

Battling in the Cornfields:

How a Crop Reflected the Ideological Conflict Between American Capitalism and Soviet Communism

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## Introduction

The Cold War was, among a rivalry and arms race, a battle between communism and capitalism—a proxy struggle between two economic ideologies. It was an extensive political and economic skirmish between two powerful nations—the United States and the Soviet Union. Alongside the Cold War was the Green Revolution, defined by a significant increase in grain production, including corn. The agricultural movement translated to the political and economic struggle of the mid-20th century: the Cold War also became a fight over corn. During the beginning of the period, the United States won the battle of the cornfields as American capitalism produced abundant harvests of the staple, whereas Soviet corn crops were a failure. The outcome of this battle was that the Soviet Union had to import corn from the United States in 1975, prefiguring the Soviet Union’s fall by the end of the Cold War in the late eighties. American corn production was, in fact, so successful that corn cultivation became 30 percent of the nation’s cropland due to the capital-intensive output.<sup>1</sup> Whereas the Soviet Union was fruitless in its production, occupying 3.24 percent of sown land for corn.<sup>2</sup>

Corn, also known as maize, is a cereal grain that grows as tall grass with a stem and stout. Cultivated in present-day Mexico more than 10,000 years ago, the crop became a catalyst for native interaction with Europeans. Botanically, while it seems mundane and simple, corn holds a universal appeal. The crop is flexible, abundant, and diversely usable. Corn does best in warm, sunny weather between (75–86° F), and an ideal rainfall of four to five inches within a thirty-day span; average cold weather creates the capability of 50 bushels per acre, but the crop is also able

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<sup>1</sup> Paul O’Connell et al., “Background for 1985 Farm Legislation” (Washington D.C.: United States Department of Agriculture, Department of Science and Education, November 1984), 16.

<sup>2</sup> Martin McCauley, *Khrushchev and the Development of Soviet Agriculture: The Virgin Land Programme 1953-1964* (The Macmillan Press LTD, 1976), 102.

to grow in warmer or colder temperatures.<sup>3</sup> Due to its adaptability and biological diversity, corn can create a surplus in its production. Its ability for abundance is a “reflection of the high photosynthetic efficiency of the plant, of its capacity to transform solar energy into living matter.”<sup>4</sup> Moreover, the corn’s husk protects it from moisture until the kernels mature, as well as shields the kernels from pests, which preserves corn for more extended periods, enabling it to be stored.<sup>5</sup> The cereal form of corn makes it the most efficient, compact, and natural way to keep seasonally produced food. Corn is inexpensive, easy to store, and therefore, ship and export.

Corn, a staple of human consumption, is also used as livestock feed (primarily cattle), as it offers high caloric value and increases fat deposition that, ultimately increases the meat’s quality.<sup>6</sup> The taste and texture of the cut in corn-fed cattle are more desirable to consumers.<sup>7</sup> Corn became a complimentary business to the meat industry, which saw its value increase as the demand for livestock increased. Farmers observed that “five pounds of corn were necessary in order for a pig to gain one pound of weight.”<sup>8</sup> The development of the corn industry was intertwined with that of livestock.

In addition to providing food for livestock, the surplus enabled corn to become its own byproduct. Cornstarch began as a starcher for laundry but was later used as a thickening agent. Corn syrup was initially produced through the combination of cornstarch and dilute hydrochloric

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<sup>3</sup> Bushels are the unit of measurement for corn. Considering that the corn being counted is of standard ear length (eight-inches and approximately 0.50 pounds each), one bushel equals to 56 pounds of around 112 ears of corn per bushel.

<sup>4</sup> Arturo Warman, *Corn and Capitalism: How a Botanical Bastard Grew to Global Dominance*, trans. Nancy L. Westrate (Chapel Hill, NC and London, UK: The University of North Carolina Press, 2003), 16.

<sup>5</sup> Warman, *Corn and Capitalism*, 17.

<sup>6</sup> Warman, *Corn and Capitalism*, 22.

<sup>7</sup> G.E. Bradford, “Contributions of Animal Agriculture to Meeting Global Human Food Demand,” *Livestock Production Science* Volume 59, Issues 2-3 (1999): 95–112.

<sup>8</sup> Warman, *Corn and Capitalism*, 176.

acid.<sup>9</sup> In the 1970s, high-fructose corn syrup (HFCS) surfaced as a fructose-glucose sweetener as an alternative to table sugar because of its ease of use and stability. The later development of high-fructose corn syrup added enzymes to convert the glucose into fructose, enhancing the sugars beyond regular corn syrup that make HFCS sweeter and more appealing.<sup>10</sup>

The easy and widespread production of corn categorized itself as a cash crop, being grown for the generation of its sales rather than its demand on the market. Corn's ability to produce at extremely high levels of production caused surplus: the sales that came from the *extra* crop.<sup>11</sup> This classification of the crop, how it is grown, and how it is used is entirely a reflection of the land's fertility and general abundance.<sup>12</sup> In conclusion, the commodification and production of corn created or assisted in defining industries beyond agriculture.

The Cold War provided an opportunity for the production of corn to highlight American capitalism versus Soviet communism beyond economic theory but on the applied agricultural-business plan. These economic systems established themselves and their practices within corn production. Ultimately, the American victory over Soviet communism was displayed by the output of corn between 1945 and 1975, as American corn became increasingly more successful, whereas the Soviets' production was abortive. Corn production and the fall of the Soviet Union's agriculture are definitive of the capitalist victory that warmed the Cold War.

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<sup>9</sup> Martin Chaplin and Christopher Bucke, *Enzyme Technology* (Cambridge, England: Cambridge University Press, 1990).

<sup>10</sup> John S. White, "Straight Talk about High-Fructose Corn Syrup: What It Is and What It Ain't," National Library of Medicine, National Center for Biotechnology Information, December 2008, <https://pubmed.ncbi.nlm.nih.gov/19064536/>.

<sup>11</sup> Andrew Good, "Cash Crop Blog Series Introduction," *Michigan State University Global Edge*, September 18, 2017, <https://globaledge.msu.edu/blog/post/54461/cash-crop-blog-series-introduction>.

<sup>12</sup> Warman, *Corn and Capitalism*, 177-178.

## Chapter I: The Rise of American Corn

Corn began as a colonial staple of America: the North American corn agricultural area possessed the biologically necessary conditions: fertile soil, consistent rainfall, and sunshine. From 1840 to 1910, the median center for corn production moved from more Southern regions of the United States to the West/Northwest.<sup>13</sup> The shift slightly westward was an indication that production was better in the summer months, with minimal to no frost.<sup>14</sup> The shift in geography for the Corn Belt occurred after the introduction of the corn hybrid strains, which are more forgiving of difficult weather patterns.<sup>15</sup> The globe's areas best suited for corn growth are within the United States, specifically in Iowa, Illinois, Indiana, Ohio, and counties in South Dakota, Nebraska, Kansas, and Missouri. The Mid-Western commercial corn-producing region of America is referred to as the Corn Belt, as it provides the most ideal growing conditions. This area allowed for regional specialization to align within social and natural limitations. The term "Corn Belt" was popularized by Harvard economics professor T.N. Carver in 1903.<sup>16</sup> This geography of corn production is dependent upon the rainfall and general climate conditions that could shift the Corn Belt perimeters.

Regardless of the climate or weather pattern, the rise in pesticide usage would increase production further. Due to the fact that 30 percent of cropland would be dedicated to corn, specialization by farm resulted in "the development of specialized, capital-intensive production technologies that increase the advantages of size, aided by government farm programs that

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<sup>13</sup> Alan L. Olmstead and Paul W. Rhode, *Creating Abundance: Biological Innovation and American Agricultural Development* (Cambridge University Press, 2008).

<sup>14</sup> Joseph Schafer, *The Social History of American Agriculture* (New York, NY: The Macmillan Company, 1936).

<sup>15</sup> J.J. Newlin, Edgar Anderson, and Earl N. Bressman, *Corn and Corn Growing*, 5th Edition (New York, NY and London, UK: John Wiley & Sons, Inc. and Chapman & Hall, LTD., 1949), 14.

<sup>16</sup> Olmstead and Rhode, *Creating Abundance: Biological Innovation and American Agricultural Development*, 81.

reduce the need for farm diversification as a method of lessening risk,”<sup>17</sup> which allowed for the production of fertilizers’ plant breeding was encouraged amongst farmers. Corn, prior to any biological advancement, was open-pollinated. However, the farmers would be introduced to biologically uniform corn crops. In 1919, Dr. George Shull, professor of Botany at Princeton University, alongside Dr. E.M. East developed a method of plant enrichment, which could minimize vigor<sup>18</sup> and make corn uniform through self-pollination.<sup>19</sup> This system of pollination developed consistent and standard seedlings, regardless of field conditions, ultimately decreasing crop loss in corn production if each crop featured significant differences.<sup>20</sup>

In 1920, the American farming population only accounted for 30 percent of the entire U.S. population of 106 million. Since the turn of the century, millions of Americans moved from farms to cities. This migration changed agriculture from a widespread farming culture to farms providing for urban areas.<sup>21</sup> If farmers were unable to produce, factories were unable to further develop products, which meant laying off workers; this generally increased unemployment. These constant changes would feed directly into the October 29, 1929 Stock Market crash. The decline of stock price was brought on by poor wages, debt, incomplete bank liquidations, and challenges in the agricultural sector to produce. The Crash was accountable for farmers suffering from decreasing crop prices and expensive machinery, which pushed them to increase land use in

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<sup>17</sup> O’Connell et al., “Background for 1985 Farm Legislation,” 16.

<sup>18</sup> Vigor is the characteristics and properties of seeds that would hopefully create uniformity amongst corn crops.

<sup>19</sup> Newlin, Anderson, and Bressman, *Corn and Corn Growing*, 25.

<sup>20</sup> Gordon Johnson, “Seed Vigor in Sweet Corn Revisited,” *Weekly Crop Update from University of Delaware Cooperative Extension*, May 12, 2017, <https://sites.udel.edu/weekllycropupdate/?p=10301>.

<sup>21</sup> Vera J. Banks and Judith Z. Kalbacher, “The Changing U.S. Farm Population,” *Rural Development Perspectives: Economic Research Service (United States Department of Agriculture, March 1980)*, <https://naldc.nal.usda.gov/download/IND43755883/PDF>.



order to meet their market requirements. The price of corn fell from 0.764 dollars per bushel in 1929 to 0.550 in 1930 and later to 0.294 in 1931.<sup>22</sup>

Devastated farmers were also challenged by the weather during the early 1930s. To retain their income, farmers cultivated submarginal farmland, which increased soil erosion, crop failure, and generally made farmers more vulnerable to prolonged drought. The agricultural devastation that became the 1930s included higher temperatures and wind erosion.<sup>23</sup> Moreover, the country saw nationwide droughts and dust storms (known as the Dust Bowl), mainly in the Corn Belt, which further devastated crops. The combination of the droughts and dust led to dried-up fields, sick or dead livestock, and food shortages, which further impacted the Great Depression.

Farmers were faced with dire conditions of low-end crop prices, and farm foreclosures. President Franklin Roosevelt attempted to provide relief for farmers. The Department of Agriculture, led by Henry Wallace,<sup>24</sup> passed the first Farm Bill in 1933 (also known as the Agricultural Act of 1933). The Farm Bill, which was (and is) an omnibus legislation that Congress reapproves every five years, was meant to create agricultural programs that address periodic troubles while setting national instructions for farm systems. This specific bill introduced an initiative to increase crop prices through the reduction of product surplus. The bill outlined a “supply management” that set a price floor and grain reserve to manage production.<sup>25</sup>

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<sup>22</sup> “Crop Production Historical Track Records” (United States Department of Agriculture, National Agricultural Statistics Service, April 2019), [https://www.nass.usda.gov/Publications/Todays\\_Reports/reports/croptr19.pdf](https://www.nass.usda.gov/Publications/Todays_Reports/reports/croptr19.pdf).

<sup>23</sup> Ben Cook, Ron Miller, and Richard Seager, “Did Dust Storms Make the Dust Bowl Drought Worse?,” *Lamont-Doherty Earth Observatory: The Earth Institute at Columbia University*, 2009, [http://ocp.ldeo.columbia.edu/res/div/ocp/drought/dust\\_storms.shtml](http://ocp.ldeo.columbia.edu/res/div/ocp/drought/dust_storms.shtml).

<sup>24</sup> The founder of the first hybrid corn seed company.

<sup>25</sup> Wayne D. Rasmussen, Gladys L. Baker, and James S. Ward, “A Short History of Agricultural Adjustment, 1933-75,” *United States Department of Agriculture, Economic Research Service*, n.d.

The program established that the government would offer price support (price support is the government assistance in the maintenance of market prices regardless of supply or demand), specifically for corn.<sup>26</sup> The implementation of price support helped farmers through the regulation of production to ultimately increase prices. Yet, the practice of price supports was not a theoretically capitalist policy. Capitalism depends on the consumers' supply and demand to freely set prices in the market. However, price supports assist the market's prices despite the demand. It is clear that the U.S. government was not establishing a purely capitalistic system in its measure to control and 'support' corn prices. After the implementation of the 1933 Farm Bill, crop prices nearly doubled in the first year from 0.494 dollars per bushel in 1933 to 0.802 in 1934.<sup>27</sup>

While the Farm Bill allowed for government aid, farmers received further assistance in production through hybrid crops. In 1926, Henry Wallace, farmer, politician, and owner of Hi-Bred Corn Company, developed a hybrid corn crop. A hybrid is a seed that has been crossed with another, producing a double-crossed seed. A double-crossed hybrid seed produces the highest yield.<sup>28</sup> Hybrid corn in its first stage is called F1, which is more typically called *sweet corn*. The combination of the new seed and the geographic specialization meant increasingly higher yields due to the increase in vigor.<sup>29</sup> The crop is genetically superior, as it possesses more desirable traits, which makes the crop significantly more marketable.

In the earliest years of hybrid corn, it only made-up 1 percent of the corn in the Belt, but within 10 years (after the Great Depression), the product had caught on; the Corn Belt grew to be

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<sup>26</sup> "Agricultural Adjustment Act," Pub. L. No. (48 Stat. 31) (1933).

<sup>27</sup> "Crop Production Historical Track Records."

<sup>28</sup> Newlin, Anderson, and Bressman, *Corn and Corn Growing*, 31.

<sup>29</sup> Warman, *Corn and Capitalism*, 183.

99 percent hybrid corn.<sup>30</sup> The increased usage of hybrid corn was due to the fact that the uniformity provided a higher yield and increased rates of productivity. The development of hybrid corn created a new agricultural industry, which led to the establishment of breeding plots for different plant qualifications. It became the standard that corn with complex biologically changed pedigrees would have higher value to the corn-breeding program.<sup>31</sup> The increase in productivity was due to these technological changes, which enhanced the productivity of land and labor, encouraged the substitution of capital for labor, kept general cost low, and encouraged a large outmigration of labor from agriculture.<sup>32</sup>

Corn, in its incline to sky-high rates of production, was already supporting different American industries (and economy at large with its production alone) prior to the larger government involvement to come just after World War II. In the development, corn used the entire Corn Belt region, spanning 13 states, as an area for development industry, farming tools, corn byproducts, and transportation methods.

The increased production of corn required a significant means of distribution out of the Corn Belt, across the country, and throughout the world. Globalized world trading meant that the surplus American farmers and consumers enjoyed but could also be shared with the world, as the United States was the largest producer in the world, with 50 percent of the crop in 1939. In 1937, America exported 140 million bushels mainly to Canada, the United Kingdom, the Netherlands, and Mexico.<sup>33</sup> The numbers of exporting of corn show the degree to which the crop was being produced and the export industry it created (surely amongst other commodities). But as the

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<sup>30</sup> Warman, *Corn and Capitalism*, 199.

<sup>31</sup> Newlin, Anderson, and Bressman, *Corn and Corn Growing*, 29.

<sup>32</sup> O'Connell et al., "Background for 1985 Farm Legislation," 16.

<sup>33</sup> Subcommittee for Economic Study Association of American Railroads, "Corn" (Railroad Committee for the Study of Transportation, August 5, 1944).

United States implemented a new crop-production and sale structure in response to an economic crash, farmers were challenged with another economic challenge: World War II.

World War II posed a series of obstacles for American farming communities: rationed gas and tires, a shortage of tractors, a worker shortage, and the rising price for all agricultural products. By 1940, the U.S. produced more than 2 million tons of chemical fertilizer, surpassing manure as a fertilizer.<sup>34</sup> By 1941, American farmers produced a significant surplus of corn, which needed to be stored and prepared for transportation, while also providing cash markets for the producers: hence the employed use of the *country elevator*.<sup>35</sup> And while grain country elevators were not a new development in American agricultural practices (as they were first used in 1860)<sup>36</sup>, the capacity of elevators increased from to more than 680 million bushels by 1941.<sup>37</sup>

The corn harvest prices in 1943 had increased to 1.080 dollars per bushel, up 0.611 in five years.<sup>38</sup> Furthermore, the war created an increase in crop acreage for corn by approximately 9 percent.<sup>39</sup> The combination of the United States' fertile soil, expansive land, and the cheap animal feed allowed the consumption of meat to skyrocket. It became known to farmers that "five pounds of corn were necessary in order for a pig to gain one pound of weight."<sup>40</sup> Corn was used specifically because it develops fat and energy for the animals better than any other grain. In 1944, about 86 percent of corn produced served as feed grain for livestock, marking animals

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<sup>34</sup> Gary Hergert, "WWII Nitrogen Production Issues in Age of Modern Fertilizers," April 10, 2015, <https://cropwatch.unl.edu/fertilizer-history-p3>.

<sup>35</sup> Subcommittee for Economic Study Association of American Railroads, "Corn."

<sup>36</sup> Barbara Krupp Selyem and Bruce Selyem, "The Legacy of Country Grain Elevator: A Photo Essay," *Kansas Historical Society*, 2000, [https://www.kshs.org/publicat/history/2000springsummer\\_selyem.pdf](https://www.kshs.org/publicat/history/2000springsummer_selyem.pdf).

<sup>37</sup> Subcommittee for Economic Study Association of American Railroads, "Corn."

<sup>38</sup> "Crop Production Historical Track Records."

<sup>39</sup> Stephanie Mercier, "Agriculture during Wartime: The Ingenuity of American Farmers During World War II," *Farm Journal*, April 7, 2021, <https://www.agweb.com/opinion/agriculture-during-wartime-ingenuity-american-farmers-during-world-war-ii>.

<sup>40</sup> Warman, *Corn and Capitalism*, 176.

as the true greatest consumers of corn. Corn as feed was serving subcategories of the livestock industry: 40 percent by hogs, 20 percent by cattle; horses and mules together occupied 15 percent, 10 percent by poultry, and 1 percent by sheep.<sup>41</sup>

The innovations for corn production continued beyond hybridization, to industrial fertilizers. The hybrid crop consumed a large amount of nitrogen; it required more fertilizer than most crops. Due to the requirement of high amounts of nitrogen, farmers needed a product that would stimulate plant growth. Their usage of older chemical fertilizers, made of ammonia and nitric acid, was not sustainable, with high costs and usage methods yet to be developed.<sup>42</sup> After the war, there was a surplus of ammonium nitrate, a chemical compound known to be a main ingredient in explosives. Ammonium nitrate conveniently also escalates plant growth through the compound's supply nature of nitrogen the plant uses to grow. Because ammonium is used directly in proteins, ammonium nitrate was used as a fertilizer for crops. The chemical- fertilizer industry, in turn, grew with the use of ammonium nitrate's ability to mature crops at faster rates than manure.

The advancement was nearly simultaneous with the mass production of chemical fertilizer, as the continuation of hybrid corn through the commercialization of F1 hybrid corn seeds became popular in the United States. F1 hybrid corn is a cross-breeding through the pollination of two different parent plants, which ultimately created a crop with the strongest

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<sup>41</sup> Subcommittee for Economic Study Association of American Railroads, "Corn."

<sup>42</sup> Gary Hergert, "WWII Nitrogen Production Issues in Age of Modern Fertilizers," April 10, 2015, <https://cropwatch.unl.edu/fertilizer-history-p3>.

genetic attributes (including seed size, kernel consistency, and quality).<sup>43</sup> The combination of biologically superior corn and fertilizer allowed a steady increase in American corn yields.<sup>44</sup>

In addition to the fertilizers, the rise of the gasoline tractor eased corn production. The earlier years of American agriculture saw tasks done by hand or with the employed assistance of mules or horses (for plowing), which was not only difficult labor but cost-intensive. After World War I, gasoline-engine tractors emerged as massive machines that were incredibly expensive. Further technological advancement just before World War II—such as Deere’s power-lift capabilities on models, rubber tires that reduced the field damage through reducing the friction, and diesel engines—created an even more cost-effective fuel option for their machines.<sup>45</sup>

Figure 1: Increase in Corn Production Pre- and Post-WWII<sup>46</sup>

Year	Yield Per Acre (bu)	Production (1,000 bu)
1930	20.5	1,757,297
1935	24.2	2,001,367
1940	28.9	2,206,882
1945	33.1	2,577,449

<sup>43</sup> Paul R. Carter, “Selecting Corn Hybrids,” *University of Wisconsin-Extension*, 2014, <http://corn.agronomy.wisc.edu/Management/pdfs/A3265.pdf>.

<sup>44</sup> Richard L. Nielsen, “Historical Corn Grain Yields in the U.S.” (West Lafayette, IN: Purdue University, Updated in 2023), <https://www.agry.purdue.edu/ext/corn/news/timeless/yieldtrends.html>.

<sup>45</sup> William J. White, “Economic History of Tractors in the United States,” *Economic History Services*, March 26, 2008, <https://eh.net/encyclopedia/economic-history-of-tractors-in-the-united-states/>.

<sup>46</sup> “Crop Production Historical Track Records.”

The increased production of corn from agricultural developments along with the quinquennial nature of the Agricultural Acts (Farm Bills) introduced the third bill: the Agricultural Act of 1949. This bill-maintained 90 percent of price support, as promised in 1933, that extended through 1954. It was in 1954 that flexible support prices were introduced with the changing nature of government involvement in the agricultural business world. Simultaneously, 1954 ushered in the Agricultural Trade Development and Assistance Act, also known as the Public Law, which sent crops abroad so American farmers could profit from the surplus stock. The surplus could be sold, traded, or sent as emergency relief. The later 1956 Farm Bill reduced the amount of land allotted to high-producing crops, which mainly meant wheat and corn. The main program to come from the bill was acreage reserve—the reduction of the amount of crops plants in exchange for payment for the diversion or conservation reserve. Moreover, it allowed farmers to place parts of their land under a title of the conservation use for up to 10 years and receive payment on their non-producing land.

Overall, farmers planted too much corn in the 1950s, having reached 3,075,336 harvest-production bushels (1,000). The higher production of corn had the potential to lead to the largest historical surpluses and drop farm prices for the consumer (from \$1.52 in 1950 to \$1.05 in 1959).<sup>47</sup> Moreover, the availability of corn encouraged the use of the crop for other purposes: feed and sweetener. The combination of the ability to mass-produce, availability, and surplus made corn incredibly cheap.

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<sup>47</sup> “Crop Production Historical Track Records.”

The rise in corn production occurred alongside the naming of “agribusiness,” which would become the later basis of agricultural economics in the United States. John H. Davis was an agricultural economist and author who wrote “A Concept of Agribusiness” in 1957, and officially coined the term.<sup>48</sup> Agribusiness is defined as the chain of agricultural processes from farm production to retailing products. The business aspect of the agriculture world added a value to the product, which for the Corn Belt, supported the entire economy. The platform and official recognition of agribusiness through the coining of the phrase allowed for the increase in corn production during this period; as corn increased so too did the strength of agribusiness.

Hybrid corn also played into agribusiness as it increased and maintained the general cost of production. Prior to hybrids, the average corn yield was 24 bushels per acre. After hybrid corn’s commercial introduction, a 1958 statistics showed that the yield surpassed 50 bushels per acre.<sup>49</sup> During the hybrid increase of 1958, American farmers had lobbied Congress to keep the provisions adopted in the Farm Bill—those that required the allotments of their acreage which kept government support between 75 and 90 percent. In the 1960s, legislation continued the price-support points that had been introduced during the fifties. Corn-support prices were required to fall between the 65th and 90th percentile of the gross farm receipts; this culminated in the Feed Grain Act of 1961. It was a program that diverted corn and sorghum acreage to soil-conservation practices. Corn farmers were asked to classify their land for non-agricultural functions by at least 20 percent of the average acreage in 1959 and 1960.<sup>50</sup> The sheer number of subsidies and action is an indication of the further government involvement in the production of

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<sup>48</sup> “John H. Davis, Former USDA, U.N. Official, Dies,” *The Washington Post*, February 23, 1988, <https://www.washingtonpost.com/archive/local/1988/03/01/john-h-davis-former-usda-un-official-dies/378b9723-44a2-41bc-8538-82ec972ea9e4/>.

<sup>49</sup> O’Connell et al., “Background for 1985 Farm Legislation.”

<sup>50</sup> Mack N. Leath, Lynn H. Meyer, and Lowell D. Hill, “U.S. Corn Industry” (United States Department of Agriculture, February 1982), <https://naldc.nal.usda.gov/download/CAT82773295/PDF>.



U.S. crops, as the agricultural business grew. The Feed Grain regulation halted the internal cost of storing surplus while government spending was focused on a farmer-held reserve of their crops to make them eligible for government subsidies for their idle land.<sup>51</sup>

The rise of corn production was a result of the developing market to which new agricultural technologies were introduced. This increase also was a factor of the government involvement and passage of legislative programs, such as price support, that allowed the corn economy and partnered industries to grow. Corn's industry was no without its challenges but ultimately, established a strong agribusiness within the larger United States economy.

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<sup>51</sup> May Peters, Suchada Langley, and Paul Westcott, "Agricultural Commodity Price Spikes in the 1970s and 1990s: Valuable Lessons for Today" (United States Department of Agriculture, Economic Research Service, November 2008); Neil Genzlinger, "Pointing Fingers Over Bulging Bellies," *The New York Times*, April 3, 2014, <https://www.nytimes.com/2014/04/04/arts/television/the-men-who-made-us-fat-finds-lots-of-unhealthy-food.html>.

## Chapter II: Russian Agriculture 1917 through 1956: A Failure

British economist Thomas Robert Malthus, in his studies of demography and the economy, famously argued that the human population was always on the rise, faster than food supply, resulting in disease and famine. Inevitably, the Soviet Union from 1930 to 1975 provided a grim illustration of this maxim. There was a massive disparity between the population and the food supply in the Soviet Union during the first decades of the Soviet Union.<sup>52</sup> In addition to the disparity, drought and famine were a Russian geographic trait, occurring every 10 to 15 years throughout much of the 20th century. However, the new century ushered in an additional explanation for the meager supply of food: communism, which began with the Russian Revolution of 1917.<sup>53</sup> Vladimir Lenin and Bolshevik leadership<sup>54</sup> of the newly established Union of Soviet Socialist Republics (USSR) established the New Economic Plan (NEP).<sup>55</sup> The plan attempted to redistribute state power to the government-controlled grain and foodstuff distribution. Additionally, the plan allowed farmers who surpassed their production quotas to sell their surplus on the free market. Any form of resistance resulted in authorities commandeering food production, and the ensuing chaos reduced production.<sup>56</sup> The spring of 1921 brought a calamitous crop failure in the Volga basin,<sup>57</sup> and the famine that ensued affected some twenty

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<sup>52</sup> Lazar Volin, "The Malenkov-Khrushchev New Economic Policy," *Journal of Political Economy* Volume LXII, no. No. 3 (June 1954), 200.

<sup>53</sup> The replacement of the Russian Monarchy by the world's communist government.

<sup>54</sup> The Bolshevik party is a far-leftist Marxist that fought to destroy the Russian czarist rule, that became the Communist party of the Soviet Union.

<sup>55</sup> New Economic Policy (NEP) was a policy that established the Communist economic system of the Soviet Union, which was the minimization of the prior practices of extreme centralization and doctrinal socialism.

<sup>56</sup> Lewis Siegelbaum, "The New Economic Policy," *Michigan State University*, n.d., <https://soviethistory.msu.edu/1921-2/the-new-economic-policy/>.

<sup>57</sup> The Volga flows through Central Russia and into the Caspian Sea.

million people.<sup>58</sup> The famine forced Lenin's government to seek foodstuff from Western, capitalist nations, notably the United States.<sup>59</sup>

Lenin and the Bolsheviks established collective farms (known as *kolkhozes*) to increase state-regulated crop production. The State forced the *kolkhozes* to sell their crops to the government.<sup>60</sup> This salvaged the economy; the economic recuperation allowed the economy to become more independent for sellers in the market.<sup>61</sup> While the Soviet economy produced more food, the export rate only recovered approximately one-third of its original rate (prior to World War I). Soviet authorities were constantly worried that the Russian food supply was dangerously low.<sup>62</sup>

After Lenin's death in 1924, Joseph Stalin rose to power. Once a member of Lenin's inner circle, Stalin developed a series of agricultural policies that harmed any recuperation of the Soviet economy, especially in his attempt at farming collectivization.<sup>63</sup> Stalin forcibly ended private ownership of farmland for the sake of collectivization. Peasants who owned their farms were called Kulaks, translating to "fist" because those farmers were unwilling to unclench their

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<sup>58</sup> Nikolai M. Dronin and Edward G. Bellinger, *Climate Dependence and Food Problems in Russia, 1900-1990: The Interaction of Climate and Agricultural Policy and Their Effect on Food Problems* (Budapest and New York: Central European University Press, 2005), <https://hdl.handle.net/2027/heb08630.0001.001>; Lewis Siegelbaum, "Famine of 1921-22," *Michigan State University*, n.d., <https://soviethistory.msu.edu/1921-2/famine-of-1921-22/>.  
<sup>59</sup> "Russian Famine Pictures: 'The Machine of Death,'" *The Scotsman*, September 17, 1921; Walter Duranty, "Our Russian Relief Ends in Six Weeks: Col. Haskell, Head Of A.R.A., Announces Wind-Up Of Two Years' Service. Food Surplus in Harvest Distribution Is the Only Problem Now -- Last American Will Leave by the End of July," *The New York Times*, June 6, 1923, <http://ezproxy.cul.columbia.edu/login?url=https://www.proquest.com/historical-newspapers/our-russian-relief-ends-six-weeks/docview/103182841/se-2>.

<sup>60</sup> Lazar Volin, *A Century of Russian Agriculture-From Alexander II to Khrushchev* (Cambridge, Massachusetts: Harvard University Press, 1970).

<sup>61</sup> Siegelbaum, "The New Economic Policy."

<sup>62</sup> R.W. Davies, "The New Economic Policy," *Centre for Russian and East European Studies, University of Birmingham* Volume 3 (March 1988), <http://www.users.globalnet.co.uk/~semp/nep.htm>.

<sup>63</sup> Collectivization is an agricultural policy which combined a number of small peasant farms into larger communes and encouraged community among workers to increase productivity. As the combined farms were placed under State control, the crops were sold to the government very cheaply to provide food for industrial workers in the cities.

fists to be a part of the collective farming.<sup>64</sup> Farmers were forced to relinquish their individually owned farms and join large, collective farmers. The discontent with the communist agricultural implementation led to retaliation by farmers against the government's dekulakization programs, which effectively removed those who opposed, and millions were sent to forced labor camps, known as gulags.<sup>65 66</sup>

Stalin believed that collectivization would ultimately replace the kulak's efforts, rendering the private farms economically obsolete.<sup>67</sup> Dekulakization was effective in the increase of *kolkhozes* by approximately 280 percent. Stalin believed family farms were enemies to his economic plan, specifically that the *kulaks* became the opponent for Stalin's communism. Collectivization, Stalin hoped, would become the base for the larger economic plan of industrialization and the eventual representation of the farm as the Soviet communist state symbol.<sup>68</sup>

The effort against collectivization occurred throughout the Soviet Union, which included Ukraine. The Ukraine (which translates to the borderland) was defined as the "breadbasket" due to its abundant farmlands. Ukrainian farmers resisted collectivization for their independence.<sup>69</sup> Ukraine was "granted statehood" in 1917, during the Russian Revolution, however, it held no

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<sup>64</sup> Lewin, M. "Who Was the Soviet Kulak?" *Soviet Studies* 18, no. 2 (1966): 189–212.  
<http://www.jstor.org/stable/149521>.

<sup>65</sup> Volin, *A Century of Russian Agriculture-From Alexander II to Khrushchev*, 208.

<sup>66</sup> Gulags are an acronym for *Glavnoe Upravlenie ispravitel'no-trudovykh LAGerei* (which translated to be Main Administration of Corrective Labor Camps).

<sup>67</sup> Volin, *A Century of Russian Agriculture-From Alexander II to Khrushchev*, 205-6.

<sup>68</sup> "Resolution of the Council of People's Commissars of the Ukrainian Soviet Socialist Republic and of the Central Committee of the Communist Party (Bolshevik) of Ukraine on Blacklisting Villages That Maliciously Sabotage the Collection of Grain" (Addendum to the Minutes of Politburo [meeting] No. 93., December 9, 1932), <https://www.loc.gov/exhibits/archives/trans-k2grain.html>.

<sup>69</sup> "Resolution of the Council of People's Commissars of the Ukrainian Soviet Socialist Republic and of the Central Committee of the Communist Party (Bolshevik) of Ukraine on Blacklisting Villages That Maliciously Sabotage the Collection of Grain" (Addendum to the Minutes of Politburo [meeting] No. 93., December 9, 1932), <https://www.loc.gov/exhibits/archives/trans-k2grain.html>.

political power and was entirely ruled by the Soviet Union's Communist Party. Stalin's response to anti-Soviet sentiment and Ukrainian defiance to collectivization was suppression of Ukrainian nationalism through the implementation of mass-scale political repressions that included arrests and imprisonments. Ukrainians who spoke against the Soviet regime were punished or executed. Soviet officials capitalized on violence against any defiance to have direct control over Ukrainian agriculture and the grain supply.

In addition to the policy of collectivization, Stalin initiated the Holodomor, a man-made famine constructed to diminish Ukrainian independence, from 1932 to 1933. During this time, the Soviet authorities extracted and shipped around 4.27 million tons of grain, which further caused a shortage in farming areas throughout the USSR. The extracted grain was exchanged for cash rather than a reserve for the starving Ukrainian masses.<sup>70</sup> For areas of Russia but mainly the Ukraine, food deprivation and starvation ran rampant.<sup>71</sup> In some cases, Ukrainian farming collective farms that had failed to meet their grain quotas were surrounded by Soviet troops and were held under siege until the *kulaks* produced the requisite grain.

Much of the agricultural struggle originated from Soviet agronomist Trofim Lysenko. He believed that certain plants could be modified through plant education, encouraging them to grow in a new climate such as the long winters in Russia.<sup>72</sup> Conveniently, Lysenko's theories aligned perfectly with communist theory.<sup>73</sup> Soviet authorities publicly rejected any accusation of

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<sup>70</sup> "Holodomor - The Ukrainian Genocide," University of Minnesota College of Liberal Arts Department of Holocaust and Genocide Studies, n.d., <https://cla.umn.edu/chgs/holocaust-genocide-education/resource-guides/holodomor>.

<sup>71</sup> Mark B. Tauger, "The 1932 Harvest and the Famine of 1933," *Cambridge University Press*, 1991, *Slavic Review*, Vol. 50, No. 1 edition, <https://www.jstor.org/stable/2500600>.

<sup>72</sup> Trofim Lysenko, *The Science of Biology Today* (International Publishers, 1948); Michael D. Gordin, "Lysenkoism," *Encyclopedia of the History of Science*, n.d., <https://ethos.lps.library.cmu.edu/article/id/560/>.

<sup>73</sup> Sam Kean, "The Soviet Era's Deadliest Scientist Is Regaining Popularity in Russia," *The Atlantic*, December 19, 2017, <https://www.theatlantic.com/science/archive/2017/12/trofim-lysenko-soviet-union-russia/548786/>.

state organized famine and refused any foreign aid as famine relief. The Holodomor resulted in the starvation of approximately 3.9 million people.<sup>74 75</sup>

Moreover, an aspect of Stalin's Five-Year Plan gave the Soviet Union full control over Ukraine. The resources and supply of grain from the Ukraine would fund the Soviet state while millions starved to death.<sup>76</sup> In 1932, the Soviet government increased Ukrainian grain-harvest quotas in hopes of increasing productivity. However, collectivization did not improve grain production. The quotas in place were impossibly high and Soviet masses were unable to produce to that extent, in addition to the country's starvation.

Military drafts and conscription consequently meant a shortage in labor, especially in agriculture. The Soviet Union struggled with a lack of workers who could rebuild the country after devastation. While Adolf Hitler always intended to invade Russia, the losses of the Holodomor, starvation, and decreased food production that made it difficult to recruit soldiers, made Nazi Germany's invasion of the USSR slightly less difficult in 1941. However, allyship with the United States during World War II proved beneficial, as the U.S. government enacted the Lend-Lease Act in 1941. In their efforts to defeat Nazism, the policy allowed the loan of supplies to Allied countries. Soviet authorities received 4.5 million tons of food, in addition to tractors and weaponry.<sup>77</sup> Within that Lend-Lease, the Soviets received 1,000 bushels of corn.<sup>78</sup> This once-friendly foreign relationship would largely be ignored in the aftermath of the war.

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<sup>74</sup> Michael D. Gordin, "Lysenkoism."

<sup>75</sup> However, that number is likely wrong due to lack of record.

<sup>76</sup> "Holodomor - The Ukrainian Genocide."

<sup>77</sup> "Research Starters: Worldwide Deaths in World War II" (New Orleans, LA: The National World War II Museum, n.d.), <https://www.nationalww2museum.org/students-teachers/student-resources/research-starters/research-starters-worldwide-deaths-world-war>.

<sup>78</sup> Volin, *A Century of Russian Agriculture-From Alexander II to Khrushchev*, 294.

Post–World War II victory over the Nazis, American and Soviet relations began to go cold after the Potsdam Conference in 1945. General differences in ideology between the two countries, as well as America’s fear that the Soviets would attack Europe started to interfere: capitalism versus communism. While the United States entered an era of economic prosperity, the Soviet Union had lost most of its resources (war cost the nation more than 24,000,000 lives, including civilians)<sup>79</sup> and was trying to recover from the ravages of battle. While the Soviet Union was victorious in World War II, its losses were staggering.

When Stalin died on March 5, 1953, he left the state of Soviet agriculture in ruins. The unfortunate truth is that his collectivism plan was based on pseudoscience (mainly biologist Trofim Lysenko’s ‘studies’) and the promise of prosperous communism. Stalin left his successor, Georgy Malenkov, a weakened and suffering agricultural system. While the Soviet government publicly rejected Stalin’s destructive legacy, his successors clearly understood that they had to address the state of agricultural production: their administrations had to fix it.

Malenkov, who ruled briefly from 1953 to 1955, attempted to push for agricultural reform, but he was focused on the rapid growth of heavy industry. He assumed that heavy industry would become the basis of the USSR’s communist economy, which he thought would spur agricultural production.<sup>80</sup> In a plenary session speech in 1953, Malenkov stated that the forced increase in heavy industry should be simultaneous to that of the increased food production. He planned for an “abundance of food for the population and of raw materials for light industry<sup>81</sup> in two to three years.”<sup>82</sup> He attempted to refocus the economy on light industry in

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<sup>79</sup> “Research Starters: Worldwide Deaths in World War II.”

<sup>80</sup> Lazar Volin, “The Malenkov-Khrushchev New Economic Policy,” *Journal of Political Economy* Volume LXII, no. No. 3 (June 1954), 199.

<sup>81</sup> The light industry is a more consumer-forward business that produces smaller goods

<sup>82</sup> Volin, “The Malenkov-Khrushchev New Economic Policy,” 200

order to increase food production and an overall elevated life in the Soviet Union. Malenkov's chairman of the USSR Council of Ministers, Nikita Khrushchev, aimed to carry the vision forward. In Khrushchev's role, he enacted Malenkov's belief that a key problem of Soviet agriculture was the shortage of machinery and fertilizers that would combat decreased production as a result of the natural conditions of the Soviet Union's geography. Yet, the Soviet Union struggled to feed its masses, having no funds to purchase new equipment. However, Khrushchev was determined to reset the Soviet agricultural economy. In 1953, the harvest was poor, with 2.5 million tons fewer grains than during the war year of 1940.<sup>83</sup> This prompted Khrushchev to enact his Virgin Land Campaign in 1954, which was designed to open up 47 million acres of farming land in northern Kazakhstan and the Altai part of the Russian Soviet Federated Socialist Republic (RSFSR), which was the largest state within the USSR, for grain cultivation. It was expected by the Soviet government that Ukrainian and RSFSR farmers were to settle and cultivate the land.

Khrushchev under Malenkov, was given the stage to create a policy that focused on agricultural production being the key to economic expansion, "since it produces foodstuffs for the [growing] population and raw materials for industry."<sup>84</sup> This new policy marked the soft launch of the shift from focusing on heavy industry to agricultural industrial production. It was critical to increase grain production in order to satisfy the demands of the population, as well as simultaneously increasing livestock production; this would provide specific regions that specialized in hybrid crops with the appropriate grain.<sup>85</sup>

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<sup>83</sup> Martin McCauley, *Khrushchev and the Development of Soviet Agriculture: Virgin Land Program, 1953-64*, (the Macmillan Press, 1976), 52.

<sup>84</sup> McCauley, "Khrushchev and the Development of Soviet Agriculture," 45.

<sup>85</sup> McCauley, "Khrushchev and the Development of Soviet Agriculture," 46.



In 1955, Khrushchev replaced Malenkov as head of government.” As the premier and self-proclaimed “architect of agrarian policy,”<sup>86</sup> Khrushchev wanted to replace the Soviet agriculture chief production of wheat and sugar beet<sup>87</sup> for corn, to “fix” the agricultural troubles. Corn was a crop that would feed livestock, increase the caloric value of animal protein for consumers, and ultimately reduce famine. Khrushchev saw corn as a top-tier fodder,<sup>88</sup> that was much better than grass (based mainly on corn’s higher caloric value). Khrushchev continued Malenkov’s original idea of more advanced machinery, agreeing with Lenin that the “machine-building industry was vital for the development of agriculture in order to satisfy the growing demands of the population.”<sup>89</sup> It was confirmed in the Soviet journal, the *Kommunist* (1953) by the minister of Light and Food Industries, A.I. Kosygin, that the “machine-building enterprises and other branches of heavy industry were being” used “for the production of consumer goods.”<sup>90</sup>

Khrushchev wanted “agronomists and livestock experts to become directly involved in production and to be answerable for the results achieved by acting on their advice. The Soviet Union had dedicated 10.6 million acres of land to corn production, but Khrushchev wanted to greatly increase those figures.<sup>91</sup> His plan to up production with an emphasis on the corn areas was approved by the Central Committee in January 1955. While the grain numbers would never return to that level, the reliance on single-crop farming destroyed the soil’s fertility.<sup>92</sup>

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<sup>86</sup> Volin, “The Malenkov-Khrushchev New Economic Policy,” 330.

<sup>87</sup> Volin, *A Century of Russian Agriculture-From Alexander II to Khrushchev*.

<sup>88</sup> Known as food used to feed cattle and other livestock.

<sup>89</sup> McCauley, *Khrushchev and the Development of Soviet Agriculture*, 49.

<sup>90</sup> McCauley, *Khrushchev and the Development of Soviet Agriculture*, 51.

<sup>91</sup> James von Geldern, “Corn Campaign,” *Michigan State University*, n.d., <https://soviethistory.msu.edu/1961-2/corn-campaign/>.

<sup>92</sup> Dronin and Bellinger, *Climate Dependence and Food Problems in Russia, 1900-1990: The Interaction of Climate and Agricultural Policy and Their Effect on Food Problems*.

Moreover, Khrushchev wanted to increase the land dedicated to corn eight times over five years (1955 to 1960) to consequentially double the amount of pork available for consumption. It did not stop at pork, as Khrushchev “demanded” increased production of most livestock. He swore that while animal husbandry numbers were low, the solution, he declared, was to expand grain cultivation. The Five-Year Plan of 1955 was incredibly optimistic, as it directed the program to grow 164 million metric tons of crop grain, and allocate more than 65 million tons to be diverted for animal feed. Khrushchev even cited American cultivation as his goal, as he planned to increase the land for corn by 25 percent (69,189,506.811 acres), which was just 4,942,107.6 acres shy of America’s 74,131,614.4 hectares.<sup>93</sup>

In addition to Khrushchev’s enthusiasm for corn (besides caloric increase for livestock) was the American success in the corn market. However, in order to solve those problems, Khrushchev needed his own Corn Belt.<sup>94</sup> In January 1955, corn was minimally grown in the Soviet Union; it comprised 10.6 million acres in comparison to the 81 million acres the United States dedicated to corn.<sup>95</sup> America was able to produce so much corn due to the geographical and soil quality of the Corn Belt, and Khrushchev was hungry for that kind of agricultural and consumer achievement. Much of the additional land was not in present-day Russia but in the neighboring northern Kazakhstan and Ukraine, used previously in 1953 for the Virgin Lands Campaign. Further, Khrushchev was inspired by a 25 percent increase that the United States was able to make in its own corn production before 1935. He wanted to deal with the matter of Soviet food shortages, and saw America’s model of production as a solution. He presented a proposal to

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<sup>93</sup> Margaret Haynes, *Tsarist and Communist Russia 1855-1964* (Oxford: Oxford University Press, 2017).

<sup>94</sup> “Soviet Plan to Copy U.S. Corn Economy; Soviet Now Plans a Corn Economy,” *The New York Times*, February 3, 1955, <https://timesmachine.nytimes.com/timesmachine/1955/02/04/issue.html>.

<sup>95</sup> Volin, *A Century of Russian Agriculture: from Alexander II to Khrushchev*, 330.

the Central Committee<sup>96</sup> to expand acreage dedicated to corn, a plan that was approved January 31, 1955. News of Khrushchev's obsession with copying the American corn market spread quickly to the United States, news of which was published in the *New York Times* and the *Des Moines Register* in early February 1955.<sup>97</sup> The *New York Times* emphasized that this plan was unconceived: the Soviet Union did not have the long, warm growing season that the United States had.<sup>98</sup>

These articles about the Soviet copy-cat for a corn economy made waves with the American public and Soviet authorities. In response to the news frenzy, reporter Lauren Soth wrote "If the Russians want More Meat..." issuing an "invitation" for Soviet farmers to come to Iowa to see how the Corn Belt (or at least a part of it) worked and was managed.<sup>99</sup> The *Baltimore Sun* maintained that the Soviet government uncovered that under the suggestion by Soth, Khrushchev intended to send farmers to Iowa.<sup>100</sup> However, Soth's article gained such recognition that, by March 10, 1955, the Soviet Ministry of Foreign Affairs officially proposed a cultural exchange between American and Soviet farmers.. The Soviets would visit Iowa to learn the "state's secrets" of corn production, and American farmers were to travel through the Soviet Union to analyze and assist in the development of their farming practices. The United States did not intend to extend an olive branch to the Soviet Union and their communist ways, yet Soth's

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<sup>96</sup> The Central Committee was the executive leadership of the Communist Party in the Soviet Union; it acted as Congress.

<sup>97</sup> "Soviet Plan to Copy U.S. Corn Economy; Soviet Now Plans a Corn Economy"; Harrison Salisbury, "Khrushchev, Army Agree on Bulganin," *The Des Moines Register*, February 9, 1955.

<sup>98</sup> "Soviet Plan to Copy U.S. Corn Economy; Soviet Now Plans a Corn Economy."

<sup>99</sup> Lauren K. Soth, "If the Russians Want More Meat," *The Des Moines Register*, February 10, 1955, <https://www.pulitzer.org/article/once-soviets-are-talking-sense>.

<sup>100</sup> "Khrushchev May Visit Iowa Farm: Roswell Garst Invites Premier to Showplace at Coon Rapids," *The Sun*, August 6, 1959, <http://ezproxy.cul.columbia.edu/login?url=https://www.proquest.com/historical-newspapers/khrushchev-may-visit-iowa-farm/docview/540473592/se-2>.

invitation received enough public traction and was eventually recognized. The United States and the Soviet Union had planned a foreign diplomatic exchange, while also locked in a cold war.

American public opinion was split on this: some believed that the U.S. should build an iron curtain around Iowa and not share trade secrets, others demanded the exchange.<sup>101</sup> After uncomfortable uncertainty from President Dwight D. Eisenhower and Ambassador Charles Bohlen, the State Department informed the embassy in Moscow that a farmers' delegation would be allowed to enter the United States from Russia in the summer of 1955. The sole American condition was that Soviets would need to comply with American policies regarding the difference between an official visit through visas and non-official visits, requiring farmers to submit to fingerprinting required for all unofficial visitors native to communist countries under the 1952 Immigration and Nationality Act. The Soviets chose to forgo fingerprinting by establishing an official delegation of government agricultural specialists, which confirmed the suspicions of cynics that a Communist government would never let Soviet farmers enter the States to see the triumph of capitalism.

Farmers became diplomats in the Cold War. Historically until this point, the United States defending capitalism had been fighting a proxy war against the Soviet Union and communism. After a briefing in Washington, D.C., the American delegation embarked on a 32-day trip around the Soviet Union, a monumental interaction between the countries.<sup>102</sup> The American delegation was composed of 12 men who had been vetted by national farm organizations and land-grant colleges for their qualifications. It is important to note that

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<sup>101</sup> According to newspaper articles from around the Corn Belt area and the *NYT*.

<sup>102</sup> "United States Farm Group Leaves for Month's Visit in Soviet Union," *The New York Times*, July 13, 1955, <http://ezproxy.cul.columbia.edu/login?url=https://www.proquest.com/historical-newspapers/united-states-farm-group-leaves-months-visit/docview/113420435/se-2>.

delegates, in order to visit the USSR, needed to pay for their tickets for this exchange. In mid-June of 1955, the State and Agriculture departments released their chosen delegation, which included reporter Lauren Soth, along with a combination of farmers and professors, ranging from Iowa to Illinois, but most with connections back to Iowa. William Lambert, the dean of the Agricultural College at the University of Nebraska, was tasked with leading the delegation.

The American delegation of farmers reported they were on a strict schedule, as programmed by the Soviets. The trip rarely allowed for deviations from the planned itinerary. When the American delegates attempted to stray from the plan, they were reportedly met with a multitude of excuses for why veering off the plan was not feasible. The rigidity of the exchange was due to the fact that the Soviets intended to put their best foot forward throughout the visit; the seeming cornucopia of plentiful food supply was a somewhat cunning disguise for the Soviet food insecurity, caused by the communist collectivization efforts.<sup>103</sup> Soth and another delegate broke off from the group to visit unscheduled farmers, and witnessed the farm production unfiltered; they reported seeing fewer productive farmers than those that had been shown to them.<sup>104</sup>

The delegation was concerned about the minimal rain in the Virgin Lands of the Soviet Union. The Americans also had their doubts about the amount of farm labor and the lack of financial incentives for Soviet workers. The delegation suggested planting sorghum and legumes in the areas that saw less rain, instead of planting corn. They also suggested using terracing and contour plowing to combat soil erosion. Furthermore, the delegation diagnosed the Soviet

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<sup>103</sup> Aaron Hale-Dorrell, "The Soviet Union, the United States, Industrial Agriculture," *Journal of World History* Vol. 26, no. No. 2 (June 2015): 295–324.

<sup>104</sup> Peggy A. Brown, "Diplomatic Farmers: Iowans and the 1955 Agricultural Delegation to the Soviet Union," *State Historical Society of Iowa, Iowa Department of Cultural Affairs* Volume 72 (2013), <http://ir.uiowa.edu/annals-of-iowa/vol72/iss1/3>, 39.

difficulties with a case of hereditary problems for the production of hybrid corn species promoted by Lysenko's pseudoscience, which had been disproved by American agriculturists years prior.<sup>105</sup>

The results of this "exchange" had mixed interpretations. The American delegates confirmed that the Soviets were not capable of matching U.S. corn production because they lacked adequate geography, resources, and intensive farm labor. Upon his return, Soth publicly questioned the accuracy of the Soviets' statistics. This hindered his ability to analyze the farming system and create a more calculated opinion. Moreover, he expressed concern over the poor safety, in addition to the lack of consumer goods that come with a communist country. Other delegates concluded that the Russians did not have a food shortage.<sup>106</sup>

One of the exchange's participants, Yale Richmond, detailed the events between the United States and Russia. He shared that the United States was able to share agricultural practices while gaining access to Soviet scientific thought and philosophy.<sup>107</sup> Americans were able to learn what was happening within the politically isolated and agriculturally desperate country. While the United States and the USSR participated in an exchange of corn farmers and government officials for the agricultural economic benefit of the Soviets, the Cold War had not ended. Historian Walter L. Hixon concluded that the delegation was an ideological bridge between the two countries. Perhaps the ideological differences were not enough to change the USSR into a capitalist society. However, the Soviets desired a capitalist corn economy but

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<sup>105</sup> Brown, "Diplomatic Farmers: Iowans and the 1955 Agricultural Delegation to the Soviet Union," 44.

<sup>106</sup> Brown, "Diplomatic Farmers: Iowans and the 1955 Agricultural Delegation to the Soviet Union," 50.

<sup>107</sup> Yale Richmond, *Cultural Exchange and the Cold War: Raising the Iron Curtain* (Penn State University Press, 2003), <http://www.jstor.org/stable/10.5325/j.ctt7v4f9>, 5.

attempted to apply communism, an implementation that ultimately failed. Russian corn production was not nearly as successful as that of American production.

It became clear that Khrushchev was reliant upon force, with economic incentivization being the only encouragement. Having forced the expansion of corn acreage, regardless of conditions and resources, Khrushchev wanted to achieve American corn greatness. But Soviet corn exports between 1955 and 1959 amounted to 8,346.016 bushels,<sup>108</sup> compared to the United States exported about 2.2 billion bushels in 1955 alone.<sup>109</sup> It was Khrushchev's threatening policies that depleted resources, decreased farmer morale, and caused a failure beyond agriculture to his own people.

On the opposite side of the exchange, the Soviet participants visited the United States in a delegation led by Minister of Agriculture Vladimir Matskevich. The group was enthralled by the efficiency and highly mechanized system of Iowa's corn production; it was a drastic difference from the Soviet's labor-intensive agricultural program. During their time in Iowa, the delegation was invited to the Garst family farm in Coon Rapids, Iowa, by the farmer and capitalist agricultural economist Roswell Garst. He was the developer of the hybrid corn seed that allowed greater crop yields. His farm tour included cornfields, new farming technologies and equipment, and the Garst & Thomas Hybrid Corn Company. By the end of the tour around the Garst property, the delegation had seen agricultural efficiency and reported their observations on the potential of corn to Matskevich.

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<sup>108</sup> Volin, *A Century of Russian Agriculture-From Alexander II to Khrushchev*, 295.

<sup>109</sup> Marvin Duncan and Blaine Bickel, "U.S. Agricultural Exports-A Boon to Farmers," *Federal Reserve Bank of Kansas City*, August 1976, <https://www.kansascityfed.org/documents/1080/1976-U.S.%20Agricultural%20Exports%20-%20A%20Boon%20to%20Farmers.pdf>; "Prices Recieved for Corn - Dollars Per Bushel" (Washington D.C.: United States Department of Agriculture - National Agricultural Statistics Service, n.d.), [https://www.nass.usda.gov/Statistics\\_by\\_State/Washington/Publications/Historic\\_Data/fieldcrops/cornprc.pdf](https://www.nass.usda.gov/Statistics_by_State/Washington/Publications/Historic_Data/fieldcrops/cornprc.pdf).

Later that week, Matskevich visited the Garst farm and invited him to visit the Soviet Union, where he was to serve as an educator and businessman providing innovative guidance to Soviet farmers. After hesitations from the State Department in allowing a private citizen to visit the Soviet Union, Garst's passport was approved for travel. On his visit, he bore witness to the difference between the United States' highly mechanized farms and the Soviets' less developed and traditional farms. Garst noticed the agricultural divide between the countries' developments, which he claimed was circumstantial. He highlighted to the Russians that the United States had not been invaded during the war and therefore endured less destruction, in addition to the fact that the United States had simply existed longer than the Soviet Union.<sup>110</sup> Garst concluded his visit by meeting Khrushchev. The Iowan spoke of corn as a feed crop and explained specific farming techniques, from herbicides to nitrogen fertilizers. Garst noted that 12 percent of the U.S. population were farmers needed for agricultural production, in contrast to the seemingly unnecessarily large 50 percent of the Soviet population being used for traditional farming. It was the larger agricultural labor force that was excessive and ultimately, failing the Soviet population. Garst and Khrushchev understood that to achieve American-sized agricultural success, the Soviet Union would need to adopt Garst's capitalist approach to serve the communist execution in the longer term.<sup>111</sup> Indeed, Khrushchev and the entire farming population of the Soviet Union had an American adviser.

Complicated as it may be, the United States and the Soviet Union had a clear thaw in the Cold War due to the exchanges. The Soviet Union had struggled with its food production since

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<sup>110</sup> "Garst's Pre-Khrushchev Visit Continues with the Communistic Area Ms-579, Box 43, Folder 22, Garst Family Papers," (Iowa State University, Special Collection and University Archives, n.d.), 12.

<sup>111</sup> "What Russia's No. 1 Man Will Learn on an Iowa Farm," *U.S. News and World Report*, September 14, 1959; Donald Jason, "Iowa Farmer Who Was Host to Khrushchev Still Advises Soviet," *The New York Times*, n.d., Vol. CXIII, No. 38,872 edition.



the country's existence, and American advice of capitalist mechanization (using advanced techniques) allowed for an increase in Soviet corn acreage from 10.6 million to 44 million in 1955.<sup>112</sup> Garst and the American delegation saw the differences between American and Soviet agricultural practices, witnessing firsthand the failures of Soviet communism when it came to food production: aggressive collectivization and labor-intensive versus the mechanized American agricultural model.

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<sup>112</sup> Volin, *A Century of Russian Agriculture-From Alexander II to Khrushchev*.

### Chapter III: The Exponential American Growth of Corn

While Khrushchev had demanded a corn economy, the United States had resolved to increase its own, and the key figure was Earl Butz. Raised as a farmer in Indiana and recipient of the first agricultural economics Ph.D. from Purdue University, Butz was a board member of multiple agribusiness firms that had been marketing the mass production of corn for commercial convenience of a surplus.<sup>113</sup> In 1971, Butz was nominated to be the Secretary of Agriculture under President Richard Nixon. Butz was an interesting pick, due to the government's policies of land and production restraint contrasted by Butz's corporate background in encouraging unrestricted land use. Butz's main goal in increasing production was to subsequently increase exports. The surplus would prevent a domestic farm surplus, which would reduce crop prices and sales revenues. As Secretary of Agriculture, Butz ironically sought to "get the government out of the agribusiness."<sup>114</sup> He had a vision of hyper-efficiency: he wanted to create a food system that would become profitable while remaining inexpensive for the consumer. He wanted to, as he famously said, "feed the world." This vision would be accomplished through the mass production and agricultural exportation of corn.<sup>115</sup> However, Butz came into office under the 1960s policies of paying farmers to not produce levels of surplus in exchange for higher prices, as too much product with a lower demand softens the cost, then the land cultivation was allowed

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<sup>113</sup> William Robbins, "Butz Delights in Conflicts," *The New York Times*, October 4, 1976, <https://news.google.com/newspapers?nid=1346&dat=19761004&id=5-4vAAAIBAJ&pg=6279,1140639&hl=en>.

<sup>114</sup> Earl L. Butz, Oral History Interview with Earl L. Butz, 1968, 1968, <https://dlc.library.columbia.edu/catalog/cul:lvhmgqqkq>.

<sup>115</sup> Earl L. Butz, *Leaders in Agricultural Policy: A Conversation with Earl Butz*, February 1993, Purdue University Department of Agricultural Economics, <https://www.youtube.com/watch?v=46G831BRsDs>.

to regulate the price. The overall goal was to stop corn prices from falling too low or reaching too high.<sup>116</sup>

Butz believed that such heavy government regulation of agriculture was wrong. He planned to include inputs from farms to factories, rather than introducing federal policy to check farming outputs. Butz was tasked with convincing farmers that they would not be returning to pre-Depression and 1933 Farm Bill conditions of low crop prices. He managed the slashes to farm subsidies, and he attempted to minimize land-retirement plans that were previously used to control supplies. His plans were designed to control the crop supply in order to keep corn prices stable, and ultimately helping farmers. Yet, the product surplus that was produced as a result of the increased amount in acreage used to grow corn, also caused cost to decrease exponentially. The general production was easier to maintain and manage due to the improvements of hybrid seeds and machinery.

Butz craved efficiency. He wanted higher productivity in the agricultural sphere and cash flow within agribusiness. As a supporter of agricultural business, Butz encouraged growing more corn as it contributed to the expansion of other businesses, such as factory farming<sup>117</sup> and the usage of concentrated animal feeding operations (CAFO). Butz later endorsed the farming practices of factory farms and CAFOs, in his statement “get big or get out.”<sup>118</sup> This philosophy put family farms in a precarious position, as a smaller farm simply could not produce at the same rate as factor farms, and especially because of the loss of 11,000 farms in 1975, which had

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<sup>116</sup> Julius Duscha, “Up, Up, Up— Butz Makes Hay Down On the Farm,” *The New York Times*, April 16, 1972, <https://www.nytimes.com/1972/04/16/archives/up-up-up-butz-makes-hay-down-on-the-farm-butz-makes-hay-down-on-the.html>.

<sup>117</sup> Intensive animal farming, also known as industrial livestock production, is a method of agriculture through animal husbandry with minimal costs, for maximum product.

<sup>118</sup> Michael Carlson, “Earl Butz,” *The Guardian*, February 8, 2008, sec. Obituary, <https://www.theguardian.com/world/2008/feb/04/usa.obituaries>.

previously numbered more than 95,000 family farms.<sup>119</sup> Unlike family farms, large operations were able to establish CAFOs within their production, defined as types of large, industrial factories that raise animals for commonly demanded products such as meat or milk.<sup>120</sup> These operations were more efficient in the production of cheap animal products.

An aspect of these factories' success was a cheap feed diet for livestock, which heavily consisted of corn; a trend that began in the 1960s.<sup>121</sup> Corn, being a starch vegetable, has a high carbohydrate content. This means that high consumption of corn by animals is likely to result in weight gain. Animal farmers had historically relied on grass and hay to feed their livestock. However, the rise of big factory animal farms encouraged mass production and animal marbling,<sup>122</sup> which was not biologically possible with a diet of grass. The increased production of corn required creative uses to profit from the surplus. Corn was higher in calories, supplementing energy and increased fat deposition.<sup>123</sup> The caloric increase in the diet of livestock aided farmers as they raced to the market, as their animals had developed fat and muscle more efficiently. According to Pew, a chicken took around 16 weeks to reach 2 pounds, whereas with corn it was now possible to reach 5 pounds in 7 weeks.<sup>124</sup> The rise of big factories and the livestock industry became a byproduct of the corn economy, which not only grew their business but corn's as well.

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<sup>119</sup> James Risser and George Anthan, "Why They Love Earl Butz," *The New York Times*, June 13, 1976, <https://www.nytimes.com/1976/06/13/archives/why-they-love-earl-butz-prosperous-farmers-see-him-as-the-greatest.html>.

<sup>120</sup> Carrie Hribar, "Understanding Concentrated Animal Feeding Operations and Their Impact on Communities" (Bowling Green, Ohio: National Association of Local Boards of Health, 2010), [https://www.cdc.gov/nceh/ehs/docs/understanding\\_cafos\\_nalboh.pdf](https://www.cdc.gov/nceh/ehs/docs/understanding_cafos_nalboh.pdf).

<sup>121</sup> Feedlots are a type of Animal Feeding Operation (AFO) focused on building animal fat and muscle.

<sup>122</sup> Marbling is the fat within muscles of red meat, which enhances tenderness and flavor.

<sup>123</sup> Ashley Brooks, Megan Rolf, and Sara Place, "Corn as Cattle Feed vs. Human Food," *Oklahoma State University Extension* (blog), n.d., <https://extension.okstate.edu/fact-sheets/corn-as-cattle-feed-vs-human-food.html>.

<sup>124</sup> Hribar, "Understanding Concentrated Animal Feeding Operations and Their Impact on Communities."

Earl Butz was able to set in motion a successful capitalist American economy that became reliant on agribusiness and cheap food especially. Under congressional approval, Butz was able to stabilize corn prices at a reasonable rate for farms. He believed that cheap food, especially corn, was the driver of American economic success. Butz's policy created another sub-industry of corn for the United States economy: high-fructose corn syrup (HFCS). The sweetener made from cornstarch was a replacement for table sugar (sucrose) necessary in high demand, due to the import taxes on sugar and quotas on American sugar; this made HFCS a cheaper and more accessible option. Agricultural overproduction of corn, as encouraged by Butz, created the industry of this inexpensive sugar substitute.<sup>125</sup> The adoption of HFCS by the food industry provides an understanding of the degree of corn overproduction in the United States during the 1970s, and the approach American farmers and economists took in profiting from the ever-expanding corn industry.

Internationally, the American increase in corn production was known to the world, specifically the Russians. The purchase of American grain by the Soviets played a significant role in shaping the economic problems Butz wanted to address. He had established that the surplus caused by overproduction could be sold overseas. Furthermore, Butz orchestrated the sale of corn and wheat to the Soviets in 1972. President Nixon signed a three-year agreement to sell the American grain reserve for at least \$750 million (a purchase, Earl Butz explained in a briefing, would have gone significantly higher). Under this purchase, the Soviet Union was bound to buy American starch on the commercial market from private dealers. This sale increased the American exportation rate of corn by 17 percent over the three-year agreement.

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<sup>125</sup> Neil Genzlinger, "Pointing Fingers Over Bulging Bellies."

However, Butz's strategy failed to account for the 1973 harvest drought. The climate drought sharply decreased the production and harvest of corn, as the crop yield per acre dropped 6 percent in one year.<sup>126</sup> Farmers began to scramble, planting corn and wheat wherever possible with the hope that the price of these crops would increase. What is now called the Great Grain Robbery caused a significant scare for farmers who had no reserve to fall back on. Butz responded to the chaos: "plant fence row to fence row," taking advantage of farming land.<sup>127</sup> The world and domestic prices of corn increased by more than 50 percent after the Soviet's purchase from 1973 to 1974, reaching 3.02 dollars per bushel.<sup>128</sup>

It was Butz who approved the Grain Robbery, having believed that the surplus would serve an economic purpose, rather than a precautionary tool of a crop reserve. Mexican anthropologist Arturo Warman discussed in *Corn and Capitalism*, how the Grain Robbery shook Butz and other American politicians. The move showed that while corn was used as a force for economic growth, it also enabled the Soviets to benefit from American capitalism, sparing its implementation, in cheap agriculture.

The Butz farm policy was one that involved risk. On the one hand, high production could lead to significant surpluses and resulting drops in farm prices. On the other hand, heavy exports could lead to domestic shortages and rises in consumer food prices, as they, indeed, did in 1972.<sup>129</sup> However, the 1973 Farm Bill was a landmark decision, as the federal government transitioned from providing farmers with price support to income support through direct

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<sup>126</sup> "Crop Production Historical Track Records."

<sup>127</sup> Curt Zingula, "Farming from Fence Row to Fence Row," *The Gazette*, May 25, 2016, <https://www.thegazette.com/guest-columnists/farming-from-fence-row-to-fence-row/>.

<sup>128</sup> Michael C. Jensen, "Soviet Grain Deal Is Called a Coup," *The New York Times*, September 29, 1972, <https://www.nytimes.com/1972/09/29/archives/soviet-grain-deal-is-called-a-coup-capitalistic-skill-surprised.html>; "Crop Production Historical Track Records."

<sup>129</sup> Risser and George Anthan, "Why They Love Earl Butz."

payment. This shift also included “Production Incentives” of supported crops (including corn), which ended acreage restrictions with payments matched by the market price.<sup>130</sup> The bill was hugely significant for the boom in corn production in the U.S. (as shown in the table below), and then the world for the bounty of corn that arose from Earl Butz's policies.

Figure 2: Production Increase under Secretary of Agriculture Earl Butz’s Policies<sup>131</sup>

Year	Yield per Acre (bu)	Production (1,000 bu)
1970	72.4	4,152,243
1975	86.4	5,840,757
1979	109.5	7,928,139

Earl Butz was undoing the Farm Bill’s efforts to prevent overproduction, especially with corn. Rather than government loans that were meant to stop the flooding of the market with entire harvests, his policies allowed farmers to offer their harvests on the market to cheaper corn

<sup>130</sup> I.M Destler, “United States Food Policy 1972-1976: Reconciling Domestic and International Objectives,” *The Global Political Economy of Food* 32, no. 3 (Summer 1978): 617–53; Jonathan Coppess, “A Brief Review of the Consequential Seventies,” *University of Illinois Farmdoc Daily*, May 30, 2019, <https://farmdocdaily.illinois.edu/2019/05/a-brief-review-of-the-consequential-seventies.html>.

<sup>131</sup> “Crop Production Historical Track Records.”

prices.<sup>132</sup> While corn was clearly being used as a cash crop, as it was produced for commercial value rather than use; during this period (1950-1970s) it became an ideological crop. Economic growth was always an ideological weapon, proving that in practice capitalism was able to create a more successful economy that communism was not. The U.S. used corn to create a specific type of benefit: cheap food. The American tool of cheap food was able to fuel corn's own market growth, as well as that of fertilizer, genetic modification, and livestock. Corn was not only a symbol of a capitalist victory over the Soviet model, it helped to feed the Soviet population. It is clear that the U.S. shifted so heavily into the production of corn due the geo-economic nature of agriculture. Furthermore, the United States' drastic increase in corn supply was a sheer demonstration of the capacity of American capitalism; price supports, free market for corn prices.

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<sup>132</sup> Julius Duscha, "Up, Up, Up— Butz Makes Hay Down On the Farm"; Michael Pollan, "The Way We Live Now: The (Agri)Cultural Contradictions of Obesity," *The New York Times Magazine*, October 12, 2003, <https://michaelpollan.com/articles-archive/the-way-we-live-now-the-agricultural-contradictions-of-obesity/>.



## Conclusion

Corn can feed a nation and also facilitate its industrialization regardless of its political or economic ideology. Corn had the potential to resurrect the Soviet Union. However, rather than corn being a tool of communism, it became a staple of capitalism and the anti-communist efforts during the Cold War. Corn was used as an example of the practices of both capitalism and communism. The failure of the crop's production, despite American guidance, in the Soviet Union was an added reason to reinforce the United States' mistrust of the communist philosophy. The Soviets were given all of the trade secrets and strategies from corn farmers, experts, and scholars to build a corn economy, yet they failed due to the very nature of the communist philosophy and subsequent practices. In this Cold War, the United States had an upper hand in its production and development: the geographic benefit of the Corn Belt, the agricultural-technological developments of hybrid crops and chemical fertilizers, price support by way of the Farm Bills, and the leadership of Earl Butz. In theory, the Soviet Union had the efforts of Khrushchev (along with Roswell Garst). However, Five Year Plan after Five Year Plan, famine, and the continuous attempts of industrialization and economic growth, the Soviet corn economy failed. The later collapse of the Soviet Union, as well as Ukrainian independence in 1991 brought the loss of the Russian breadbasket, which meant the loss of 35 percent of total grain production for the country.<sup>133</sup>

Enid Smith, in *Comparing Soviet Agriculture*, contends that Soviet agriculture was drastically different from that of the West, from climate to farm production cost, but the failure

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<sup>133</sup> Stefan Osborne and Michael A. Trueblood, "Agricultural Productivity and Efficiency in Russia and Ukraine: Building on a Decade of Reform" (Washington D.C.: Market and Trade Economics Division, Economic Research Service, United States Department of Agriculture, 2002), [https://www.ers.usda.gov/webdocs/publications/41466/31385\\_aer813\\_002.pdf?v=0](https://www.ers.usda.gov/webdocs/publications/41466/31385_aer813_002.pdf?v=0).

of Soviet corn was chiefly due to the communist economic systems. Smith argues that it was largely based on the cost of production; individual farms used to be self-sufficient, and the inflated cost was impacted by the cost of *kolkhoz* labor, as it was “more extensively defined than in U.S. ... costs.”<sup>134</sup> Capitalist policies are motivated by the general goal of improving income but longer-term is “to withdraw workers from agriculture into other employment.”<sup>135</sup> There is no denying that Soviet agriculture practices were different from American agriculture practices. However, it is critical to note that the Soviets attempted to emulate the U.S. within its system of communism, as proved by farming diplomacy in 1955. Moreover, while the United States fought against communism during the Cold War, implementing price support did muddy “pure capitalism” with government assistance and market-price dictation. Smith believed that Western agriculture was motivated by “the desire to improve the income relationship,” with the long-term goal of shifting workers away from agriculture, which is shown in the 12 percent of the American population involved in farming during the 1960s.<sup>136</sup> However, the Soviet collectivization approach required 39 percent of laborers to be agricultural (in the same decade), proving the lacking sophistication of a specialized and industrial economy, according to Smith.

The failure was entirely the Soviet Union’s execution of communism. Scholar Jan S. Prybyla stated that the Leninist tradition held agriculture “as an element in the power complex, more specifically as a political obstacle to rapid industrialization.”<sup>137</sup> Yet, Khrushchev clearly attempted to use corn as an economic tool he hoped would develop mechanized agriculture and generally increase means of production within the USSR. However, even those economic

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<sup>134</sup> Enid Smith, “Comparing Soviet Agriculture,” *Soviet Studies* 16, no. 1 (July 1964): 87.

<sup>135</sup> Smith, “Comparing Soviet Agriculture,” 88.

<sup>136</sup> Smith, “Comparing Soviet Agriculture,” 89

<sup>137</sup> Jan S. Prybyla, “Problems with Soviet Agriculture,” *Journal of Farm Economics* 44, no. 3 (August 1962): 820.

forward-facing efforts were additions to the long-standing failure of agriculture in Soviet history. The belief that agriculture was an obstacle is curious in that the Green Revolution's introduction of grains on a global scale does prove that agriculture is the key to industrialization. Moreover, the general ability of industrialization does mean that a country must be able to feed its people. Prybyla states that it was not simply Stalin's failed policies but also "a lack of understanding of the farm problem and of the peasants; this was a feature of Marxist-Leninist theory."<sup>138</sup> The Soviet failure was the interjection of communism into its farming theory, and Lysenko's executed practices prove that. More than that, it is important to note that the Soviet solutions were based in Marxist-Leninist *theory*, which is only a hypothesis, and while in a theoretical sense, Soviet communism would functionally work. However, in agricultural practice it does not succeed.

A major component of the failure of corn were *kolkhozes*. Gregory Grossman's "Soviet Agriculture Since Stalin" states that the collective farm system was a key factor in the industrialization of Soviet supply, but the government failed to keep "food production abreast of the rapidly growing population."<sup>139</sup> Yet the supply produced by collectivization, especially concerning livestock, was at or under that of pre-collectivization. Grossman believes that the 'fault' of this is due to Soviet planning having been "extremely over-centralized, authoritarian, and often inept and perverse."<sup>140</sup> Collectivization and its legacy were a crux of communist planning on a larger economic scale, which ultimately led to the failure of agriculture production in the Soviet Union.

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<sup>138</sup> Prybyla, "Problems with Soviet Agriculture," 820-821.

<sup>139</sup> Gregory Grossman, "Soviet Agriculture Since Stalin," *The Annals of the American Academy of Political and Social Science* 303 (January 1956), 62.

<sup>140</sup> Grossman, "Soviet Agriculture Since Stalin," 62.

The United States during the Cold War continuously increased the value of corn production. The 20th century was a period of industrialization, specifically in farming. These developments brought the concept of agribusiness, which was the center of Earl Butz's policy. Butz's factory-farm endorsement raised the concern about the slow disappearance of family farms. Wesley Mccune's *Who's Behind Our Farm Policy?* built up John H. Davis's belief that there are "middlemen" who direct U.S. farms through agribusiness, which became the antithesis of the family farm.<sup>141</sup>

While there are many explanations for the failure of Soviet agriculture—from the implementation of collectivization to industrialization—the primary factor was the failure of Soviet communism. However, while scholars vary in their opinion on the United States' "success," it is clear that corn production continued to increase during this period due to agricultural business growth. American farmers did what the Soviets could not.

While corn was a proxy of the Cold War, the ideals of capitalism and Western thought being a direct enemy of communism, was fueling the Soviet stances against the United States, a political idea that is still in play today. Although President Vladimir Putin believes that modern-day Ukraine was built by Russia,<sup>142</sup> the historical truth is that the changing nature of Ukraine has provided agricultural opportunities for the larger Soviet Union. The 2022 Russian invasion of Ukraine is likely in response to the Ukrainian embrace of capitalism and Western thought after the declaration of Ukrainian independence 1991. "Overall, corn and wheat exports from Ukraine in the 2021-22 marketing year were down 20 percent from projections made before the

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<sup>141</sup> 4/12/23 12:46:00 PM

<sup>142</sup> Michael Schwartz, Maria Varenikova, and Rick Gladstone, "Putin Calls Ukrainian Statehood a Fiction. History Suggests Otherwise," *The New York Times*, February 21, 2022, <https://www.nytimes.com/2022/02/21/world/europe/putin-ukraine.html>.

conflict.”<sup>143</sup> Ultimately, communism was not able to create an environment of efficient food production, and the change in ideology by Ukraine allowed the nation to produce enough to succeed.

Ultimately, corn has had a significant influence on communism in practice and the general inability to produce sufficient amounts of food for the Soviet population. While the American practice of capitalism is not perfect by any means, production has been great enough to feed the U.S. population and grow the economy through exportation of the corn surplus, which by default was a capitalist victory during the Cold War.

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<sup>143</sup> Joe Janzen and Carl Zulauf, “The Russia-Ukraine War and Changes in Ukraine Corn and Wheat Supply: Impacts on Global Agricultural Markets,” *University of Illinois Farmdoc Daily*, February 24, 2023, <https://farmdocdaily.illinois.edu/2023/02/the-russia-ukraine-war-and-changes-in-ukraine-corn-and-wheat-supply-impacts-on-global-agricultural-markets.html>.

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