

How rising bond yields are changing the math on grain storage

Higher borrowing rates mean opportunity costs for storing grain have surged. Here's how to calculate whether holding crops this harvest makes financial sense.



There's more to storage than the physical cost.

(Katelyn Schrodtt)

The biggest story in financial markets this fall is the relentless rise in government bond yields around the world. Farmers know well that they're not insulated from the gyrations of global capital markets, and the rise in long-term yields is a phenomenon that is too costly to ignore as combines roll into the heart of harvest season across the Corn Belt.

Here's the thing about rising bond yields that can be easy – and costly – to miss. They're not just about rising borrowing costs. For producers making storage decisions, they also mean bigger opportunity costs.

"Maybe your opportunity cost as a farm is that you could apply that money to an open line of credit, or maybe you could put that money into a CD or a savings account at your local lender," David Widmar, co-founder of Agricultural Economic Insights, tells Pro Farmer. "The idea here is that storing grain has an opportunity cost — that money could be used to generate a return somewhere else in the operation."

Be a smart capital allocator

In fact, what's true for highflying hedge fund managers and Wall Street stock pickers also holds true for farmers and any other business that must make capital allocation decisions.

U.S. Treasury notes remain the closest thing the world has to a "risk-free" asset. In other words, you can park cash in the Treasury market without fear of losing your capital. When yields are low, the opportunity cost of parking money elsewhere is also low. But when yields are rising, that opportunity cost also rises.

That's why higher yields make stock-market investors nervous. A higher risk-free rate means that, all else being equal, equities must offer an even higher return to not only compete with the Treasury yield but to compensate investors for the higher risk of capital loss that comes with holding stocks.

For commodities, whether grain, gold or guacamole, it's much harder to compete. While stocks offer investors a yield in the form of dividends, commodities offer no yield and cost money to physically store.

The physical cost of grain storage is usually crystal clear, but opportunity costs can sneak up on operators. The current rate landscape is a stark departure from the ultra-low borrowing costs that producers had previously grown used to. Following the inflationary surge of the early 2020s, the Federal Reserve pushed rates significantly higher. After a short easing cycle, the Fed this year resumed raising interest rates and is expected to continue doing so in the face of inflationary pressures resulting from rising fuel costs and other effects of war and trade policy. The bottom line is that rising rates have essentially doubled storage and line-of-credit expenses for agricultural operations.

And it's not just a one-time consideration.

The double whammy

"If you put grain in the bin this fall, there is an opportunity cost of storing that grain every single month," Widmar says. "So when interest rates go up – and we went from a really low interest rate environment to a considerably higher interest rate environment – that's going to increase that opportunity cost. And the second part of this is that \$5 corn has more opportunity cost than \$4 corn... So we're getting hit on both sides."

This opportunity cost is particularly relevant relative to operating loans. That opportunity cost comes down to whether it's better to store grain or sell it and use the proceeds to pay down

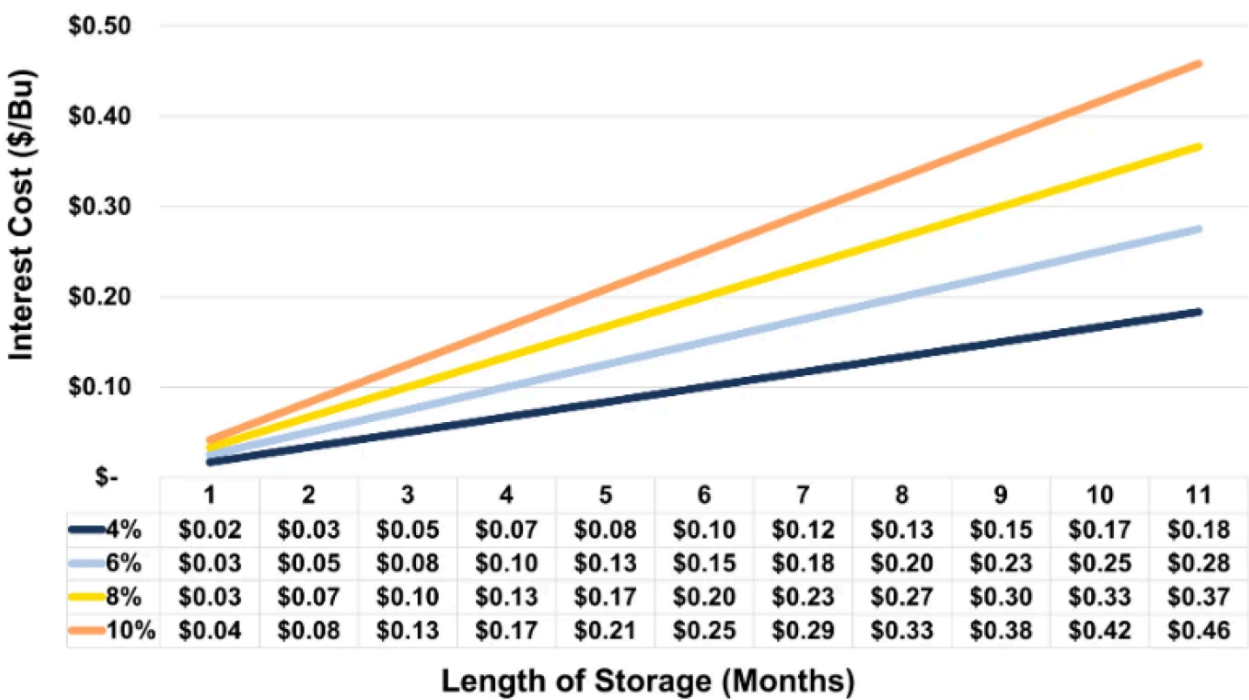
the loan.

A [2023 paper](#) by Grant Gardner of the University of Kentucky broke down the simple calculation at the heart of the issue. The operating loan interest cost on a dollar-per-bushel basis can be calculated by multiplying the harvest price by the interest rate and dividing the number of months the crop is stored by 12. For example, a producer that holds corn harvested in October until March (5 months), has an operating loan interest rate of 10% and is expecting a harvest price of \$5.00/bushel would have operating loan interest costs of storage of $\$5.00 \times 0.10 \times (5/12)$.

And then there’s the effect of rising interest rates on the calculation.

“If corn is harvested in October for March delivery (5 months) and the interest rate is 4%, operating loan interest costs of storage for \$5 corn would have been \$0.08/bu.,” Gardner wrote. “When the rate increases to 10%...the operating loan interest costs of storage are \$0.21 per bushel. This result indicates an increased operating loan interest cost of \$0.13/bu. (\$0.21 minus \$0.08), a 162.5% increase due to a 6% increase in interest rates.” (See chart below.)

Figure 1: Impact of Interest Rate Increases on Corn Storage Costs



Note: Costs do not account for physical storage costs such as bin depreciation, transport, drying, etc.
(Grant Gardner/University of Kentucky)

A doubling in costs

For soybeans trading near \$13 a bushel, the impact is magnified. The current rate landscape is a stark departure from the ultra-low borrowing costs that defined much of the past 15 years. Following the inflationary surge of the early 2020s, the Federal Reserve pushed rates significantly higher.

"Your interest cost roughly doubled here over the last few years," Widmar said. Take, for example, a producer that had \$15,000 in opportunity costs for storing grain between 2015 and 2020. "Now that same grain costs you closer to \$30,000 to hold for just six months."

So does that mean everyone should sell off the combine and forego storage? Of course not. But it does underline the importance of understanding the full cost of storage.

If, for example, you expect the market to gain more than your total carrying cost by your target sale date, storage may pay. If not, consider selling at harvest and using risk management tools to maintain price exposure.

Situational awareness

Alan Hoskins, president and national sales director of American Farm Mortgage Co. in Evansville, Ind., recalled a conversation he once had with a producer holding grain in storage. When Hoskins asked for his target price, the farmer quoted a number a dime below the market, explaining that he was expecting a further rally. But when asked what holding the grain was costing him each day, the producer had no answer.

Hoskins emphasizes that effective decision-making requires knowing your daily carrying cost versus the cost of eliminating a physical long position. For producers concerned about missing a post-harvest rally, risk-management strategies—such as using futures or options—allow them to "re-own" the crop on paper, cap their downside, and stop the daily storage meter.

None of this means storage is a bad decision, just that it's a more expensive one. For producers who expect basis to strengthen significantly or hold a strong conviction about post-harvest price movement, storage could still pay handsomely. The key is making that decision with eyes wide open to all expenses, including opportunity costs.

