



Version Control

Version	Date	Reviewer	Status	Notes
001	13/06/2025		Approved	Initial issuance.

1. Definition, Objective, and Scope

1.1. Definition: The FOB Santos Soybean Price Index, developed by Grão Direto, represents the daily average price of Brazilian soybeans in bulk, expressed in cents of US dollar per bushel (¢/bushel), intended for export and loaded Free on Board (FOB) at the Port of Santos, São Paulo, Brazil.

1.2. Objective: To provide a reliable, transparent, and representative price reference for the value of soybeans actually shipped or with a high probability of being shipped from Brazil's main export port.

1.3. Scope: The Index reflects spot transactions, defined as those with delivery scheduled for the current month or the month subsequent to the transaction date. The published price does not include taxes levied on the export transaction.

1.4. Adherence to Principles: The methodology is aligned with international best practices for financial benchmarks, notably the principles established by the International Organization of Securities Commissions (IOSCO), aiming to ensure the governance, quality, integrity, and transparency of the Index.

2. Data Collection and Sources

2.1. Platform and Sources: The indicator is built based on transaction data and pricing information (BIDs and ASKs) collected through Grão Direto's technological solutions. Grão Direto acts as a neutral platform, serving a wide network of clients and partners in the agribusiness sector, including producers, cooperatives, warehouses, large international trading houses, and other companies in the soybean supply chain. The diversity of sources is sought to ensure the representativeness of the data.

2.2. Security and Storage: Each Grão Direto solution operates with individual databases that follow best practices for information security and data storage. The information is processed in a centralized database for the Index calculation.

2.3. Collection Time: Data collection for the day's Index calculation occurs between 08:00 and 16:30 (Brasília time, UTC/GMT -3:00).

2.4. Data Collected: The collected data pertains to commercial transactions and market pricing that pass through Grão Direto's systems.

3. Data Validation and Processing

3.1. Integrity and Impartiality: The impartiality and integrity of the data are prioritized throughout the entire process of collecting, analyzing, and publishing the Index.

3.2. Validation Criteria: Only validated data are considered for the calculation, according to internal validation following these guidelines:

- Data with unresolved inconsistencies are excluded from the calculations.
- Information outside the confidence interval determined by the committee members—which is usually practiced by the market—or clearly deviating from market reality is discarded. This assessment is carried out by the Index Calculation and Operation Committee, with periodic supervision from the Oversight Committee.
- For actual transactions (Hierarchy Level 1), only those with a volume exceeding 500 bags (equivalent to 30 metric tons) are considered. Transactions with atypical volumes or prices, even if above the minimum, may be excluded at the discretion of the Index Calculation and Operation (ICO) Committee, as per the procedure outlined in the Index Policy.
- The payment date may be used as an eligibility criterion for the transaction, considering its potential effect on price formation.

3.3. Currency Conversion: For information originating in Brazilian Reais (BRL), the PTAX dollar rate is used, as published by the Central Bank of Brazil. Specifically, the fourth consultation of the day, released between 13:00 and 13:10 (Brasília time, UTC/GMT -3:00), is applied. This rate is used to convert prices to US dollars (USD). The dollar value used is the arithmetic average of the bid and ask quotes from the latest publication.

3.4. Unit Conversion: The prices, originally in BRL/bag, are converted to cents of US dollar per bushel (¢/bushel).

4. Elevation and Loading Cost (Fobbing)

The elevation and loading cost, commonly referred to as "fobbing," represents the expenses associated with receiving the soybeans at the port terminal, their elevation into silos, and the subsequent loading onto the vessel. This cost is an essential component for converting a price on a Cost, Insurance, and Freight (CIF) Santos basis to a Free on Board (FOB) Santos price. For the calculation of the FOB Santos Soybean Index, the fobbing value is surveyed from trading houses, port operators, and other relevant agents operating at the Port of Santos. This ascertained fobbing value is then added to the CIF Santos price (or its estimated equivalent) to arrive at the final FOB Santos value of the Index, as detailed in the calculation hierarchy.

5. Hierarchy and Index Construction

The Index is calculated daily, based on available information that is compliant and representative of the soybean export market at the Port of Santos. The methodology follows a data priority hierarchy. If sufficient and valid information exists at a higher level, the subsequent levels are not considered. The hierarchy was designed to prioritize data based on executed transactions, which are considered the strongest evidence of market

price. The methodology adopts a data prioritization hierarchy, always using the highest priority level in the hierarchy that has available and valid information.

The highest priority is given to actual transactions (Level 1), considered the most robust evidence of price formation.

In the absence of sufficient transactions, the convergence between bid and ask offers (Level 2) is considered, provided that the percentage difference between the averages is less than or equal to $\pm 5\%$, signaling a market consensus.

If this convergence is also not present, an estimate by regression (Level 3) is used, based on prices practiced at alternative ports, applying a statistical model built from a history of actual transactions.

Finally, if none of the previous levels are applicable, the adjusted BID (Level 4) is used, calculated from isolated purchase offers and corrected by an adjustment coefficient based on historical market patterns.

Whenever a given level is used, all other subsequent levels are automatically disregarded.

Level 1: Actual Transactions for the Port of Santos

- Maximum priority is given to trades actually executed for delivery to the Port of Santos and captured by Grão Direto's solutions.
- A volume-weighted average of the negotiated CIF Santos prices is calculated.
- Minimum Criteria for consideration: Only transactions with a minimum volume of 500 bags will be considered in the composition of actual transactions.

Level 2: Convergence between Bid and Ask Offers for Santos

- In the absence of sufficient actual transactions in Level 1, data from bid and ask offers for final destination at warehouses in the city of Santos/SP are verified.
- The average of the BIDs and the average of the ASKs are calculated.
- If the percentage difference between the average of the BIDs and the average of the ASKs is less than or equal to $\pm 5\%$, it is considered that there is market convergence, and this level's rule is applied.
- The reference CIF Santos price is then calculated as:

$$\frac{\text{average BID} + \text{average ASK}}{2}$$

Level 3: Estimate via Regression from Alternative Ports (Paranaguá/PR, Rio Grande/RS)

- When there is insufficient data in Levels 1 or 2 for the port of Santos, but there are actual transactions recorded by Grão Direto at the ports of Paranaguá (PR) or Rio Grande (RS), a linear regression model is applied to estimate the CIF Santos value.

- The slope and intercept coefficients of the regression are obtained through the ordinary least squares (OLS) method, implemented by the statistical libraries used. This method seeks to minimize the sum of the squared errors between the observed values and the estimated values, thus fitting the regression line that best represents the relationship between the available data and the expected values for Santos.
- The quality of the fit is assessed by statistical metrics, especially the coefficient of determination (R^2). If the R^2 calculated for a given day is less than 0.85, the Level 3 estimate is discarded.
- The regression is built based on a 12-month rolling window of transaction data. For the final estimate, the volume-weighted average of the prices practiced at the ports of Paranaguá and Rio Grande on the date of interest is calculated, and the estimated function is applied to obtain the corresponding value for the port of Santos.
- When there are transactions on the date of interest for both the port of Paranaguá and the port of Rio Grande, the regression is applied individually to each, resulting in two separate estimates for the CIF Santos value. If both estimates meet the minimum quality criterion ($R^2 \geq 0.85$), the final estimated value for the port of Santos will be the simple average of the two.

Level 4: Estimate from Adjusted BID for Santos

- If none of the conditions of the previous levels are met, but there are BID CIF Santos offers collected from trading houses and other qualified informants.
- The average of these BIDs is used.
- An adjustment coefficient is applied to this average of BIDs.
- This coefficient reflects the historical average percentage difference (spread) between the convergent BID and ASK averages, when applicable on days with liquidity, calculated based on the last 12 months. The calculation considers an average of the observed daily spreads, with the possible exclusion of outliers from this history.
- The reference CIF Santos price is then calculated as:

$$\text{average BID} + (\text{adjustment coefficient} / 2)$$

6. Governance and Oversight

6.1. Committee Structure: A formal committee structure has been established with the objective of ensuring the governance, integrity, and security of the Index. Each committee has specific and complementary duties and is responsible for deliberating, overseeing, and guiding all matters related to the administration and evolution of the Index. This structure ensures the proper segregation of duties, informed decision-making, and the mitigation of potential conflicts of interest. Furthermore, it ensures full adherence to the IOSCO (International Organization of Securities Commissions) principles, promoting transparency, methodological robustness, and credibility in the process of calculating and publishing the Index.

6.2. Conflict of Interest Policy: The Index Policy provides tools to identify, mitigate, and manage potential conflicts of interest among the individuals and entities involved in the administration, calculation, and oversight of the Index.

6.3. Audit and Review: The methodology, its application, and the governance processes will be subject to periodic reviews, conducted by the Oversight Committee at least once a year. Backtesting of the methodology with historical data may be performed to validate its robustness. Internal and external audits will be conducted to ensure the Index's continuous relevance, robustness, and compliance.

6.4. Error Handling Policy: If significant errors are identified in the calculation or publication of the Index, Grão Direto will investigate the cause and impact. Transparent communication will be provided to users regarding the nature of the error and the corrective actions taken.

7. Alignment with the IOSCO Principles

Grão Direto is committed to aligning the administration and calculation of the FOB Santos Soybean Index with the IOSCO Principles for Financial Benchmarks. This commitment is reflected in:

- **Overall Governance:** A robust governance structure with segregation of duties, conflict of interest policies, and internal control mechanisms.
- **Benchmark Quality:** A clear and transparent methodology, based on active and representative market data, with a defined hierarchy to prioritize transaction data.
- **Methodology Quality:** A documented methodology, clear rules for the exercise of judgment (where applicable and minimized), and procedures for the review and validation of the methodology.
- **Accountability:** Complaint handling procedures, an error policy, record-keeping, and transparency in publication.

8. Contingencies and Exceptional Circumstances

8.1. Lack of Reliable Data: In the event of a complete lack of reliable data across all hierarchical levels that would allow for the calculation of the Index according to the established methodology, a meeting of the Index Calculation and Operation (ICO) Committee will be convened. This meeting will determine whether a manual value will be structured or if the last validated Index value from previous days will be repeated. This situation will be communicated transparently to users.

8.2. Market Disruptions: In situations of extreme market disruption affecting price formation or the operability of the Port of Santos, internal governance procedures will be triggered for an extraordinary review of the calculation before publication. The Oversight Committee may decide to temporarily suspend the Index's publication or to adopt extraordinary measures, always with transparent communication to the market and documentation of the decisions.

9. Methodology: Review and Changes

9.1. Periodic Review: This methodology will be reviewed at least annually by the Index Calculation and Operation (ICO) Committee, which is responsible for assessing the accuracy, reliability, and adherence to international best practices, including the IOSCO Principles.

9.2. Change Process: Proposals for changes to the methodology will be prepared and analyzed by the ICO, which may approve them when relevant, in accordance with its authority. Changes to the methodology will be submitted to the supervision of the Oversight Committee, which will assess the appropriateness of the changes to ensure alignment with best practices and the integrity of the Index.

9.3. Communication of Changes: Approved changes to the methodology, as well as their respective implementation dates, will be publicly communicated with reasonable advance notice, ensuring the transparency of the process and equitable access to information for stakeholders.

10. Publication

10.1. Frequency and Time: The indicator will be published daily on business days, excluding Brazilian national and international holidays that significantly impact grain origination activities, by 18:00 (Brasília time, GMT -3:00). In case of abnormalities that prevent the release of the data within the aforementioned schedule, the right is reserved to release the data as soon as possible along with a justification.

10.2. Publication Channel: The Index may be independently disclosed on Grão Direto's official channels, partner platforms, market information providers, and to stakeholders.

11. Limitations and Disclaimer

The Grão Direto FOB Santos Soybean Index is provided for informational and market reference purposes only. It does not constitute investment, financial, legal, tax, or any other type of advice. Decisions made based on this Index are the sole responsibility of the user. Grão Direto makes its best efforts to ensure the accuracy, reliability, and timeliness of the Index, but does not guarantee its absolute correctness, suitability for any specific purpose, or freedom from errors. Grão Direto is not liable for any losses or damages arising from the use of the information contained in this methodology or from the published values of the Index.

Grão Direto is committed to transparency and the continuous improvement of its methodology. Questions, comments, or suggestions regarding this document can be sent to the email: indice-support@graodireto.com.br.