

Then vs Now - Memoirs from the Miller Family

An Overview of Farm Inflation from 1927-present

Miller Farm



website



blog



podcast

The Cost of Running a Farm Today

We have seen inflation take off in the last year posting a [6.2% raise in the CPI](#) year over year through October 2021 - when thinking about a one-year raise, this is a large and worrisome number. However, what does this number look like over the long haul (What do we mean by long haul...how about 100 years), and how does it affect on farm profitability?

First, let's start with what we know about today's costs to run a farm.

Energy prices are high, and shortages are gripping some parts of the world, with natural gas and oil well above their price levels this time last year. Labor is tight, equaling higher wages, and with backups in the supply chain, the cost of machinery (if you can get it) is also much higher.

When it comes to tracking the real-world application of all of this, no one does it better than the University of Illinois FarmDoc (<https://farmdoc.illinois.edu/>). Next up are some charts and data showing how inflation has affected farms' profitability in just the past few years.



Source: wiscondairy.org

“ I was born and raised on a small dairy farm in Rock County, Wisconsin. (Southcentral Wisconsin close to the Wisconsin / Illinois border.) **As Walter Cronkite would have said, “And that’s the way it was.”** ”

- Read on page 5

A Closer Look Into How Inflation Has Affected Farms' Profitability

First on the list is energy prices that directly correlate to the input/fertilizer prices. A closer look done by FarmDoc Daily has a great breakdown discussing the different scenarios and projecting that the average fertilizer cost per acre will jump by nearly \$100 for corn and \$50 in soybeans.

Table 1. Fertilizer Costs for Corn and Soybeans Using Fertilizer Prices in October 2020 and October 2021

Requirements ¹		Prices on 10/22/2020 ²		Prices on 10/21/21 ³		Change
		Prices	Costs	Prices	Costs	
Panel A. Corn⁴						
	lbs/acre	\$/ton	\$/acre	\$/ton	\$/acre	\$/acre
Anhydrous Ammonia	-- ⁵	432	42	1,035	87	45
DAP ⁶	177	428	38	814	72	34
Potash ⁷	88	327	14	776	34	20
Total Fertilizer Costs			\$94		\$193	\$99
Panel B. Soybeans⁸						
	lbs/acre	\$/ton	\$/acre	\$/ton	\$/acre	\$/acre
DAP ⁹	111	428	24	814	45	21
Potash ¹⁰	133	327	22	776	52	30
Total Fertilizer Costs			\$46		\$97	\$51

¹ Fertilizer requirements are based on University of Illinois recommendations.
² Taken from the October 22, 2020 *Illinois Production Cost Report*, Agricultural Marketing Service, USDA.
³ Taken from the October 21, 2021 *Illinois Production Cost Report*, Agricultural Marketing Service, USDA.
⁴ Based on an expected corn yield of 220 bushels per acre.
⁵ Based on Maximum Return to Nitrogen (MRTN) rates for central Illinois for corn-following-soybeans (see Corn Nitrogen Rate Calculator at <http://cnrc.agron.iastate.edu>). Given prevailing prices, the MRTN anhydrous ammonia rate is 234 pounds per acre on October 22, 2020 and 207 pounds per acre on October 21, 2021. For calculation of costs, the MRTN rates are reduced by 32 pounds to account for the nitrogen in DAP (DAP is 28% nitrogen, 32 = 177 pounds of DAP x .18).
⁶ Phosphate requirements are .37 pounds per bushel of expected corn yield. DAP is 46% phosphate.
⁷ K₂O requirement is .24 pounds of expected corn yield. Potash's analysis is 0-0-60.
⁸ Based on an expected soybean yield of 68 bushels per acre.
⁹ Phosphate requirements are .24 pounds per bushel of expected corn yield. DAP is 46% phosphate.
¹⁰ K₂O requirement is 1.17 of expected soybean yield. Potash analysis is 0-0-60.

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*Source: <https://farmdocdaily.illinois.edu/2021/11/planting-and-acreage-decisions-in-2022.html>
 Past performance is not indicative of future results.

A Closer Look Into How Inflation Has Affected Farms' Profitability (Continued)



Second on the current list is the cost of labor and machinery. FarmDoc also does an excellent job compiling this data into a reference point tied to the cost per hour to run a 310 PTO Horsepower Tractor... no tractors = no output! In short, the cost per tractor hour is expected to increase roughly 10% in 2022 vs. 2021.

Table 1. 310 PTO Horsepower Tractor Costs Estimated in 2017, 2019 and 2021

	Total	= Overhead	+ Fuel	+ Labor
	\$/hour	\$/hour	\$/hour	\$/hour
2017 Costs	164.30	110.90	33.60	19.80
2019 Costs	181.10	122.90	37.30	20.90
2021 Costs	189.20	126.10	41.10	22.00

farmdocDAILY

While the above is a short-term glance at the last year, it is essential to understand how inflationary pressures have changed the world in the last 100 years. To get a better look at this, we take a trip back in time to Wisconsin on the Miller family farm.

This is Bob's story:

Bob Miller entered the futures industry in 1976 as an industry visionary that had the foresight to develop and execute trades via technical and computer trading strategies. He is still very much involved in system trading, which is still his business stronghold for this 30+ year futures veteran. But his journey doesn't begin there. Join us for a first-hand, short memoir, commentated by Bob himself, as he relives his earlier years growing up on a dairy farm near Janesville, WI.

Planting The Miller Roots in Wisconsin

And, That's The Way It Was...

I was born and raised on a small dairy farm in Rock County, Wisconsin. (Southcentral Wisconsin close to the Wisconsin / Illinois border.) As Walter Cronkite would have said, "And that's the way it was."

My experiences started in 1944 when the doctor came to the farm to deliver me in the same farmhouse, just like he did with my three older siblings. But the farm life of my family goes further back before that. My great grandfather Frederick Miller immigrated from Germany in 1869 at 34 to start a new life in America and decided to plant his roots in Wisconsin. My grandfather George was born in 1877, followed by my father Fred (Fredrick) in 1901. Eventually, my great-grandmother acquired the land once her husband passed, and it has survived from generation to generation.

Forefather Farming

As my Great Grandfather and my Grandfather did, my dad helped his dad on the farm, and when he married in 1925, he and mom started farming 80 acres on their own. Little did he or any one know that soon the Great Depression was coming. Well into the depression dad purchased the 80 acres from his father for merely \$200 per acre (\$16,000) in 1931. During this time, it wasn't uncommon to still do a lot of manual labor; my father began his career by farming with horses, milking cows by hand, and utilizing the farmland to produce feed for the livestock — He raised pigs, chickens, and dairy cows. And, of course, in due time, bought a milking machine.

In the early years, corn was planted with a horse-drawn two-row planter. At some point in the corn growing process (probably in the '40s and maybe into the '50s), my father would plant with a check wire so he could cross cultivate. Some of the corn was picked by hand and tossed ear by ear into the wagon. Other corn harvesting was done by cutting the entire stalk with the ear attached, then bundled and hauled by wagon to the barn for the subsequent processing steps.

Changes progressed in dad's farming through the years from all by hand with horses, a windmill for pumping water to a well with an electric pump, a couple of tractors, a hay bailer, a bulk milk tank, an automated gutter cleaner in the barn, and so on. He farmed until he retired from owning the farm in 1960 and would help other farmers with their farm work. Dad always raised crops for his livestock and milked cows. He did not sell the corn or hay, and he never grew soybeans as he didn't need soybeans for his livestock.



Miller family ledgers

The Beginning of the Great Depression

For the Record

My father would log his daily activities, which in some cases he would include prices of items. I happened to stumble upon a box of old records one day going through some of his old things, which, quite frankly, I didn't even know existed. Here are some interesting statistics that I came across:

The Great Depression started shortly after my father took over the farm, and he did what he knew best to survive – he continued to farm. As we all know, the depression lasted several years, causing havoc all over the country. Within this file box, I found records on the family's 80-acre farm that show taxes for the following years:

- **1929** = \$144.99
- **1930** = \$140.59
- **1931** = \$103.32
- **1938** = \$93.01

I also found a 1951 tax record, and, interestingly, the valuation on the 80 acres showed a valuation of 6,800. The 1929 tax slip showed the land valuation at 8,400; the 1939 (start of WW II) valuation had dropped to 5,900:

F Miller Farm. 80 Acres Rock County Wisc. Taxes on farm and personal property

Year	Valuation	State Tax	County Tax	Town City or Village Tax	School Tax	Sub Total	Personal Property Valuation	Personal Property Tax	Total Tax
1929	8,400	6.75	42.88	48.46	31.76	129.85	980	15.14	144.99
1930	8,400	6.66	37.42	50.46	31.24	125.78	990	14.81	140.59
1931	8,400	-	27.13	42.00	25.46	94.59	775	8.73	103.32
1938	6,400	1.35	50.17	8.96	19.96	80.44	1,000	12.57	93.01
1940	5,900	1.30	41.73	9.21	25.76	78.00	1,225	16.19	94.19
1951	6,800	2.77	64.36	141.24	45.70	254.07	3,420 *	127.79	381.86

* in 1951 I found a separate tax slip for personal property. Guess the tax folks found a new process to assess taxes



Miller family 1938 & 1941 Tax Slips

Farm Appreciation Over 90+ Years

To the right is a picture of a receipt we had from the day followed below by a breakdown of the costs of these goods today. While inflation has been hot as of late it is interesting to see how not everything has appreciated the same over the last 90+ years.

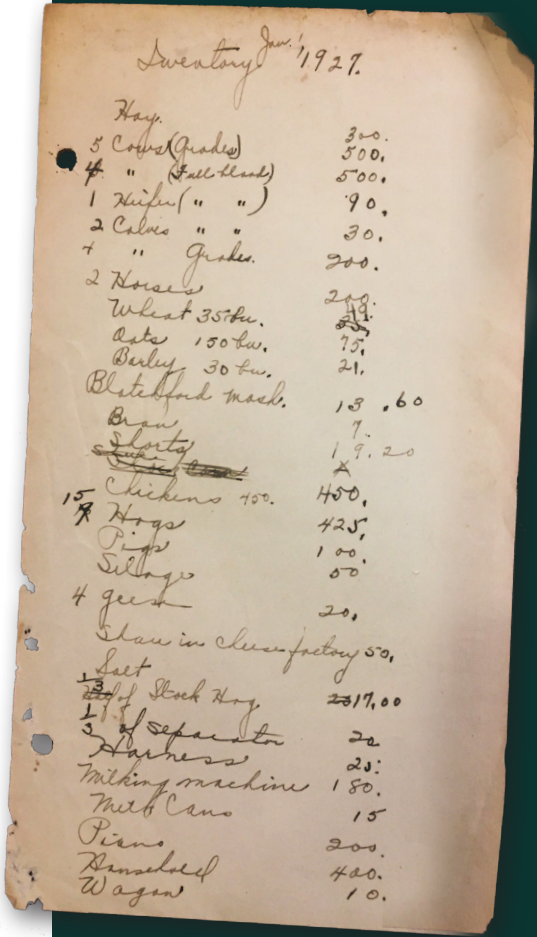
Miller Family Farm	1927	2021*	% Change
9 cows	\$1,000	\$17,884	1,688%
1 Heifer	\$90	\$1,765	1,861%
2 Horses	\$200	\$3,000	1,400%
Wheat (35 bu)	\$49	\$292	496%
Oats (150 bu)	\$75	\$1,155	1,440%
Barley (30 bu)	\$21	\$156	641%
15 Chickens	\$450	\$36	-92%
9 Hogs	\$90	\$1,659	1,743%
Milking Machine	\$180	\$816	353%
Piano	\$200	\$3,000	1,400%
Total Inventory	\$4,282	\$29,763	595%
	Inflation 1927-2021	1,472%	

From Raising Pork to Trading Pork Bellies

After high school, I went into trades. I became a journeyman machinist instead of college. As time went on, I went into the business of manufacturing and retail in the construction business.

In 1970, a friend of mine told me about trading pork bellies in the futures market. That was the changing point for my career, and I never looked back. When I was a farm kid, I thought 1 cent in the price of corn was one cent. Now I understand that 1 cent is \$50.00.

My... how this world has changed.



Miller family price list: 1927

Meet Bob Miller

Bob Miller

A husband, father, grandfather, great grandfather and still a futures broker.

Although there is very little correlation to the machine run world of today vs the manual labor from the Miller Family Farm; what does hold true is that inventory and input prices had a direct correlation to on farm profitability in 1927 just as 2021.

Bob's story is one that should resonate with each and every one of us as a reminder that, no matter how painful any one day, one week, or one year might be on our pocketbooks managing a farm is a business and takes a village of dedicated family, friends, and employees to carry on for the next 100 years.



Best of luck in 2022!

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