The Processed-Foods PPI Signal, Read as the Broader Food-Inflation Context Anchor on Live Cattle

Why BLS Producer Price Index for processed foods and feeds, z-scored on two years, serves as the broadest food-inflation context overlay surrounding CME Live Cattle nominal pricing.

David Stendahl · Market Lab Analytics · October 31, 2026

What this signal is, with the limits stated upfront

The Bureau of Labor Statistics publishes the Producer Price Index monthly, with a sub-index for processed foods and feeds covering wholesale costs across the food value chain. Grain milling output, processed meat products, dairy processing, animal feed all roll into the index. This is the broadest food-inflation anchor surrounding CME Live Cattle nominal pricing.

This signal pulls the BLS PPI processed-foods and feeds series, forward-fills monthly to daily cadence, computes year-over-year percent change over 252 trading days, z-scores on a 504-day (approximately two-year) rolling window, and bounds with tanh. State thresholds at plus or minus 0.2 (moderate) and plus or minus 0.5 (extreme).

Here is the honest finding. Daily Spearman IC against LC fwd60d is plus 0.026 at p-value 0.013 across 8,989 trading days – marginally significant on daily data. Non-overlapping (every-60-day) IC is plus 0.013 at p-value 0.88 – NOT significant on 150 independent samples. The daily significance is largely autocorrelation-inflated.

An additional pattern: Phase 0 (Normal) delivers plus 2.96 percent per-day fwd60d – HIGHER than both tails (Phase +1 at +1.00 percent, Phase –1 at +0.34 percent). This outperformance of the middle band is unusual and suggests the signal reads macro inflation context more than LC-specific direction.

This is a Grade C- context OVERLAY, not a standalone directional driver. Treat as broader-food-inflation reasonableness-check paired with the LC fundamental stack: LC-corn ratio (feedlot-margin primary), commercial positioning (hedge regime), BLS ground beef retail (demand-side overlay), USDA cattle-on-feed (near-term supply).

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How the inputs compose

The BLS Producer Price Index for processed foods and feeds is a monthly release covering wholesale pricing across the US food value chain. Component sub-series include grain milling (flour, cornmeal, oats processing), processed meat products (packaged beef, pork, poultry), dairy processing (cheese, butter, cream), and animal feed (compound feed for livestock operations). The engine aggregates these and uses the composite.

The series is forward-filled from monthly release to daily cadence to align with CME trading days. Year-over-year percent change over 252 trading days isolates cyclical inflation moves from trend inflation. The YoY series is then z-scored on a 504-day (approximately two-year) rolling window with a 126-day minimum sample, bounded with tanh to the range minus 1 to plus 1.

The two-year window is short enough to capture broader-inflation cycle shifts (food-cost regimes typically turn on 12-18 month cycles) but long enough to smooth monthly noise.

The regime state machine maps composite to five bands at the plus-or-minus 0.5 and plus-or-minus 0.2 thresholds. Phase plus 1 (High PPI) fires when composite exceeds plus 0.3, phase minus 1 (Low PPI) when composite is below minus 0.3; the middle is phase 0 (Normal). The engine declares a-priori: High PPI = inflation tailwind for LC nominal pricing = bullish-LC; Low PPI = disinflation headwind = bearish-LC.

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What the state-conditional returns have actually done

> **Reference baseline – LC fwd60d (unconditional)**
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> 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, 8,989 trading days with observable fwd60d.

Phase plus 1 (High PPI, composite greater than plus 0.3) covers 3,658 trading days – 40.7 percent of the sample. Per-day mean fwd60d is plus 1.00 percent, hit rate 56.3 percent. Edge above baseline: minus 0.02 pp – effectively at baseline. The engine's a-priori expected this state to be constructive via inflation tailwind; the data says the magnitude is modest at best.

Phase 0 (Normal, composite between plus and minus 0.3) covers 1,424 trading days – 15.9 percent of the sample. Per-day mean fwd60d is plus 2.96 percent, hit rate 71.6 percent. Edge above baseline: plus 1.94 pp. This is the strongest state – unusual, because the middle band typically delivers near baseline. The outperformance here suggests the signal reads macro context more than LC-specific direction: when broader inflation is at trend (not extreme in either direction), LC runs its own cycle unencumbered.

Phase minus 1 (Low PPI, composite less than minus 0.3) covers 3,907 trading days – 43.5 percent of the sample. Per-day mean fwd60d is plus 0.34 percent, hit rate 54.1 percent. Edge below baseline: minus 0.68 pp. Run-entry sampling delivers minus 0.20 percent (direction consistent). The 2015 Q1 global disinflation anchor case delivered –15 percent through this state.

The Phase 0 outperformance is the critical finding. It documents why this signal is a context overlay rather than a direction driver – the macro inflation context dominates when it is at extremes; when it is normal, LC runs cleanly on its own fundamentals.

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Three cases that frame how to read this signal

Case 1: July 2003. Post-BSE food-cost firming, High PPI anchor.

Firing date: July 15, 2003 at composite near plus 0.68. Forward 60-day LC return from entry: plus 38.90 percent (from 72.60 cents per pound).

Context: through 2003 the post-BSE recovery coincided with broader food-cost firming across the processed-foods and feed complex. PPI processed foods YoY accelerated through the summer. Live cattle were at 72.60 cents per pound at the firing date. Over the next 60 trading days LC rallied 39 percent as the broader inflation environment supported nominal pricing while the specific BSE recovery drove the demand-side. 2003 Q3 is a canonical High PPI context-anchor – inflation tailwind coincident with LC-specific recovery produces strong forward returns.

Case 2: January 2015. Global commodity disinflation, Low PPI anchor.

Firing date: January 15, 2015 at composite near minus 0.72. Forward 60-day LC return from entry: minus 15.24 percent (from 155.50 to 131.80).

Context: through 2014-2015 the global commodity complex deflated as oil collapsed (WTI from $110 to $45) and grain prices softened. Processed-foods PPI YoY turned negative. Live cattle entered the window at a cyclical high around 155 cents per pound. Over the next 60 trading days LC fell 15 percent as the broader-inflation disinflation environment removed nominal pricing support from the cyclical high. The 2015 Q1 case is the canonical Low PPI anchor – global disinflation coincident with LC price-cycle top produces meaningful drawdown.

Case 3: October 2016. Paradox case – Low PPI, LC rallies anyway.

Firing date: October 13, 2016 at composite near minus 0.65. Forward 60-day LC return from entry: plus 26.55 percent (from 94.45 to 119.52).

Context: PPI processed foods had deflated through 2016 global disinflation. The signal fired saturated-negative Low PPI. However, cattle-on-feed data showed tightening US cattle inventory and Q4 export-pull on US beef accelerated as global protein markets rebalanced. Over the next 60 trading days LC rallied 27 percent – supply-side tightening and export-pull overrode the inflation-context signal. The 2016 October case is the critical paradox: when LC-specific supply fundamentals dominate, the PPI context overlay can be directionally wrong. This case documents why Grade C- context-overlay framing is correct.

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How to use the signal today

As of October 30, 2026, the composite reads minus 0.971 – Low PPI extreme-negative, 126 trading days running. BLS PPI processed foods and feeds YoY has run well below the two-year baseline through

Q3-Q4 2026. CME Live Cattle has traded in the $220-230 range through this firing – forward curve has not reflected the broader-inflation disinflation.

The current state is modestly bearish per the historical pattern. Phase –1 historically delivers plus 0.34 percent per-day fwd60d (minus 0.68 pp vs the plus 1.02 percent baseline), hit rate 54.1 percent. Run-entry stat minus 0.20 percent (direction consistent). The 2015 Q1 anchor delivered –15 percent through global disinflation; current environment echoes that disinflation setup, but LC price is at a cyclical high – the 2016 paradox risk is live.

This is a Grade C- context overlay. Do NOT size positions on this signal alone. The question for direction is: do the supply-side primaries confirm the inflation disinflation call, or do they contradict it?

Pair with four confirming reads:

- **LC-Corn Ratio Signal**. Feedlot producer-margin cycle driving cattle supply 6-12 months forward. If LC-corn ratio compresses (feedlot stress → placements slow → forward supply tightens), supply dynamics override the PPI disinflation per the 2016 paradox.
- **LC CFTC Positioning Signal**. Commercial NET hedge regime read. If commercials are heavily short-hedged (feeder over-hedge), there's hedge-unwind-rally potential that offsets macro disinflation.
- **BLS Ground Beef Retail Signal**. Demand-side pass-through. If retail is firm while PPI is soft, retailers may be absorbing margin compression – transient demand strength.
- **USDA Cattle-on-Feed reports**. Placement and marketings data. Tight on-feed → supply override risk per 2016 paradox.

For the current Low PPI firing, the critical confirming inputs are LC-corn ratio direction and cattle-on-feed. If both confirm abundant supply + disinflation environment → modestly cautious direction. If either contradicts (tight supply, compressed margins) → 2016 paradox risk is live.

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Methodology notes

Data source. BLS_PPI_MONTHLY in fundamentals_data.db, series filtered for processed-foods and feed components. Monthly cadence forward-filled to daily. Target column: CME Live Cattle back-adjusted continuous (LC20040BD).

Signal construction. YoY = 252-trading-day pct_change. Z-score on 504-day rolling window (approximately 2 years) with 126-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 at composite above +0.3, phase –1 below –0.3.

Validation statistics. Daily Spearman IC against LC fwd60d is plus 0.026 at p-value 0.013 (n = 8,989 trading days) – marginally significant. Phase +1 state-conditional per-day mean fwd60d plus 1.00 percent, hit 56.3 percent (-0.02 pp vs the +1.02 percent baseline). Phase 0 mean fwd60d plus 2.96 percent, hit 71.6 percent (+1.94 pp above baseline – highest state-conditional return). Phase –1 per-day mean fwd60d plus 0.34 percent, hit 54.1 percent (-0.68 pp below baseline). Run-entry Phase –1 delivers –0.20 percent, direction-consistent.

Independence test. Non-overlapping (every-60d) sampling yields Spearman IC plus 0.013 at p-value 0.88 across 150 independent observations – STRONGLY NOT significant. The daily significance is substantially autocorrelation-inflated.

Phase 0 outperformance anomaly. The middle band (Normal) delivers +2.96 percent per-day – highest state. This pattern is unusual and suggests the signal reads macro inflation context more than LC-specific direction. When broader inflation is at trend (middle band), LC runs its own cycle; when inflation is at extremes (either tail), the signal may add noise rather than signal.

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What this signal does not cover

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

First, the signal does NOT read LC-specific supply or demand dynamics. Feedlot margins, cattle-on-feed, export pull, consumer-side retail demand all operate on different timescales and mechanisms than broader food-inflation. Pair with Z15201 LC-corn ratio and USDA cattle-on-feed for supply, Z3517 BLS ground beef retail for demand.

Second, the signal does NOT isolate beef-specific inflation. PPI processed foods aggregates across grain milling, processed meats, dairy, and feed. Beef-specific inflation can diverge from the aggregate (as in 2024-2025 when beef processing margins compressed while broader food PPI firmed).

Third, the signal is subject to one-month release lag plus daily ffill between releases. Rapid inflation regime shifts (fed-policy pivots, trade-policy shocks, commodity complex breaks) read one month late.

Broader caveat: this is Grade C- context overlay. Daily IC marginally significant; non-overlapping independence test is NOT significant. Phase 0 outperforms the tails. Supply dynamics can override as in 2016 October. Use strictly as a reasonableness-check overlay for the LC fundamental stack, not as a direction driver. When PPI aligns with the stack (both deflating or both inflating), confidence is higher; when they contradict, trust the fundamental primaries.

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: BLS_PPI_MONTHLY processed foods and feeds (fundamentals_data.db); CME Live Cattle back-adjusted continuous (LC20040BD). State-conditional statistics computed through 2026-10-30.