

Brazil Soybean Transportation

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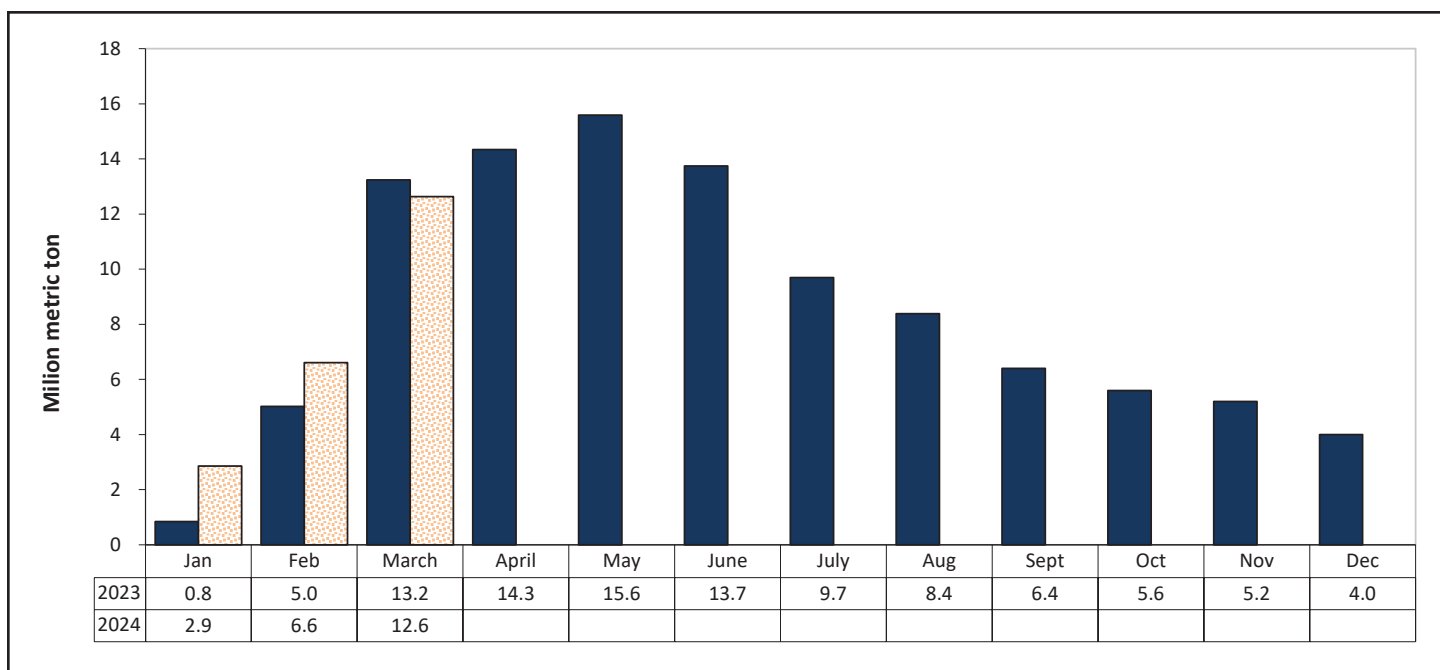


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Higher exports; lower farm prices and landed costs

From first quarter 2023 to first quarter 2024 (year to year), Brazilian soybean exports rose from 19.1 million metric tons (mmt) to 22.1 mmt (fig. 1a) ([Comex Stat](#), [MDIC](#)).¹ A significant drop in farm gate prices led to lower total landed costs for transporting Brazilian soybeans from the southern and northern ports to Shanghai, China, and Hamburg, Germany.² Brazil entered first quarter 2024 with higher stocks than last year, which allowed for a strong start to exports ([kpler](#)). Brazilian soybean exports typically peak in April/May and begin declining in June when the corn export season begins (fig. 1a). In first quarter 2024, seven ports accounted for 90 percent of total Brazilian soybean exports (fig. 1b). The largest of these was the Port of Santos, followed by Paranaguá, Barcarena, São Luís, Manaus, São Francisco do Sul, and Santarém.

Figure 1a. Brazil soybean monthly exports, 2023-24



Source: Comex Stat, Ministério do Desenvolvimento, Indústria, Comércio e Serviços.

¹ In this report, the source of Brazil export data is the Comex Stat, Ministério do Desenvolvimento, Indústria, Comércio e Serviços (MDIC).

² Total landed costs are equal to total transportation costs plus farm price (tables 1a, 1b, 2a, and 2b).



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Figure 1b. Southern ports exported 61 percent of Brazilian soybeans, January-March 2024



Sources: World Wildlife Fund, Brazilian Institute of Geography and Statistics - Produção Agrícola Municipal, USDA/Agricultural Marketing Service (AMS) and USDA/Foreign Agricultural Service (FAS).

Inland and ocean freight rates. Year to year, the cost of shipping a metric ton (mt) of soybeans 100 miles by truck fell 7 percent from \$8.92 per mt to \$8.29 per mt (table 8). Typically, soybean truck rates rise in March, as the flow of exports accelerates. However, in first quarter 2024, truck rates were unusually low in February and March (table 8). Although Brazilian producers increased planted area, yields were reduced by El Niño conditions (i.e., lack of rain in the Center West, North, and Northeastern regions), resulting in lower-than-expected volumes than the last harvest. The low volumes reduced demand for trucking and, consequently, reduced truck rates year to year ([FAS](#), [PSD](#), [Sifreca](#), and [kpler](#)). Still, Brazil is expecting its second-largest soybean harvest on record (2023's is the largest) ([World Agricultural Supply and Demand Estimates](#) and [Companhia Nacional de Abastecimento \(CONAB\)](#)).

Robust Brazilian soybean exports raised rail, barge, and ocean rates year to year. Ocean rates were also lifted by a resurgence in exports of corn and soymeal from Argentina after drought-curtailed shipments in 2023 ([kpler](#)). From first quarter 2023 to first quarter 2024, Brazilian ocean rates for exporting soybeans from the southern and northern ports rose 1-4 percent to Shanghai, China, and to Hamburg, Germany (tables 1a, 1b, 2a, 2b and 9).



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Farm gate prices and appreciation of Brazilian real. From first quarter 2023 to first quarter 2024, average Brazilian soybean export prices fell about 21 percent, from \$559 per mt to \$442 per mt. Brazil's average farm gate prices for soybeans plunged 26 percent in U.S. dollars (to the lowest levels since third quarter 2020, when the real was relatively weak, at 5.38 reals per U.S. dollar). Measured in U.S. dollars, soybean farm gate prices declined from \$501.57/mt to \$370.94/mt—and in reals, from R\$2,605.01/mt to R\$1,836.49/mt ([CONAB](#)). The price drop was a significant blow to farmers' revenue, despite the real's appreciation against the U.S. dollar.³ Because of 2024's downward trend in export prices and disappointing yields, Brazilian farmers have been slow to sell the current soybean crop as they wait for prices to improve ([Soybean & Corn Advisor, Inc.](#)). According to [Cordonnier](#), some farmers may not harvest enough soybeans to fulfill their forward contracts with grain companies. Other farmers have declared bankruptcy to help renegotiate their production loans. The Brazilian real (R\$) appreciated 5 percent against the U.S. dollar, from R\$5.20 per US\$ in first quarter 2023 to R\$4.95 in first quarter 2024 ([Brazil Central Bank](#)).

Brazilian port shares of soybean exports to China. In first quarter 2024, Brazil exported 15.9 mmt of soybeans to China, valued at \$7 billion. The volume was 14 percent more than the first quarter 2023's total (14 mmt) and accounted for 72 percent of Brazil's total soybean exports (22.1 mmt). The next highest shares of Brazil's soybean exports (in declining order) went to Spain, Thailand, Turkey, and Mexico. The Port of Santos was the largest Brazilian export gateway to China, followed by Paranaguá, São Luís, Barcarena, São Francisco do Sul and Salvador. These six ports accounted for 90 percent of Brazilian soybean exports to China.

In the first 3 months of 2024, 72 percent of Brazil's soybean exports to China originated from the southern ports of Santos, Rio Grande, Paranaguá, and São Francisco do Sul; 24 percent, from the northeastern ports of São Luís, Vitória, Salvador, and Barcarena; and 3 percent from the ports of Manaus and Santarém, along the Amazon River. For more information, contact Delmy L. Salin at delmy.salin@usda.gov.

³ Soybeans are priced in U.S. dollars, but farmers are paid in reals.



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Table 1a. Quarterly costs of transporting Brazilian soybeans from the southern ports to Shanghai, China

	North MT - Santos by truck			Northwest RS - Rio Grande		
	—US\$/mt—		% Change	—US\$/mt—		% Change
	1st qtr. 2023	1st qtr. 2024	2023-24	1st qtr. 2023	1st qtr. 2024	2023-24
Truck	96.25	91.79	-4.6	33.02	32.07	-2.9
Ocean	33.50	34.70	3.6	34.00	35.20	3.5
Total transportation	129.75	126.49	-2.5	67.02	67.27	0.4
Farm gate price	472.04	349.39	-26.0	525.80	383.05	-27.1
Landed cost	601.78	475.88	-20.9	592.81	450.32	-24.0
Transport % of landed cost	21.6	26.6	23.3	11.3	14.9	32.1
	North MT - Santos by rail			North MT - Paranaguá		
	—US\$/mt—		% Change	—US\$/mt—		% Change
	1st qtr. 2023	1st qtr. 2024	2023-24	1st qtr. 2023	1st qtr. 2024	2023-24
Truck	34.85	32.64	-6.3	95.66	89.66	-6.3
Rail	49.62	53.29	7.4	-	-	-
Ocean	33.50	34.70	3.6	35.00	36.20	3.4
Total transportation	117.97	120.63	2.3	130.66	125.86	-3.7
Farm gate price	472.04	349.39	-26.0	472.04	349.39	-26.0
Landed cost	590.00	470.02	-20.3	602.70	475.25	-21.1
Transport % of landed cost	20.0	25.7	28.4	21.7	26.5	22.2

Producing regions: MT= Mato Grosso and RS = Rio Grande Do Sul.

Export ports = Santos, Rio Grande, and Paranaguá.

The source of the farm gate price is the Brazilian Government, Companhia Nacional de Abastecimento (CONAB).

In Brazil, there are no published rail tariff rates. Rail rates can be up to 30 percent lower than truck rates, depending on the volumes hauled and the terms of contracts signed between the railroad company and shippers.

Note: qtr. = quarter. mt = metric ton. A hyphen in an otherwise empty cell denotes that the data are not available.

Source: University of São Paulo, Escola Superior de Agricultura “Luiz de Queiroz,” Brazil (ESALQ/ USP) and USDA, Agricultural Marketing Service.



Brazil Soybean Transportation

Table 1b. Quarterly costs of transporting Brazilian soybeans from the northern and northeastern ports to Shanghai, China

	North MT - Santarém			South MA - São Luís		
	—US\$/mt—		% Change	—US\$/mt—		% Change
	1st qtr. 2023	1st qtr. 2024	2023-24	1st qtr. 2023	1st qtr. 2024	2023-24
Truck	62.23	64.20	3.2	41.03	39.56	-3.6
Ocean	37.50	38.00	1.3	38.00	38.30	0.8
Total transportation	99.73	102.20	2.5	79.03	77.86	-1.5
Farm gate price	472.04	349.39	-26.0	508.13	373.82	-26.4
Landed cost	571.76	451.59	-21.0	587.16	451.67	-23.1
Transport % of landed cost	17.4	22.6	29.8	13.5	17.2	28.1
	Southwest PI - São Luís			North MT - Barcarena		
	—US\$/mt—		% Change	—US\$/mt—		% Change
	1st qtr. 2023	1st qtr. 2024	2023-24	1st qtr. 2023	1st qtr. 2024	2023-24
Truck	46.93	43.54	-7.2	53.34	49.61	-7.0
Barge	-	-	-	21.24	23.56	10.9
Ocean	38.00	38.30	0.8	38.25	38.50	0.7
Total transportation	84.93	81.84	-3.6	112.83	111.68	-1.0
Farm gate price	499.05	390.34	-21.8	472.04	349.39	-26.0
Landed cost	583.97	472.17	-19.1	584.86	461.06	-21.2
Transport % of landed cost	14.5	17.3	19.2	19.3	24.2	25.6

Producing regions: MT= Mato Grosso, PI = Piauí, and MA = Maranhão.

Export ports = Santarém, São Luís, and Barcarena.

The source of the farm gate price is the Brazilian Government, Companhia Nacional de Abastecimento (CONAB).

In Brazil, there are no published barge rates. Barge rates can be up to 60 percent lower than truck rates, depending on the volumes hauled and the terms of contracts signed between the barge company and shippers. The distance is in nautical miles.

Note: qtr. = quarter. mt = metric ton. A hyphen in an otherwise empty cell denotes that the data are not available.

Source: University of São Paulo, Escola Superior de Agricultura “Luiz de Queiroz,” Brazil (ESALQ/ USP) and USDA, Agricultural Marketing Service.



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Table 2a. Quarterly costs of transporting Brazilian soybeans from the southern ports to Hamburg, Germany

	North MT - Santos by truck			Northwest RS - Rio Grande		
	—US\$/mt—		% Change	—US\$/mt—		% Change
	1st qtr. 2023	1st qtr. 2024	2023-24	1st qtr. 2023	1st qtr. 2024	2023-24
Truck	96.25	91.79	-4.6	33.02	32.07	-2.9
Ocean	31.65	32.60	3.0	32.50	33.40	2.8
Total transportation	127.90	124.39	-2.7	65.52	65.47	-0.1
Farm gate price	472.04	349.39	-26.0	525.80	383.05	-27.1
Landed cost	599.93	473.78	-21.0	591.31	448.52	-24.1
Transport % of landed cost	21.3	26.3	23.2	11.1	14.6	31.7
	North MT - Santos by rail			North MT - Paranaguá		
	—US\$/mt—		% Change	—US\$/mt—		% Change
	1st qtr. 2023	1st qtr. 2024	2023-24	1st qtr. 2023	1st qtr. 2024	2023-24
Truck	34.85	32.64	-6.3	95.66	89.66	-6.3
Barge	49.62	53.29	7.4	-	-	-
Ocean	31.65	32.60	3.0	31.00	32.20	3.9
Total transportation	116.12	118.53	2.1	126.66	121.86	-3.8
Farm gate price	472.04	349.39	-26.0	472.04	349.39	-26.0
Landed cost	588.15	467.92	-20.4	598.70	471.25	-21.3
Transport % of landed cost	19.7	25.3	28.3	21.2	25.9	22.2

Producing regions: MT= Mato Grosso and RS = Rio Grande Do Sul.

Export ports = Santos, Rio Grande, and Paranaguá.

The source of the farm gate price is the Brazilian Government, Companhia Nacional de Abastecimento (CONAB).

In Brazil, there are no published rail tariff rates. Rail rates can be up to 30 percent lower than truck rates, depending on the volumes hauled and the terms of contracts signed between the railroad company and shippers.

Note: qtr. = quarter. mt = metric ton. A hyphen in an otherwise empty cell denotes that the data are not available.

Source: University of São Paulo, Escola Superior de Agricultura “Luiz de Queiroz,” Brazil (ESALQ/ USP) and USDA, Agricultural Marketing Service.



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Table 2b. Quarterly costs of transporting Brazilian soybeans from the northern and northeastern ports to Hamburg, Germany

	North MT - Santarém			South MA - São Luís		
	—US\$/mt—		% Change	—US\$/mt—		% Change
	1st qtr. 2023	1st qtr. 2024	2023-24	1st qtr. 2023	1st qtr. 2024	2023-24
Truck	62.23	64.20	3.2	41.03	39.56	-3.6
Ocean	30.00	30.40	1.3	34.50	35.20	2.0
Total transportation	92.23	94.60	2.6	75.53	74.76	-1.0
Farm gate price	472.04	349.39	-26.0	508.13	373.82	-26.4
Landed cost	564.26	443.99	-21.3	583.66	448.57	-23.1
Transport % of landed cost	16.3	21.3	30.4	12.9	16.7	28.8
	Southwest PI - São Luís			North MT - Barcarena		
	—US\$/mt—		% Change	—US\$/mt—		% Change
	1st qtr. 2023	1st qtr. 2024	2023-24	1st qtr. 2023	1st qtr. 2024	2023-24
Truck	46.93	43.54	-7.2	53.34	49.61	-7.0
Barge	-	-	-	21.24	23.56	10.9
Ocean	34.50	35.20	2.0	29.40	29.90	1.7
Total transportation	81.43	78.74	-3.3	103.98	103.08	-0.9
Farm gate price	499.05	390.34	-21.8	472.04	349.39	-26.0
Landed cost	580.47	469.07	-19.2	576.01	452.46	-21.4
Transport % of landed cost	14.0	16.8	19.7	18.1	22.8	26.2

Producing regions: MT= Mato Grosso, PI = Piauí, and MA = Maranhão.

Export ports = Santarém, São Luís, and Barcarena

The source of the farm gate price is the Brazilian Government, Companhia Nacional de Abastecimento (CONAB).

In Brazil, there are no published barge rates. Barge rates can be up to 60 percent lower than truck rates, depending on volumes hauled and the terms of contracts signed between the barge company and shippers. The distance is in nautical miles.

Note: qtr. = quarter. mt = metric ton. A hyphen in an otherwise empty cell denotes that the data are not available.

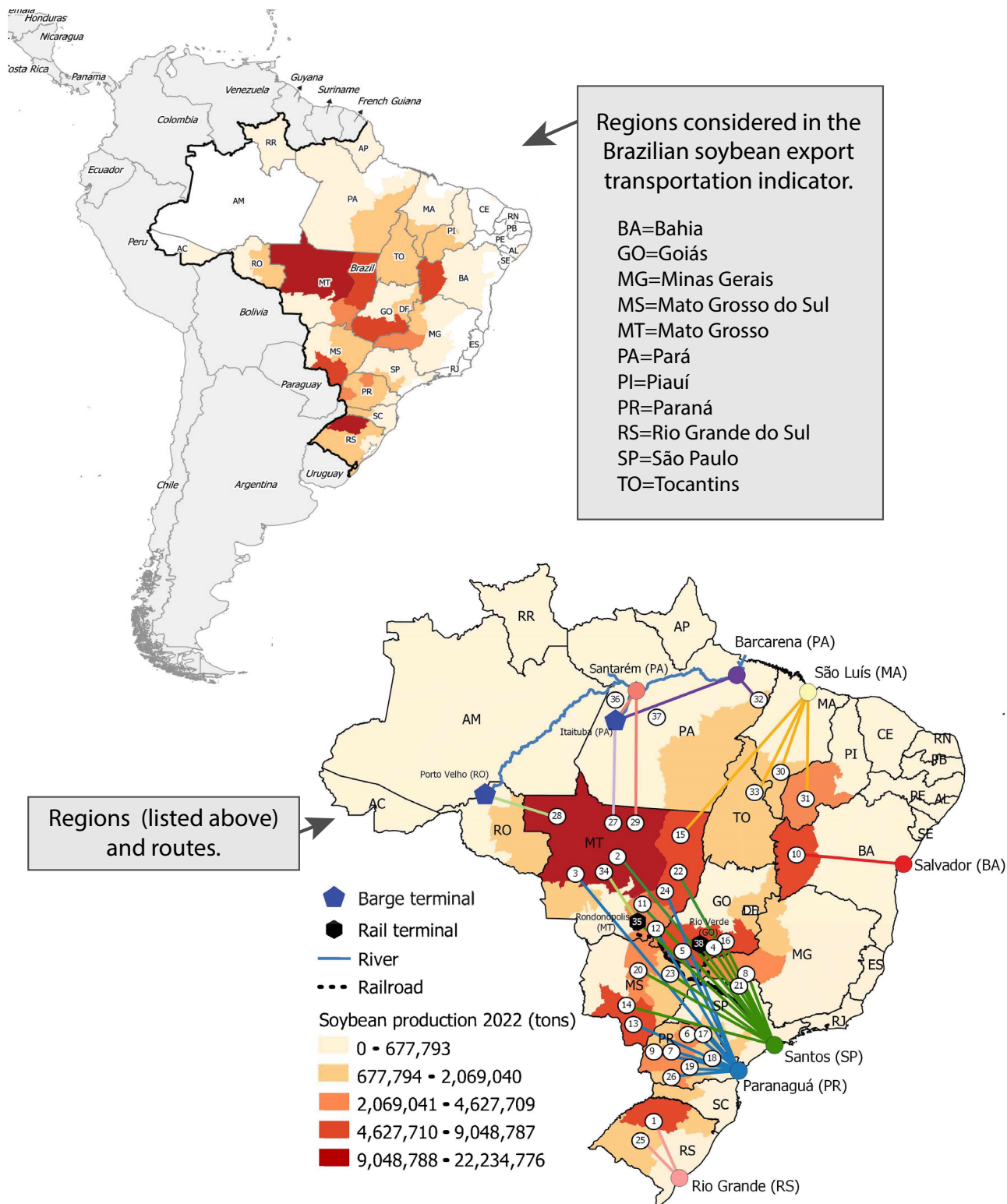
Source: University of São Paulo, Escola Superior de Agricultura “Luiz de Queiroz,” Brazil (ESALQ/ USP) and USDA, Agricultural Marketing Service.



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Indicators

Figure 2. Routes and regions considered in the Brazilian soybean export transportation indicator



Notes: Table defining routes by number is shown on page 13. Regions comprised about 78 percent of Brazilian soybean production, 2022 (Brazilian Institute of Geography and Statistics—Produção Agrícola Municipal).

Source: University of São Paulo, Escola Superior de Agricultura “Luiz de Queiroz,” Brazil (ESALQ/ USP) and USDA, Agricultural Marketing Service.



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Table 3. Quarterly costs of transporting Brazilian soybeans from the southern ports to Shanghai, China, 2024

	North MT - Santos by truck —US\$/mt—					North MT - Paranaguá —US\$/mt—				
	1st qtr.	2nd qtr.	3rd qtr.	4th qtr.	Avg.	1st qtr.	2nd qtr.	3rd qtr.	4th qtr.	Avg.
Truck	91.79				91.79	89.66				89.66
Ocean	34.70				34.70	36.20				36.20
Total transportation	126.49				126.49	125.86				125.86
Farm gate price	349.39				349.39	349.39				349.39
Landed cost	475.88				475.88	475.25				475.25
Transport % of landed cost	26.6				26.6	26.5				26.5
	North MT - Santos by rail —US\$/mt—					Northwest RS - Rio Grande —US\$/mt—				
	1st qtr.	2nd qtr.	3rd qtr.	4th qtr.	Avg.	1st qtr.	2nd qtr.	3rd qtr.	4th qtr.	Avg.
Truck	32.64				32.64	32.07				32.07
Rail	53.29				53.29	-				-
Ocean	34.70				34.70	35.20				35.20
Total transportation	120.63				120.63	67.27				67.27
Farm gate price	349.39				349.39	383.05				383.05
Landed cost	470.02				470.02	450.32				450.32
Transport % of landed cost	25.7				25.7	14.9				14.9

Producing regions: RS = Rio Grande do Sul and MT= Mato Grosso.

Export ports = Santos, Paranaguá, and Rio Grande.

The source of the farm gate price is the Brazilian Government, Companhia Nacional de Abastecimento (CONAB).

In, Brazil, there are no published rail tariff rates. Rail rates can be up to 30 percent lower than truck rates, depending on volumes hauled and the terms of contracts signed between the railroad company and shippers.

Note: qtr. = quarter. mt = metric ton. Avg. = average. A hyphen in an otherwise empty cell denotes that the data are not available.

Source: University of São Paulo, Escola Superior de Agricultura “Luiz de Queiroz,” Brazil (ESALQ/ USP) and USDA, Agricultural Marketing Service.



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Table 4. Quarterly costs of transporting Brazilian soybeans from the southern ports to Hamburg, Germany, 2024

	North MT - Santos by truck —US\$/mt—					North MT - Paranaguá —US\$/mt—				
	1st qtr.	2nd qtr.	3rd qtr.	4th qtr.	Avg.	1st qtr.	2nd qtr.	3rd qtr.	4th qtr.	Avg.
Truck	91.79				91.79	89.66				89.66
Ocean	32.60				32.60	32.20				32.20
Total transportation	124.39				124.39	121.86				121.86
Farm gate price	349.39				349.39	349.39				349.39
Landed cost	473.78				473.78	471.25				471.25
Transport % of landed cost	26.3				26.3	25.9				25.9
	North MT - Santos by rail —US\$/mt—					Northwest RS - Rio Grande —US\$/mt—				
	1st qtr.	2nd qtr.	3rd qtr.	4th qtr.	Avg.	1st qtr.	2nd qtr.	3rd qtr.	4th qtr.	Avg.
Truck	32.64				32.64	32.07				32.07
Rail	53.29				53.29	-				-
Ocean	32.60				32.60	33.40				33.40
Total transportation	118.53				118.53	65.47				65.47
Farm gate price	349.39				349.39	383.05				383.05
Landed cost	467.92				467.92	448.52				448.52
Transport % of landed cost	25.3				25.3	14.6				14.6

Producing regions: RS = Rio Grande do Sul and MT= Mato Grosso.

Export ports = Santos, Paranaguá, and Rio Grande.

The source of the farm gate price is the Brazilian Government, Companhia Nacional de Abastecimento (CONAB).

In, Brazil, there are no published rail tariff rates. Rail rates can be up to 30 percent lower than truck rates, depending on volumes hauled and the terms of contracts signed between the railroad company and shippers.

Note: qtr. = quarter. mt = metric ton. Avg. = average. A hyphen in an otherwise empty cell denotes that the data are not available.

Source: University of São Paulo, Escola Superior de Agricultura “Luiz de Queiroz,” Brazil (ESALQ/ USP) and USDA, Agricultural Marketing Service.



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Table 5. Quarterly costs of transporting Brazilian soybeans from the northern and northeastern ports to Shanghai, China, 2024

	North MT ¹ - Santarém ² —US\$/mt—					South MA ¹ - São Luís ² —US\$/mt—				
	1st qtr.	2nd qtr.	3rd qtr.	4th qtr.	Avg.	1st qtr.	2nd qtr.	3rd qtr.	4th qtr.	Avg.
Truck	64.20				64.20	39.56				39.56
Ocean	38.00				38.00	38.30				38.30
Total transportation	102.20				102.20	77.86				77.86
Farm gate price	349.39				349.39	373.82				373.82
Landed cost	451.59				451.59	451.67				451.67
Transport % of landed cost	22.6				22.6	17.2				17.2
	Southwest PI ¹ - São Luís ² —US\$/mt—					North MT ¹ - Barcarena ² —US\$/mt—				
	1st qtr.	2nd qtr.	3rd qtr.	4th qtr.	Avg.	1st qtr.	2nd qtr.	3rd qtr.	4th qtr.	Avg.
Truck	43.54				43.54	49.61				49.61
Barge	-				-	23.56				23.56
Ocean	38.30				38.30	38.50				38.50
Total transportation	81.84				81.84	111.68				111.68
Farm gate price	390.34				390.34	349.39				349.39
Landed cost	472.17				472.17	461.06				461.06
Transport % of landed cost	17.3				17.3	24.2				24.2

Producing regions: MT= Mato Grosso, PI = Piauí, and MA = Maranhão.

Export ports = Santarém, São Luís, and Barcarena.

The source of the farm gate price is the Brazilian Government, Companhia Nacional de Abastecimento (CONAB).

In Brazil, there are no published barge rates. Barge rates can be up to 60 percent lower than truck rates, depending on volumes hauled and the terms of contracts signed between the barge company and shippers. The distance is in nautical miles.

Note: qtr. = quarter. mt = metric ton. Avg. = average. A hyphen in an otherwise empty cell denotes that the data are not available.

Source: University of São Paulo, Escola Superior de Agricultura “Luiz de Queiroz,” Brazil (ESALQ/ USP) and USDA, Agricultural Marketing Service.



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Table 6. Quarterly costs of transporting Brazilian soybeans from the northern and northeastern ports to Hamburg, Germany, 2024

	North MT - Santarém —US\$/mt—					South MA - São Luís —US\$/mt—				
	1st qtr.	2nd qtr.	3rd qtr.	4th qtr.	Avg.	1st qtr.	2nd qtr.	3rd qtr.	4th qtr.	Avg.
Truck	64.20				64.20	39.56				39.56
Ocean	30.40				30.40	35.20				35.20
Total transportation	94.60				94.60	74.76				74.76
Farm gate price	349.39				349.39	373.82				373.82
Landed cost	443.99				443.99	448.57				448.57
Transport % of landed cost	21.3				21.3	16.7				16.7
	Southwest PI - São Luís —US\$/mt—					North MT - Barcarena —US\$/mt—				
	1st qtr.	2nd qtr.	3rd qtr.	4th qtr.	Avg.	1st qtr.	2nd qtr.	3rd qtr.	4th qtr.	Avg.
Truck	43.54				43.54	49.61				49.61
Barge	-				-	23.56				23.56
Ocean	35.20				35.20	29.90				29.90
Total transportation	78.74				78.74	103.08				103.08
Farm gate price	390.34				390.34	349.39				349.39
Landed cost	469.07				469.07	452.46				452.46
Transport % of landed cost	16.8				16.8	22.8				22.8

Producing regions: MT= Mato Grosso, PI = Piauí, and MA = Maranhão.

Export ports = Santarém, São Luís, and Barcarena.

The source of the farm gate price is the Brazilian Government, Companhia Nacional de Abastecimento (CONAB).

In Brazil, there are no published barge rates. Barge rates can be up to 60 percent lower than truck rates, depending on volumes hauled and the terms of contracts signed between the barge company and shippers. The distance is in nautical miles.

Note: qtr. = quarter. mt = metric ton. Avg. = average. A hyphen in an otherwise empty cell denotes that the data are not available.

Source: University of São Paulo, Escola Superior de Agricultura “Luiz de Queiroz,” Brazil (ESALQ/ USP) and USDA, Agricultural Marketing Service.



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Table 7. Quarterly truck rates for selected Brazilian soybean export transportation routes, 2024

Route #	Origin (reference city)	Destination	Distance (miles)	Share (%)	Freight price (US\$/mt/100 miles)				
					1st qtr.	2nd qtr.	3rd qtr.	4th qtr.	Avg.
1	Northwest RS (Cruz Alta)	Rio Grande	288	4.3	11.13				11.13
2	North MT (Sorriso)	Santos	1,190	3.5	7.71				7.71
3	North MT (Sorriso)	Paranaguá	1,262	3.3	7.10				7.10
4	South GO (Rio Verde)	Santos	587	6.2	7.58				7.58
5	South GO (Rio Verde)	Paranaguá	726	5.0	7.53				7.53
6	North Central PR (Londrina)	Paranaguá	268	2.5	10.88				10.88
7	Western Central PR (Mamborê)	Paranaguá	311	1.2	10.18				10.18
8	Triangle MG (Uberaba)	Santos	339	4.1	10.40				10.40
9	West PR (Assis Chateaubriand)	Paranaguá	377	1.5	9.12				9.12
10	West Extreme BA (São Desidério)	Salvador	535	6.4	8.40				8.40
11	Southeast MT (Primavera do Leste)	Santos	901	3.1	7.35				7.35
12	Southeast MT (Primavera do Leste)	Paranaguá	975	2.9	6.61				6.61
13	Southwest MS (Maracaju)	Paranaguá	612	2.3	7.85				7.85
14	Southwest MS (Maracaju)	Santos	652	2.2	8.23				8.23
15	Northeast MT (Canarana)	São Luís	1,177	2.4	6.62				6.62
16	East GO (Cristalina)	Santos	585	2.5	8.67				8.67
17	North PR (Cornélio Procópio)	Paranaguá	306	1.9	8.88				8.88
18	Eastern Central PR (Castro)	Paranaguá	130	2.0	14.98				14.98
19	South Central PR (Guarapuava)	Paranaguá	204	2.3	13.10				13.10
20	North Central MS (São Gabriel do Oeste)	Santos	720	2.8	7.47				7.47
21	Ribeirão Preto SP (Guairá)	Santos	314	0.6	8.70				8.70
22	Northeast MT (Canarana)	Santos	950	3.0	7.38				7.38
23	East MS (Chapadão do Sul)	Santos	607	1.6	7.03				7.03

The main city in the region is considered as a reference to establish the freight price.

Distance from the main city of the considered region to the mentioned ports.

Share of exports is measured as a percentage of total production.

Average monthly exchange rate from “Banco Central do Brasil” was used to convert Brazilian reais to the U.S. dollars.

RS=Rio Grande do Sul, MT=Mato Grosso, GO=Goiás, PR=Paraná, MG=Minas Gerais, BA=Bahia, MS=Mato Grosso do Sul, SP=São Paulo, PI=Piauí, MA=Maranhão, PA=Pará, and TO=Tocantins.

In Brazil, there are no published rail tariff rates. Rail rates can be up to 30 percent lower than truck rates, depending on the volumes hauled and the terms of contracts signed between the railroad company and shippers.

In Brazil, there are no published barge rates. Barge rates can be up to 60 percent lower than truck rates, depending on the volumes hauled and the terms of contracts signed between the barge company and shippers. The distance is in nautical miles.

Note: qtr. = quarter. mt = metric ton. Avg. = average.

For more details, on the definitions/calculations contact esalqlog@esalqlog.esalq.usp.br.

Source: University of São Paulo, Escola Superior de Agricultura “Luiz de Queiroz,” Brazil (ESALQ/ USP) and USDA, Agricultural Marketing Service.

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Route #	Origin (reference city)	Destination	Distance (miles)	Share (%)	Freight price (US\$/mt/100 miles)				
					1st qtr.	2nd qtr.	3rd qtr.	4th qtr.	Avg.
24	Northeast MT (Canarana)	Paranaguá	1,075	2.6	6.99				6.99
25	Western Central RS (Tupanciretã)	Rio Grande	273	1.0	9.96				9.96
26	Southwest PR(Chopinzinho)	Paranaguá	291	1.3	10.03				10.03
27	North MT (Sorriso)	Itaituba	672	6.3	7.39				7.39
28	North MT (Sorriso)	Porto Velho	632	6.7	7.02				7.02
29	North MT (Sorriso)	Santarém	876	4.8	7.33				7.33
30	South MA (Balsas)	São Luís	482	2.4	8.21				8.21
31	Southwest PI (Bom Jesus)	São Luís	606	3.2	7.19				7.19
32	Southeast PA (Paragominas)	Barcarena	249	2.1	8.90				8.90
33	East TO (Campos Lindos)	São Luís	842	2.2	6.72				6.72
	Weighted average		587	100.0	8.29				8.29
34	North MT (Sorriso)	Rondonópolis (Rail terminal)	382		8.55				8.55
35	Rondonópolis MT (Rail terminal)	Santos	1,019		5.23				5.23
36	Itaituba PA (Barge terminal)	Santarém	153		5.30				5.30
37	Itaituba PA (Barge terminal)	Barcarena	600		3.93				3.93
38	South GO (Rio Verde)	Santos	546		6.25				6.25

The main city in the region is considered as a reference to establish the freight price.

Distance from the main city of the considered region to the mentioned ports.

Share of exports is measured as a percentage of total production.

Average monthly exchange rate from “Banco Central do Brasil” was used to convert Brazilian reais to the U.S. dollars.

RS=Rio Grande do Sul, MT=Mato Grosso, GO=Goiás, PR=Paraná, MG=Minas Gerais, BA=Bahia, MS=Mato Grosso do Sul, SP=São Paulo, PI=Piauí, MA=Maranhão, PA=Pará, and TO=Tocantins.

In Brazil, there are no published rail tariff rates. Rail rates can be up to 30 percent lower than truck rates, depending on the volumes hauled and the terms of contracts signed between the railroad company and shippers.

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Note: qtr. = quarter. mt = metric ton. Avg. = average.

For more details, on the definitions/calculations contact esalqlog@esalqlog.esalq.usp.br.

Source: University of São Paulo, Escola Superior de Agricultura “Luiz de Queiroz,” Brazil (ESALQ/ USP) and USDA, Agricultural Marketing Service.



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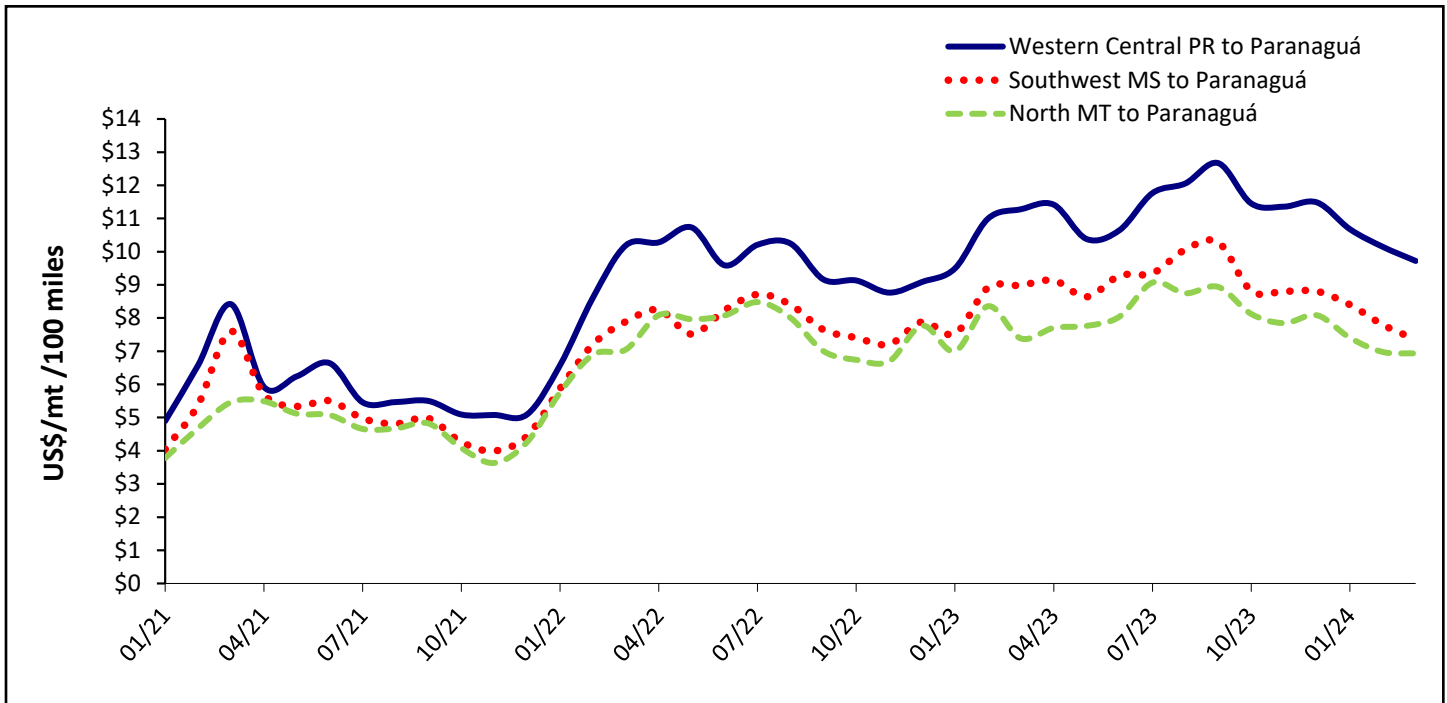
Table 8. Monthly Brazilian soybean export truck transportation cost index

Month	Freight price (US\$/mt/100 miles)	Index variation (%) (Base: prior month)	Index value (Base: Jan-05=100)	Month	Freight price (US\$/mt/100 miles)	Index variation (%) (Base: prior month)	Index value (Base: Jan-05=100)
Jan-18	7.59	5.0	130.90	Jan-22	5.94	30.9	102.42
Feb-18	8.65	13.9	149.04	Feb-22	7.77	30.8	134.02
Mar-18	10.59	22.5	182.61	Mar-22	8.59	10.4	147.99
Apr-18	9.78	-7.7	168.59	Apr-22	8.83	2.9	152.27
May-18	8.96	-8.4	154.45	May-22	9.05	2.4	155.94
Jun-18	8.89	-0.8	153.24	Jun-22	8.83	-2.4	152.18
Jul-18	8.97	0.9	154.58	Jul-22	8.98	1.7	154.78
Aug-18	8.24	-8.1	142.00	Aug-22	8.79	-2.1	151.51
Sep-18	7.24	-12.1	124.78	Sep-22	7.93	-9.8	136.68
Oct-18	7.69	6.2	132.55	Oct-22	7.71	-2.7	132.98
Nov-18	7.51	-2.3	129.44	Nov-22	7.42	-3.9	127.84
Dec-18	7.19	-4.3	123.87	Dec-22	7.94	7.1	136.89
Jan-19	7.72	7.5	133.13	Jan-23	7.97	0.4	137.38
Feb-19	8.19	6.0	141.15	Feb-23	9.41	18.1	162.28
Mar-19	7.34	-10.3	126.61	Mar-23	9.39	-0.3	161.87
Apr-19	7.16	-2.6	123.35	Apr-23	9.57	1.9	164.91
May-19	6.73	-5.9	116.02	May-23	9.27	-3.1	159.82
Jun-19	6.94	3.1	119.56	Jun-23	9.38	1.1	161.64
Jul-19	8.33	20.1	143.60	Jul-23	10.09	7.6	173.97
Aug-19	7.85	-5.8	135.23	Aug-23	10.09	0.0	173.94
Sep-19	7.09	-9.7	122.17	Sep-23	10.50	4.1	181.01
Oct-19	6.57	-7.4	113.19	Oct-23	9.38	-10.7	161.66
Nov-19	6.41	-2.3	110.54	Nov-23	9.36	-0.2	161.31
Dec-19	5.93	-7.5	102.21	Dec-23	9.55	2.0	164.60
Jan-20	6.03	1.7	103.90	Jan-24	8.57	-10.3	147.66
Feb-20	6.76	12.2	116.52	Feb-24	8.31	-3.0	143.29
Mar-20	6.20	-8.2	106.95	Mar-24	8.00	-3.7	137.96
Apr-20	5.86	-5.5	101.09	<p>Note: Weighted average is calculated from production-based shares to weigh high-volume routes more heavily than low-volume routes. The share associated with each route is used to define the weight of a given route’s freight price in the composition of the monthly weighted export truck freight index.</p> <p>Source: University of São Paulo, Escola Superior de Agricultura “Luiz de Queiroz,” Brazil (ESALQ/ USP) and USDA, Agricultural Marketing Service.</p>			
May-20	5.26	-10.4	90.58				
Jun-20	5.45	3.7	93.95				
Jul-20	5.44	-0.2	93.74				
Aug-20	5.41	-0.4	93.34				
Sep-20	5.58	3.0	96.14				
Oct-20	4.97	-10.8	85.71				
Nov-20	4.58	-7.9	78.95				
Dec-20	4.32	-5.8	74.39				
Jan-21	4.26	-1.3	73.39				
Feb-21	5.60	31.5	96.50				
Mar-21	6.93	23.8	119.49				
Apr-21	6.20	-10.5	106.96				
May-21	5.76	-7.2	99.22				
Jun-21	5.87	2.0	101.22				
Jul-21	5.09	-13.4	87.70				
Aug-21	5.09	0.1	87.81				
Sep-21	5.31	4.2	91.53				
Oct-21	4.49	-15.5	77.36				
Nov-21	4.28	-4.6	73.80				
Dec-21	4.54	6.0	78.26				



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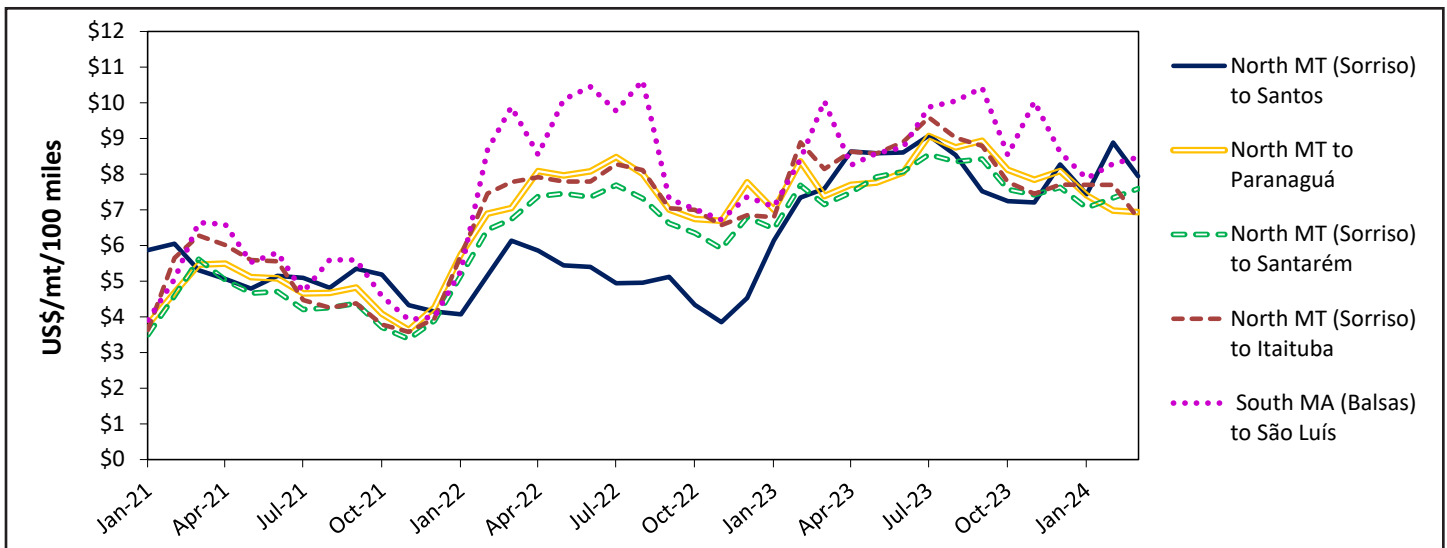
Figure 3. Truck rates for selected southern Brazilian soybean export transportation routes, 2021-24



Note: mt = metric ton. PR = Paraná, MT= Mato Grosso, and MS = Mato Grosso do Sul.

Source: University of São Paulo, Escola Superior de Agricultura "Luiz de Queiroz," Brazil (ESALQ/ USP) and USDA, Agricultural Marketing Service.

Figure 4. Truck rates for selected north, south, and northeastern Brazilian soybean export transportation routes, 2021-24



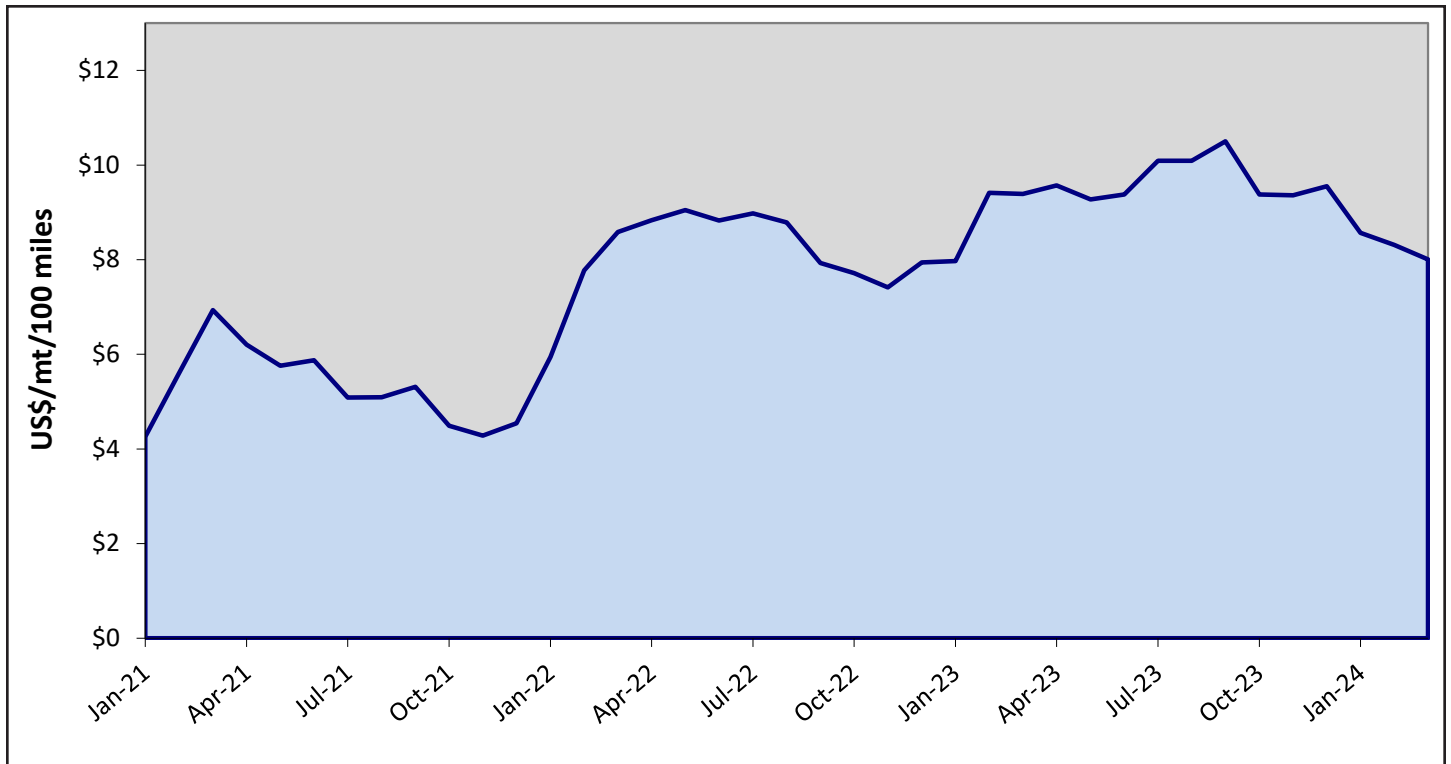
Note: mt = metric ton. MT= Mato Grosso and MA = Maranhão.

Source: University of São Paulo, Escola Superior de Agricultura "Luiz de Queiroz," Brazil (ESALQ/ USP) and USDA, Agricultural Marketing Service.



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Figure 5. Brazilian soybean export truck transportation weighted average prices, 2021-24



Note: mt = metric ton.

Source: University of São Paulo, Escola Superior de Agricultura "Luiz de Queiroz," Brazil (ESALQ/ USP) and USDA, Agricultural Marketing Service.



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Table 9. Quarterly ocean freight rates for shipping soybeans from selected Brazilian ports to Germany and China (US\$/metric ton)

Port	Destination	1st qtr. 2019	2nd qtr. 2019	3rd qtr. 2019	4th qtr. 2019
Santos	Germany (Hamburg)	23.00	21.50	27.00	31.00
Paranaguá	Germany (Hamburg)	23.00	21.25	27.00	30.75
Rio Grande	Germany (Hamburg)	23.00	21.25	27.00	31.25
Santarém	Germany (Hamburg)	21.00	20.25	25.92	26.50
São Luís	Germany (Hamburg)	18.00	17.10	22.77	23.50
Barcarena	Germany (Hamburg)	19.00	17.85	23.52	24.25
Santos	China (Shanghai)	32.25	30.92	33.25	38.17
Paranaguá	China (Shanghai)	33.75	31.42	34.75	39.50
Rio Grande	China (Shanghai)	31.58	30.25	34.25	39.67
Santarém	China (Shanghai)	32.25	30.58	38.25	39.17
São Luís	China (Shanghai)	31.00	30.58	38.25	39.42
Barcarena	China (Shanghai)	32.25	29.92	38.25	39.42
Port	Destination	1st qtr. 2020	2nd qtr. 2020	3rd qtr. 2020	4th qtr. 2020
Santos	Germany (Hamburg)	29.25	20.50	24.00	25.25
Paranaguá	Germany (Hamburg)	30.00	21.50	25.00	25.35
Rio Grande	Germany (Hamburg)	29.50	20.75	24.50	25.75
Santarém	Germany (Hamburg)	25.00	16.00	20.75	22.00
São Luís	Germany (Hamburg)	22.25	17.50	25.00	26.30
Barcarena	Germany (Hamburg)	24.00	15.00	20.50	21.75
Santos	China (Shanghai)	35.50	27.08	31.33	31.67
Paranaguá	China (Shanghai)	37.25	28.83	33.08	33.42
Rio Grande	China (Shanghai)	37.00	28.58	32.83	33.17
Santarém	China (Shanghai)	36.50	28.08	34.83	35.21
São Luís	China (Shanghai)	36.75	28.33	35.33	35.67
Barcarena	China (Shanghai)	38.50	28.33	36.33	36.67
Port	Destination	1st qtr. 2021	2nd qtr. 2021	3rd qtr. 2021	4th qtr. 2021
Santos	Germany (Hamburg)	31.25	42.70	54.00	52.50
Paranaguá	Germany (Hamburg)	31.00	41.90	53.00	51.50
Rio Grande	Germany (Hamburg)	32.00	43.80	55.50	53.80
Santarém	Germany (Hamburg)	28.65	40.00	50.60	49.10
São Luís	Germany (Hamburg)	33.25	45.90	58.00	56.30
Barcarena	Germany (Hamburg)	28.10	38.90	49.20	47.80
Santos	China (Shanghai)	37.00	50.60	64.00	62.00
Paranaguá	China (Shanghai)	38.75	52.40	66.00	64.00
Rio Grande	China (Shanghai)	37.25	51.00	64.75	62.75
Santarém	China (Shanghai)	40.54	55.60	67.50	65.60
São Luís	China (Shanghai)	41.00	56.60	68.00	66.00
Barcarena	China (Shanghai)	42.00	58.20	70.00	68.00

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Port	Destination	1st qtr. 2022	2nd qtr. 2022	3rd qtr. 2022	4th qtr. 2022
Santos	Germany (Hamburg)	52.70	55.85	42.60	42.20
Paranaguá	Germany (Hamburg)	51.50	54.60	41.60	41.20
Rio Grande	Germany (Hamburg)	54.00	57.20	43.60	43.10
Santarém	Germany (Hamburg)	49.10	52.00	46.00	39.60
São Luís	Germany (Hamburg)	56.50	60.00	40.00	39.80
Barcarena	Germany (Hamburg)	48.00	50.80	39.70	39.20
Santos	China (Shanghai)	62.00	65.75	48.70	47.70
Paranaguá	China (Shanghai)	64.00	67.75	49.00	48.60
Rio Grande	China (Shanghai)	62.75	66.50	49.00	48.40
Santarém	China (Shanghai)	66.00	69.90	56.00	54.80
São Luís	China (Shanghai)	66.20	70.00	56.00	55.00
Barcarena	China (Shanghai)	68.00	72.00	55.40	55.50
Port	Destination	1st qtr. 2023	2nd qtr. 2023	3rd qtr. 2023	4th qtr. 2023
Santos	Germany (Hamburg)	31.65	33.20	35.00	33.00
Paranaguá	Germany (Hamburg)	31.00	32.50	34.20	32.10
Rio Grande	Germany (Hamburg)	32.50	34.20	36.00	33.80
Santarém	Germany (Hamburg)	30.00	31.50	33.00	31.00
São Luís	Germany (Hamburg)	34.50	36.30	38.20	36.00
Barcarena	Germany (Hamburg)	29.40	31.00	32.50	30.50
Santos	China (Shanghai)	33.50	35.20	37.00	35.00
Paranaguá	China (Shanghai)	35.00	36.70	37.50	35.50
Rio Grande	China (Shanghai)	34.00	35.70	38.50	35.50
Santarém	China (Shanghai)	37.50	39.40	41.40	39.00
São Luís	China (Shanghai)	38.00	40.00	42.00	39.50
Barcarena	China (Shanghai)	38.25	40.20	42.20	39.60
Port	Destination	1st qtr. 2024	2nd qtr. 2024	3rd qtr. 2024	4th qtr. 2024
Santos	Germany (Hamburg)	32.60			
Paranaguá	Germany (Hamburg)	32.20			
Rio Grande	Germany (Hamburg)	33.40			
Santarém	Germany (Hamburg)	30.40			
São Luís	Germany (Hamburg)	35.20			
Barcarena	Germany (Hamburg)	29.90			
Santos	China (Shanghai)	34.70			
Paranaguá	China (Shanghai)	36.20			
Rio Grande	China (Shanghai)	35.20			
Santarém	China (Shanghai)	38.00			
São Luís	China (Shanghai)	38.30			
Barcarena	China (Shanghai)	38.50			

Notes: The rates correspond to the average actual values negotiated between shippers and carriers and weighted according to the magnitude of the shipped volume. qtr. = quarter.

Source: University of São Paulo, Escola Superior de Agricultura “Luiz de Queiroz,” Brazil (ESALQ/ USP) and USDA, Agricultural Marketing Service.



Brazil Soybean Transportation

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Data Sets (XLS files):

- [Figure 3. Truck rates for selected southern Brazilian soybean export transportation routes, 2021-24](#)
- [Figure 4. Truck rates for selected north, south, and northeastern Brazilian soybean export transportation routes, 2021-24](#)
- [Figure 5. Brazilian soybean export truck transportation weighted average prices, 2021-24](#)
- [Table 1a. Quarterly costs of transporting Brazilian soybeans from the southern ports to Shanghai, China](#)
- [Table 1b. Quarterly costs of transporting Brazilian soybeans from the northern and northeastern ports to Shanghai, China](#)
- [Table 2a. Quarterly costs of transporting Brazilian soybeans from the southern ports to Hamburg, Germany](#)
- [Table 2b. Quarterly costs of transporting Brazilian soybeans from the northern and northeastern ports to Hamburg, Germany](#)
- [Table 3. Quarterly costs of transporting Brazilian soybeans from the southern ports to Shanghai, China, 2024](#)
- [Table 4. Quarterly costs of transporting Brazilian soybeans from the southern ports to Hamburg, Germany, 2024](#)
- [Table 5. Quarterly costs of transporting Brazilian soybeans from the northern and northeastern ports to Shanghai, China, 2024](#)
- [Table 6. Quarterly costs of transporting Brazilian soybeans from the northern and northeastern ports to Hamburg, Germany, 2024](#)
- [Table 7. Quarterly truck rates for selected Brazilian soybean export transportation routes, 2024](#)
- [Table 8. Monthly Brazilian soybean export truck transportation cost index](#)
- [Table 9. Quarterly ocean freight rates for shipping soybeans from selected Brazilian ports to Germany and China \(US\\$/metric ton\)](#)

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