role to play in this capital driven system of agriculture. Farming involves three different types of technology. These technologies can be grouped into three types, include labor-saving, capital saving, and neutral. Tractors were labor-saving technology that exchanged time and labor usage for greater capital investment.<sup>120</sup> This increase in capital investment would mean that farmers would need to continue to grow in size in order to afford bigger and better equipment as time went on, and prices followed national inflation upward. Capital saving technology could be considered new farming methods to save on cost such as cultivation, which decreases the number of herbicides needed per acre, and neutral technology would be something that affected neither capital investments or labor.

The 1930s would see the end of the Great Depression and the beginning of World War II. During times of war, world powers demanded more production to meet the needs of fighting men in the field. With new tractors and hybrid seed crops available for use, American farmers had the ability to increase production to support the war effort for the allies overseas in Europe. The 1940s would also witness the return of rainfall to the Great Plains region, alleviating the exceptional drought of the 1920s and 1930s, and farmers would begin to recolonize the regions that had been decimated by the Dust Bowl in the previous decade. After World War II, farm sizes would continue to grow and specialize in cash crops<sup>121</sup>. New fertilizers increased yields, and chemical herbicides

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<sup>120</sup> Conkin, *A Revolution Down on the Farm*, 173.

<sup>121</sup> A cash crop is a readily salable crop (such as cotton or tobacco) produced or gathered primarily for market.

enabled farmers to reduce the need to weed significantly.<sup>122</sup> These technological advancements would continue to aid farmers in saving time but at the expense of capital.

At the end of the 1940s, improvements, such as the tractor and combine made farming less strenuous. The revolution in farming technology had led to a 65% increase in crop production between 1940 and 1973.<sup>123</sup> While production had increased, labor had slowly been leaving the farming sector as farmers become reliant on equipment over human labor. Cash crops were continually being adopted as the primary source of income for farmers, rather than having many forms of income through multiple crops or animal sales. Farmers increasingly turned to corn for cash crop sales. Corn was the perfect source of food for cattle and the main ingredient in processed food products. Corn became the main cash crop for farmers living in the Midwestern United States because it was high in fats, starch, nutrients, and energy and are easily digestible. These superior plant properties led to corn hybridization and by 1950, 99% would be available as a hybrid.<sup>124</sup>

Hybrid research on corn had initially begun in 1906 by a geneticist named G.H. Shull. Shull realized the inherent benefits of resiliency to weather and insects given to corn through selective breeding. Breeding experiments continued throughout the 1920s at government-funded agricultural research stations. The best hybrid seeds released to the commercial market in the early 1930s and demand grew from that point on.<sup>125</sup> Below is

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<sup>122</sup> Brewster, Rasumussen, and Youngberg, *Farms in Transition*, 10.

<sup>123</sup> Brewster, Rasumussen, and Youngberg, *Farms in Transition*, viii.

<sup>124</sup> John F. Hart, *The Changing Scale of American Agriculture* (Virginia: University of Virginia Press, 2004), 42.

<sup>125</sup> USDA Agriculture Research Service, "History of Research at the U.S. Department of Agriculture and Agricultural Research Service," <https://www.ars.usda.gov/oc/timeline/corn> (accessed June, 2019).

an example of a hybrid corn advertisement found in *Wallace's Farmer* from 1950 that pushed for farmers to adopt Pioneer Seed as their choice of grain supply. The advertisement for Pioneer claims that their hybrid brand of corn produced higher yields and tested for yield size at numerous universities such as Iowa State in order to appear nonbiased in their claims.

**Make Every Corn Acre Count... Plant PIONEER Corn**

**PIONEER RECORDS IN IOWA TEST**

NORTHERN SECTION	
Pioneer 24629	FIRST among all entries.
Pioneer 352	SECOND among all entries. Seed available.
Pioneer 349	FIRST among all entries in 3-year average. Seed available.
Pioneer 321	SECOND among all entries in 3-year average. Seed available.
Pioneer 340	FIRST among 10 most widely grown hybrids. Seed available.
NORTH CENTRAL SECTION	
Pioneer 352	FIRST among all entries. Seed available.
Pioneer 340	FIRST among 10 most widely grown hybrids in District 4. Seed available.
SOUTH CENTRAL SECTION	
Pioneer 337	FIRST among 10 most widely grown hybrids. Seed available.
Pioneer 321	SECOND only to Pioneer 337 among 10 most widely grown hybrids in District 8. Seed available.
SOUTHERN SECTION	
Pioneer 351	FIRST among all entries. Entered as X-test.
Pioneer 334	SECOND among 10 most widely grown hybrids in lowest average. Seed available.
Pioneer 340	FIRST among 10 most widely grown hybrids in District 11. Seed available.

**WINNER IN THREE OF FOUR SECTIONS IN 1949 IOWA CORN YIELD TEST**

This year it's doubly important to make every corn acre count. You'll want the biggest yield per acre your soil and weather permit. That's why we say Plant Pioneer . . . the corn that won in three out of the four maturity sections in the official 1949 Iowa Corn Yield Test. Iowa State College conducts the test to compare the performance of hybrids grown in Iowa. Pioneer corn also won first place in five other states where official corn yield tests and contests were conducted by Agricultural Colleges and Universities. What more convincing proof is there that Pioneer research for better and better corn offers you top notch—top performing hybrids. The summary at left shows which Pioneer hybrids made outstanding records in the Iowa test and which ones are still available for planting this spring. See your Pioneer salesman; he still has a good choice of kernel sizes in most of the hybrids.

**PIONEER HI-BRED CORN CO., Des Moines, Iowa**  
**GARST & THOMAS HYBRID CORN CO., Coon Rapids, Iowa**

**Plant High Yielding PIONEER This Year**

Figure 6 Pioneer Corn Advertisement<sup>126</sup>

<sup>126</sup> Pioneer Hi-Bred Corn, "Pioneer Corn Advertisement," in *Wallace's Farmer* (Des Moines: Wallace-Homestead Co, 1950), 323.



As tractors became a mainstream work tool for farmers, small farmers that could not afford to buy a tractor rented them.<sup>127</sup> Below is a table that compares the prices of renting tractors and farm equipment to that of owning the equipment outright. For farmers that could afford to buy them, a tractor could last for ten years and more than pay for itself over that time period allowing farmers to work more ground for less time. Farmers could rent a tractor annually for about 10% of its actual worth for this reason.

TABLE 4.1: continued

Tractors and Implements: <sup>h</sup>	BLS	USDA	Est.	Imputed	Imputed	2 plow tractor	3 plow tractor
	Wholesale Price	Retail Price	Service Life (Yrs.)	Annual Rental Rate	Annual Rental Cost		
	(\$)	(\$)	(3)	(4)	(\$)		
	(1)	(2)	(3)	(4)	(5)		
(BLS) Tractor, 2 plow	716	(910)	10	.133	121.0	\$121.0	
(USDA) Tractor, < 20 belt		838					
(BLS) Tractor, 3 plow	929	(1150)	10	.133	153.0		\$153.0
(USDA) Tractor, 20-29 belt		968					
(USDA) Tractor, 30-39 belt		1180					
Tractor, plow - 2 bottom		112	10	.133	14.9	14.9	
Tractor, plow - 3 bottom		146	10	.133	19.4		19.0
Spike Harrow		22	20	.086	1.67	1.7	1.7
Tractor Drill, Disk 10'		( )	18	.091		12.	
Tractor Drill, Disk 12'		( )	18	.091			13.
Tractor Binder, PTO 8'		( )	16	.097		24	24
Tractor Binder, No-PTO 8'		( )	16	.097			
Wagon		108.5	24	.078	8.46	67.7	67.7
Repairs and shelter: \$20/yr.						20.	20.
TOTAL FIXED COST						261.3	298.4
Variable Cost		cost/10 hr day				cost/acre	
Labor, pre-harvest <sup>e</sup>		\$2.00				2 plow	3 plow
					Plow	.22	.165
					Harrow	.03	.025
Labor, harvest		2.50			Seed	.06	.055
					Bind	.11	.07
Labor, thresh		3.00			Shock	.19	.19
					Thresh	.40	.40
Capital Cost-Threshing <sup>f</sup> : 6¢/bu × 13 bu/ac						.78	.78
Horse Rental Rate <sup>g</sup> : 10¢/H hr @ $\frac{150 \text{ horse hrs}}{1000 \text{ bu}}$						.20	.20
						2.00	1.88

Figure 7 Tractor Cost Comparisons<sup>128</sup>

<sup>127</sup> Sargen, *Tractorization in the United States*, 100.

<sup>128</sup> Sargen, *Tractorization in the United States*, 143.

Renting equipment, however, could not compete with growing vast acres of corn and soybeans with operator-owned equipment. As the size of farming operations grew, so did the cost. Farmers unable to save up capital to expand could not compete with their neighbors. Eventually, small farmers would follow the pattern of farm laborers earlier moving into the cities in search of other jobs as they could not compete with the productivity of the tractor. The elimination of smaller growers from farming would also open up more land for large scale farming operations to grow even more prominent, requiring even more powerful tractors to accomplish field tasks on time.<sup>129</sup>

When farmers began to modernize in the first half of the twentieth century, supporting industries also grew around the farming sector. Businesses such as John Deere, Case IH, and other farm equipment brands built sales outlets and factories in agricultural regions. One example is the John Deere Tractor Factory located in Waterloo, Iowa, founded on March 14, 1918, when Deere and Company first purchased what was then the Waterloo Gasoline Engine Company.<sup>130</sup> This purchase was an expansion of John Deere industrial complex into a new region of the Midwest. John Deere had first started a business out of Grand Detour, Illinois in 1837 and by 1848, moved to Moline, Illinois. Deere Company was first known for producing highly polished steel plows before they started producing tractors.<sup>131</sup> The company would grow their tractor production in Iowa, and by 1919, it would employ one-thousand employees and run manufacturing and

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<sup>129</sup> Price, *The Political Economy*, 17.

<sup>130</sup> Black Hawk County, "Early Deere&Co,"

[https://historyofblackhawkcounty.uni.edu/econ20thcent/Deere%201980s%20Recession/early\\_deereco.htm](https://historyofblackhawkcounty.uni.edu/econ20thcent/Deere%201980s%20Recession/early_deereco.htm) (accessed June, 2019).

<sup>131</sup> John Deere, "Past Leaders," <https://www.deere.com/en/our-company/about-john-deere/past-leaders/john-deere> (accessed June, 2019).

testing facilities on fifty-acres of land that included a machine house, forge shop, heat-treating building and foundry. Deere and Company would eventually add an electric foundry in 1972; The site would become the “John Deere Engine works” in 1975.

Another factory sector would open up in May 1981 and be referred to as the “Northeast Site” because it was located on what was then the northeast side of Waterloo, Iowa.”<sup>132</sup>

This factory allowed John Deere to expand business and investment in Waterloo further, tying sectors of the local economy to John Deere as workers became reliant on the company for income and expenses. By growing alongside agricultural businesses and operations, industry leaders like John Deere attempted to balance farm production and ensure that the equipment they manufactured like their tractors were reaching farmers who required them to keep up with their ever-growing competition in the field.

As farmers and industries related to them, such as hybrid seed corn companies, tractor and implement industries, and chemical and fertilizer companies, grew in both size and scale, competition among farmers and industrialists attempting to reach farming business operators with products also expanded. With the need to grow and expand, elements of farming monopolies took shape. These elements included market sharing through cooperatives, price leadership debates, and price sharing of products and services provided to farmers.<sup>133</sup> The injection of modern technology into farming, like the tractor, had caused a change in the dynamics of farming culture. The farming culture had to

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<sup>132</sup> Black Hawky County, “Early Deer&Co.”

<sup>133</sup> Conkin, *A Revolution Down on the Farm*, 63.

change alongside technology, and that change would come in the form of family farm corporations.

CHAPTER THREE  
THE GROWTH OF FAMILY CORPORATIONS  
AND THE DECLINE OF SMALL FAMILY FARMS

Farming is a risky financial undertaking for many, and the drive to discover how to ensure the safety of this enterprise is not a new question. Garland writes about the struggles his father faced during his upbringing:

Father was in unwonted depression. His crop had again failed to mature. With nearly a thousand acres of wheat, he had harvested barely enough for the next year's seed. He was not entirely at the end of his faith; however; on the contrary, he was filled with the desire of the farther west. "The irrigated country is the next field for development. I'm going to sell out here and try irrigation in Montana. I want to get where I can regulate the water for my crops."<sup>134</sup>

Farmers and their families during the twentieth century were not unlike Garland and his father's family. They wanted to survive and thrive as farmers. During the Great Depression in America in 1936, an agricultural think tank known as the Farm Institute was formed to discuss farm-related problems that arose across economic sectors relating to agribusiness. Nonpartisan in nature, the goal of the think-tank was to offer unbiased insight into questions arising from the changing nature of agriculture. These annual meetings would take place in Des Moines, Iowa, and would involve many experts in the fields of economics and agriculture. The memos of the meetings would be recorded and then published by the Des Moines Chamber of Commerce so farmers and people

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<sup>134</sup> Garland, *A Son of the Middle Border*, Kindle.

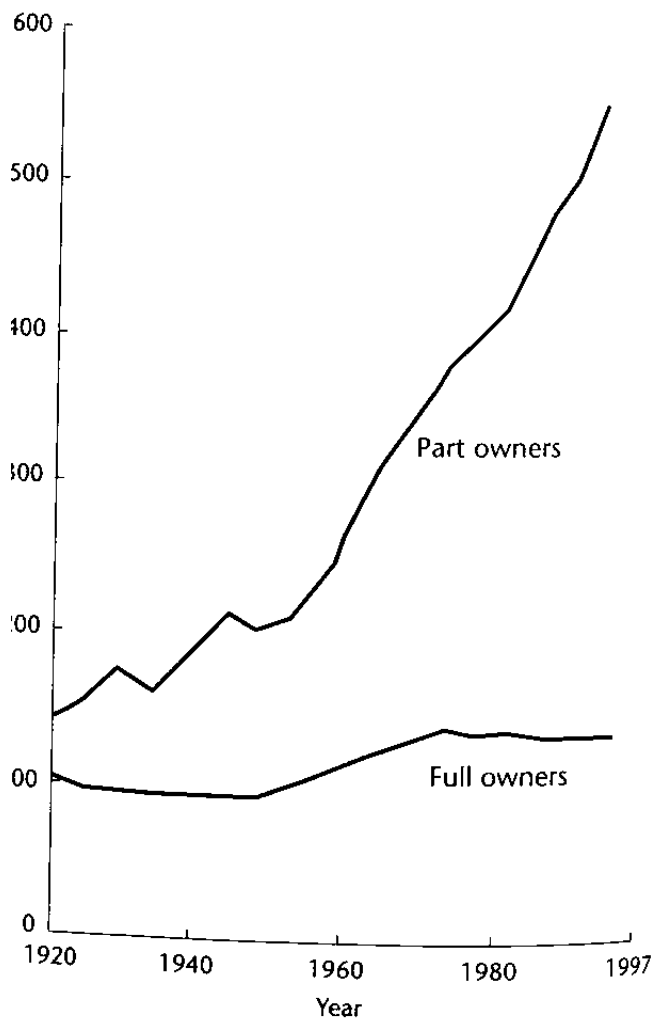
studying agriculture could read about what was going on in the farming industry and production.<sup>135</sup>

One of the great minds at the annual meeting in 1969 was economics professor Neil E. Harl of Iowa State University. Professor Harl spoke about the troubles young farmers were having in amassing capital to start farming and the loss of capital with each passing family generation. The erosion of equity or ownership of capital was declining because farmers were splitting up their farms at the end of their life, and non-farming family members were selling off their share of the land to gain wealth. The graph on farm ownership trends below shows the change in farm ownership levels Harl was referring to. Note the rise of multiple part owners and the relative steady level of full owners. This situation was putting future farming generations at risk as young farmers could not afford to buy their land, and the land they inherited was too small for them to make a living, given the costs of capital-intensive farming.<sup>136</sup>

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<sup>135</sup> Des Moines Chamber of Commerce, *Corporate Farming and the Family Farm*, (Ames: Iowa State University Press, 1969), vii.

<sup>136</sup> Des Moines Chamber of Commerce, *Corporate Farming*, 5.

Table 1 Farm Ownership Trends 1920-1997<sup>137</sup>

What was the solution to this problem? The answer seemed simple enough.

Transform the family farm into a family corporation. Do away with land ownership at the individual level and grant private shares to family members. That way, wealth that passed from one generation to the next could be kept in the family without having to pay

<sup>137</sup> Hart, *The Changing Scale of American Agriculture*, 22.

inheritance taxes on the land the company technically owned. There was a problem with this solution; however, and the problem was that corporations do not die; they are only absorbed by other larger corporate entities, like another family corporation. Professor Harl believed that economies of scale in the form of large-scale farming corporations would play the most significant role in determining the future of agriculture in the Midwest and around other parts of America.<sup>138</sup> Given this trend, Professor Harl created a question for his peers to answer. Could the 160-acre farm of 1969 produce corn at a lower or equal cost per bushel than the 640-acre family farming corporation? The answer, as we now know, was no.

How did family farms go from being small-time producers in the 1920s and 30s to the giant scale producers of the 1980s? The history of collective farming before and during the Great Depression is part of the story that leads to the creation of family farming corporations. Collective farming means farming as a group and can mean shared ownership of property. During the 1920s and 1930s, the form of collective farming that dominated was sharecropping. After the Civil War, sharecropping surfaced as a method of farming that involved the use of former slaves and poor white farmers to plant, till, and harvest the fields of larger landowners in return for either a share of the crop or for monetary compensation, including a small acreage in which to live. Sharecropping made its way in the Midwest through the state of Oklahoma and would take on the form of farm tenancy.<sup>139</sup>

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<sup>138</sup> Des Moines Chamber of Commerce, *Corporate Farming*, 6.

<sup>139</sup> Grant, *Down and Out on the Family Farm*, 122.



Farm tenancy as it would become known in the Midwest was considered a national problem for the agricultural industry. Tenant farmers did not own the land they rented, and for that reason, they were not seen by the federal government and USDA as being good stewards of the land.<sup>140</sup> Tenant farmers had to pay rent for the land they farmed and usually used destructive farming methods that rarely let the soil lay fallow, leading to soil erosion.<sup>141</sup> By trying to squeeze every last bit of production out of the land they were renting to make ends meet, tenant farmers were destroying the future of soil production in America, as determined by the USDA and FDR Administration when they took control of the government and legislation in 1932.<sup>142</sup>

The previous Hoover Administration had sought to solve earlier farm earnings problems by passing the Agricultural Adjustment Act of 1929, which allowed the government to buy up surplus grains but did not allocate funds or laws to solve the surplus problem by selling the grain on the international market at a loss.<sup>143</sup> This failure led to further stagnation in the grain markets and calls for change as the Great Depression worsened the likelihood of market change in favor of higher prices for grain futures. The Hoover Administration's failure to solve the grain crisis would lead to farmers searching for leadership and answers elsewhere.

The FDR administration tried to bring relief to farmers with the New Deal in 1933 through the passage of the Agricultural Adjustment Act of 1933. This act improved upon

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<sup>140</sup> Grant, *Down and Out on the Family Farm*, 119.

<sup>141</sup> Soil erosion means the loss of topsoil and soil nutrients needed for growth, such as nitrogen. This process occurs as a result of intensive agricultural practices. Fallowing allows topsoil to regenerate nutrients that crops use for growth in development.

<sup>142</sup> Grant, *Down and Out on the Family Farm*, 125.

<sup>143</sup> Gregory, "The American Farm Bureau Federation and the AAA," 153.

the previous AAA and allowed farmers to sign marketing agreements with the federal government that stated farmers would agree to cut production and buy up the extra surplus produced and sell it for a loss on the international market.<sup>144</sup> Any loss that would be incurred by the farmer not making parity rates on their sale, the government compensated with a commodity check. The government accomplished this program by offering three types of relief. The first was direct relief in the form of money and land grants, work relief in the form of jobs in the public sector, and emergency relief in the form of land grants, cattle feed, and food.<sup>145</sup> These allocations were not a solution to the tenant farmer problem, and soon, the administration was looking for a more permanent fix to the tenant farming issue.

In 1936, the FDR Administration created a committee on Farm Tenancy, headed by Secretary of Agriculture, Henry Wallace. The committee studied tenant farming through-out the Great Plains and Midwest and recommended that tenant farmers be turned into landowners because they believed landowners were better at managing and taking care of a property that had value to them.<sup>146</sup> The study would lead to the passage of the 1937 Bankhead Jones Farm Tenant Act, which allowed the Federal Government to seize damaged farmland and resell it to tenant farmers at lower prices so they could become landowners.<sup>147</sup>

The findings by the Farm Tenancy Committee and the passage of the Bankhead Jones Farm Tenant Act met with mixed feelings in the farming community and

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<sup>144</sup> Grant, *Down and Out on the Family Farm*, 71.

<sup>145</sup> Grant, *Down and Out on the Family Farm*, 77.

<sup>146</sup> Grant, *Down and Out on the Family Farm*, 125.

<sup>147</sup> Grant, *Down and Out on the Family Farm*, 126.

administration. The Farm Bureau, who had been responsible for influencing and educating farmers opposed the Act, instead of arguing that instructing and teaching “worthy young men” who demonstrated their capabilities was the best way to fix the tenant crisis.<sup>148</sup> This opposition could have stemmed from the removal of influence that the Act may have had on the Farm Bureau, as farmers now looked to the government for monetary aid and support rather than to the Farm Bureau for and educational fix.

Another problem of the Farm Tenancy Committee recommendation was that it ran counter to a study done by the Bureau of Agricultural Economics in the 1920s and again in the 1930s. These studies concluded that as many as 75 million acres or 450,000 leased on “submarginal” farms in the United States were run by poor farmers that did not have a chance to grow and prosper without serious investment by capital interests or the government.<sup>149</sup> The study presented to the USDA Land Planning Committee, which then recommended the procurement of seventy-five million acres of sub-marginal farmland, which would, in the end, displace 450,000 farm families to the cities.<sup>150</sup> The government would, in the end, use the 1937 Bankhead Jones Farm Tenant Act to give the land away to promising farmers and ignore marginalized part-time farmers, poor farmers, and tenant farmers.<sup>151</sup> The Act followed with the creation of the Farm Security Administration (FSA) in 1939 that would be in charge of giving out loans to farmers in need. The FSA would set acreage standards for receiving federal loans, effectively steering away from low-income farmers and tenants. In order to qualify for federal farm loans, farmers would

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<sup>148</sup> Grant, *Down and Out on the Family Farm*, 125.

<sup>149</sup> Grant, *Down and Out on the Family Farm*, 89.

<sup>150</sup> Grant, *Down and Out on the Family Farm*, 89.

<sup>151</sup> Grant, *Down and Out on the Family Farm*, 99.

have to own at least 320 acres in semi-arid western climates or 100 to 160 acres in the Midwest and eastern climates.<sup>152</sup> The drive towards economic stability and progress would continue to lead farmers and the government towards favoring bigger businesses over smaller family farms.

In 1943, agricultural economist John D. Black explained the motivation for these policies. Black found that with the return of rainfall in the Midwest and Plains regions, and with the ongoing war over in Europe and Asia pushing grain prices higher, farm loans under the FSA were being given out to expand production rather than boost families that needed a higher income to get by.<sup>153</sup> Black's findings are highlighted and supported by the sharp drop in family farm operations throughout the middle 1930s and into the 1940s. In 1934 there was a peak of 6.8 million farms in America. By 1949 that number had fallen to 5.4 million farms.<sup>154</sup> The land competition was also driving up the price for the property on the land market. Farmers who had been vetted by the FSA and given loans and land grant opportunities were now the owners of large tracts of farmland. These large owners would turn to the strategy known as part-time ownership. Part-time owners would farm the land that they could on their own and then rent out the rest to other farmers who wished to farm more land but could not afford to buy anymore for themselves. Large landowners would then be able to profit from their ownership of more land and still stay within the farming community as owners and operators even though they may have no longer directly worked as a laborer on their land.<sup>155</sup>

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<sup>152</sup> Grant, *Down and Out on the Family Farm*, 112.

<sup>153</sup> Grant, *Down and Out on the Family Farm*, 118-119.

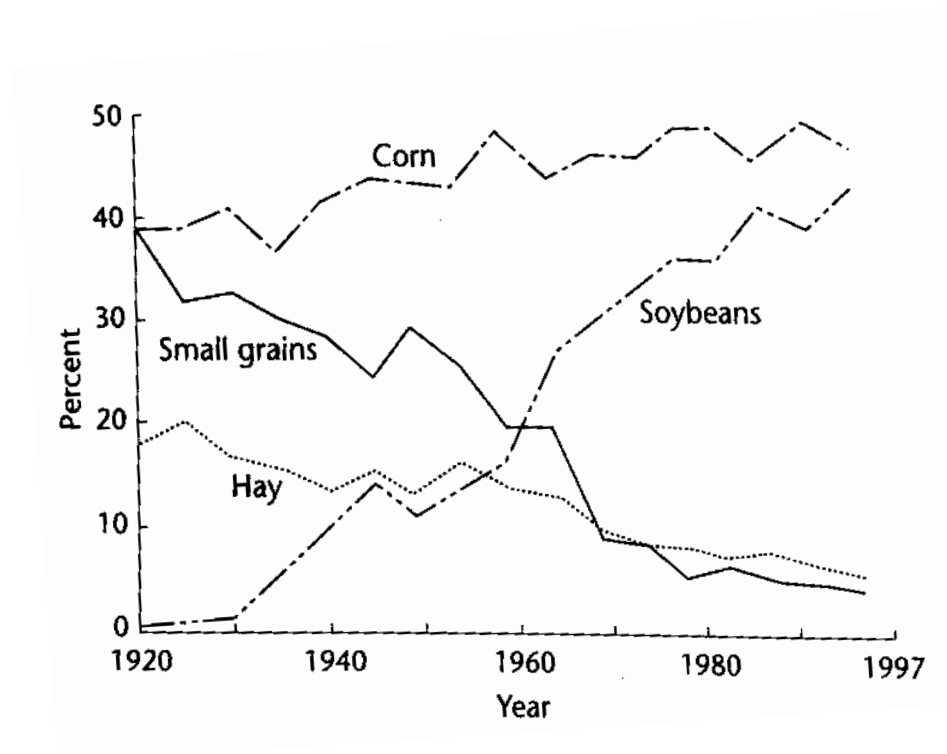
<sup>154</sup> Hart, *The Changing Scale of American Agriculture*, 5.

<sup>155</sup> Hart, *The Changing Scale of American Agriculture*, 20.

The turn of the decade proved to be a boon for many farmers in America that had made it through the Great Depression and had gotten aid from the government. World War II had provided American farmers with a large profit margin thanks in part to international markets in need of continuous food supply. Farms were still selling mixed-crops and livestock in 1949, but corn and soybeans were quickly replacing those sales for more stable direct cash sales on the world market.<sup>156</sup> Farmers of all size were attempting to increase their production due to the change in commercial demand for cash crops. Below is a graph that characterizes these changes in the farm economy. Note that the rise in corn production and soybean production coincides with the fall in hay and small grains that were used to feed the previous generation's horses for farm labor.

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<sup>156</sup> Hart, *The Changing Scale of American Agriculture*, 3.

Table 2 Changing Crop Ratios Harvested 1920-1997.<sup>157</sup>

The increased growth of grain production was in part due to farming entrepreneurs. Earl C. Brookover of Garden City, Kansas was an example of one of these farming entrepreneurs. Brookover was a Kansas State College graduate of 1934 who grew up forty miles north of Garden City. Brookover bought a farm close to Garden City and learned about irrigation to provide water to his crops and saw the potential for land expansion. Irrigation would allow Brookover to make dry land in the region arable by providing a needed water source for crop growth. Brookover built a commercial feed yard at the edge of Garden City and made it and the city a center for cattle feeding and

<sup>157</sup> Hart, *The Changing Scale of American Agriculture*, 24.

sales in 1951. The value of his enterprise grew, and he used his money to expand his feedlot and then buy up ten thousand acres of sandy ranch land. Brookover leveled the land and started irrigating it, turning what was once desolate farm ground into fertile farm soil fit for cash crops.<sup>158</sup>

Interestingly, successful farming businesses like Brookover were not overly familiar during the 1950s and 1960s, but the growth of the average farm size was still increasing. The rise in productivity, thanks to the sale of more machinery, fertilizers, and chemicals were pushing farmers to compete at higher rates of return per acre of land tilled. If a neighbor was getting one hundred bushels an acre to seventy-five bushels using new equipment and chemicals, then the competitive businessman also needed to expand to reach one hundred bushels an acre in order to claim a better market share. The increase in economic competition and the need for more capital meant that farmers needed to take out larger bank loans. Competing proved to be difficult since farm debt overall was rising much faster than the surplus capital available for banks to pay out and farmers needed longer loan maturity rates to pay for and finance expansion.<sup>159</sup>

This problem was made worse for family-run farms by the exodus of young adults from farming and inheritance laws that reduced the amount of money and capital passed on. Many young adults that would become the farm operators within the family had to compete for an inherited property with their siblings. Their siblings who were moving away desired to have the land sold off to a third-party buyer for inheritance

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<sup>158</sup> Hart, *The Changing Scale of American Agriculture*, 48.

<sup>159</sup> Des Moines Chamber of Commerce, *Corporate Farming*, 46.

money. If that was not desirable, then they wanted the inherited land to be bought out by their farm-bound siblings who could not easily afford to do so as a young farm operator. Inheritance laws only exacerbated this problem for family farming operations because of the estate and gift taxes burdening young farm operators who took over the family farming business.<sup>160</sup>

The solution to this problem in the 1950s and 1960s seemed to be the creation of family farming corporations. Such organizational models would help streamline production and create a way for farmers to pass their wealth on to their children without losing value through inheritance taxes. While studying the growth of farming corporations, the Farm Institute of Iowa also interviewed local farmers to gather their feelings on what incorporating could do for them. Farmer John D. Morris had this to say to the think-tank in 1969:

I feel that a more sophisticated organization and management will at least help in coming to grips with our greatest problem in production agriculture. This problem is that of attracting and involving the outstanding young men who have real motivation. This we must do to survive.<sup>161</sup>

Farmers felt that in order to keep the future of family farming alive, they needed to offer a future that was bright for the young men and women that wished to stay on the farm and continue its operations. This meant using the corporate model as a way around inheritance taxes so there would be land available and money available for the next generation of farmers to take over the family farm.

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<sup>160</sup> Des Moines Chamber of Commerce, *Corporate Farming*, 25.

<sup>161</sup> Des Moines Chamber of Commerce, *Corporate Farming*, 25.



By 1965, over 18,500 farms in America had been turned into corporations according to IRS statistics. The Midwest contained the most substantial amount of these corporations with corn belt family-run corporate operations averaging nine hundred acres or a little more than three times the size of an average family commercial farm.<sup>162</sup> These statistics demonstrate the success of the programs that the Farm Institute encouraged. The longer a family or public corporation survived, the larger it is likely to become. By 1967 over two-thirds of corporate farms were family-owned, with one thousand farms grossing over five-hundred thousand dollars a year.<sup>163</sup>

Through the process of integrating business laws into farming, farming families that had the means to turn their family farms into corporations did so, splitting up shares of their farm and giving those shares to family members. Family members could then work the ground as an operator, or they could simply be shareholders and collect yearly income from the production according to their shareholding earnings. Farming families that incorporated were, in turn, able to reap the rewards of farm subsidies that were awarded to their business venture according to the number of acres they accumulated over passing farm generations. As their businesses grew and they increased tillable land and yield rates per acre, so did their subsidies. Corporations were not only farming the soil, but they were also farming government subsidies to help pay for their operation costs.<sup>164</sup> With more money at their disposal, family corporations were able to keep increasing their shareholdings of land through a process known as vertical integration,

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<sup>162</sup> Des Moines Chamber of Commerce, *Corporate Farming*, 13.

<sup>163</sup> Des Moines Chamber of Commerce, *Corporate Farming*, 16.

<sup>164</sup> Des Moines Chamber of Commerce, *Corporate Farming*, 94.

which would over time further marginalize smaller farmers in the region.<sup>165</sup> Corporate farms that could not, or did not wish to farm all of the land they owned, could also become a farming tenancy for other farmers by renting out land and still making money off the work done by the tenants by agreeing to either a price per rented acre or taking a share of the harvest to be sold on the market.<sup>166</sup> While this method provided wealth for family farming corporations as landholders, it also brought the farming problems full circle and back to the land tenancy as causation for poor farming practices. All of these advantages in corporate farming would eventually lead to the creation of a small but mighty class of landholding family corporations that would over time start to push out smaller farmers in regions like the Midwest.<sup>167</sup>

In order to compete with family corporations, non-corporate farmers either needed to incorporate themselves and ensure that their family wished to stay in the farming business over generations or figure out new ways to save money on production. Family farms could hire a custom farmer who used his own equipment to farm.<sup>168</sup> This method would save on the cost of owning and maintaining machines. Family farms also had the option to merge with other farmers in the area to form a multi-family run corporation of smaller farmers. This method would allow them the same benefits of family corporations and had the possibility of broadening sources of income.<sup>169</sup>

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<sup>165</sup> Hart, *The Changing Scale of American Agriculture*, 13.

<sup>166</sup> Grant, *Down and Out on the Family Farm*, 42.

<sup>167</sup> E.G. Vallianatos, *Harvest of Devastation: The Industrialization of Agriculture and its Human and Environmental Consequences* (New York: The Apex Press, 1994), 14.

<sup>168</sup> Equity Capital refers to the balance of money invested in assets a person or business owns. In this case, equity capital refers to farming implements that a custom farmer has bought to perform farm labor on behalf of other farmers in his region of operation.

<sup>169</sup> Des Moines Chamber of Commerce, *Corporate Farming*, 48.

Dr. Harl believed that the family farm needed to be saved from economic despair back in 1969, and he saw the hurdles that farmers and farm families faced from the Great Depression and onwards. Dr. Harl knew that incorporating the farm could be a method for persevering wealth and prosperity for farming generations.<sup>170</sup> What Dr. Harl may not have seen in 1969 was the danger of producing an economy where bimodal sales revenues could affect financial returns for two separate farming ventures operating at different cost and output levels.<sup>171</sup> As corporate farmers took up more of the market share for crop production, they would push prices down while increasing the entry-level cost for production by utilizing the increasing scale of expensive farm machinery available for production. The combination of expensive machinery, high loan rates, and stiff competition from other farmers would lead to one of the greatest farm crises in American history.

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<sup>170</sup> Des Moines Chamber of Commerce, *Corporate Farming*, 9.

<sup>171</sup> Bimodal refers to two separate modes of operation. In this case, bimodal sales refers to farm operations on a small scale family farm versus an operation on a larger scale.

## CHAPTER FOUR

## SURVIVING THE 1980S FARM CRISIS

New frontiers are like new technologies and help lead people to expand and grow their livelihoods. Too much expansion can come at an unexpected price in the progress of farming communities. Garland writes about his family's expansion westward only to run into hard times:

By the first of September, many of those who were in the greatest need of land were ready to abandon their advanced position on the border and fall back into the ranks behind. We were all nothing but squatters. The section lines had not been run, and every pre-emptor looked and longed for the coming of the surveying crew, because once our filings were made we could return to the east, at least for six months, or we could prove up and buy our land. But the surveyors failed to appear though they were reported from day to day to be at work in the next township over and so, one by one, those of us who were too poor to buy ourselves food, dropped away.<sup>172</sup>

The rapid expansion of American farm markets in the 1970s held the same risk Garland once took prior to the turn of the century, in that rapid expansion can always come at a price. The rise of technology and new business model allowed American farmers to expand their farming industry in the 1970s. From 1970 until 1981, U.S grain production increased by 20%, and exports overseas increased by 150%.<sup>173</sup> New Markets overseas in China and Asia also gave U.S growers a reason to increase production as Secretary of Agriculture Earl Butz called for an expansion of export crop trade to benefit American farmers. American farmers were not the only ones increasing production as

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<sup>172</sup> Garland, *A Son of the Middle Border*, Kindle.

<sup>173</sup> Rauser and Farrell, *Alternative Agricultural and Food Policies*, 45.

farmers in China, India and Brazil were also increasing their output to meet the regional and international demands for calories and population growth.<sup>174</sup>

Other factors in farming were changing along with trade. The value of machinery and chemicals grew over 50% from 1950-1980.<sup>175</sup> The tractors used for farming operations doubled from 1950 to 1980.<sup>176</sup> The land also saw a rapid rise in value with one acre of land going for \$419 in 1970 to the same acre going for \$2066 in 1980 and growth appeared to be continuing.<sup>177</sup>

Demographics and market share for rural America were also changing. From the 1950s until the 1980s, fifteen million people left the rural countryside to live in the cities.<sup>178</sup> The fall in population would also leave a more significant share of tillable land in the hands of fewer people. By 1978 62,260 farmers owned three of every ten acres of available farmland in America, and seventy percent of the owners were over fifty years old.<sup>179</sup> The primary farms of 1978 were farm producers who owned over five hundred acres and produced over 80% of the total national grain output of that year.<sup>180</sup> Below is a graph that illustrates the near continual growth of farm sizes in the Midwestern States into the 1980s. Note the slight decline from the Great Depression and leveling period in 1980.

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<sup>174</sup> Davidson, *Broken Heartland*, 15.

<sup>175</sup> Vallianatos, *Harvest of Devastation*, 31.

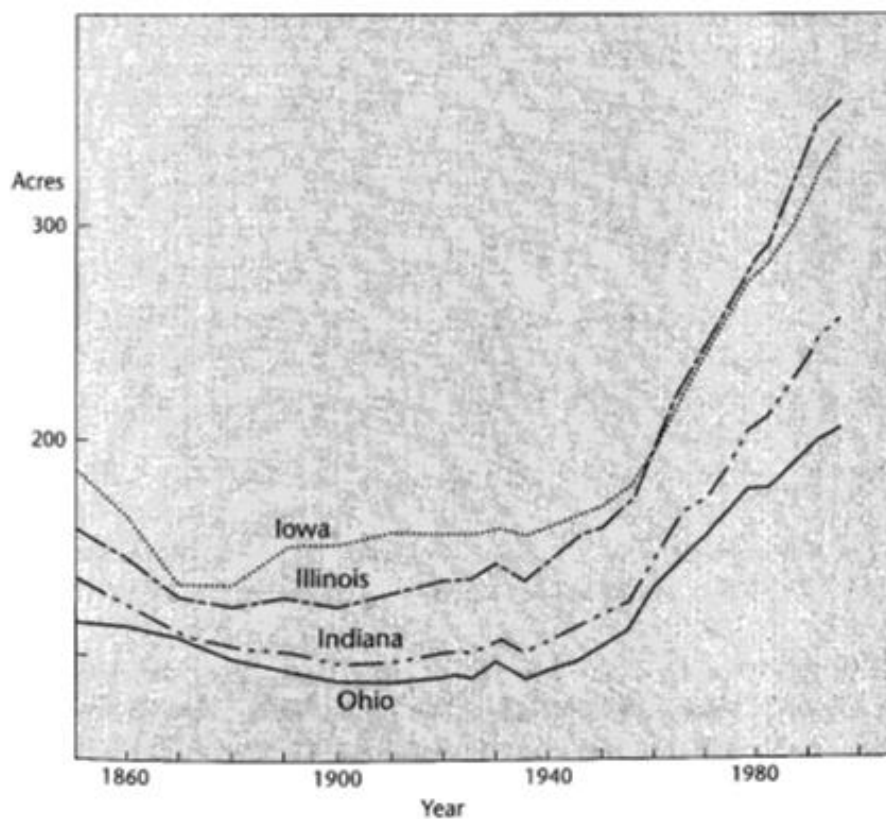
<sup>176</sup> Vallianatos, *Harvest of Devastation*, 30.

<sup>177</sup> Davidson, *Broken Heartland*, 15.

<sup>178</sup> Vallianatos, *Harvest of Devastation*, 31.

<sup>179</sup> Vallianatos, *Harvest of Devastation*, 30.

<sup>180</sup> Brewster, Rasmussen, and Youngberg, *Farms in Transition*, 11.

Table 3 Average Size of Farms in the Midwest<sup>181</sup>

With booming markets overseas, farmers rushed to produce as much as they could while they had the chance. Farmers borrowed against the inflated values of their land in order to buy more land and in turn, larger tractors and combines to produce additional crops for the market. This process would cause land prices to rise continually, and the competition for land would become fierce among farming families and business operators in given regions. Farm debt soared from fifty-four billion dollars in 1971 to two-hundred

<sup>181</sup> Hart, *The Changing Scale of American Agriculture*, 21.

and twelve billion dollars by 1980.<sup>182</sup> Farming in America had become the most capital-intensive food production system in the world.

By the end of the 1970s, the prices for farm commodities at the regional and global market level had evened out, but farm income had dropped compared to the first half of the decade. The value of equity that farmers had invested in production continued to grow even with the fall of market prices. Farmland values were still increasing, but the income of farmers was decreasing.<sup>183</sup> The lack of profitability in farming was not a significant cause for concern at first as farmers sought to refinance their loans using the land they already owned.

The stagflation of the grain market would continue to push farm market prices lower as the American dollar continued to climb in value across the world as a backup currency. The newly formed Reagan administration of 1980 had sought to resolve this stagflation by introducing new legislation called the 1981 Farm Bill under the pretense of dealing with a hungry world by increasing grain production. The Bill promised higher wages for farmers in return for greater output. This new legislation would lead to a peak output for farm exports at 46 billion dollars in 1981.<sup>184</sup> The increase in output would lead to stronger currency values around the world and strengthened the U.S Dollar value as a dominant trading currency.<sup>185</sup> The increase in dollar value made selling grain to other

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<sup>182</sup> Davidson, *Broken Heartland*, 16.

<sup>183</sup> Barry J. Barnett, "The U.S. Farm Financial Crisis of the 1980s," *Agricultural History* 74, no. 1 (Spring 2000), 372.

<sup>184</sup> Barnett, "The U.S. Farm Financial Crisis of the 1980s," 375.

<sup>185</sup> Rauser and Farrell, *Alternative Agricultural and Food Policies*, 45.

countries expensive on the world market and export purchases from countries tapered off and declined for the first time since the 1960s.<sup>186</sup>

Prices continued to fall for farmers who sought to sell their grains on the open market. From 1980 until 1986, corn and soybeans prices fell 64 percent and 52 percent, respectively. By 1986, the value of farm exports had fallen by over 50% and caused market values for crops to plummet as well. The devaluation of crop prices took a significant toll on farming income. Average net income for the five years from 1980-84 was 35 percent less than for the 1975-79 period and over 50 percent less than the 1970-74 period.<sup>187</sup>

Net farm income would fall to its lowest point of only \$12.2 billion total in 1983.<sup>188</sup> This combination of low net farm income and high-interest rates sent farm values falling by 30 percent in the Corn Belt of the Midwest between 1981-87. The devaluation of land, coupled with low income, caused lenders to refuse to refinance farmers who looked to borrow money in order to pay for production costs. Farmers could no longer pay their loans, and the Farm Credit System would lose 2.7 billion dollars in 1985 and cause the failure of sixty-eight agricultural loan banks that year and the next.<sup>189</sup>

The situation for farming was so horrible that a 1986 CBS News Poll reported that many Americans believed that more than 50 percent of all farmers in America would fail. Small land holding farmers and young farmers were among the most vulnerable because of the typical amount of low equity they had. Most borrowed money in order to stay in

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<sup>186</sup> Rauser and Farrell, *Alternative Agricultural and Food Policies*, 46.

<sup>187</sup> Barnett, "The U.S. Farm Financial Crisis of the 1980s," 375.

<sup>188</sup> Barnett, "The U.S. Farm Financial Crisis of the 1980s," 375.

<sup>189</sup> Barnett, "The U.S. Farm Financial Crisis of the 1980s," 376.



production each year to save up for land purchases. Family farmers who had brought their grown children into the business would be confounded with how to keep their business alive while trying to support multiple families on the same plots of land.<sup>190</sup> Government payments would not be enough to save farmers with soaring debts and sinking prices for their grain commodities that flooded the market. Larger farmers, on the other hand, would receive sufficient payments based on their higher production output. The top 13% of farm producers would receive 45% of all government payments during the crisis years.<sup>191</sup>

The 1980s Farm Crisis did not end in an instant. It took changes to Federal Reserve policies and larger government payments to the farming community. For the period from 1985-88, the federal government paid out more than \$50 billion to farmers and assumed responsibility for thirty-one percent of net farm income.<sup>192</sup> Government payment plans and new fiscal policies that controlled interest rates at home and inflation abroad would eventually set the farmers that survived the crisis on the road to recovery.

Why did the farm crisis happen? Many financial educators that farmers had relied on for production input were surprised by the 1980s crisis. The *Chronicle of Higher Education* reported that:

The farm crisis caught most university researchers- along with everyone else- by surprise. Few agricultural economists foresaw just how quickly or how drastically the agricultural bull market of the 1970s would change in the 1980s. Nor did they predict the severe debt burden that today besets as much as a third of American farmers.<sup>193</sup>

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<sup>190</sup> Barnett, "The U.S. Farm Financial Crisis of the 1980s," 377.

<sup>191</sup> Rauser and Farrell, *Alternative Agricultural and Food Policies*, 49.

<sup>192</sup> Barnett, "The U.S. Farm Financial Crisis of the 1980s," 377.

<sup>193</sup> Neil Harl, *The Farm Debt Crisis of the 1980s*, (Ames: Iowa State University Press, 1990), 2.

Farmers had relied on the expert financial advice to inform them and the government about the causes for concerns regarding expansion, production, and the ever-increasing reliance on technology. Financial advice dictated by the bull market of the 1970s and encouraged farming operations to entrust themselves to loans and new technology in order to turn out record grains and in-turn record profits. Farmers that had invested in heavy machinery to work more ground faster would find themselves unable to protect themselves financially as the time saved from better equipment was no longer equal to the amount of ground they were working. Following the current, economic and technological trends from the previous decade would lead to financial bankruptcy for many farmers who had put their efforts towards investing in what was then seen as new golden opportunities to turn a higher profit.

## CONCLUSION

Technology and education have altered how people interact and how they conduct business. This path of change started in earnest at the beginning of the 1920s and the emergence of the American Farm Bureau, which would help educate farmers on new business and farming techniques. The Farm Bureau encouraged expansion as the century wore on and remained a constant influence and source of education for farmers. Education and advancements in technology would lead farmers towards industrial-scale farming that eventually replaced the old horse and plow that was once commonly seen on the prairie.

The advances in farming technology and the prices paid for it eventually spilled over during the Great Depression and forced many farming families to abandon their way of life and move into nearby cities for work. The farming families that made it through the Great Depression found themselves in a new era of technology and influence from government programs that had attempted to help the farming community through the economic crisis. World War II and the ensuing Cold War climate influenced economists and government policies that expanded agricultural production capabilities and in turn, more food for the expanding world market. New farming technology was continually evolving, and the pressure to buy state of the art farming equipment meant that operating costs for farming would grow by over 850 percent from 1940-1969 alone.<sup>194</sup>

Farmers that could not get loans to expand or turn profits continued to fall out of the farming business and re-enter the workforce in another sector. In order to compete,

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<sup>194</sup> Des Moines Chamber of Commerce, *Corporate Farming*, 43.

farmers needed a tool to expand growth over the generational gap and they turned to family corporations as a method to pass on wealth and businesses without having to burden the future generations with inheritance taxes and or splitting up the family farm to appease siblings that did not wish to be a farm operator.

As the 1970s dawned, farmers in the Midwest and America saw an opening for expansion into the Asian markets. This expansion gave hope to many young farmers, small farmers, and renters who did not have equity saved up to purchase their land and large machinery. Based on expected increased revenue, these farmers borrowed heavily to expand their production in order to take advantage of the bull market. When the dollar value soared, and the grain markets crashed in the 1980s, the farmers that had invested heavily in growth and expansion without first having equity, failed and would also move out of the farming sector and into the cities, leaving what land they once farmed to be bought up by the ever-expanding class of family corporations and private super-farms, which had over one thousand acres.

Technology and education are two of the principal place holders that make up a modern society. When change is enacted on technology, these circumstances tend to alter society, which adapts through educational programs and self-learning. Tractors were a technological change in the twentieth century that would lead to mechanized farming methods that would give way to more capital intensive styles of agriculture. Farmers were in turn instructed by the American Farm Bureau and USDA on how to grow their businesses and take advantage of growing markets around the world for U.S based grains. These technological changes were put to the test when the Great Depression

hit farmers in the 1930s and forced farmers to abandon their livelihood and land when they could no longer afford to carry on producing due to weak markets. The 1980s Farm Crisis would have a similar effect on farmers who adopted modern farming technology and methods of production. Farmers would be forced out of the business of agriculture when they could no longer afford to maintain a profit because they had invested too heavily into equipment and expansion rather than not when they could have afforded to do so during the 1970s.

A reaction to the rising cost of agriculture, along with the growing complexity of passing on family businesses, was the creation of the family farming corporations. These family corporations would help farmers solidify themselves and their future generations in the farming business as long as family ties were maintained, and the corporation was not broken up after it is founding. In keeping family farms together, a series of farming generations could then acquire and grow a family business without having to give up savings in the form of inheritance taxes.

After studying and reading about the changes in agriculture over the twentieth century, I have concluded that the price of progress that farmers have paid in adopting rapidly changing technology was on the destruction of their self-reliance. Farmers became attached to major manufacturing firms like John Deere to meet their needs in terms of power-out on the farm. No longer do they rely on horses and manual labor for heavy work in the fields. Farmers also became reliant on continuing education that is still a part of educational programs at institutions like Iowa State University that was first put into action by the Morrill Act, Hatch Act, Smith-Lever Act, and American Farm Bureau

at the beginning of the twentieth century. Farmers must continue to learn and educate themselves on how to use machines, chemicals, and sprays as the industry continues to expand the scope and scale of farming into the twenty-first century.

The reactive consequences to these educational and technological changes over time can be seen across the entire sector of the agricultural industry. Farming has become an expensive affair with the continuing evolution of machinery and computer technology. For farmers to learn about the changing advancements of chemicals, plants, machines require time and money to stay educated. The victims of this change in farming are small farmers and young farmers who may not have the capital or time allowance to invest in renting land, buying land, or learning about how to operate a farming business competitively.

As a result of these changes in farming methods over the twentieth century, farming as a way of life has become an increasingly unobtainable business goal for young people and their families. Family corporations and their future generations may become the sole inheritors of the soil in the future due to this economic and social anomaly. As observed in the previous chapters, with each new agricultural crisis, more and more farmers are knocked out of the business of agriculture, resulting in the acquisition of farmland by fewer individuals and family corporations. This process could lead to regional monopolies of farmland across the Midwest and prevent young, talented men and women from entering the agricultural business world they may so desperately wish to join.

Economic and social change for the sake of business success should not be taken lightly. Education and technological changes that have taken place over the last century have given rise to social structural changes throughout the farming industry that may be potentially detrimental to the future of farming in America. The farm sector needs to be able to keep able-bodied younger generations engaged in the business by providing a brighter future that is more obtainable outside of being an inheritor to a family corporation, or the price of progress may be much greater than expensive equipment and higher education costs.

Perhaps the most considerable loss to farming after the coming of high technology, the growth of world markets and the rise of family farming corporations will be the loss of the “soul” of farming. Garland wrote about this changing atmosphere when moving from the old pioneer farmhouse into the new family built a home that was larger and grander:

I hold you.  
 Here where neither time nor change  
 Can do you wrong.  
 I sweep you together,  
 The harvest of the continent. The gold  
 Of a thousand days of the quest.  
 So, When I am old,  
 Like a chained eagle, I can sit  
 And dream and dream  
 Of splendid spaces,  
 The gleam of rivers,  
 And the smell of prairie flowers.  
 So, when I have quite forgot  
 The heritage of books, I still shall know  
 The splendor of the mountains, and the glow  
 Of sunset on the vanished plain.<sup>195</sup>

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<sup>195</sup> Garland, *A Son of the Middle Border*, Kindle.

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