The LC Cash Basis Signal, Grade C Packer-Margin Lens

Why USDA AMS LM_CT100 5-area weighted-average cash cattle price minus CME Live Cattle first-nearby, seasonal-detrended and z-scored, is a Grade C directional signal with marginal daily and non-overlap significance – a material improvement vs the prior formulation but still a supportive-not-standalone read.

David Stendahl · Market Lab Analytics · November 1, 2026

The signal and why it matters today

USDA Agricultural Marketing Service publishes LM_CT100 daily, carrying the 5-area weighted-average negotiated cash cattle price. The cash market is where packers settle immediate slaughter needs. CME Live Cattle futures price forward supply.

The gap between these two – cash basis – captures packer willingness to pay up for immediate cattle versus their forward-pricing committed position. Wide positive basis signals packers chasing scarce cattle in the cash market, a margin-squeeze condition. Narrow or negative basis signals packer caution and margin flush.

This signal reads AMS LM_CT100 5-area cash price daily (available from 2020-04-24) and CME Live Cattle first-nearby close (LC_0_L1ND, Rule 35 traded-prices for level/spread work), computes the dollar basis in $/cwt, subtracts a day-of-year climatology to remove seasonal pattern (basis has a strong summer-high, fall-low rhythm), then z-scores on a 252-day rolling window.

The honest grade. Grade C. Daily Spearman IC against LC fwd60d is plus 0.083 at p-value 9.3e-04 across 1,579 trading days – passes the magnitude bar (|rho| >= 0.08) but p-value above the strict 1e-10 convention. Non-overlapping (every-60-day) IC is plus 0.372 at p-value 0.056 across 27 independent samples – MARGINAL (just over the 0.05 bar). The non-overlap n=27 is sample-constrained – the signal has only 6.5 years of history (2020-04 onward) because AMS daily cash started then.

Phase stats show modest directional edge. Phase +1 (Wide Cash Premium) delivers plus 3.88 percent fwd60d (plus 0.47 pp above the plus 3.41 percent baseline, hit 77 percent). Phase –1 (Narrow Cash Premium) delivers plus 3.23 percent (minus 0.18 pp vs baseline). Phase 0 delivers plus 3.36 percent. Directional spread of 0.65 pp is notably smaller than other LC signals in this library.

Current reading. Normal at composite minus 0.191, 3 trading days running. The basis is within seasonal norms. Signal DORMANT.

How the cash-basis mechanism composes

AMS LM_CT100 captures negotiated cash transactions across five federally reported regions. The weighted-average price reflects what packers actually pay for immediate slaughter cattle on any given trading day. CME Live Cattle first-nearby close reflects where traders price the forward supply, discounted for storage, interest, and expected finish-weight dynamics.

Wide Cash Premium (positive composite, Phase +1) means the cash price is running materially above its seasonally-adjusted baseline relative to futures. This regime historically coincides with:

- Drought-driven calf-supply tightness where packers must pay up for scarce cattle (2022)
- Peak summer grilling demand where retail beef demand front-runs futures positioning
- Compressed packer-margin environments where kill-floor utilization pressure forces aggressive cash bidding

Historical pattern: Phase +1 delivers plus 0.47 pp above baseline, 77 percent hit rate.

Narrow Cash Premium (negative composite, Phase −1) means the cash price is running below its seasonally-adjusted baseline relative to futures. This regime historically coincides with:

- Packer caution driven by compressed cutout-vs-cash margins
- Short-term cold-storage overhang where packers slow kill
- Weak retail demand pulling cash bids below futures-implied levels

Historical pattern: Phase −1 delivers minus 0.18 pp below baseline.

Normal regime (Phase 0) is the equilibrium zone where cash basis tracks the day-of-year climatology.

The signal is complementary to the LC Beef Packer Margin which reads cutout-vs-cash from the opposite side.

What the state-conditional returns have actually done

> **Reference baseline – LC fwd60d (unconditional)**
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> CME Live Cattle first-nearby forward-60-day return baseline over the live-signal window: mean plus 3.41 percent, median plus 3.60 percent, standard deviation 7.4 percent. Sample window 2020-04-27 through 2026-10-30, 1,579 trading days with observable fwd60d.

Per-day sampling (used for daily Spearman IC):

Phase plus 1 (Wide Cash Premium, composite greater than plus 0.3) covers 231 trading days – 14.6 percent of the sample. Per-day mean fwd60d plus 3.88 percent, hit rate 77 percent. OUTPERFORMS baseline by plus 0.47 pp.

Phase 0 (Normal) covers 988 trading days – 62.6 percent of the sample. Per-day mean fwd60d plus 3.36 percent, hit rate 77 percent. Near baseline (minus 0.05 pp).

Phase minus 1 (Narrow Cash Premium, composite less than minus 0.3) covers 360 trading days – 22.8 percent of the sample. Per-day mean fwd60d plus 3.23 percent, hit rate 76 percent. UNDERPERFORMS baseline by minus 0.18 pp.

Modest directional pattern. 0.65 pp directional spread – smaller than other LC signals in this library (LC Placements YoY at 4.59 pp spread).

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Three cases that frame how to read this signal

Case 1: Q3 2022. Wide Cash Premium – drought-driven margin squeeze.

Firing date: August 15, 2022 at composite near plus 0.80. Context: Southern Plains drought liquidation shrank cash supply; packers chased cattle in cash markets to keep kill floors utilized. Live cattle at approximately 145 dollars. Forward LC rallied modestly through Q4 2022 as the margin squeeze resolved. Modern-era Wide Premium anchor.

Case 2: Q1 2024. Narrow Cash Premium – packer caution.

Firing date: January 15, 2024 at composite near minus 0.70. Context: Packer margins had compressed and cash bids were softening relative to futures. Live cattle at approximately 175 dollars. Forward LC moved sideways through Q2 2024 as the mechanism played through modestly. Non-crisis Narrow Premium anchor.

Case 3: Current – Normal.

As of October 30, 2026, the composite reads minus 0.191, Normal firing. The seasonal-detrended cash basis is within its 252-day baseline band. CME Live Cattle trades the 215 to 225 dollar range. Signal DORMANT.

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How to use the signal today

As of November 1, 2026, the composite reads minus 0.191 – Normal firing, 3 trading days running. The seasonal-detrended cash basis is within its 252-day baseline. CME Live Cattle trades the 215 to 225 dollar range. Signal DORMANT.

The signal is Grade C – treat as auxiliary confirmation evidence, not a primary directional call. Both the daily and non-overlap IC are marginal, and the 0.65 pp phase directional spread is small compared to other LC signals.

Pair with four confirming reads for direction:

- **LC-Corn Ratio Signal**. Feedlot producer-margin anchor – Grade A LC anchor.
- **LC COF Placements YoY Signal**. Pipeline supply – Grade A directional.
- **LC CFTC Positioning Signal**. Managed-money positioning extremes.
- **LC Beef Packer Margin Signal**. Packer kill-cut mechanism from the cutout side.

Cash Basis is the packer-margin layer complementing the LC Beef Packer Margin signal (which reads cutout-vs-cash from the opposite side). When both align on direction, packer-margin conviction is high.

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Methodology notes

Data source. USDA AMS LM_CT100 report, 5-area weighted-average cash cattle price (daily, published 1:30 PM CT). Available from 2020-04-24 onward. CME Live Cattle first-nearby close (LC_0_L1ND) daily.

Signal construction. Compute dollar basis in $/cwt (cash minus futures). Subtract day-of-year climatology to remove seasonal pattern. Z-score on 252-day rolling window with 63-day minimum sample. Bound with tanh. State thresholds plus or minus 0.2 (moderate) and plus or minus 0.5 (extreme). Phase +1 at composite above +0.3, phase −1 below −0.3. Target: CME Live Cattle first-nearby close (LC_0_L1ND).

Validation statistics. Daily Spearman IC against LC fwd60d is plus 0.083 at p-value 9.3e-04 across 1,579 observations – passes magnitude bar (0.08) but above strict 1e-10 significance bar. Phase +1 per-day mean fwd60d plus 3.88 percent (plus 0.47 pp above plus 3.41 percent baseline, hit 77 percent). Phase −1 per-day mean plus 3.23 percent (minus 0.18 pp vs baseline). Phase 0 mean plus 3.36 percent. 0.65 pp directional spread.

Independence test. Non-overlapping (every-60d) sampling yields Spearman IC plus 0.372 at p-value 0.056 across 27 independent observations – MARGINAL (just over the 0.05 bar). The standard significance threshold is 0.05.

Why Grade C. BOTH daily and non-overlap are marginal. Sample is constrained at 6.5 years of history (AMS daily cash started 2020-04-24, only 27 non-overlap samples). Grade C reflects the dual-marginal significance and the small directional spread.

Reformulation note. The prior engine read NASS_PRICE_CATTLE monthly nationwide farmer-gate average (321 rows) and used LC back-adjusted continuous futures, computed percent basis without seasonal detrend, and hardcoded “wide cash premium = bullish” without empirical validation. Daily IC was plus 0.007 (near-zero), non-overlap p=0.856. The reformulation switches to AMS LM_CT100 5-area daily cash, LC first-nearby (Rule 35 compliant), dollar basis, day-of-year climatology seasonal detrend, 252-day z-window, and empirically-determined polarity. The reformulation is a material improvement (daily IC moved from +0.007 to +0.083, non-overlap from p=0.856 to p=0.056) but still below strict Phase 0 bar.

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What this signal does not cover

First, Grade C significance – BOTH daily and non-overlap are marginal. Supportive evidence only.

Second, sample constrained at 6.5 years of history. The AMS daily cash series started 2020-04-24, giving only 1,579 live observations and 27 non-overlap samples.

Third, directional spread of 0.65 pp is small compared to other LC signals (LC Placements YoY at 4.59 pp spread; LC-Corn Ratio at approximately 3 pp).

Fourth, the signal captures packer-side margin dynamics. Other primary LC signals (COF Placements, Corn Ratio) read pipeline supply and feedlot producer margins which are stronger directional drivers.

Broader caveat: Grade C directional cash-basis signal with marginal daily and non-overlap significance. The signal provides a tactical lean on packer-margin positioning. Pair with pipeline-supply, feedlot-margin, and CFTC-positioning signals for stacked confirmation.

This research brief is for informational purposes only and does not constitute investment advice. Past performance is not indicative of future results. Signal reads reflect historical state-conditional statistics; any decision to act on signal readings is the reader's responsibility. Data sources: USDA AMS LM_CT100 5-area weighted-average cash cattle daily; CME Live Cattle first-nearby close target. State-conditional statistics computed through 2026-10-30.