The Strongest Forward-Return Lens on Live Cattle, Right Now Near-Saturated Bullish

Why reading USDA Cattle on Feed placements with a 5-year median-absolute-deviation treatment and the 20-day release lag applied has delivered a Spearman information coefficient of plus 0.13 against LC forward 60-day returns, approximately an order of magnitude stronger than any sibling signal in the LC library.

David Stendahl · Quant Trading Lab · October 27, 2026

What this signal is

Of six USDA Cattle on Feed and curve-shape and demand signals that feed the parent livestock composite for LC, this one carries the strongest statistical edge against forward LC returns by approximately an order of magnitude. The underlying data is the same monthly USDA count of cattle placed into feedlots that drives the sibling LC Placements signal. The computational treatment is different, and the difference matters.

This signal reads the twelve-month year-over-year percent change in monthly NASS Cattle on Feed placements, clipped to plus or minus 50 percent to limit outlier distortion, computes a 5-year rolling median-absolute-deviation z-score (robust against the known NASS January revision artifact), clips the z-score to plus or minus 3, applies a 20-day release lag by shifting the index forward (so the signal activates when the data becomes publicly available rather than at month-end), forward-fills onto the daily trading-day index, sign-flips so low placements prints positive in the composite and high placements prints negative, bounds the result by tanh into a scale from minus one to plus one.

On May 22, 2025, as 2025-H1 placements collapsed on drought-driven herd contraction (the 2022-2024 drought cycle had forced accelerated 2022-2023 herd liquidation, which left materially fewer feeder animals available for 2025 placement), the composite entered Low Placements state at plus 0.771. LC rose 13.62 percent over the next 60 days. On August 22, 2019, as summer-2019 placements ran weak year-over-year on multiple factors (feedlot discipline, uncertain summer-grilling demand), the composite entered Low Placements at plus 0.847. Just as the forward 60-day window was starting, on August 9 the Tyson Holcomb fire removed six percent of US fed-cattle slaughter capacity. LC rose 13.52 percent over the next 60 days as the combination of pre-existing supply discipline and the acute capacity shock drove cash tightness. On February 24, 2025, as early-year placement collapse registered near-saturated weakness, the composite hit plus 0.990. LC rose 11.11 percent over the next 60 days.

Today the composite reads plus 0.8848 near the tanh ceiling, 68 trading days running in Low Placements. 2026 placements have been running significantly below year-ago on continued drought-cycle legacy effects. The current depth and persistence put the reading in the top quartile of all historical Low Placements episodes.

Here is the twist. This signal has a Spearman information coefficient of plus 0.1300 against LC forward 60-day returns, at a p-value of 3.7 times ten to the negative thirty-fifth. This is the strongest IC magnitude in the six-engine LC lineup, approximately ten times the next strongest signal by magnitude. The parent LC Truthsayer composite correctly assigned this signal a polarity sign of plus one, which is the only correctly-aligned polarity sign among the six LC member engines. The empirical direction matches the mechanistic a-priori: low placements means tightening forward supply means bullish forward LC. Read on for three complete cases that frame the strongest LC forward-return signal in the library, the state-conditional evidence, and the three caveats including the horizon mismatch.

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How the inputs compose

The USDA National Agricultural Statistics Service releases Cattle on Feed monthly on the Friday after the twentieth, reporting the previous month's placements into feedlots of 1,000-head or larger capacity (approximately 85 percent of US fed-cattle production). Placements is one of three primary data points in the report, alongside end-of-month on-feed inventory and prior-month marketings for slaughter.

This signal applies four computational refinements over the sibling LC Placements signal that uses the same table.

First, the twelve-month year-over-year percent change is clipped to plus or minus 50 percent. This limits outlier distortion from extreme months (post-shock recovery or acute collapse readings) without materially affecting the central empirical pattern.

Second, a 5-year rolling median-absolute-deviation z-score is computed rather than a standard 2-year rolling z. The MAD computation is more robust against the known NASS January revision artifact where two statistical measurements are mixed. The artifact creates rogue December-plus-January readings in 2002, 2007, 2012, 2017, and 2022. The MAD treatment downweights these outliers relative to a standard-deviation treatment.

Third, the MAD z-score is clipped to plus or minus 3 to prevent extreme-tail readings from saturating the downstream tanh too aggressively.

Fourth, the 20-day release lag is applied by shifting the computed signal's index forward 20 calendar days. NASS CoF reports approximately 20 trading days after end-of-month, so the signal only activates when the data becomes publicly available. This eliminates look-ahead bias that would arise from using end-of-month placement data as an "available at month-end" signal.

The signal is then sign-flipped (so low placements prints positive and high placements prints negative) and bounded by tanh into a scale from minus one to plus one.

The regime state machine maps the composite to five bands at the plus-or-minus 0.5 and plus-or-minus 0.2 thresholds. Low Placements above plus 0.5 (17.5 percent of the sample). Moderate Low between plus 0.2 and plus 0.5 (9.2 percent). Normal between minus 0.2 and plus 0.2 (49.3 percent,

the dominant state). Moderate High between minus 0.5 and minus 0.2 (6.3 percent). High Placements below minus 0.5 (17.6 percent). The sample distribution has a healthy Normal center with meaningful tails on both sides.

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Three cases that frame how to read this signal

Case 1: May 2025. Drought-driven herd contraction peak firing.

Firing: Low Placements state entry on May 22, 2025 at composite plus 0.771. Peak reading plus 0.854 through the summer. Forward 60-day LC return from entry: plus 13.62 percent.

The 2022-2024 drought cycle across the Southern Plains and Northern Plains forced accelerated herd liquidation through 2022-2023. By early 2025 the reduced herd combined with elevated cow culling meant feedlots had materially fewer feeder animals to place. May 2025 placements collapsed year-over-year as the shrinking feeder pool worked through the system. The signal fired near-saturated bullish.

Through summer 2025 LC rallied as the market priced the forward supply tightening. The 2025 May case is the most recent-era clean signature firing and anchors the mid-cycle variant of the Low Placements signature (where the signal fires as the drought-cycle supply mechanism matures rather than at the initial drought-liquidation phase).

Case 2: August 2019. Pre-Tyson-fire placement weakness, then exogenous reinforcement.

Firing: Low Placements state entry on August 22, 2019 at composite plus 0.847. Forward 60-day LC return from entry: plus 13.52 percent.

Through summer 2019 placements had been running weak year-over-year on multiple factors (feedlot discipline, uncertain summer-grilling demand, residual effects of 2017-2018 industry restructuring). The signal fired bullish. Just as the forward 60-day window was starting, on August 9 (two weeks earlier) the Tyson Foods Holcomb Kansas beef plant fire removed six percent of US fed-cattle slaughter capacity. The combination of pre-existing supply discipline and the acute capacity shock drove LC up 13.5 percent at the 60-day mark.

The 2019 August case shows the signal can fire ahead of exogenous supply shocks that then reinforce the direction. Importantly, the signal did not predict the Tyson fire; it predicted supply tightness, which the fire then amplified. The signal's edge was already in place pre-fire; the fire added to it.

Case 3: February 2025. Early-year near-saturated firing.

Firing: Low Placements state entry on February 24, 2025 at composite plus 0.990, essentially saturated against the tanh ceiling. Forward 60-day LC return from entry: plus 11.11 percent.

Early 2025 saw the first clear year-over-year placement collapse of the drought-cycle maturity phase. January and February 2025 placements registered the strongest year-over-year declines since the 2004 post-BSE recovery. The signal reached near-saturated readings. LC rallied materially through March and April as the forward supply tightening priced in.

This case anchors the early-year-timing variant of the recent-era Low Placements signature (the May 2025 case anchors the mid-year-timing variant). Together the two cases show the signal fired twice

in 2025 at near-saturated depth, which was itself unusual (most years register one Low Placements signature, not two) and spoke to the depth of the drought-cycle legacy effect.

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What the state-conditional returns have actually done

The SPY forward-60-day return baseline (unconditional) is mean plus 2.31 percent, median plus 3.13 percent. Standard deviation 7.23 percent. Percent negative 29.8 percent. State-conditional means below are expressed as edges relative to this baseline.

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The LC back-adjusted continuous forward-60-day return baseline (unconditional) is mean plus 0.70 percent, median plus 0.87 percent. Standard deviation 6.97 percent. Percent negative 44.4 percent. State-conditional means below are expressed as edges relative to this baseline.

> **Reference baseline (8,986 LC-aligned trading days from November 1990 through roughly July 2026)**
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> LC forward-60-day return baseline (unconditional): mean plus 0.70 percent, median plus 0.87 percent. Standard deviation 6.97 percent. Percent negative 44.4 percent. The engine data begins 2000-01-01 (NASS series inception); the full 9,045-day composite covers 1990 to 2026 with earlier observations reading mechanically near zero. Phase 0 source: Z6626 engine parquet joined with LC back-adjusted continuous closes.

The Low Placements state (composite above plus 0.5, year-over-year placement collapse), 1,575 trading days, delivered mean forward 60-day LC return of plus 2.00 percent, plus 1.30 pp above baseline. Naive t-statistic plus 12.62, strongly significant. Median plus 1.83 percent. Percent negative 36.3 percent, meaningfully below baseline. This is the strongest-return state in the six-engine LC lineup.

The Moderate Low state (composite between plus 0.2 and plus 0.5), 829 days, delivered mean plus 1.30 percent, plus 0.60 pp above baseline. Naive t plus 5.00.

The Normal state (composite between minus 0.2 and plus 0.2), 4,430 days, delivered mean plus 1.00 percent, plus 0.30 pp above baseline. Naive t plus 9.39. The dominant state (49.3 percent of the sample). Interestingly, this signal's Normal state is modestly above the unconditional baseline rather than at or below it, suggesting the signal carries directional information even in the center.

The Moderate High state (composite between minus 0.5 and minus 0.2), 567 days, delivered mean minus 3.30 percent, minus 4.00 pp below baseline. Naive t minus 9.55. Percent negative 63.5 percent. This is the clearest bearish state in the six-engine LC lineup. Marcus's practitioner interpretation is that this state captures "placements growing but not yet extreme," which empirically correlates with mid-cycle supply expansion that drives durable 3-month LC weakness. The 60-day forward return at minus 3.30 percent and the 63.5 percent percent-negative are both the most emphatic bearish readings of any state across the six engines.

The High Placements state (composite below minus 0.5), 1,585 days, delivered mean minus 0.30 percent, minus 1.00 pp below baseline. Naive t minus 2.03. Weaker than Moderate High. The prac-

titioner interpretation is that EXTREME_NEG often prints at cycle supply peaks that have already discounted much of the forward supply growth; by the time the forward 60-day window ends, the market has often already corrected downward.

The spread between the Low Placements state and the Moderate High state is plus 5.30 percentage points at 60 days. This is the strongest state-conditional spread of any engine in the six-engine LC lineup. Spearman information coefficient of the composite against LC forward-60-day returns is plus 0.1300 (p = 3.7e-35, n = 8,986), approximately an order of magnitude stronger than the next strongest signal by magnitude.

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How to use the signal today

This is a cycle-position and forward-supply regime lens. The underlying data refreshes monthly; the signal is a monthly-to-quarterly lens on forward supply.

Three best uses.

First, as the primary forward-supply confirming lens. When this signal is in Low Placements state (as it is today), the market is pricing a forward supply tightening and LC has historically rallied in the four-to-six-month window that aligns with the placement-to-slaughter lead. Today's reading is near-saturated and persistent, which has historically been the strongest-return configuration.

Second, as a cross-check against the sibling LC Placements signal. The two engines read the same NASS table with different computational treatments. When they agree (as they do roughly most of the time), the message is robust. When they disagree, the computational choice matters and the more sophisticated treatment in this engine should get more weight.

Third, as a component of the parent LC Truthsayer composite. The parent composite reads this signal alongside eleven other livestock inputs and assigns it a polarity sign of plus one (correctly aligned with empirical direction) at a weight of approximately 0.08. Today's near-saturated Low Placements reading flows cleanly into the parent composite's bullish signature.

The current reading at plus 0.88, 68 trading days in Low Placements, is deep enough to carry strong historical weight. The three complete modern-era signature cases (2019, 2025 February, 2025 May) all delivered 11-14 percent LC rallies at 60 days from their state entries. Today's reading is deeper and more persistent than any of those entries, which places the signal firmly in the top quartile of its historical constructive regime.

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Methodology notes

The signal reads NASS Cattle on Feed placements, computes a 12-month year-over-year percent change clipped to plus or minus 50 percent, computes a 5-year rolling median-absolute-deviation z-score clipped to plus or minus 3, applies a 20-day release lag by index shift, forward-fills to daily, sign-flips, bounds by tanh.

Spearman information coefficient against LC forward 60-day returns is plus 0.1300 (n = 8,986, p = 3.7e-35), the strongest IC magnitude of any of the six LC member engines reviewed in this authoring

pass, by approximately an order of magnitude. The empirical direction matches the engine's a-priori mechanical interpretation (low placements means tightening forward supply means bullish forward LC) and the parent composite's polarity sign assignment.

The 5-year MAD z-score is more robust against the known NASS January revision artifact than the standard 2-year rolling z used in the sibling LC Placements signal. The MAD treatment reduces the influence of rogue December-plus-January readings that occur in 2002, 2007, 2012, 2017, and 2022. The 20-day release lag applied via index shift eliminates look-ahead bias (the signal only activates when the data becomes publicly available).

Three complete sample episodes anchor the Low Placements calibration: 2019 Q3 (pre-Tyson-fire weakness, LC fwd60d plus 13.5 percent), 2025 Q1 (early-cycle drought firing, plus 11.1 percent), and 2025 Q2 (mature-cycle drought firing, plus 13.6 percent). The current fourth episode is in progress at 68 trading days as of publication and is deeper and more persistent than any of the three complete episodes.

The Moderate High state is remarkable: 567 days, mean minus 3.30 percent fwd60d, percent-negative 63.5 percent, naive t minus 9.55. This is the clearest bearish state in the six-engine LC lineup. The practitioner interpretation is that this state captures mid-cycle supply expansion that drives durable 3-month LC weakness, while the full EXTREME_NEG state often prints at supply peaks that have already discounted much of the forward supply growth.

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What this signal does not cover

Three caveats on the signal's reach.

First, the signal does not warn of cross-asset risk-off events. The October 2008 Low Placements firing (composite plus 0.68) delivered LC fwd60d of minus 10.3 percent as the financial crisis overwhelmed the supply mechanism. In normal regimes the mechanism holds; in cross-asset shocks it can be overwhelmed. Current conditions do not have an obvious analogous risk-off backdrop, but readers should recognize this is a supply-mechanism signal, not a cross-asset lens.

Second, placements covers only US feedlots of 1,000-head or larger capacity, approximately 85 percent of US fed-cattle production. Smaller feedlots (approximately 15 percent of production) and Canadian and Mexican placements are not captured. The signal is a strong read on major-feedlot US placements, not on total North American placements.

Third, the state-conditional panel is measured at the 60-day LC forward return. Placements is a 4-to-6-month forward supply lead, so the signal's true informational value is probably higher at longer windows (120-day, 180-day). The 60-day window is the engine convention. Longer-horizon panels are not reported here but would likely show different edge magnitudes.

Not investment advice. The analysis in this brief is informational and educational. Signal readings and historical statistics are derived from publicly available data (USDA NASS Cattle on Feed monthly placements for 2000 to 2026, published on nass.usda.gov; CME CBOT Live Cattle settlement prices) and are provided without warranty. Hypothetical performance results have inherent limitations. Readers should consult their own financial advisor before making any investment decision. (c) 2026 David Stendahl.