

The Nitrogen Forecast

Higher Into Spring, Lower by Late Summer

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The rebuilt nitrogen models project anhydrous ammonia rising from \$964 per ton in August 2026 to roughly \$1,044 in March 2027, then falling to \$876 by August 2027. Urea follows the same shape one month later, running from \$678 now to about \$705 in April before easing to \$622.

The shape matters more than either endpoint. The expensive months line up almost exactly with spring application, and the cheapest months arrive after the crop is in the ground.

Two forces drive that pattern. The European gas futures curve is steeply backwardated, which pushes fertilizer up through winter and down afterward. Both products also carry a substantial premium from the strait disruption that began in February, which the models assume unwinds over the next year.

1 The forecast

Anhydrous ammonia (\$/ton)

Month	Forecast	80% band	European gas assumed
September 2026	\$950	\$876 – \$1,025	\$17.90
December 2026	\$1,007	\$838 – \$1,176	\$24.70
March 2027	\$1,044	\$836 – \$1,251	\$26.20
June 2027	\$951	\$719 – \$1,184	\$19.40
August 2027	\$876	\$634 – \$1,117	\$16.70

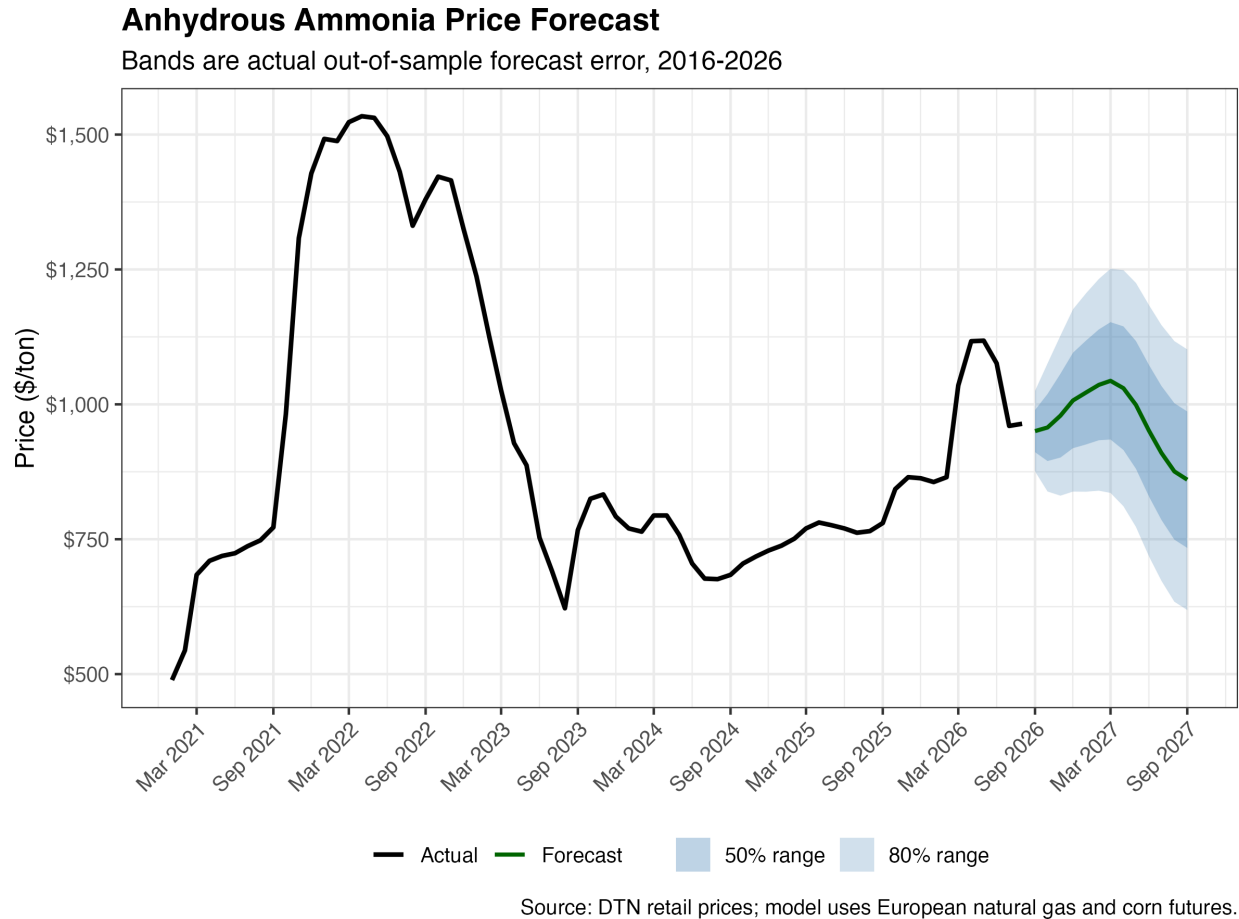


Figure 1: Anhydrous forecast fan chart

Urea (\$/ton)

Month	Forecast	80% band
September 2026	\$661	\$618 – \$705
December 2026	\$666	\$570 – \$762
March 2027	\$704	\$583 – \$824
April 2027	\$705	\$576 – \$835
August 2027	\$622	\$482 – \$762

Figure 1. Twelve-month anhydrous forecast with uncertainty bands

Urea is modeled on the same specification as anhydrous — European gas at a two-month lag, corn, seasonality, and an error-correction term — and estimated over the same period. Its gas elasticity is somewhat lower, 0.28 against 0.34, and it adjusts toward fundamentals

more slowly, with a half-life of 13.8 months against 9.2. That slower adjustment is why its peak arrives a month later than anhydrous.

In relative terms urea is the more predictable of the two. Its typical twelve-month error is \$109 per ton on a \$678 price, roughly 16 percent, against \$189 on \$964 for anhydrous, roughly 20 percent.

2 Why prices rise before they fall

The rise comes from the European gas futures curve, not from the models.

Dutch TTF, the European benchmark, is steeply backwardated. Early September pricing put October 2026 at roughly €72.77 per MWh against about €46.92 for the third quarter of 2027 — the market pricing a tight and expensive winter followed by material easing as LNG supply normalizes. Converted at current exchange rates, that is about \$24.74 per MMBtu this October against \$15.95 a year later.

Both models use European gas at a two-month lag, and that lag does most of the work in explaining the shape above. Gas peaks in December at about \$26.50, and anhydrous peaks two months later. The gas market's winter becomes the fertilizer market's spring.

The most expensive months in the forecast are therefore February through April, which is when nitrogen is applied for corn.

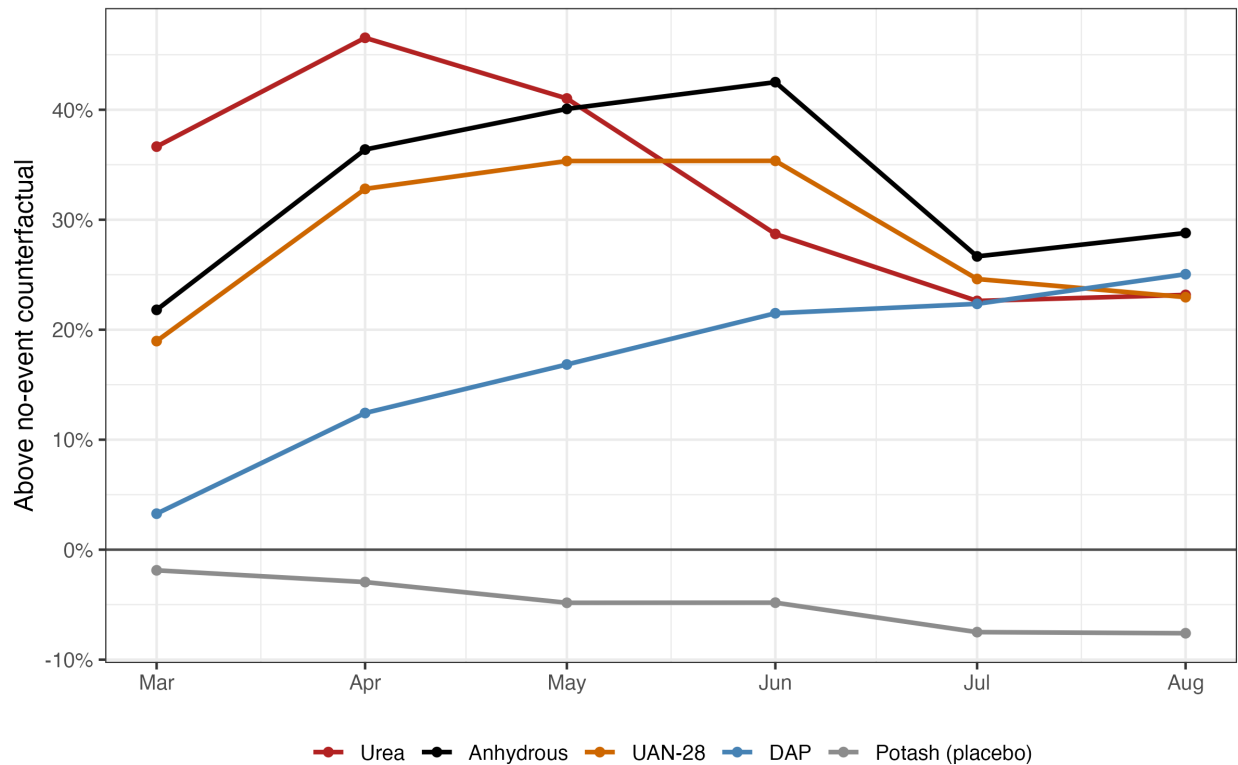
3 What the conflict is currently adding

Anhydrous sold for \$964 per ton in August. Fundamental value, given current gas and corn prices, was \$814. Had the strait never closed, the model puts the price near \$748. The first comparison gives a premium of 18.4 percent and the second 28.8 percent. They measure different things.

Against current fundamentals. The long-run relationship puts fair value at \$814 per ton for anhydrous and \$571 for urea, against August prices of \$964 and \$678. Both products sit roughly 18 percent above what current gas and corn prices justify — 18.4 percent for anhydrous, 18.8 percent for urea.

What the Strait Disruption Added to Fertilizer Prices

Percent above what gas and corn prices alone would justify, Mar 2026 onward



Potash is a placebo: not gas-based, does not transit Hormuz, and USMCA-exempt from tariffs. It stayed flat while nitrogen spiked. Its level is not an error bar - potash simply does not respond to natural gas.

Figure 2: Hormuz effect by fertilizer

Against a no-conflict counterfactual. Fitting each model on data through February 2026 and rolling it forward with European gas held at its pre-disruption level of \$11.19 per MMBtu produces the path that would have prevailed had the strait never closed.

Product	Mar	Apr	May	Jun	Jul	Aug
Urea	36.6%	46.5%	41.0%	28.7%	22.6%	23.2%
Anhydrous	21.8%	36.4%	40.1%	42.5%	26.7%	28.8%
UAN-28	19.0%	32.8%	35.3%	35.4%	24.6%	23.0%
DAP	3.3%	12.4%	16.8%	21.5%	22.4%	25.0%
Potash (placebo)	-1.9%	-2.9%	-4.8%	-4.8%	-7.5%	-7.6%

Figure 2. What the strait disruption added, by product

The counterfactual holds gas at pre-conflict levels; the fundamental-value comparison uses today's elevated gas. The 10-point gap between them is the part of the conflict effect that arrives through European gas rather than through nitrogen trade directly. The 29 percent is the total effect and the 18 percent is the portion current gas prices do not explain, so the two are not additive.

Potash is the control. It is not gas-based, does not transit the strait, and is exempt from current tariff actions. It has moved down 7.6 percent while every nitrogen product rose. That divergence is the main evidence that the nitrogen premium is disruption-driven rather than a general fertilizer inflation.

Urea took the disruption first and hardest, peaking near 47 percent above counterfactual in April, while anhydrous peaked later at 42.5 percent in June. They crossed over during the summer, and anhydrous now carries the larger residual premium. Urea is the globally traded molecule that actually transits the strait; anhydrous is pressurized, harder to ship, more regionally produced, and stickier in both directions at the retail level.

4 Three conflict scenarios

The base forecast follows the futures curve, which embeds the market's current probability weighting. Two alternatives bracket it.

A ceasefire and rapid normalization of energy flows would pull European gas toward €42 per MWh, about \$14.30. Continued or escalating disruption could push winter gas to €100, about \$34.00 — a stress case reported by several banks rather than a central expectation. Both are modeled by gliding gas to the stated level over roughly six months and running each model forward.

Scenario	Product	Dec 2026	Mar 2027	Jun 2027	Aug 2027
Ceasefire (gas → \$14.30)	Anhydrous	\$912	\$879	\$861	\$829
	Urea	\$617	\$615	\$617	\$596
Base (futures curve)	Anhydrous	\$1,007	\$1,044	\$951	\$876

Scenario	Product	Dec 2026	Mar 2027	Jun 2027	Aug 2027
Escalation (gas → \$34.00)	Urea	\$666	\$704	\$667	\$622
	Anhydrous	\$1,051	\$1,126	\$1,132	\$1,099
	Urea	\$688	\$747	\$767	\$747

At the March decision point the spread between ceasefire and escalation is \$247 per ton for anhydrous and \$132 for urea. In per-acre terms that is about \$17 and \$16 respectively — the two products carry similar scenario risk per acre despite the very different price levels, because urea supplies less nitrogen per ton.

A ceasefire does not return prices to pre-conflict levels within the horizon. Even under rapid normalization, anhydrous is \$829 in August 2027 rather than the roughly \$700 that prevailed before the disruption. Gas at €42 remains well above the pre-2022 European norm, and Russian pipeline supply is not returning at scale.

5 The forecast assumes the premium unwinds

By August 2027 the anhydrous forecast of \$876 sits at the fundamental value implied by the assumed gas price, \$865. Urea's \$622 sits near its \$601. The premium disappears almost entirely over twelve months, not because anything resolves it, but because the long-run relationship contains no term for a persistent disruption wedge.

Recent behavior runs the other way. Urea flattened near 23 percent rather than continuing toward zero, and anhydrous rose between July and August, from 26.7 to 28.8 percent. Slowing the error-correction speed does not fix the problem: halving it moves the March anhydrous forecast by about \$4, because beyond a few months the forecast is governed by the long-run relationship rather than by short-run adjustment.

Risks around these forecasts are therefore asymmetric. If the disruption premium proves durable, prices track the upper half of the bands.

6 The bands carry most of the information

Out-of-sample error grows with horizon. For anhydrous it runs \$58 per ton one month ahead, \$116 at three months, \$153 at six, and \$189 at twelve. For urea the same figures are \$34, \$66, \$87, and \$109.

The forecast rise in anhydrous from \$964 to \$1,044 is \$80, well inside the model's typical error at that horizon. The direction rests on firmer ground than the magnitude, since the winter increase comes from an observable futures curve rather than from model extrapolation. The size of the increase is not well determined.

7 What this means for a nitrogen budget

At 110 pounds of actual nitrogen per acre, a corn acre takes about 0.067 tons of anhydrous at 82 percent nitrogen, or 0.120 tons of urea at 46 percent.

Timing	Anhydrous	per acre	Urea	per acre
August 2026	\$964	\$64.66	\$678	\$81.07
Spring 2027 peak	\$1,044	\$70.02	\$705	\$84.30
August 2027	\$876	\$58.75	\$622	\$74.37

Anhydrous is the cheaper nitrogen source per pound of N by roughly 25 percent, a gap the headline price per ton obscures.

For nitrogen going on the 2027 crop, buying at today's price rather than waiting until the spring peak saves about \$5.36 per acre on anhydrous and \$3.23 on urea — roughly \$5,400 and \$3,200 across a thousand corn acres. Both figures are smaller than the uncertainty around them. They favor covering spring needs earlier rather than later, and nothing more than that.

The late-summer 2027 low is not available to anyone applying nitrogen in spring 2027. It bears only on purchases for the 2028 crop.

8 What would change this view

European winter weather is the dominant variable, working through gas demand and storage draw. A mild winter collapses the front of the TTF curve and takes the spring fertilizer peak with it.

The pace of Middle East energy export normalization is second, and the scenario table above brackets it.

Corn matters less than most producers expect. The corn elasticity is 0.39 for anhydrous against 0.34 for gas, but corn prices simply move less. The forward curve used here runs from \$4.59 this month to about \$5.09 by mid-2027.

The forecast is updated monthly, and the gas path is re-anchored on the futures curve each time.

9 Data and methods

- Forecast produced 6 September 2026.
- Retail fertilizer prices are DTN national averages via Prophet X; last actuals are August 2026, anhydrous \$964 and urea \$678.
- Historical European gas is FRED series PNGASEUUSDM, last observation July 2026 at \$17.93 per MMBtu; the forward path is built from quoted Dutch TTF futures at three anchors — October 2026 at €72.77, third quarter 2027 at €46.92, September 2027 at €46.55 — with intervening months interpolated on a winter-peak shape and converted at a spot euro-dollar rate of 1.16 divided by 3.412.
- Corn is the barchart forward curve. Both products are estimated in logs over March 2009 to August 2026, 210 observations: anhydrous gas elasticity 0.341 and corn 0.393 with an error-correction term of -0.073 per month; urea 0.279 and 0.367 with -0.049 .
- Uncertainty bands are realized out-of-sample error at each horizon from rolling-origin backtests with monthly origins since January 2016. The conflict counterfactual re-estimates each model on data through February 2026 and rolls it forward with European gas held at the February level of \$11.19 per MMBtu.