

UNDERSTANDING BASIS TRANSMISSION

How information moves from Chicago into
the cash market.





INSIDE THE SOYBEAN SYSTEM SERIES

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About This Series

Inside the Soybean System is a research series from AGFLOW Intelligence designed to help producers and commercial operators understand how structure, flow, ownership, and transmission drive market behavior.

AGFLOW Intelligence provides market governance and decision-support research for producers, merchandisers, elevators, processors, traders, and agricultural businesses.

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Understanding Basis Transmission

The cash market does not copy Chicago. It interprets Chicago through local economics.

Every soybean cash bid contains two markets at once. The futures component reflects the broad value of soybeans. The basis component reflects the value of those soybeans at a specific place, for a specific delivery period, under a specific set of commercial conditions.

When Chicago moves, buyers reassess their cash bids. But the futures move does not pass into every location in the same amount or at the same speed. A processor short of nearby coverage may pass through more than the board move. An elevator facing harvest congestion may pass through less. An exporter may change its bid because freight or export premiums moved even while futures were quiet.

In the AGFLOW framework, basis transmission describes how the physical market accepts, resists, or amplifies a change in the futures benchmark. It shows whether local buyers are willing to preserve the futures move in cash value.

AGFLOW Core Principle

Futures establish the benchmark. Basis reveals how the physical market receives it.

That distinction matters because the same futures rally can create very different cash outcomes. A 20-cent move in Chicago can become a 20-cent cash gain, an 8-cent cash gain, or a 28-cent cash gain. The difference is basis.

What Basis Measures

Basis converts a national benchmark into a local price.

The standard relationship is simple:

$$\text{Basis} = \text{Cash Price} - \text{Futures Price}$$

$$\text{Cash Price} = \text{Futures Price} + \text{Basis}$$

If November soybean futures are \$13.00 per bushel and a local buyer bids \$12.70, the basis is 30 cents under November, written as -30X. If the buyer bids \$13.10, the basis is 10 cents over November, written as +10X.

The equation is arithmetic. The meaning is commercial. Basis incorporates the local balance between available supply and the buyer's need for ownership.

- Demand at the receiving location, including crush, export, feed, and resale demand
- Available producer and commercial inventory within the draw area
- Freight, elevation, handling, quality, and delivery costs
- Storage capacity, congestion, and the cost of carrying grain through time
- The buyer's existing coverage, operating schedule, margins, and replacement alternatives

Basis therefore measures more than distance from Chicago. It is the price adjustment required to make grain move toward the buyer who needs it.

The Reference Contract

Transmission must be measured against the same futures month.

A basis quote is incomplete without its delivery period and futures reference. A buyer may quote September delivery against November futures, January delivery against January futures, or summer delivery against July futures. The relevant contract is the hedge month used to price that delivery window.

This is the active basis. It is not simply the nearest futures contract on the screen. It is the basis attached to the contract month that governs the cash bid being analyzed.

Suppose a processor posts the following bids:

Delivery	Cash Bid	Futures Reference	Basis
October	\$12.68	November at \$13.00	-32X
January	\$12.93	January at \$13.15	-22F
July	\$13.18	July at \$13.30	-12N

Those three basis values describe different delivery commitments and different futures benchmarks. Comparing them without aligning the month can produce a false signal.

Why This Matters

An apparent change in basis may come from a contract roll rather than a change in the cash market. Before calling basis stronger or weaker, hold the delivery location, delivery period, grade, and futures reference constant.

Three Transmission Outcomes

The change in cash price reveals what basis did with the futures move.

Outcome	Futures Change	Cash Change	Basis Change	Interpretation
Full transmission	+20¢	+20¢	0¢	Basis unchanged
Under transmission	+20¢	+8¢	-12¢	Basis weakens
Over transmission	+20¢	+28¢	+8¢	Basis strengthens

Full Transmission

When cash moves one-for-one with futures, basis is unchanged. The local buyer accepts the Chicago move without changing the local incentive.

Under Transmission

When cash rises less than futures, basis weakens. The buyer is using the rally to reduce the local premium, often because coverage is adequate, deliveries are available, margins are under pressure, or space is constrained.

Over Transmission

When cash rises more than futures, basis strengthens. The buyer is adding local value on top of the board move, often because nearby ownership is insufficient or competition for bushels has intensified.

The same logic works in a futures decline. If futures fall 15 cents and cash falls only 5 cents, basis strengthens 10 cents. The physical market absorbed part of the board decline.

How Buyers Recalculate Cash Bids

A posted bid reflects an operating decision, not an automatic formula.

Commercial buyers watch futures because futures provide the common reference used to hedge inventory and transact across locations. They change basis because the local economics around that reference keep changing.

1. Chicago moves. The value of the futures hedge and the replacement benchmark changes immediately.
2. The buyer checks local coverage. Managers compare committed deliveries with crush, loading, or resale needs by day and by week.
3. The buyer updates replacement economics. Freight, destination values, processing margins, storage costs, and competing bids determine what another bushel is worth.
4. The buyer selects the cash response. The desk can pass through the futures move, offset part of it through basis, or add basis to accelerate deliveries.
5. The market tests the bid. Producer selling, booking pace, delivery lineups, and competitor reactions show whether the new incentive is sufficient.

Transmission is therefore iterative. A buyer may initially leave basis unchanged, then strengthen it later if the cash bid fails to attract enough grain. Another buyer may weaken basis quickly because the futures rally generates more offers than the facility can absorb.

Commercial Meaning

A basis change is often the buyer's response to local ownership, replacement value, freight, or capacity.

Transmission Through the Soybean Chain

Each commercial hand adds information about location, time, and urgency.

Stage	Decision	Information Added
Producer	Sell, store, or schedule delivery	Farm inventory and willingness to move grain
Country elevator	Set origin bid and assemble volume	Local competition, space, and freight access
Processor	Bid for crush coverage	Plant schedule, margin, meal and oil values
Rail or river shipper	Price destination movement	Freight, loading capacity, and timing
Exporter	Price origin against export demand	FOB value, vessel program, and global competition

Chicago connects these stages by providing a hedgeable benchmark. Basis carries the location-specific information between them.

If Gulf export premiums improve, river terminals may strengthen bids to secure barges. Country elevators with access to that corridor may respond. Interior locations outside the freight path may not. The information spreads through commercial relationships, but it does not move uniformly across the map.

That is why a strong national futures signal can coexist with weak origin basis in one region and firm processor basis in another. The system is transmitting different local constraints around the same benchmark.

Geography Changes the Message

Basis is local because replacement options are local.

Every buyer competes within a draw area shaped by trucking distance, rail access, river access, road conditions, delivery hours, and the location of competing facilities. Two plants separated by 80 miles can face different supply conditions even when they reference the same futures contract.

Processor Region

A processor that needs continuous crush coverage may strengthen nearby basis when farmer selling slows. The plant cannot replace missing beans with a financial position. It needs physical deliveries that meet its operating schedule.

River Region

A river bid reflects barge freight, export demand, elevation costs, and terminal capacity. A rising Gulf value can strengthen river basis, but expensive barge freight can absorb the improvement before it reaches the country bid.

Interior Origin Region

An origin elevator may face limited storage and a long path to destination. During harvest, abundant deliveries can weaken basis even while processor or export markets are firm elsewhere.

Commercial Interpretation

A single cash bid cannot represent the whole market. Transmission analysis compares locations that serve different demand channels and asks whether strengthening is isolated, regional, or broad.

Example of Uneven Transmission

A Chicago rally can expose which buyers need grain and which do not.

Assume November futures rise 25 cents in one week. Three Illinois buyers respond differently:

Buyer	Futures	Cash	Basis	Message
Processor A	+25¢	+34¢	+9¢	Needs nearby ownership
River Terminal B	+25¢	+22¢	-3¢	Passes through most of move
Elevator C	+25¢	+10¢	-15¢	Space or demand limits bid

The futures chart shows one market. The cash responses show three operating conditions.

Processor A amplifies the rally because the plant values nearby deliveries more than it did a week earlier. River Terminal B transmits most of the futures move but slightly weakens basis, suggesting less urgency or a freight offset. Elevator C absorbs most of the rally through weaker basis, signaling that local supply, space, or destination economics do not support the full move.

Calling the entire region bullish because futures rose would miss the decision-relevant information. The important question is where the rally survived into cash and where it was taken back through basis.

When Basis Moves First

The cash market can signal urgency before futures recognize it.

A futures move is not required for the cash market to generate new information. When basis changes while Chicago is flat, the move is cash-led rather than a transmission of a futures move. Local buyers are repricing an immediate physical constraint.

- A processor discovers that scheduled deliveries will not cover the next crush run
- A rail or barge program accelerates and requires additional origin volume
- Producers stop selling after harvest, leaving nearby ownership concentrated
- Weather interrupts movement and makes prompt inventory more valuable
- A competing buyer raises bids and changes the replacement cost across the draw area

In each case, basis may strengthen before futures respond. That cash-led move prices a local scarcity of deliverable bushels, not necessarily a national shortage.

This is why one strong bid does not authorize a broad conclusion. The signal becomes more credible when nearby spreads tighten, competing buyers respond, delivery windows shorten, and the strength persists across several observations.

Fail Closed Rule

Treat isolated basis strength as local until breadth and persistence confirm a wider condition.

Confirmation Across the Market

Basis is strongest as evidence when other mechanisms agree.

Futures Spreads

Tightening nearby spreads indicate that the market values prompt ownership relative to deferred supply. Firm basis with tightening spreads is more persuasive than firm basis beside expanding carry.

Freight and Destination Values

A stronger destination bid can fail to reach origin if freight rises at the same time. Transmission analysis separates improvement in destination value from the cost of moving grain there.

Commercial Ownership

Basis has more leverage when needed inventory is not already owned by the buyer. If commercials hold ample coverage, a strong futures move may be allowed to weaken basis without threatening operations.

Physical Flow

Export inspections, crush throughput, delivery lineups, and cash movement help determine whether the bid is generating actual flow. A stronger bid without follow-through may be an offer for optionality rather than evidence of sustained demand.

No single indicator completes the diagnosis. Basis identifies the local response. Spreads identify the value of time. Freight identifies the cost of connection. Ownership and flow show whether the response is becoming operational.

Seasonality and Storage

The same basis level can carry a different meaning at different points in the crop year.

Basis often weakens during harvest because new-crop supply arrives faster than the system can process, load, or store it. That weakness can occur even when futures are stable or rising. The cash market is discounting immediate delivery because space and handling capacity are scarce.

After harvest, basis may strengthen as the flow of uncommitted grain slows. End users must improve bids to draw soybeans out of farm and commercial storage. The move can be gradual if ownership is well distributed or abrupt if users discover that nearby coverage is thin.

Storage Incentive

A futures carry pays part of the cost of waiting. Basis appreciation can pay another part. Storage is economically supported only when the expected gain in futures spread and basis exceeds interest, shrink, handling, quality risk, and the value of capacity.

Transmission Risk

A bullish futures view does not guarantee a better cash sale. If futures rise while harvest basis weakens by the same amount, the local cash price does not improve. The producer or merchandiser captured the board move but lost it in transmission.

Store only when the market pays for time. Futures direction alone is not payment.

Contract Rolls and False Signals

A change in futures reference can make basis appear to move when economics did not.

Cash bids must eventually roll from an expiring futures contract to a deferred contract. If the deferred contract trades above the nearby contract, the quoted basis usually becomes more negative when the reference changes, even if the cash bid is unchanged.

Example:

Reference	Futures	Cash Bid	Quoted Basis
November	\$13.00	\$12.80	-20X
January	\$13.15	\$12.80	-35F

The basis appears to weaken 15 cents, but the cash value did not change. The change only reflects the 15-cent carry from November to January.

Normalization Rule

Before comparing two basis observations, verify four items:

- The same physical location
- The same delivery period
- The same grade and delivery terms
- The same futures contract or a documented roll adjustment

Without this normalization, a chart can report transmission that never occurred.

A Framework for Reading Transmission

Five questions turn a price change into a commercial diagnosis.

1. What did the relevant futures contract do? Measure the change over the same observation window used for the cash bid.
2. What did the cash price do? Use a comparable location, delivery period, quality specification, and timestamp.
3. What did basis do? Calculate cash change minus futures change. This isolates the local adjustment.
4. Where did the response occur? Compare processors, elevators, river terminals, and export channels to identify breadth.
5. What confirms the response? Check spreads, freight, ownership, flow, and persistence before escalating the conclusion.

Transmission Matrix

Futures	Basis	Commercial Reading
Rising	Strengthening	Local demand amplifies the rally
Rising	Weakening	Basis offsets the rally; cash outcome depends on magnitude
Falling	Strengthening	Basis offsets the decline; cash outcome depends on magnitude
Falling	Weakening	Board and cash market both soften

Direction alone is not enough. Compare magnitudes to determine the cash-price outcome.

What Transmission Changes for Decisions

The signal matters only when it changes timing, ownership, or risk.

For Producers

Separate the futures decision from the basis decision. A futures hedge can protect the board component while leaving basis open. A hedge-to-arrive contract can lock futures while preserving the choice of when to set basis. A cash contract fixes both components.

If futures rally but local basis weakens, delaying a cash sale solely because the board is rising may not improve the actual price. If futures fall while basis strengthens, the physical market may be protecting part of the decline.

For Elevators and Merchandisers

Transmission reveals whether origin bids are keeping pace with destination value. A widening margin can be real opportunity, or it can warn that freight, timing, or replacement volume will prevent execution. The hedge controls futures risk; it does not remove basis risk.

For Processors

A stronger basis is a cost paid to secure operating continuity. The relevant question is whether the additional basis is justified by crush margin, downtime risk, and alternative sourcing.

Decision Rule

For a cash merchandising decision, a futures move should not be treated as physical-market confirmation until the cash market shows how much of the move is commercially available.

The AGFLOW Perspective

Basis transmission is evidence, not a forecast.

AGFLOW analyzes the soybean market as a connected transmission system. Chicago provides the common price benchmark. Futures spreads price time. Basis prices location and urgency. Freight links origin to destination. Ownership determines who can wait and who must act.

The objective is to determine whether a move in futures is being confirmed by the physical market. Confirmation requires more than one firm bid. It requires a coherent pattern across comparable locations, delivery periods, and supporting indicators.

- Is the futures move reaching cash prices?
- Is basis strengthening broadly or only at one constrained buyer?
- Are nearby spreads and delivery incentives moving in the same direction?
- Are freight and destination values transmitting the signal back to origin?
- Is the pattern persistent enough to affect a commercial decision?

What Basis Transmission Tells You

Chicago can move without changing the local incentive. The local incentive can change without Chicago moving. Basis transmission explains the connection between the two.

When the cash market preserves or amplifies a futures move, physical confirmation is strengthening. When basis offsets the move, the local market is resisting it. The difference determines the price that is actually available to the producer or commercial operator.

Chicago starts the message. Basis tells you where it arrived.

Continue Reading the Soybean System

If you found this article valuable, receive the AgFlow Soybean Market Signal.

Every week, AGFLOW tracks:

- Balance sheet structure
- Export flow
- Crush transmission
- Basis behavior
- Carry economics
- Inventory ownership
- Futures structure
- Positioning dynamics

The objective is not to forecast prices.

The objective is to understand market conditions before price fully reflects them.

About the Author

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Leo Rocha is the creator of the AGFLOW Intelligence framework, a governance-based approach to analyzing the soybean market as an interconnected transmission system rather than a collection of isolated indicators.

His research focuses on market structure, physical flow, inventory ownership, basis transmission, carry economics, positioning, and commercial decision-making. Through AGFLOW Intelligence, he develops institutional-grade analytical frameworks that help commercial operators interpret market conditions with greater clarity and discipline.

Rather than forecasting prices, his work focuses on identifying structural conditions, validating confirmation, and determining when commercial escalation is authorized through objective, rules-based governance.

About AGFLOW Intelligence

AGFLOW Intelligence is a market governance and decision-support platform focused on the global soybean complex.

The platform analyzes the soybean market through a structured framework that integrates:

- Balance sheet structure
- Export flow validation
- Crush transmission
- Basis transmission
- Carry economics
- Ownership and inventory control
- Futures structure
- Positioning dynamics
- Global supply and demand transmission

The objective is not to predict markets.

The objective is to determine:

- Whether tightening is real
- Whether confirmation exists
- Whether escalation is authorized
- Whether structure and flow are aligned
- Whether commercial risk is increasing or decreasing

Because better decisions begin with better market interpretation.

Connect

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Market Governance for Commercial Decisions



Sources and Conventions

Basis is calculated as cash price minus the relevant futures price. Basis references in this article use the futures contract associated with the stated delivery period.

CBOT soybean futures month codes published by CME Group include January F, July N, and November X.

Full, under, and over transmission are AGFLOW analytical categories used in this article; they are not exchange-defined terms.

Reference sources:

[Government of Alberta Basis and cash grain prices](#)

[CME Group Soybean futures contract specifications](#)

[USDA Agricultural Marketing Service State grain reports](#)

All numerical examples are illustrative. They do not represent current market bids or trading recommendations.

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