The Term Structure Curve Signal, the Strongest-IC Directional Anchor in the LC Fundamental Stack

Why CME Live Cattle full term curve composite (L2/L3/L6 vs L1 average), z-scored on two years, catches market consensus on forward supply via inter-month spreads – daily IC –0.400 AND non-overlap IC –0.411 both significant.

David Stendahl · Market Lab Analytics · November 1, 2026

What this signal is, with the limits stated upfront

This is the strongest-IC directional signal in the LC fundamental stack. Daily Spearman IC against LC fwd60d is minus 0.400 at p-value essentially zero. Non-overlapping (every-60-day) IC is minus 0.411 also at p-value essentially zero – INDEPENDENTLY significant across 150 non-overlapping samples. Grade A.

CME Live Cattle futures trade across multiple contract months: front month (L1), second-nearby (L2), third-nearby (L3), and sixth-nearby (L6). The inter-month spreads embed the market consensus on forward supply. When deferred months trade at a premium to the front (CONTANGO), the market expects supply plentiful forward. When deferred months trade at a discount (BACKWARDATION), the market expects supply tight forward.

This signal reads the full term curve composite – the average spread of L2, L3, and L6 contracts versus L1 – z-scored on a 504-day rolling window with 60-day minimum sample, bounded by tanh. Positive composite = CONTANGO = bearish-LC. Negative composite = BACKWARDATION = bullish-LC. State thresholds at plus or minus 0.2 (moderate) and plus or minus 0.5 (extreme). Daily release cadence.

Phase +1 (Contango) delivers –2.26 percent fwd60d, –3.28 pp below the +1.02 percent baseline. Phase –1 (Backwardation) delivers +4.30 percent fwd60d, +3.28 pp above baseline. Phase 0 (Normal) delivers +1.08 percent. The directional spread between the two tails is 6.5+ pp – clean directional edge rare in commodity signals.

• • •

How the term-structure mechanism composes

Term structure embeds market consensus on forward supply via the price relationships across contract months. For cattle, the roll-yield component is smaller than in grains or energy – feedlots are biologically bounded in how long they can hold cattle. The inter-month spread is dominated by the supply/demand expectation component.

Contango = deferred premium = market expects supply plentiful forward relative to current demand. Historically bearish-LC forward.

Backwardation = deferred discount = market expects supply tight forward or demand firm. Historically bullish-LC forward.

The full-curve composite (L2/L3/L6 vs L1 average) captures this consensus across the full near-forward horizon rather than any single spread.

• • •

What the state-conditional returns have actually done

> **Reference baseline – LC fwd60d (unconditional)**
>
> CME Live Cattle back-adjusted continuous (LC20040BD) forward-60-day return baseline (unconditional): mean plus 1.02 percent, median plus 1.74 percent, standard deviation 8.01 percent, percent negative 41.8 percent. Sample window 1990-11-29 through 2026-10-30, 9,049 trading days with observable fwd60d.

Phase plus 1 (Contango, composite greater than plus 0.3) covers 3,564 trading days – 39.4 percent of the sample. Per-day mean fwd60d is MINUS 2.26 percent. Edge below baseline: minus 3.28 pp.

Phase 0 (Normal, composite between plus and minus 0.3) covers 1,922 trading days – 21.3 percent of the sample. Mean fwd60d is plus 1.08 percent. At baseline.

Phase minus 1 (Backwardation, composite less than minus 0.3) covers 3,563 trading days – 39.4 percent of the sample. Per-day mean fwd60d is plus 4.30 percent, hit rate 65+ percent. Edge above baseline: plus 3.28 pp.

Both tails are heavily sampled (39 percent each) with symmetric magnitude and opposite direction. The signal is active in 79 percent of sample.

• • •

Three cases that frame how to read this signal

Case 1: September 2019. Backwardation – pre-ASF tight-supply pricing.

Firing date: September 9, 2019 at composite minus 0.97. Forward 60-day LC return: plus 27.97 percent (from $94.20 to $120.57).

Context: through 2019 the LC curve inverted deeply as the market priced tight forward supply from the pre-ASF global protein rebalancing and multi-year herd contraction after the 2014-2015 drought. Live cattle were at $94. Over the next 60 trading days LC rallied 28 percent as the backwardated curve resolved into cash strength.

Case 2: October 2003. Contango – pre-BSE supply-plentiful pricing.

Firing date: October 15, 2003 at composite plus 0.99. Forward 60-day LC return: minus 27.42 percent (from $102.93 to $74.75).

Context: through Q4 2003 the LC curve contangoed deeply as the market priced plentiful forward supply. Live cattle were at $103. Over the next 60 trading days LC fell 27 percent to $75 as the December 2003 BSE discovery compounded the already-weak forward pricing. The 2003 case is partially confounded by the exogenous BSE shock but the term-structure signal fired bearish before the shock.

Case 3: September 2014. Backwardation – drought-tightened supply.

Firing window: Q3 2014 with composite near minus 0.80. The 2011-2012 Texas drought liquidation and subsequent herd contraction pushed the curve into deep inversion. Live cattle rallied through Q4 2014 to cycle highs over $170. The backwardated curve correctly anticipated the structural supply tightness that persisted through 2014-2015. Non-crisis anchor.

• • •

How to use the signal today

As of November 1, 2026, the composite reads minus 0.738 – Backwardation EXTREME NEG, 30 trading days running. The CME LC term curve is deeply inverted. CME Live Cattle trades the $220-230 range.

The current reading is in the Phase −1 band (below −0.3) in the EXTREME NEG sub-band (below −0.5). Historical Phase −1 delivers +3.28 pp above baseline at hit rate 65+ percent – high-conviction constructive directional read.

Pair with four confirming reads for direction:

- **LC-Corn Ratio Signal (Z15201)**. Grade A LC fundamental anchor on supply.
- **LC Cattle Inventory Semi-Annual (Z15208)**. Longest-lead structural supply anchor.
- **LC Feeder-Live Cattle Spread (Z15203)**. Direct feedlot replacement-cost signal.
- **LC CFTC Positioning (Z15206)**. Commercial NET hedge regime read. (Note: term structure and CFTC positioning can co-move since large hedgers transact across the curve.)

Term structure is the primary directional anchor for high-conviction positioning. When term structure, LC-corn ratio, and cattle inventory all agree, direction is high-conviction.

• • •

Methodology notes

Data source. CME Live Cattle individual contract month closes from CSI continuous data (L1 front, L2 second-nearby, L3 third-nearby, L6 sixth-nearby).

Signal construction. Composite = ((L2 + L3 + L6) / 3) minus L1, z-scored on 504-day rolling window (approximately 2 years) with 60-day minimum sample. Tanh-bounded to [−1, +1]. State thresholds plus or minus 0.2 (moderate) and plus or minus 0.5 (extreme). Phase +1 above +0.3, phase −1 below −0.3.

Validation statistics. Daily Spearman IC against LC fwd60d is −0.400 at p-value essentially zero (n = 9,049 trading days) – strongest IC in the LC fundamental stack. Phase +1 state-conditional per-day mean fwd60d minus 2.26 percent (-3.28 pp below +1.02 percent baseline). Phase −1 per-day mean plus 4.30 percent (+3.28 pp above baseline).

Independence test. Non-overlapping (every-60d) sampling yields Spearman IC −0.411 at p-value essentially zero across 150 independent observations – INDEPENDENTLY significant. Among the few LC signals that clear the non-overlap test.

• • •

What this signal does not cover

Three things the signal does NOT read, and one broader caveat.

First, term structure captures market consensus on forward supply – it is a consensus-aggregation signal, not an independent fundamental read. If the market consensus is wrong, the signal is wrong.

Second, curve shape can be influenced by speculator positioning, roll-yield economics, and hedger flow patterns. These add noise to the pure supply read.

Third, extreme backwardation does not always resolve bullish. Exogenous shocks (as in the 2003 BSE case) can override the term-structure signal.

Broader caveat: this is Grade A directional signal with the strongest IC in the LC stack. Use as the primary directional anchor for high-conviction positioning. Pair with cattle inventory (longest-lead), LC-corn ratio (feedlot margin), and FC-LC spread (replacement cost) 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: CME Live Cattle individual contract curve; CME Live Cattle back-adjusted continuous (LC20040BD). State-conditional statistics computed through 2026-10-30.