

THE EDGE

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A new series of thought leadership white papers about economic, investment and industry trends that shape how we live, think and invest

THE CORN MAFIA

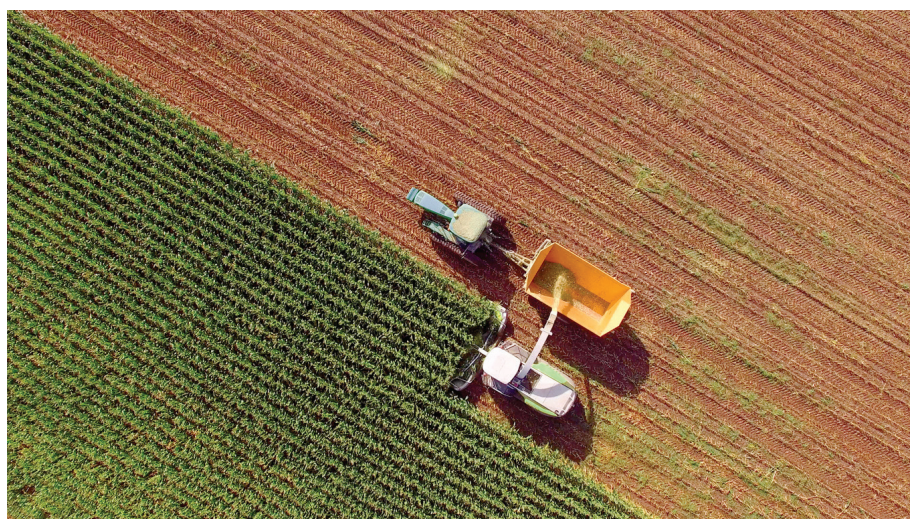
Part One of Two

How corn farmers, big agribusinesses, commodity traders and politicians use money, power, muscle and influence to circumvent laws, skew trade in their favor and control Americans' health and diets.

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Fifteen years ago, corn farmers, agricultural businesses, commodity traders, lobbyists and politicians all got together and decided on a new path for corn. Their goal? To use their money, power, muscle and influence to turn corn into a staple of the American economy. **Call them the Corn Mafia.** And I do not use the word “mafia” lightly.

Their strategy was fourfold:

- Undermine the concept that corn is bad for you through a series of misinformation and marketing tactics and reinforce corn as the symbol and staple of America.
- Attack corn’s rivals, by pouring money to back government-based sanctions, subsidies and tariffs.
- Rewrite health history, positioning corn and its byproducts as a healthy alternative. Do this by funding health research that backed corn’s views and by funding doctors and clinics who advocate corn.
- Turn the corn mafia into one of the most powerful and well-funded lobbies, and make sure any politicians who govern in the corn belt are funded by corn and are elected to office on the local, state and federal level.

In carrying out these strategies, the Corn Mafia bribed politicians, poisoned people and wildlife and caused cancer in thousands of people. It rewrote legislative districting, created and encouraged the mythical “gluten-free diet,” and eliminated rivals like sugar, rice and wheat. It also overturned U.S. trade policies to promote the spread of corn products in other countries, and financed and developed the use of ethanol. Then, the Corn Mafia took advantage of the Russian invasion of Ukraine and supply chain disruptions to manipulate the price of corn.

The Corn Mafia did all of that with the blessing of the American electorate and right under the noses of Americans who were either too blind to see what was going on or too vain and selfish – and patriotic – to admit it.

It was a well-orchestrated, calculated, vicious campaign, the likes of which America hasn’t seen since similar industries like oil, rubber and the banana robber barons beforehand successfully elevated their products to America’s forefront.

Background

Let’s start by recognizing that corn is America’s founding crop. We’ll talk about how it started, how it spread, how big it is today, and how corn and its byproducts – including corn syrup, booze and ethanol – came to be.

America is far and away the biggest producer and exporter of corn. But it wasn’t always that way. Corn was cultivated and turned into a crop by the Aztecs and their predecessors in Mexico as far back as 6,000 B.C. It quickly spread through the Americas and was embraced by Native Americans such as the Incas before Francisco Pizarro and Christopher Columbus ever set foot in the New World.

It made its way to the United States, first appearing around 100 B.C. in the Southwest in Arizona and New Mexico by the Hohokam and Anasazi, ancestors of modern-day tribes like the Zuni and Hopi.

Columbus first introduced corn to Europe after his first voyage to the Americas, delighting the Spanish court with tales of this tasty grain called *Mahiz*.

Indeed, Spanish explorer Hernan Cortez can be seen in early paintings greeting Aztec leader Montezuma in Mexico with Native American maidens with beads of popcorn in their hair.

One hundred years later, the Wampanoag's shared corn with the Pilgrims in Plymouth, Mass., marking the first American Thanksgiving in 1621. Since then, corn has become well-known as America's crop.

Its first expansion came in the late 1800s with the Industrial Revolution, and the subsequent Homestead Act and the Land Grant Act of 1862. Both pieces of legislation set the stage for thousands of farmers to migrate to Nebraska, Kansas and Iowa.

Tractors, harvesters and combines then turned the state of Nebraska into what became known as the Corn Belt. Then it expanded even further when the need to feed the nation in the 1930s erupted into what became known as a "Corn War" between geneticists on one side and breeders on the other, both of them making corn easier to plant and grow.

But all of these expansions of corn paled in comparison to three major achievements that had little to do with how corn is grown: the creation of new product lines for corn; pesticides and herbicides, and the elimination of small farms in favor of multi-thousand-acre plantations.

Bigger farms

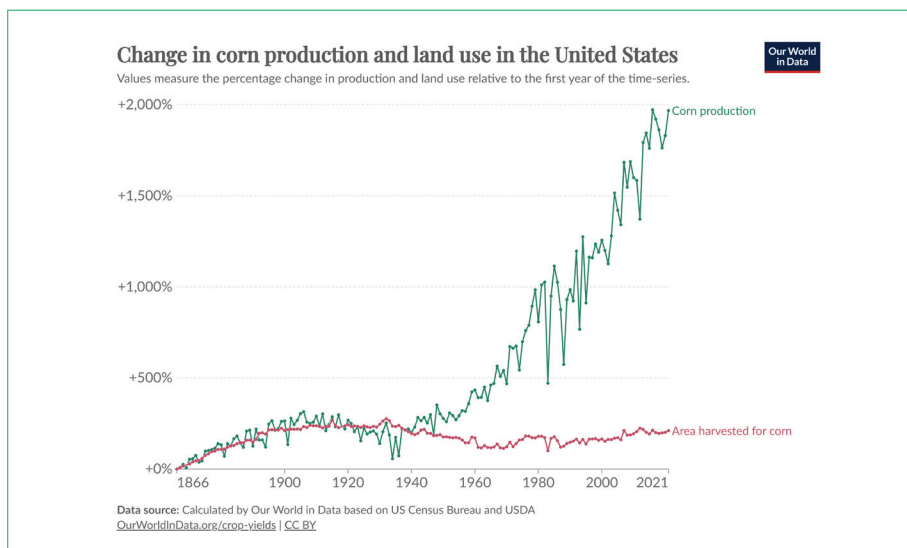
While corn may be America's crop, corn farmers have long since been replaced by multi-acre plantations that apply the principles of mass production, technology and marketing to corn farming. The late George Mills, a reporter for The Des Moines Register, says the disappearance of corn farmers coincided with the decline of the Bible Belt. By 1980, corn output by the United States soared until the United States controlled 70% of the world's corn production. But in those same years, 80% of that output was produced by just 15% of farms.

"The old definition of a farmer was a man with 160 acres who kept some hogs and cows and whose wife kept chickens and sold eggs," Mills told Betty Fussell in her book *The Story of Corn* in 1992. "Now, the average farmer in Warren County tills 800 acres because you can barely make a living on 300 acres."

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That was in 1992. Since then, the average acreage of corn farms has soared to more than 900 acres in the United States, especially given that farm values have jumped more than 30% in the past two years. That increase has prompted many farmers to sell their land to even bigger commercial farms.

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Overall, the number of farms in the U.S. has shrunk to 2.0 million in 2022, down from 2.2 million in 2007 and down from a peak of 6.8 million in 1935. One fourth of that decline was due to the Farm Crisis of the 1980s, when the cost of capital skyrocketed and farm machinery prices and farm values soared.

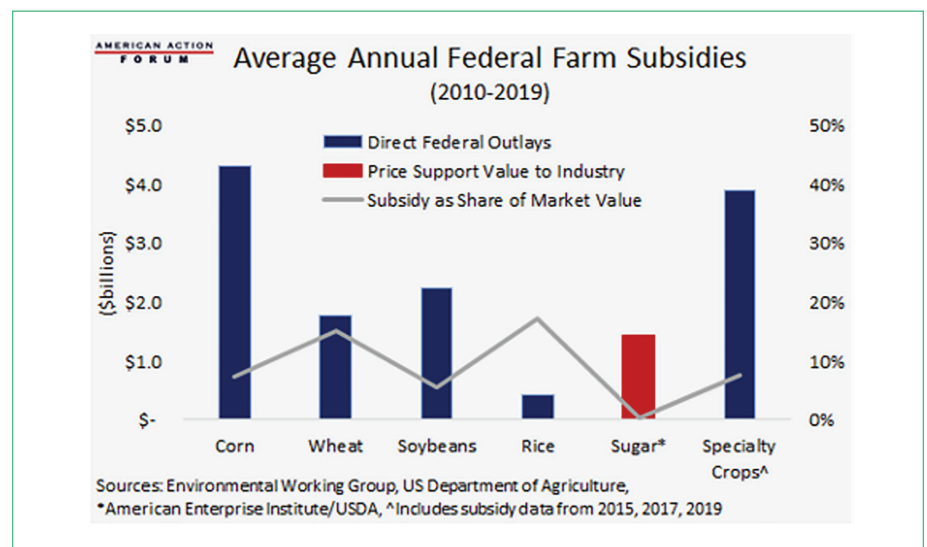
Today, there are an estimated 316,000 corn farms in the United States. So why has the acreage of corn farms and the number of farms shrank? The answer is two-fold: economics and subsidies.

Farms have sought the highest yield per acre, which can usually only be accomplished on larger farms with access to cheap capital and the technology and marketing to mass produce corn. Farmers, one by one, have sold their land, such that the independent farmer may now be working for one of the large conglomerates.

Is corn profitable without subsidies?

The economics of corn are closely tied to U.S. subsidies. If you remove government subsidies, corn is barely profitable for large farms in the United States if corn has a good harvest that year. In drought years, or

in the case of small farms, it's not profitable at all and often is grown at a loss. Farm subsidies are paid to farmers that help reduce risks from weather, commodities trading, and disruptions in demand. But these



subsidies have evolved to become very complex. As a result, only large producers can take advantage of them.

Five states – Iowa, Texas, Illinois, Nebraska and Minnesota – received the most farm subsidies between 1995 and 2020. These states have received 38.2% of the \$240.5 billion distributed between 1995 and 2020. During that time, there has been an increasing income gap between smaller farms and larger farms, with the top 10% of commodity payment recipients receiving 78% of commodity payments.

Of those subsidies, corn has benefitted the most. Subsidies for corn have far surpassed those for any other crop at more than \$120 billion since 1995. That is followed by subsidies for wheat at \$50 billion and soybeans at \$45 billion over that same period, according to farm.ewg.org.

Rise of the agribusiness

After WWII, when corn to feed U.S. troops wasn't needed anymore, there was an overabundance of corn. The same thing happened in subsequent wars like Korea and Vietnam, and again after shipments of unused, subsidized corn was sold to the Soviet Union in the early

1970s. After corn was produced in mass quantities to satisfy America's needs, the question then became what to do with all that corn once it wasn't needed anymore? You couldn't just thank corn farmers for helping out America, and then relegate them to poverty.

The answer was to create byproducts such as corn syrup, ethanol and booze, which could be processed and used in other products. Corn syrup and ethanol were obvious answers.

Corn syrup, also known as high-fructose corn syrup or HFCS, was first introduced by the Corn Products Refining Company of New York and Chicago, and its flagship product was Karo Corn Syrup. Anyone who was raised in the United States between 1910 and through the 1970s probably remembers pouring Karo Corn Syrup over their pancakes and waffles.

At first, it was marketed directly to consumers as a substitute to table sugar. Soon after it was marketed to companies, such as Aunt Jemima Maple Syrup, which incidentally contained no maple syrup at all. Then came breakfast cereals, followed by an array of other foods and beverages.

The cream of the crop for the corn industry was when Coca-Cola announced in the early 1980s that it was replacing sugar and moving exclusively to corn syrup, thus releasing the decades-old hold that the sugar industry had on Coke. More on this subject in Part Two when we discuss the effects of the corn industry on eliminating rival products and international tariffs.

Throughout all of this, the giants of agribusiness began to take shape and influence Washington trade policies – and politics.

Archer Daniels Midland, ADM, got into corn syrup production when it invested heavily in a process called “wet milling” around 1974, just as sugar prices peaked on world markets. After ADM increased its capacity to produce high-fructose corn syrup ninefold, sugar prices plummeted from 65 cents to 8 cents per pound.

ADM, with an estimated \$100 billion in annual revenue, is just one of several large agribusinesses whose profits have dramatically risen over the past 40 or 50 years. The largest is Minnesota-based Cargill, with revenue of \$165 billion. The third largest is JBS of Brazil, with an

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estimated annual revenue of \$65 billion. JBS is also one of the world's largest meat producers and is currently in the midst of a controversy after being accused of buying their beef from cattle ranchers who deforest the Amazon so their cattle can graze.

Farmers only receive an estimated one-third of the aggregate gains from the sale of corn. The bulk of the profits go to intermediaries, with two-thirds of it going to commodity traders and the remaining one-third going to agribusinesses, according to a report published by the London School of Economics.

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Pesticides, fertilizers and how big farms turn yield into profit

Pesticides and fertilizers are an important part of growing corn. Fertilizers not only help a plant get started but also strengthen the stems and leaves, making the corn more resilient to temperature swings, floods and insect bites. Pesticides, including herbicides like Roundup®, are designed to kill all types of unwanted pests like insects, rodents, fungus, etc.

Over 99% of Iowa farmland is sprayed with chemical pesticides and fertilizers, according to ActionAid USA. These chemicals are also destroying the organic matter in soil and polluting the rivers.

Monsanto, a Missouri-based agrochemical company founded in 1901, burst onto the scene in the early 1970s when it developed a new glyphosate-based herbicide called Roundup. Roundup was a great weed killer and was frequently used in home gardens. The problem was that Roundup was so effective at killing weeds but also killed virtually everything in its path, including crops and many flowers and bushes. And as Monsanto later found out during multiple rounds of lawsuits, it also caused cancer in humans. More on that in a moment.

Meanwhile, by the early 1990s, Roundup had become the most popular pesticide sold by hardware stores and nurseries directly to consumers. But Roundup needed to grow its piece of the pie. To grow that pie, it needed to sell directly to farmers, but most farmers wouldn't use Roundup on their crops.

The answer? Monsanto scientists began work on developing genetically modified seeds, publishing their work in 1983. After a series of acquisitions including Dekalb and Calgill's international seed

business, Monsanto dove full speed into becoming an agribusiness. It's Roundup Ready Corn® quickly became a best-selling corn seed. That allowed farmers to spray Roundup on their crops without fearing damage to the corn. By 2010, Roundup Ready crops accounted for about 90% of soybeans and 70% of corn grown in the United States.

In 2015, the World Health Organization said glyphosate, including Roundup, are “probably carcinogenic.” Farmers, gardeners, landscapers and anyone else that was exposed to Roundup for prolonged periods of time could be in danger. A year later the first lawsuit was filed against Monsanto by a groundskeeper named Dewayne Johnson, claiming that Roundup had caused his lymphoma. In 2018, a California jury awarded \$289 million in damages.

Since then, Monsanto has reached settlement agreements in nearly 100,000 Roundup lawsuits filed by people suffering from lymphoma or lymphatic leukemia. Monsanto has paid approximately \$11 billion to date. So far, only seven deaths were caused by Roundup, and all seven of those were by people who ingested it intentionally.

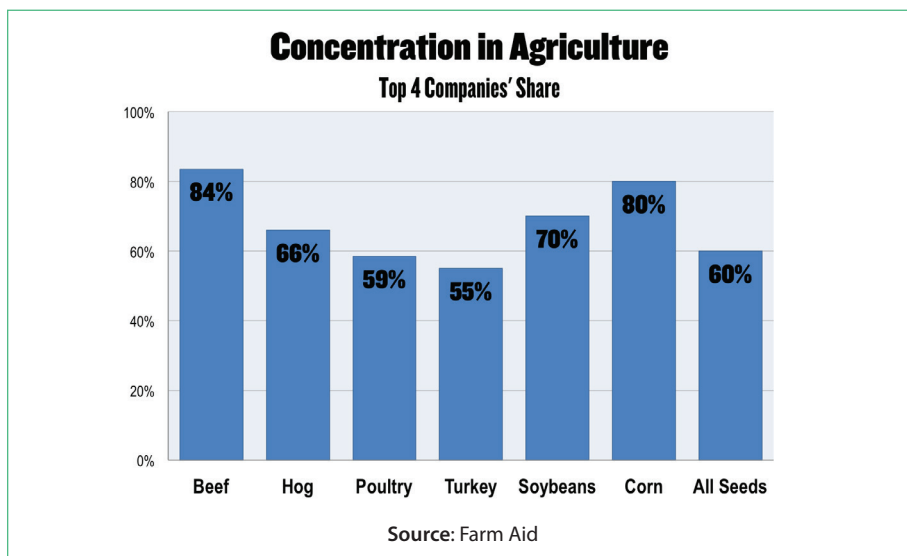
The first of many Roundup settlements came just two months after the German company Bayer closed its \$63 billion purchase of Monsanto. But Bayer knew what it was doing. It figured that if it bundled the settlements into block arrangements with plaintiffs' lawyers who have large cases in the litigation, it could eventually pan out in the company's favor.

The cases are still ongoing. And Bayer? The purchase of Monsanto is now seen as one of the worst corporate deals ever. Bayer's stock is now down 70% since the acquisition, as of Dec. 1, 2023.

Bayer remains the infamous proud owner of Roundup, which is still sold at hardware stores and nurseries and is still used by corn farmers. It doesn't hold the monopoly that it once had, and the Chinese have made a competing glyphosate herbicide which many farmers world-wide continue to use.

The Big Three: Working in unity

By the late 1990s, it was clear that Monsanto had become an agricultural powerhouse. The other big agribusinesses quickly realized they needed Monsanto, which expanded their pie by increasing yield on



all corn. So, rather than fight Monsanto they invited Monsanto to join their inner circle.

That led to several cross-investments between ADM, Cargill and Monsanto during the 1990s and 2000s, such as Cargill relinquishing its international seed business to Monsanto, helping the agrichemical company gain a foothold in the seed industry. By that time, Monsanto had given up its efforts to become a major pharmaceutical company, instead concentrating on agriculture.

By controlling the corn market, these big agribusinesses could manipulate the price and supply of corn. That, in turn, pushed many small farmers off their own farms and left fewer choices in grocery aisles and higher prices for consumers. In Part Two, we'll talk about how the Corn Mafia and traders are now using the Russia-Ukraine war and supply shocks to manipulate the price of corn.

"U.S. agriculture suffers from abnormally high levels of concentration, meaning just a handful of corporations control nearly all of our food production, processing, and distribution," writes Farm Aid. "Their unbridled power grants them increasing political influence over the rules that govern our food system and allows them to manipulate the marketplace – pushing down the prices paid to family farmers and driving them out of business."

Willie Nelson, the grammy-winning country singer and Farm Aid founder and president, said: “Our food system belongs in the hands of many family farmers, not under the control of a handful of corporations.”

Growth and breadth of the corn lobby

For decades, the corn industry developed corn into a thriving crop and hired lobbyists under the name of the Corn Farmers Association to enact tariffs and subsidies to protect that industry.

Then about 20 years ago, a group of corn farmers, lobbyists and agribusinesses – including behemoths ADM and Cargill – got together and decided corn’s share of the U.S. market wasn’t big enough. It needed a strategy that changed society’s view of corn and eliminated barriers and erected ways that strategy would flourish.

What it needed was a bigger lobby, with more money, power and influence than the Corn Farmers Association.

The Corn Refiners Association provided some help. It includes ADM and Cargill, among others. Its lobbying budget in 2022 was \$690,000, almost double the \$350,000 the Corn Farmers Association spent. There are other state-run farmers’ associations which at times could be relied on to help. Still, it was not enough to provide sufficient influence to sway politicians and government regulators to their cause.

But by inviting Monsanto, which came with a ready-built lobbying group on its own, the corn lobby now had enough power. In 2015, Monsanto spent \$4.3 million itself on lobbying efforts, most of which went to Republican candidates’ campaign elections. And it spent more than \$8 million to defeat the California proposal that year to label foods that were made with genetically modified seeds. That was successful until the federal government passed a law in 2016 under the Obama Administration that GMOs should all be labeled. The labeling was at first just voluntary but in 2022 it became law.

More importantly than the millions Monsanto spent on lobbying was the lobbying groups which Monsanto belonged to. In the U.S., this included Croplife International and Croplife America, the American Chemistry Council (ACC) and the Biotechnology Innovation Organization (BIO). In 2022, the ACC’s lobbying budget was \$14 million, 6th out of all industry lobbying groups. BIO was No. 7, at \$12.6 million. By

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comparison, it pales in comparison to the \$84 million spent by the National Association of Realtors and the \$26 million spent by the Pharmaceutical Research & Manufacturers of America at No. 2. But the ACC and BIO are still higher than the Cellular Telephone Industry Association at No. 8 or the American Bankers Association at No. 9.

And that's just in the United States. It doesn't include the millions of dollars Monsanto spent on lobbying efforts in Europe. It also is a member of the European Chemical Industry Council (CEFIC), which includes Bayer, BASF and Syngenta as its members. CEFIC is the largest single lobbying group in Europe. Switzerland-based Syngenta was acquired by ChemChina in 2017.

SO WHAT DO THE CORN LOBBYISTS DO WITH ALL THAT MONEY?

In part two, we'll cite examples, including Mexican Coke, ethanol and the gluten-free diet, of how the Corn Mafia is continuing to use those funds today to prop up corn and further its' four-pronged strategy. That strategy is: to use misinformation and marketing to undermine the concept that corn is bad for you; attack corn's rivals and back government-based sanctions, subsidies and tariffs; rewrite health history, creating the mythical "gluten-free diet" and position corn as a healthy alternative, and turn the Corn Mafia into one of the most powerful, influential and well-funded lobbies on the planet. We'll also discuss the Russia-Ukraine war and how commodity traders and the Corn Mafia profit from the invasion, and how current or planned policy changes may benefit investors and producers alike.

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