



Diesel Fuel Price Impact on Fuel & Oil and Per-Acre Machinery Costs

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October 20, 2026

farmdoc daily (16): 189

Weekly Farm Economics

Recommended citation format: Schnitkey, G., N. Paulson, C. Zulauf, B. Zwilling, and J. Baltz. "Diesel Fuel Price Impact on Fuel & Oil and Per-Acre Machinery Costs." *farmdoc daily* (16): 189, Department of Agricultural and Consumer Economics, University of Illinois at Urbana-Champaign, October 20, 2026.

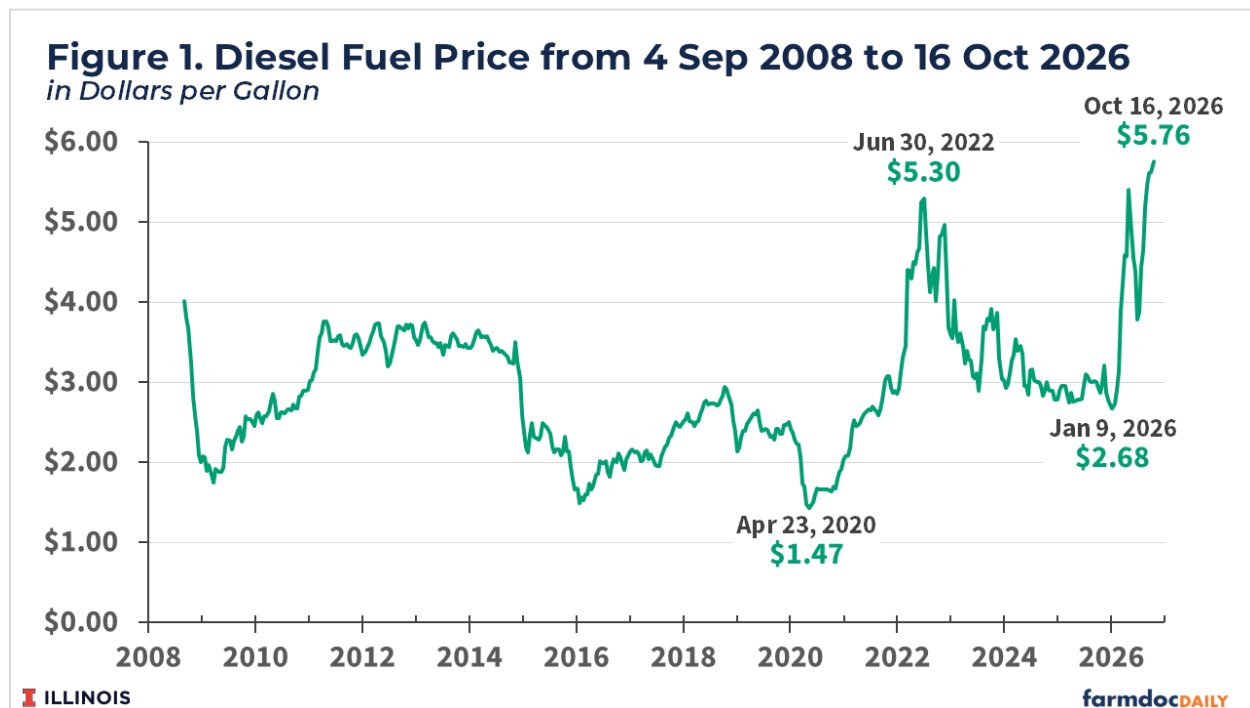
Permalink: <https://farmdocdaily.illinois.edu/diesel-fuel-price-impact-on-fuel-oil-and-per-acre-machinery-costs.html>

Diesel fuel prices for agricultural use in Illinois have reached a record high. Those higher prices are estimated to raise fuel and oil costs on Central Illinois grain farms with high land productivity to \$28 per acre for corn and \$24 per acre for soybeans, up \$6 and \$5 per acre, respectively, from 2025 costs. We also estimate fuel surcharges which may be applied for custom machinery operations. Surcharges range from \$1.60 to \$5.70 per acre for tillage operations.

Diesel Fuel Prices

The Agricultural Marketing Service (AMS) reported the average price of diesel fuel for agricultural use in Illinois at \$5.63 per gallon in its October 16th report. AMS began reporting Illinois fuel prices in September 2008 (see Illinois Production Cost Report). The \$5.63 is the highest price during the entire reporting period (see Figure 1).

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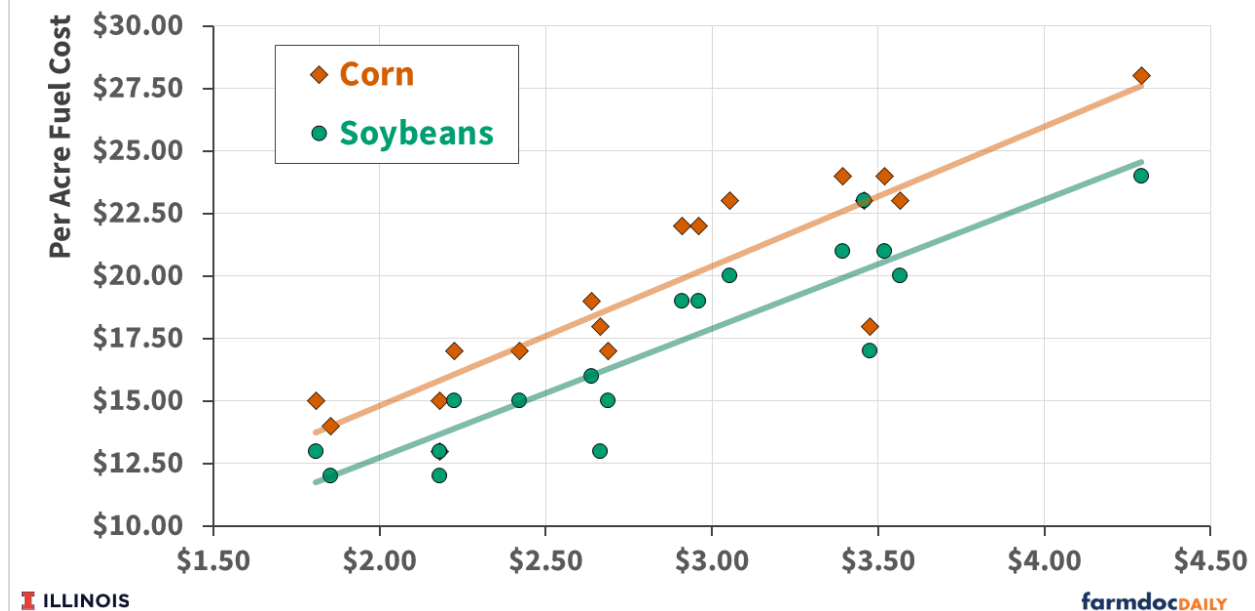
Diesel prices rose sharply in late February and early March 2026. On February 20, diesel prices averaged \$3.14 per gallon in Illinois. In the next report on March 6, average diesel prices rose to \$3.90 per gallon, up \$0.76. That increase coincided with the beginning of the conflict with Iran on February 28. From \$3.90, diesel fuel continued to rise, reaching \$5.41 on May 1. Prices then fell to a low of \$3.79 on June 26. Prices then began to increase again, reaching their current high levels. As usual, geopolitical events in energy-producing regions have affected fuel prices.

If current levels continue through the remainder of the year, the average Illinois price will be \$4.30 per gallon in 2026. A \$4.30 yearly price would be 50% higher than the \$2.84 average from 2009 to 2025. The previous yearly high was \$4.29, set in 2021.

Impacts on Fuel Costs

Fuel prices directly impact per-acre fuel costs. Between 2009 and 2025, fuel and oil costs for central Illinois grain farmers averaged \$19 per acre for corn and \$17 per acre for soybeans (see [Revenue and Costs on Illinois Grain Farms](#)). Figure 2 shows how fuel costs have varied over time, with fuel costs listed on the vertical axis and the yearly average AMS price listed on the horizontal axis. Each dot represents a yearly combination. Per-acre fuel costs increase with higher fuel prices. Fuel costs per acre correlate strongly with diesel fuel prices (see Figure 2). Using the estimated relationships shown in Figure 2, a projected annual diesel price of \$4.30 per gallon implies fuel and oil costs of approximately \$28 per acre for corn and \$24 for soybeans.

Figure 2. Scatter of Diesel Fuel Prices and Per Acre Fuel Costs



A projected \$28 fuel cost for corn would be \$9 per acre higher than the average of \$19 for 2009 through 2025 and \$6 higher than 2025's \$22 per acre.

Similarly, projected soybean fuel costs of \$24 per acre would be \$7 higher than the \$17 average for 2009 through 2025 and \$5 per acre higher than the \$19 cost for 2025.

Higher fuel and oil costs will negatively impact profitability. Still, fuel costs make up a relatively small share of total corn and soybean production costs. Between 2019 and 2025, fuel costs represented 2.8% of total non-land production costs for corn and 4.2% of soybean costs. However, higher diesel prices can also increase transportation and distribution costs for farm inputs. The magnitude and timing of these effects depend on fuel prices, supplier contracts, and market conditions. We do not estimate these indirect effects here.

Illinois's projected 2026 budgets already contain fuel and oil costs of \$28 per acre for corn and \$23 per acre for soybeans (see [farmdoc Daily, September 1, 2026](#)). Higher diesel fuel prices were anticipated when the latest projected costs were released in August. Fuel & oil costs for 2027 are projected higher at \$30 per acre for corn and \$26 per acre for soybeans (see [farmdoc Daily, September 1, 2026](#)).

Machinery Operating Costs

We estimate machinery costs every two years, with the latest estimates from 2025 (see [Machinery Costs](#) on [farmdoc](#)). We will update machinery costs again in 2027. The 2025 estimates used a diesel fuel price of \$3.00 per gallon. Higher diesel fuel costs will affect machinery operating costs. Higher fuel costs may warrant a fuel surcharge for machine hire operations. Surcharges will equal

$$(\text{current diesel price} - \text{baseline diesel price}) \times \text{gallons used per acre.}$$

As with other machinery operating costs, surcharges will be rounded to the nearest \$0.10. A \$5.60 diesel fuel price will be used as the current diesel price, close to the most recent diesel fuel costs in Illinois. These surcharges apply to fall operations using diesel priced at \$5.60 per gallon, rather than to all operations performed during 2026.

Table 1. Fuel Surcharges for Higher Diesel Fuel Prices

	Fuel Use in Gallons	2025 Costs in Dollars/Acre ¹		2026 Costs in Dollars/Acre		
		Total	Fuel Lube	Fuel Surcharge ²	New Total ³	
Primary tillage						
Chisel plow	0.7	\$19.50	\$2.20	\$1.80	\$21.30	
Coulter chisel plow (disk, chisel, leveler)	2.2	\$34.70	\$7.20	\$5.70	\$40.40	
Combination ripper	2.1	\$40.40	\$7.00	\$5.50	\$45.90	
Vertical tillage, rolling basket	0.5	\$18.50	\$1.50	\$1.30	\$19.80	
Moldboard plow	1.9	\$54.50	\$6.30	\$4.90	\$59.40	
Mulch tiller (disk, chisel)	1.1	\$29.60	\$3.60	\$2.90	\$32.50	
Offset disk	0.9	\$24.60	\$3.10	\$2.30	\$26.90	
Strip tillage (strips only)	0.9	\$26.10	\$3.00	\$2.30	\$28.40	
In line ripper	1.6	\$29.90	\$5.40	\$4.20	\$34.10	
Secondary tillage						
Field cultivator	0.5	\$15.30	\$1.80	\$1.30	\$16.60	
Mulch finisher (disk, chisel, drag)	0.6	\$22.70	\$2.00	\$1.60	\$24.30	
Tandem disk	0.5	\$18.30	\$1.70	\$1.30	\$19.60	
High-performance disk	1.0	\$18.70	\$3.40	\$2.70	\$21.40	
Planting						
Broadcast seeding	0.2	\$6.80	\$0.80	\$0.60	\$7.30	
Conventional planter	0.4	\$24.40	\$1.20	\$1.00	\$25.40	
Split-row planter ¹	0.3	\$26.30	\$1.00	\$0.80	\$27.10	
No-till planter	0.5	\$29.60	\$1.60	\$1.30	\$30.90	
Grain drill	0.5	\$21.20	\$1.70	\$1.30	\$22.50	
No-till drill	0.9	\$37.20	\$2.90	\$2.30	\$39.50	
Air disk drill with commodity cart	0.6	\$41.30	\$2.00	\$1.60	\$42.90	
Crop care						
Rotary hoe	0.2	\$8.50	\$0.70	\$0.50	\$9.00	
Row cultivating	0.5	\$19.50	\$1.80	\$1.30	\$20.80	
Spraying and ammonia application						
Self-propelled	0.0	\$6.10	\$0.10	\$0.10	\$6.20	
Pull-type	0.1	\$6.80	\$0.30	\$0.30	\$7.10	
Anhydrous ammonia	0.5	\$22.10	\$1.80	\$1.30	\$23.40	
Liquid fertilizer applicator	0.3	\$11.60	\$1.00	\$0.80	\$12.40	
Mowing	1.1	\$35.70	\$3.50	\$2.90	\$38.60	

¹ Taken from 2025 Machinery Cost Estimates (see <https://farmdoc.illinois.edu/management>)

² Equals (\$5.60 - \$3.00 price used in 2025 costs) x fuel use per acre.

³ Equals 2025 total costs plus fuel charge

Fuel usage estimates are included with machinery cost estimates. Table 1 shows 2025 machine cost estimates for many field practices. Table 1 also includes fuel use estimates. The cost estimate for a chisel plow is \$19.50, with fuel use of 0.7 gallons per acre. The additional fuel cost is \$1.82 per acre [(\$5.60 -

$\$3.00) \times 0.7]$, rounded to a surcharge of \$1.80. The new total cost for the chisel plow is \$21.30 (see Table 1). For tillage operations, fuel surcharges range from \$1.60 per acre for field cultivation to \$5.70 for a coulter chisel plow.

Combine costs for corn are estimated at \$54.40 per acre, with a fuel use of 1.07 gallons per acre. A fuel surcharge at a \$5.60 price is \$2.80 per acre.

Combine costs for soybeans are estimated at \$47.60 per acre, with an estimated fuel use of 0.70 gallons per acre. A fuel surcharge for a \$5.60 fuel price is \$1.80 per acre.

Summary

Higher diesel prices are projected to raise 2026 fuel and oil costs by \$6 per acre for corn and \$5 per acre for soybeans relative to 2025. These costs remain a small share of total non-land production costs, and current Illinois crop budgets already reflect most of the increases. Higher diesel prices may also increase transportation and distribution costs for farm inputs, although we do not estimate those indirect effects here. For custom machinery operations, the surcharge formula adjusts estimated costs for changes in diesel prices.

Paulson, N., G. Schnitkey, C. Zulauf and B. Zwilling. "[Illinois Crop Budgets for 2027](#)." *farmdoc daily* (16):157, Department of Agricultural and Consumer Economics, University of Illinois at Urbana-Champaign, September 1, 2026.