# The FC Corn-Feeder Extreme Signal, Grade B+ Placement-Cut Trigger

*Why the CBOT corn to CME Feeder Cattle ratio extreme-regime detector z-scored on two years is a Grade B+ directional signal with independent-sample confirmation on CME Feeder Cattle forward returns.*

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## The signal and why it matters today

The ratio between CBOT corn and CME Feeder Cattle measures feed-cost pressure on feedlot operations. When the ratio spikes to extreme highs on a 2-year rolling window, corn feed costs have moved rapidly relative to feeder cattle prices – the single largest cost on a feedlot operator produces a margin shock. Historically this extreme-ratio regime triggers feedlot placement cuts that tighten forward feeder supply, producing bullish FC fwd60d.

This signal reads corn in cents per bushel from the traded unadjusted series (not back-adjusted continuous), divided by CME Feeder Cattle first-nearby close in cents per pound. The ratio is z-scored on a 504-day rolling window, and only readings with absolute z-score at or above 1.5 contribute to the composite – the signal is DORMANT 72 percent of the time and fires only when corn-feeder pricing has moved to a statistically extreme position.

Daily Spearman IC against FC fwd60d is plus 0.096 at p-value less than 1e-18 across 8,837 trading days. Non-overlapping (every-60-day) IC is plus 0.175 at p-value 0.033 across 148 independent samples – INDEPENDENTLY SIGNIFICANT.

Phase +1 (Extreme High corn/FC) delivers plus 3.73 percent fwd60d at 65 percent hit rate, plus 2.49 pp above the plus 1.24 percent baseline. Phase –1 (Extreme Low corn/FC) delivers plus 1.15 percent (near baseline). The signal is asymmetric with a strong Phase +1 tail.

Current reading: Normal at composite 0.000, 176 trading days running. The corn/FC ratio has not hit a 1.5-sigma extreme in over 8 months. The signal is DORMANT. Watch for extreme ratio firings as a tactical placement-cut trigger.

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## How the corn-feeder mechanism composes

Corn is the primary feedlot input, representing approximately 70 percent of operating cost. Feeder cattle is the primary animal input at approximately 25 percent. Finished cattle is the output. The ratio between corn feed cost and feeder animal cost drives placement timing.

Extreme High corn/FC (positive composite, Phase +1) means corn has moved sharply higher relative to feeder cattle – feedlot margins compress. Operators respond by cutting new placements, which tightens forward feeder supply over the following 60 to 90 days. This regime historically coincides with:

- Supply shocks on corn (drought, geopolitical disruption)
- Pre-planting season tightness in corn carryout
- Cycle-trough feeder prices refusing to fall further while corn rallies

Historical pattern: Phase +1 delivers plus 2.49 pp above baseline, 65 percent hit rate.

Extreme Low corn/FC (negative composite, Phase –1) means corn has moved sharply lower relative to feeder cattle – feedlot margins expand. Operators respond with aggressive placement which should pressure forward feeder supply. Historical pattern: near-neutral. The bearish-FC mechanism exists but is empirically weaker than the bullish-tail mechanism.

Normal regime (Phase 0) is the equilibrium zone where the corn/FC ratio is within 1.5-sigma of its 2-year rolling baseline. Historical pattern: slightly below baseline. The signal is DORMANT in this band.

The signal is complementary to the FC Cattle Crush Margin signal (board-crush formula CCM = 12.5 LC - 7.5 FC - 50 Corn). The Corn-Feeder Extreme signal isolates the extreme-regime feed-cost tail that triggers discretionary placement cuts.

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## What the state-conditional returns have actually done

> **Reference baseline – FC fwd60d (unconditional)**
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> CME Feeder Cattle back-adjusted continuous forward-60-day return baseline over the live-signal window: mean plus 1.24 percent, median plus 1.60 percent, standard deviation 7.6 percent, percent negative 40 percent. Sample window 1991-07-09 through 2026-10-30, 8,837 trading days with observable fwd60d.

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

Phase plus 1 (Extreme High corn/FC, composite greater than plus 0.3) covers 1,493 trading days – 16.9 percent of the sample. Per-day mean fwd60d is plus 3.73 percent, hit rate 65 percent. OUTPERFORMS baseline by plus 2.49 pp.

Phase 0 (Normal, composite near zero) covers 6,395 trading days – 72.4 percent of the sample. Per-day mean fwd60d is plus 0.67 percent, hit rate 53 percent. Below baseline (minus 0.57 pp).

Phase minus 1 (Extreme Low corn/FC, composite less than minus 0.3) covers 949 trading days – 10.7 percent of the sample. Per-day mean fwd60d is plus 1.15 percent, hit rate 58 percent. Near-neutral (minus 0.09 pp vs baseline).

Asymmetric event-driven pattern: Phase +1 strongly bullish, Phase 0 slightly below baseline, Phase −1 near-neutral. Signal is DORMANT 72 percent of the time; actionable at Phase +1 extreme firings.

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## Three cases that frame how to read this signal

### Case 1: Q3 2012. Extreme High Corn/FC – 2012 drought feed-cost shock.

Firing date: August 15, 2012 at composite near plus 0.95. Context: The 2012 Midwest drought drove corn prices to 7.50 dollars per bushel (cycle-high). Feeder cattle remained at approximately 140 dollars. Feedlot operators cut placements aggressively as margins compressed. Forward FC rallied through Q4 2012 as placement cuts tightened forward supply. Canonical Extreme High corn/FC bullish-FC anchor.

### Case 2: Q2 2022. Extreme High Corn/FC – post-COVID feed-cost surge.

Firing date: May 15, 2022 at composite near plus 0.80. Context: Post-COVID commodity surge combined with Russia-Ukraine supply disruption drove corn to 8.00 dollars per bushel. Feeder cattle were at approximately 160 dollars. Feedlot placement cuts triggered. Forward FC rallied firmly through Q3-Q4 2022 as placement effect played through. Modern-era Extreme High corn/FC bullish-FC anchor.

### Case 3: Q1 2026. Extreme High Corn/FC – pre-planting feed shock.

Firing date: February 15, 2026 at composite near plus 0.70. Context: Pre-planting corn tightness combined with FC still near 320 dollars triggered placement cuts. Forward FC rallied modestly through Q2 2026. Most recent Extreme High firing before the current dormant period began.

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## How to use the signal today

As of November 1, 2026, the composite reads 0.000 – Normal regime, 176 trading days since the last extreme firing. The corn/FC ratio is within the 1.5-sigma band. CME Feeder Cattle trades the 330 to 340 dollar range.

The signal is DORMANT in the Normal band. No directional lean. The signal is waiting for a corn or feeder-cattle move that pushes the ratio out of the 1.5-sigma zone.

Pair with four confirming reads for direction:

- **FC Cattle Crush Margin Signal (Z1430)**. Full three-leg crush formula – Grade A truth-inverse. The Corn-Feeder Extreme signal is the extreme-tail isolate of this mechanism.
- **FC US Herd Inventory Signal (Z6637)**. Strongest-IC structural supply anchor.
- **FC Light Placement Pace Signal (Z3769)**. Grade A with widest spread.
- **LC-Corn Ratio Signal (Z15201)**. Grade A LC fundamental anchor using the same corn input.

When an extreme corn/FC firing coincides with tight structural supply or low placement pace, the bullish-FC conviction is high.

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## Methodology notes

Data source. CBOT corn traded unadjusted price (cents per bushel) from the CSI C1150BD daily file (unadj column – level/ratio work uses traded prices not back-adjusted). CME Feeder Cattle first-nearby close (cents per pound) from CSI FC_0_L1ND.

Signal construction. Composite = corn/FC ratio, z-scored on 504-day (2-year) rolling window with 126-day minimum sample, absolute threshold of 1.5-sigma applied (readings below threshold contribute zero), clipped to [−3, +3], 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. Target: CME Feeder Cattle back-adjusted continuous (FC_110ARD). Daily release.

Validation statistics. Daily Spearman IC against FC fwd60d is plus 0.096 at p-value less than 1e-18 across 8,837 observations – strongly significant daily. Phase +1 per-day mean fwd60d plus 3.73 percent (plus 2.49 pp above plus 1.24 percent baseline, hit 65 percent). Phase 0 mean plus 0.67 percent (near baseline, minus 0.57 pp). Phase −1 per-day mean plus 1.15 percent (near-neutral, minus 0.09 pp vs baseline). Asymmetric with a strong Phase +1 tail.

Independence test. Non-overlapping (every-60d) sampling yields Spearman IC plus 0.175 at p-value 0.033 across 148 independent observations – INDEPENDENTLY SIGNIFICANT.

Reformulation note. The prior engine used back-adjusted continuous corn and back-adjusted FC series – which contaminates level ratios with roll-stitching. The reformulation switches to traded unadjusted corn from the CSI daily file and FC first-nearby close for the ratio construction, following the LC-Corn Ratio signal pattern. The data-source upgrade moved the signal from Phase 0 FAIL (non-overlap p=0.101) to Phase 0 PASS (non-overlap p=0.033).

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## What this signal does not cover

First, the signal is highly event-driven. Phase 0 covers 72 percent of sample. Signal is DORMANT most of the time. Watch for extreme-ratio firings as tactical triggers; this is not a persistent directional lean.

Second, the signal is asymmetric. Phase +1 (Extreme High corn/FC) is the strong bullish tail at plus 2.49 pp above baseline. Phase −1 (Extreme Low corn/FC) is near-neutral and does not provide a reliable bearish lean. Interpret only the bullish-firing direction with conviction.

Third, the signal overlaps mechanically with the FC Cattle Crush Margin signal (moderate correlation 0.47). The two signals provide complementary coverage: Crush Margin reads the full three-leg margin contemporaneously; Corn-Feeder Extreme isolates the tail-regime firings. Pair them, do not treat them as independent reads.

Broader caveat: Grade B+ directional corn-feeder extreme-regime signal with independent-sample confirmation. The signal provides a high-conviction tactical lean on FC positioning when Phase +1 fires. Pair with structural supply, placement pace, and crush-margin 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: CBOT corn traded unadjusted close; CME Feeder Cattle first-nearby close; CME Feeder Cattle back-adjusted continuous target. State-conditional statistics computed through 2026-10-30.*