

# Brazil Soybean Transportation

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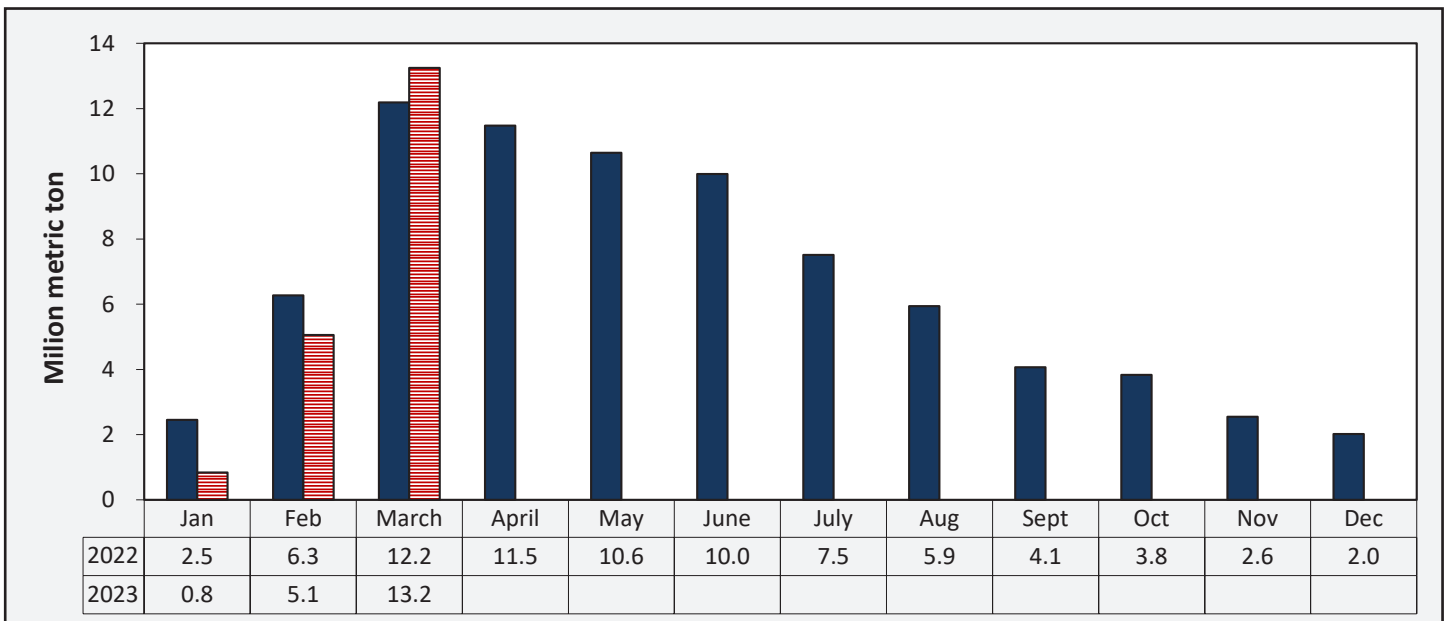
First Quarter 2023 (January, February, March)  
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## Lower Exports and Transportation Cost

From first quarter 2022 to first quarter 2023 (year to year), Brazilian soybean exports decreased from 20.9 million metric tons (mmt) to 19.1 mmt (fig. 1a). Exports declined because of harvest delays in the Center-West region, an expected record-high soybean harvest nationwide, and low domestic and export prices. The low prices encouraged producers and traders to delay sales ([Information System for Freight Value, Argus](#), and [Reuters](#)). Of Brazil’s soybeans that were exported, 58 percent left through the Southern ports (fig. 1b). According to the [Companhia Nacional de Abastecimento \(CONAB\)](#), Brazil’s 2023 soybean crop is expected to reach a record-high 154.8 mmt. Year to year, the cost of shipping a metric ton (mt) of soybeans 100 miles by truck rose 20 percent from \$7.43 per mt to \$8.92 per mt (table 8). Truck rates rose as a result of a larger soybean crop and increased corn exports that overlapped with the soybean export window. Typically, soybean truck rates increase in March, as the flow of exports accelerates. However, this year, truck rates increased in February, reaching their highest level since the all-time record high set in the first quarter of 2017 and 2018 (table 8). This rise also partially reflects higher fuel prices and the slight appreciation of the Brazilian real (R\$) against the U.S. dollar—from R\$5.22 per U.S. dollar to R\$5.20 per U.S. dollar ([Brazil Central Bank](#)).

Ocean freight rates fell, significantly lowering transportation costs. The decline was the combined result of the normal seasonal slump, an earlier-than-usual Chinese Lunar New Year celebration (January 22 to February 5) and reported lukewarm Chinese demand ([Grain Transportation Report \(GTR\), February 9, 2023](#)). In the State of

Figure 1a. Brazil soybean monthly exports, 2022-23

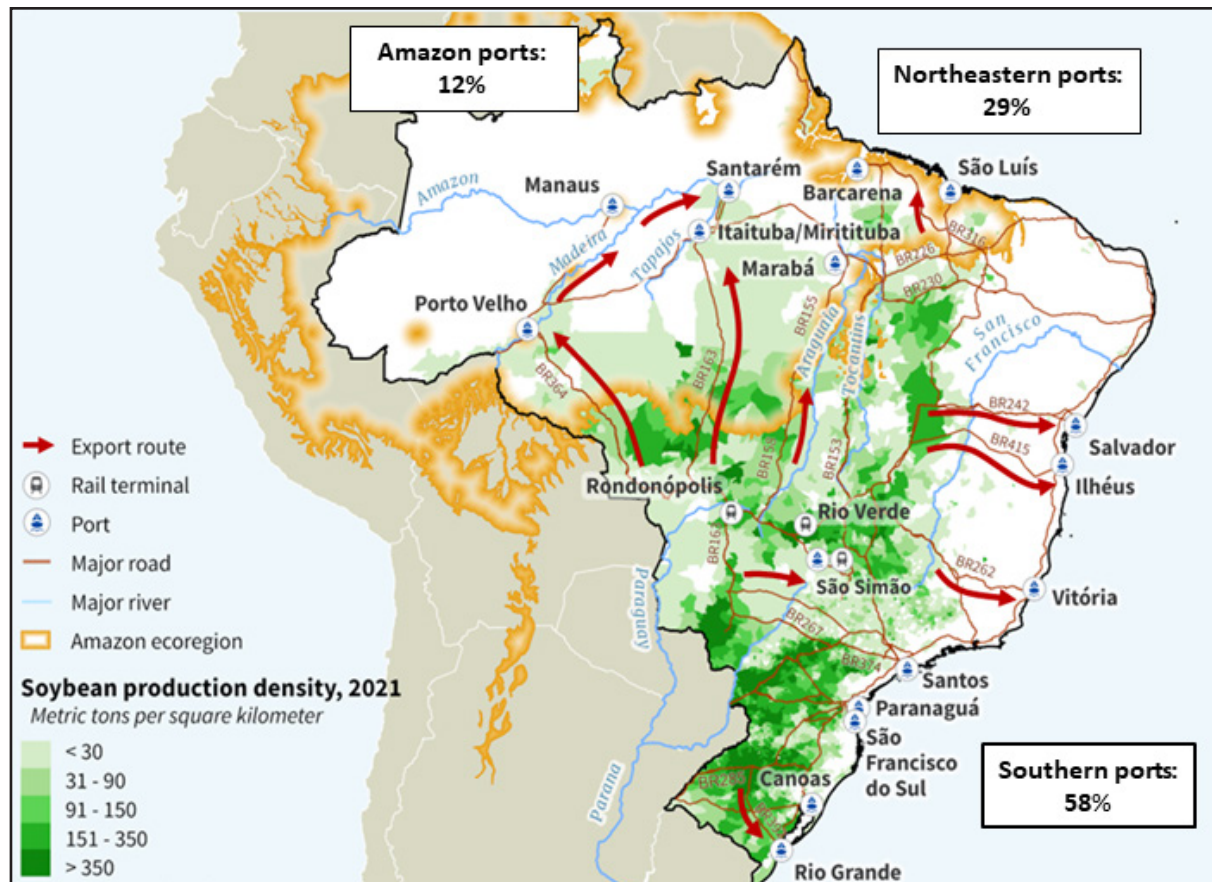


Source: Comex Stat, Ministério da Economia.



# Brazil Soybean Transportation

Figure 1b. Southern ports exported 58 percent of Brazilian soybeans, January-March 2023



World Wildlife Fund.

Brazilian Institute of Geography and Statistics - Produção Agrícola Municipal.

Source: USDA/Agricultural Marketing Service (AMS) and USDA/Foreign Agricultural Service (FAS).

Mato Grosso, lower transportation costs, and farm gate prices led to lower total landed costs for transporting Brazilian soybeans from the southern ports to Shanghai, China, and Hamburg, Germany. Total landed costs are equal to total transportation costs plus farm price (tables 1 and 2).

At \$557.31, Brazil's first-quarter 2023 average soybean export price was up 8 percent from first quarter 2022's average price (\$518.36), but down 6 percent from the average price for all of 2022 (\$591.36). Year to year, Brazil's average farm gate prices for soybeans fell 12 percent, because of the abundant local soybean supplies. Measured in U.S. dollars, that decline was from \$569.06/mt to \$501.57/mt—and in reais, from R\$2,958.15/mt to R\$2,605/mt ([CONAB](#)).

In first quarter 2023, Brazil exported 14 mmt of soybeans to China, 5 percent less than the first quarter 2022's total of 14.8 mmt. The next highest shares of Brazil's soybean exports (in declining order) went to Spain, Thailand, Turkey, Argentina, and Russia. The southern ports of Santos, Rio Grande, Paranaguá, and São Francisco do Sul still account for 68 percent of Brazil's soybean exports to China. Also, in the first 3 months of 2023, the northeastern ports of São Luís, Vitória, Salvador, and Barcarena accounted for 31 percent of soybean exports to China. The Port of Manaus, along the Amazon River, also exported a small share to China. For more information, contact Delmy L. Salin at [delmy.salin@usda.gov](mailto:delmy.salin@usda.gov).



# Brazil Soybean Transportation

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

	North MT <sup>1</sup> - Santos <sup>2</sup> by truck			Northwest RS <sup>1</sup> - Rio Grande <sup>2</sup>		
	—US\$/mt—		% Change	—US\$/mt—		% Change
	2022 1st qtr.	2023 1st qtr.	2022-23	2022 1st qtr.	2023 1st qtr.	2022-23
Truck	83.64	96.25	15.1	27.55	33.02	19.9
Ocean	62.00	33.50	-46.0	62.75	34.00	-45.8
Total transportation	145.64	129.75	-10.9	90.30	67.02	-25.8
Farm gate price <sup>3</sup>	550.71	472.04	-14.3	604.37	525.80	-13.0
Landed cost	696.34	601.78	-13.6	694.66	592.81	-14.7
Transport % of landed cost	20.9	21.6	3.1	13.0	11.3	-13.0
	North MT <sup>1</sup> - Santos <sup>2</sup> by rail			North MT <sup>1</sup> - Paranaguá <sup>2</sup>		
	—US\$/mt—		% Change	—US\$/mt—		% Change
	2022 1st qtr.	2023 1st qtr.	2022-23	2022 1st qtr.	2023 1st qtr.	2022-23
Truck	27.91	34.85	24.9	82.88	95.66	15.4
Rail <sup>4</sup>	37.69	49.62	31.6	-	-	-
Ocean	62.00	33.50	-46.0	64.00	35.00	-45.3
Total transportation	127.60	117.97	-7.5	146.88	130.66	-11.0
Farm gate price <sup>3</sup>	550.71	472.04	-14.3	550.71	472.04	-14.3
Landed cost	678.31	590.00	-13.0	697.58	602.70	-13.6
Transport % of landed cost	18.8	20.0	6.3	21.1	21.7	3.0

<sup>1</sup>Producing regions: RS = Rio Grande do Sul and MT= Mato Grosso.

<sup>2</sup>Export port.

<sup>3</sup>The source of the farm gate price is the Brazilian Government, Companhia Nacional de Abastecimento (CONAB).

<sup>4</sup>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. 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 <sup>1</sup> - Santarém <sup>2</sup>			South MA <sup>1</sup> - São Luís <sup>2</sup>		
	—US\$/mt—		% Change	—US\$/mt—		% Change
	2022 1st qtr.	2023 1st qtr.	2022-23	2022 1st qtr.	2023 1st qtr.	2022-23
Truck	53.57	62.23	16.2	38.28	41.03	7.2
Ocean	66.00	37.50	-43.2	66.20	38.00	-42.6
Total transportation	119.57	99.73	-16.6	104.48	79.03	-24.4
Farm gate price <sup>3</sup>	550.71	472.04	-14.3	558.85	508.13	-9.1
Landed cost	670.27	571.76	-14.7	663.33	587.16	-11.5
Transport % of landed cost	17.8	17.4	-2.2	15.8	13.5	-14.6
	Southwest PI <sup>1</sup> - São Luís <sup>2</sup>			North MT <sup>1</sup> - Barcarena <sup>2</sup>		
	—US\$/mt—		% Change	—US\$/mt—		% Change
	2022 1st qtr.	2023 1st qtr.	2022-23	2022 1st qtr.	2023 1st qtr.	2022-23
Truck	38.32	46.93	22.5	46.94	53.34	13.6
Barge <sup>4</sup>	-	-	-	16.28	21.24	30.5
Ocean	66.20	38.00	-42.6	68.00	38.25	-43.8
Total transportation	104.52	84.93	-18.7	131.22	112.83	-14.0
Farm gate price <sup>3</sup>	543.56	499.05	-8.2	550.71	472.04	-14.3
Landed cost	648.08	583.97	-9.9	685.66	584.86	-14.7
Transport % of landed cost	16.1	14.5	-9.8	19.2	19.3	0.3

<sup>1</sup>Producing regions: MT= Mato Grosso, PI = Piauí, and MA = Maranhão.

<sup>2</sup>Export port.

<sup>3</sup>The source of the farm gate price is the Brazilian Government, Companhia Nacional de Abastecimento (CONAB).

<sup>4</sup>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.



# Brazil Soybean Transportation

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

	North MT <sup>1</sup> - Santos <sup>2</sup>			Northwest RS <sup>1</sup> - Rio Grande <sup>2</sup>		
	—US\$/mt—		% Change	—US\$/mt—		% Change
	2022 1st qtr.	2023 1st qtr.	2022-23	2022 1st qtr.	2023 1st qtr.	2022-23
Truck	83.64	96.25	15.1	27.55	33.02	19.9
Ocean	52.70	31.65	-39.9	54.00	32.50	-39.8
Total transportation	136.34	127.90	-6.2	81.55	65.52	-19.7
Farm gate price <sup>3</sup>	550.71	472.04	-14.3	604.37	525.80	-13.0
Landed cost	687.04	599.93	-12.7	685.91	591.31	-13.8
Transport % of landed cost	19.8	21.3	7.4	11.9	11.1	-6.8
	North MT <sup>1</sup> - Santos <sup>2</sup> by rail			North MT <sup>1</sup> - Paranaguá <sup>2</sup>		
	—US\$/mt—		% Change	—US\$/mt—		% Change
	2022 1st qtr.	2023 1st qtr.	2022-23	2022 1st qtr.	2023 1st qtr.	2022-23
Truck	27.91	34.85	24.9	82.88	95.66	15.4
Rail <sup>4</sup>	37.69	49.62	31.6	-	-	-
Ocean	52.70	31.65	-39.9	51.50	31.00	-39.8
Total transportation	118.30	116.12	-1.8	134.38	126.66	-5.7
Farm gate price <sup>3</sup>	550.71	472.04	-14.3	550.71	472.04	-14.3
Landed cost	669.01	588.15	-12.1	685.08	598.70	-12.6
Transport % of landed cost	17.7	19.7	11.6	19.6	21.2	7.9

<sup>1</sup>Producing regions: RS = Rio Grande do Sul and MT= Mato Grosso.

<sup>2</sup>Export port.

<sup>3</sup>The source of the farm gate price is the Brazilian Government, Companhia Nacional de Abastecimento (CONAB).

<sup>4</sup>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. 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 2b. Quarterly costs of transporting Brazilian soybeans from the northern and northeastern ports to Hamburg, Germany**

	North MT <sup>1</sup> - Santarém <sup>2</sup>			South MA <sup>1</sup> - São Luís <sup>2</sup>		
	—US\$/mt—		% Change	—US\$/mt—		% Change
	2022 1st qtr.	2023 1st qtr.	2022-23	2022 1st qtr.	2023 1st qtr.	2022-23
Truck	53.57	62.23	16.2	38.28	41.03	7.2
Ocean	49.10	30.00	-38.9	56.50	34.50	-38.9
Total transportation	102.67	92.23	-10.2	94.78	75.53	-20.3
Farm gate price <sup>3</sup>	550.71	472.04	-14.3	558.85	508.13	-9.1
Landed cost	653.37	564.26	-13.6	653.63	583.66	-10.7
Transport % of landed cost	15.7	16.3	4.0	14.5	12.9	-10.8
	Southwest PI <sup>1</sup> - São Luís <sup>2</sup>			North MT <sup>1</sup> - Barcarena <sup>2</sup>		
	—US\$/mt—		% Change	—US\$/mt—		% Change
	2022 1st qtr.	2023 1st qtr.	2022-23	2022 1st qtr.	2023 1st qtr.	2022-23
Truck	38.32	46.93	22.5	46.94	53.34	13.6
Barge <sup>4</sup>	-	-	-	16.28	21.24	30.5
Ocean	56.50	34.50	-38.9	48.00	29.40	-38.8
Total transportation	94.82	81.43	-14.1	111.22	103.98	-6.5
Farm gate price <sup>3</sup>	543.56	499.05	-8.2	550.71	472.04	-14.3
Landed cost	638.38	580.47	-9.1	661.92	576.01	-13.0
Transport % of landed cost	14.9	14.0	-5.6	16.8	18.1	7.4

<sup>1</sup>Producing regions: MT= Mato Grosso, PI = Piauí, and MA = Maranhão.

<sup>2</sup>Export port.

<sup>3</sup>The source of the farm gate price is the Brazilian Government, Companhia Nacional de Abastecimento (CONAB).

<sup>4</sup>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.

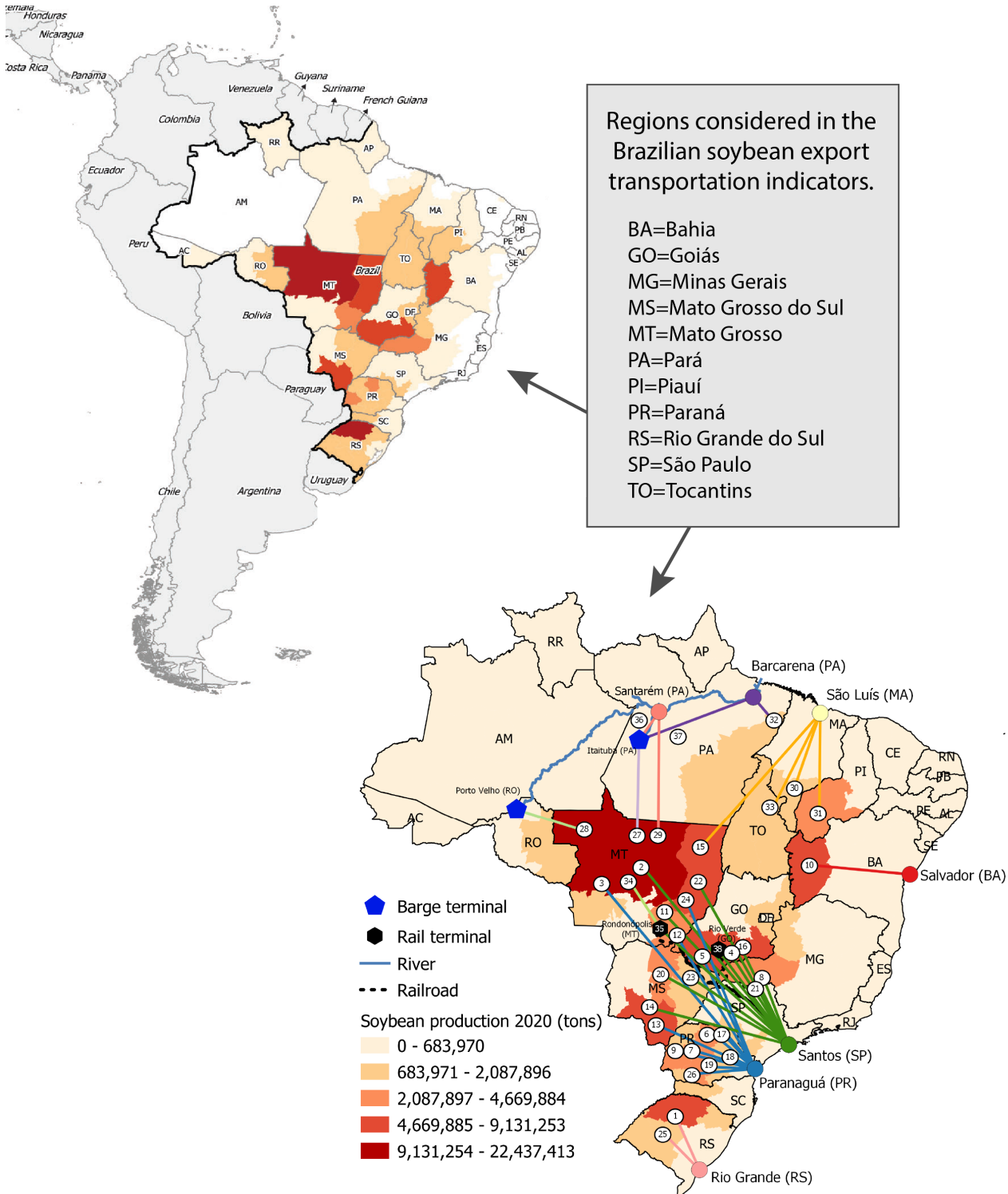
Source: University of São Paulo, Escola Superior de Agricultura "Luiz de Queiroz," Brazil (ESALQ/ USP) and USDA, Agricultural Marketing Service.



# Brazil Soybean Transportation

## Indicators

Figure 2. Routes<sup>1</sup> and regions considered in the Brazilian soybean export transportation indicator<sup>2</sup>



<sup>1</sup>Table defining routes by number is shown on page 12.

<sup>2</sup>Regions comprised about 79 percent of Brazilian soybean production, 2020 (Brazilian Institute of Geography and Statistics—Produção Agrícola Municipal).



# Brazil Soybean Transportation

**Table 3. Quarterly costs of transporting Brazilian soybeans from the southern ports to Shanghai, China, 2023**

	North MT <sup>1</sup> - Santos <sup>2</sup> by truck —US\$/mt—					North MT <sup>1</sup> - Paranaguá <sup>2</sup> —US\$/mt—				
	1st qtr.	2nd qtr.	3rd qtr.	4th qtr.	Avg.	1st qtr.	2nd qtr.	3rd qtr.	4th qtr.	Avg.
Truck	96.25				96.25	95.66				95.66
Ocean	33.50				33.50	35.00				35.00
Total transportation	129.75				129.75	130.66				130.66
Farm gate price <sup>3</sup>	472.04				472.04	472.04				472.04
Landed cost	601.78				601.78	602.70				602.70
Transport % of landed cost	21.6				21.6	21.7				21.7
	North MT <sup>1</sup> - Santos <sup>2</sup> by rail —US\$/mt—					Northwest RS <sup>1</sup> - Rio Grande <sup>2</sup> —US\$/mt—				
	1st qtr.	2nd qtr.	3rd qtr.	4th qtr.	Avg.	1st qtr.	2nd qtr.	3rd qtr.	4th qtr.	Avg.
Truck	34.85				34.85	33.02				33.02
Rail <sup>4</sup>	49.62				49.62	-				-
Ocean	33.50				33.50	34.00				34.00
Total transportation	117.97				117.97	67.02				67.02
Farm gate price <sup>3</sup>	472.04				472.04	525.80				525.80
Landed cost	590.00				590.00	592.81				592.81
Transport % of landed cost	20.0				20.0	11.3				11.3

<sup>1</sup>Producing regions: RS = Rio Grande do Sul, MT= Mato Grosso, and PR = Paraná.

<sup>2</sup>Export port.

<sup>3</sup>The source of the farm gate price is the Brazilian Government, Companhia Nacional de Abastecimento (CONAB).

<sup>4</sup>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.





# Brazil Soybean Transportation

**Table 4. Quarterly costs of transporting Brazilian soybeans from the southern ports to Hamburg, Germany, 2023**

	North MT <sup>1</sup> - Santos <sup>2</sup> by truck —US\$/mt—					North MT <sup>1</sup> - Paranaguá <sup>2</sup> —US\$/mt—				
	1st qtr.	2nd qtr.	3rd qtr.	4th qtr.	Avg.	1st qtr.	2nd qtr.	3rd qtr.	4th qtr.	Avg.
Truck	96.25				96.25	95.66				95.66
Ocean	31.65				31.65	31.00				31.00
Total transportation	127.90				127.90	126.66				126.66
Farm gate price <sup>3</sup>	472.04				472.04	472.04				472.04
Landed cost	599.93				599.93	598.70				598.70
Transport % of landed cost	21.3				21.3	21.2				21.2
	North MT <sup>1</sup> - Santos <sup>2</sup> by rail —US\$/mt—					Northwest RS <sup>1</sup> - Rio Grande <sup>2</sup> —US\$/mt—				
	1st qtr.	2nd qtr.	3rd qtr.	4th qtr.	Avg.	1st qtr.	2nd qtr.	3rd qtr.	4th qtr.	Avg.
Truck	34.85				34.85	33.02				33.02
Rail <sup>4</sup>	49.62				49.62	-				-
Ocean	31.65				31.65	32.50				32.50
Total transportation	116.12				116.12	65.52				65.52
Farm gate price <sup>3</sup>	472.04				472.04	525.80				525.80
Landed cost	588.15				588.15	591.31				591.31
Transport % of landed cost	19.7				19.7	11.1				11.1

<sup>1</sup>Producing regions: RS = Rio Grande do Sul and MT= Mato Grosso.

<sup>2</sup>Export port.

<sup>3</sup>The source of the farm gate price is the Brazilian Government, Companhia Nacional de Abastecimento (CONAB).

<sup>4</sup>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.



# Brazil Soybean Transportation

**Table 5. Quarterly costs of transporting Brazilian soybeans from the northern and northeastern ports to Shanghai, China, 2023**

	North MT <sup>1</sup> - Santarém <sup>2</sup> —US\$/mt—					South MA <sup>1</sup> - São Luís <sup>2</sup> —US\$/mt—				
	1st qtr.	2nd qtr.	3rd qtr.	4th qtr.	Avg.	1st qtr.	2nd qtr.	3rd qtr.	4th qtr.	Avg.
Truck	62.23				62.23	41.03				41.03
Ocean	37.50				37.50	38.00				38.00
Total transportation	99.73				99.73	79.03				79.03
Farm gate price <sup>3</sup>	472.04				472.04	508.13				508.13
Landed cost	571.76				571.76	587.16				587.16
Transport % of landed cost	17.4				17.4	13.5				13.5
	Southwest PI <sup>1</sup> - São Luís <sup>2</sup> —US\$/mt—					North MT <sup>1</sup> - Barcarena <sup>2</sup> —US\$/mt—				
	1st qtr.	2nd qtr.	3rd qtr.	4th qtr.	Avg.	1st qtr.	2nd qtr.	3rd qtr.	4th qtr.	Avg.
Truck	46.93				46.93	53.34				53.34
Barge <sup>4</sup>	-				-	21.24				21.24
Ocean	38.00				38.00	38.25				38.25
Total transportation	84.93				84.93	112.83				112.83
Farm gate price <sup>3</sup>	499.05				499.05	472.04				472.04
Landed cost	583.97				583.97	584.86				584.86
Transport % of landed cost	14.5				14.5	19.3				19.3

<sup>1</sup>Producing regions: MT= Mato Grosso, PI = Piauí, and MA = Maranhão.

<sup>2</sup>Export port.

<sup>3</sup>The source of the farm gate price is the Brazilian Government, Companhia Nacional de Abastecimento (CONAB).

<sup>4</sup>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.



# Brazil Soybean Transportation

**Table 6. Quarterly costs of transporting Brazilian soybeans from the northern and northeastern ports to Hamburg, Germany, 2023**

	North MT <sup>1</sup> - Santarém <sup>2</sup> —US\$/mt—					South MA <sup>1</sup> - São Luís <sup>2</sup> —US\$/mt—				
	1st qtr.	2nd qtr.	3rd qtr.	4th qtr.	Avg.	1st qtr.	2nd qtr.	3rd qtr.	4th qtr.	Avg.
Truck	62.23				62.23	41.03				41.03
Ocean	30.00				30.00	34.50				34.50
Total transportation	92.23				92.23	75.53				75.53
Farm gate price <sup>3</sup>	472.04				472.04	508.13				508.13
Landed cost	564.26				564.26	583.66				583.66
Transport % of landed cost	16.3				16.3	12.9				12.9
	Southwest PI <sup>1</sup> - São Luís <sup>2</sup> —US\$/mt—					North MT <sup>1</sup> - Barcarena <sup>2</sup> —US\$/mt—				
	1st qtr.	2nd qtr.	3rd qtr.	4th qtr.	Avg.	1st qtr.	2nd qtr.	3rd qtr.	4th qtr.	Avg.
Truck	46.93				46.93	53.34				53.34
Barge <sup>4</sup>	-				-	26.11				26.11
Ocean	34.50				34.50	29.40				29.40
Total transportation	81.43				81.43	108.85				108.85
Farm gate price <sup>3</sup>	499.05				499.05	472.04				472.04
Landed cost	580.47				580.47	580.89				580.89
Transport % of landed cost	14.0				14.0	18.7				18.7

<sup>1</sup>Producing regions: MT= Mato Grosso, PI = Piauí, and MA = Maranhão.

<sup>2</sup>Export port.

<sup>3</sup>The source of the farm gate price is the Brazilian Government, Companhia Nacional de Abastecimento (CONAB).

<sup>4</sup>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.



# Brazil Soybean Transportation

**Table 7. Quarterly truck rates for selected Brazilian soybean export transportation routes, 2023**

Route #	Origin <sup>1</sup> (reference city)	Destination	Distance (miles) <sup>2</sup>	Share (%) <sup>3</sup>	Freight price (US\$/mt/100 miles) <sup>4</sup>				
					1st qtr.	2nd qtr.	3rd qtr.	4th qtr.	Avg.
1	Northwest RS <sup>5</sup> (Cruz Alta)	Rio Grande	288	10.2	11.46				11.46
2	North MT (Sorriso)	Santos	1,190	2.9	8.09				8.09
3	North MT (Sorriso)	Paranaguá	1,262	2.7	7.58				7.58
4	South GO (Rio Verde)	Santos	587	5.0	7.77				7.77
5	South GO (Rio Verde)	Paranaguá	726	4.0	7.96				7.96
6	North Central PR (Londrina)	Paranaguá	268	2.8	11.40				11.40
7	Western Central PR (Mamborê)	Paranaguá	311	2.2	10.59				10.59
8	Triangle MG (Uberaba)	Santos	339	3.3	10.77				10.77
9	West PR (Assis Chateaubriand)	Paranaguá	377	3.1	9.50				9.50
10	West Extreme BA (São Desidério)	Salvador	535	6.4	8.61				8.61
11	Southeast MT (Primavera do Leste)	Santos	901	2.4	7.37				7.37
12	Southeast MT (Primavera do Leste)	Paranaguá	975	2.2	7.17				7.17
13	Southwest MS (Maracaju)	Paranaguá	612	3.7	8.47				8.47
14	Southwest MS (Maracaju)	Santos	652	3.5	8.46				8.46
15	Northeast MT (Canarana)	São Luís	1,177	2.0	6.96				6.96
16	East GO (Cristalina)	Santos	585	2.0	8.98				8.98
17	North PR (Cornélio Procópio)	Paranaguá	306	1.7	9.28				9.28
18	Eastern Central PR (Castro)	Paranaguá	130	1.8	14.81				14.81
19	South Central PR (Guarapuava)	Paranaguá	204	2.2	13.16				13.16
20	North Central MS (São Gabriel do Oeste)	Santos	720	2.7	7.26				7.26
21	Ribeirão Preto SP (Guairá)	Santos	314	0.4	9.15				9.15
22	Northeast MT (Canarana)	Santos	950	2.4	7.87				7.87
23	East MS (Chapadão do Sul)	Santos	607	1.4	7.23				7.23

<sup>1</sup>Although each origin region comprises several cities, the main city is considered as a reference to establish the freight price; na = not available.

<sup>2</sup>Distance from the main city of the considered region to the mentioned ports.

<sup>3</sup>Share is measured as a percentage of total production.

<sup>4</sup>Average monthly exchange rate from “Banco Central do Brasil” was used to convert Brazilian reais to the U.S. dollars.

<sup>5</sup>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.

<sup>6</sup>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.

<sup>7</sup>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](mailto: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.



# Brazil Soybean Transportation

Route #	Origin <sup>1</sup> (reference city)	Destination	Distance (miles) <sup>2</sup>	Share (%) <sup>3</sup>	Freight price (US\$/mt/100 miles) <sup>4</sup>				
					1st qtr.	2nd qtr.	3rd qtr.	4th qtr.	Avg.
24	Northeast MT (Canarana)	Paranaguá	1,075	2.1	7.41				7.41
25	Western Central RS (Tupanciretã)	Rio Grande	273	2.7	10.01				10.01
26	Southwest PR(Chopinzinho)	Paranaguá	291	1.6	10.33				10.33
27	North MT (Sorriso)	Itaituba	672	5.2	7.94				7.94
28	North MT (Sorriso)	Porto Velho	632	5.5	7.46				7.46
29	North MT (Sorriso)	Santarém	876	4.0	7.10				7.10
30	South MA (Balsas)	São Luís	482	2.0	8.52				8.52
31	Southwest PI (Bom Jesus)	São Luís	606	2.5	7.75				7.75
32	Southeast PA (Paragominas)	Barcarena	249	1.6	10.50				10.50
33	East TO (Campos Lindos)	São Luís	842	1.8	7.06				7.06
	<b>Weighted average</b>		<b>587</b>	<b>100.0</b>	<b>8.92</b>				<b>8.92</b>
34	North MT (Sorriso)	Rondonópolis (Rail terminal)	382		9.12				9.12
35	Rondonópolis MT (Rail terminal) <sup>6</sup>	Santos	1,019		4.87				4.87
36	Itaituba PA (Barge terminal) <sup>7</sup>	Santarém	153		7.93				7.93
37	Itaituba PA (Barge terminal) <sup>7</sup>	Barcarena	600		3.54				3.54
38	South GO (Rio Verde)	Santos	546		5.96				5.96

<sup>1</sup>Although each origin region comprises several cities, the main city is considered as a reference to establish the freight price; na = not available.

<sup>2</sup>Distance from the main city of the considered region to the mentioned ports.

<sup>3</sup>Share is measured as a percentage of total production.

<sup>4</sup>Average monthly exchange rate from “Banco Central do Brasil” was used to convert Brazilian reais to the U.S. dollars.

<sup>5</sup>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.

<sup>6</sup>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.

<sup>7</sup>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](mailto: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.



# Brazil Soybean Transportation

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-16	6.42	-5.1	110.63	Jan-20	6.03	1.7	103.90
Feb-16	6.73	4.8	115.98	Feb-20	6.76	12.2	116.52
Mar-16	7.79	15.8	134.33	Mar-20	6.20	-8.2	106.95
Apr-16	8.30	6.5	143.05	Apr-20	5.86	-5.5	101.09
May-16	7.28	-12.3	125.43	May-20	5.26	-10.4	90.58
Jun-16	7.16	-1.5	123.51	Jun-20	5.45	3.7	93.95
Jul-16	7.46	4.2	128.64	Jul-20	5.44	-0.2	93.74
Aug-16	7.33	-1.7	126.41	Aug-20	5.41	-0.4	93.34
Sep-16	6.35	-13.3	109.53	Sep-20	5.58	3.0	96.14
Oct-16	5.88	-7.5	101.35	Oct-20	4.97	-10.8	85.71
Nov-16	5.00	-14.9	86.21	Nov-20	4.58	-7.9	78.95
Dec-16	5.47	9.4	94.32	Dec-20	4.32	-5.8	74.39
Jan-17	7.32	33.8	126.20	Jan-21	4.26	-1.3	73.39
Feb-17	9.85	34.6	169.85	Feb-21	5.60	31.5	96.50
Mar-17	10.38	5.3	178.90	Mar-21	6.93	23.8	119.49
Apr-17	9.52	-8.3	164.05	Apr-21	6.20	-10.5	106.96
May-17	8.75	-8.0	150.90	May-21	5.76	-7.2	99.22
Jun-17	8.18	-6.5	141.04	Jun-21	5.87	2.0	101.22
Jul-17	8.74	6.8	150.66	Jul-21	5.09	-13.4	87.70
Aug-17	9.85	12.7	169.76	Aug-21	5.09	0.1	87.81
Sep-17	8.97	-9.0	154.55	Sep-21	5.31	4.2	91.53
Oct-17	8.64	-3.6	148.93	Oct-21	4.49	-15.5	77.36
Nov-17	8.36	-3.2	144.11	Nov-21	4.28	-4.6	73.80
Dec-17	7.23	-13.5	124.63	Dec-21	4.54	6.0	78.26
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				
May-19	6.73	-5.9	116.02				
Jun-19	6.94	3.1	119.56				
Jul-19	8.33	20.1	143.60				
Aug-19	7.85	-5.8	135.23				
Sep-19	7.09	-9.7	122.17				
Oct-19	6.57	-7.4	113.19				
Nov-19	6.41	-2.3	110.54				
Dec-19	5.93	-7.5	102.21				

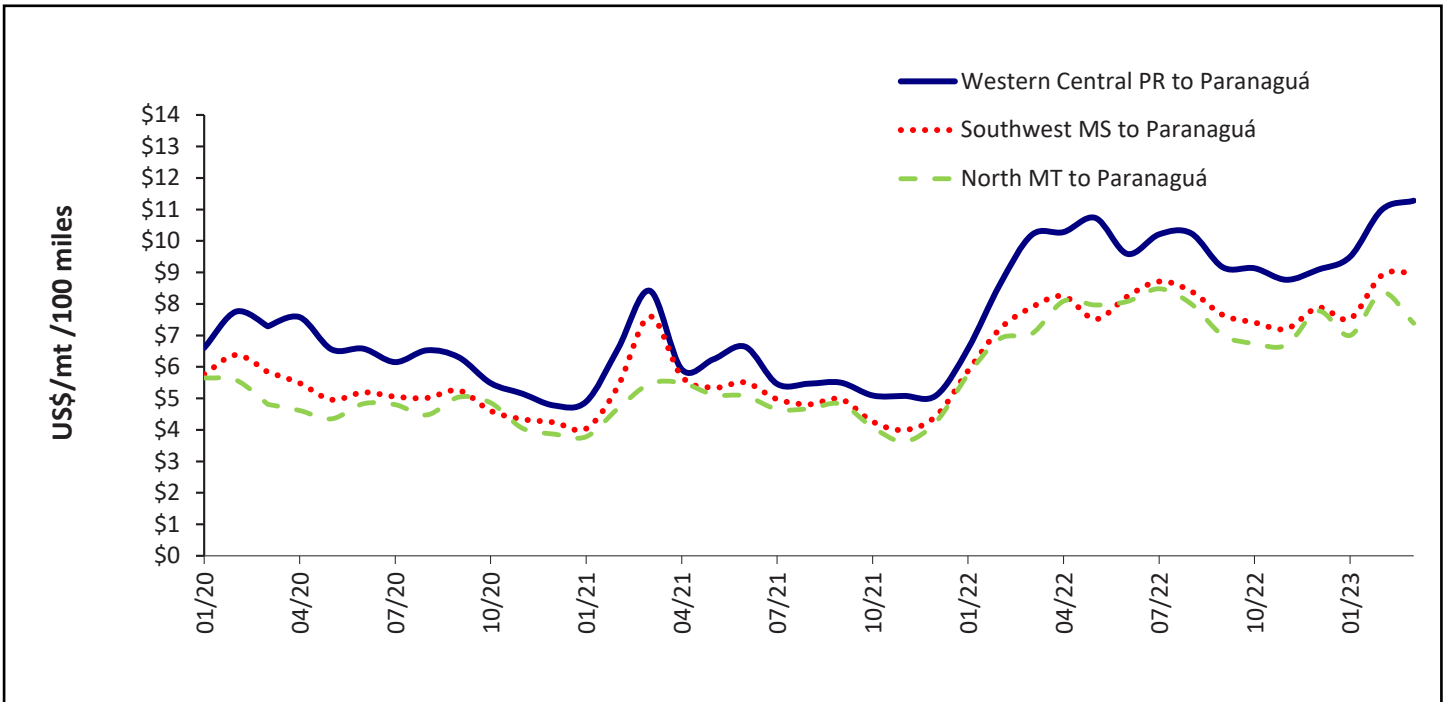
\*Weighted average is calculated from production-based shares to weigh high-volume routes more heavily than low-volume routes. The share associated with each route is used to define the weight of a given route's freight price in the composition of the monthly weighted export truck freight index.

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



# Brazil Soybean Transportation

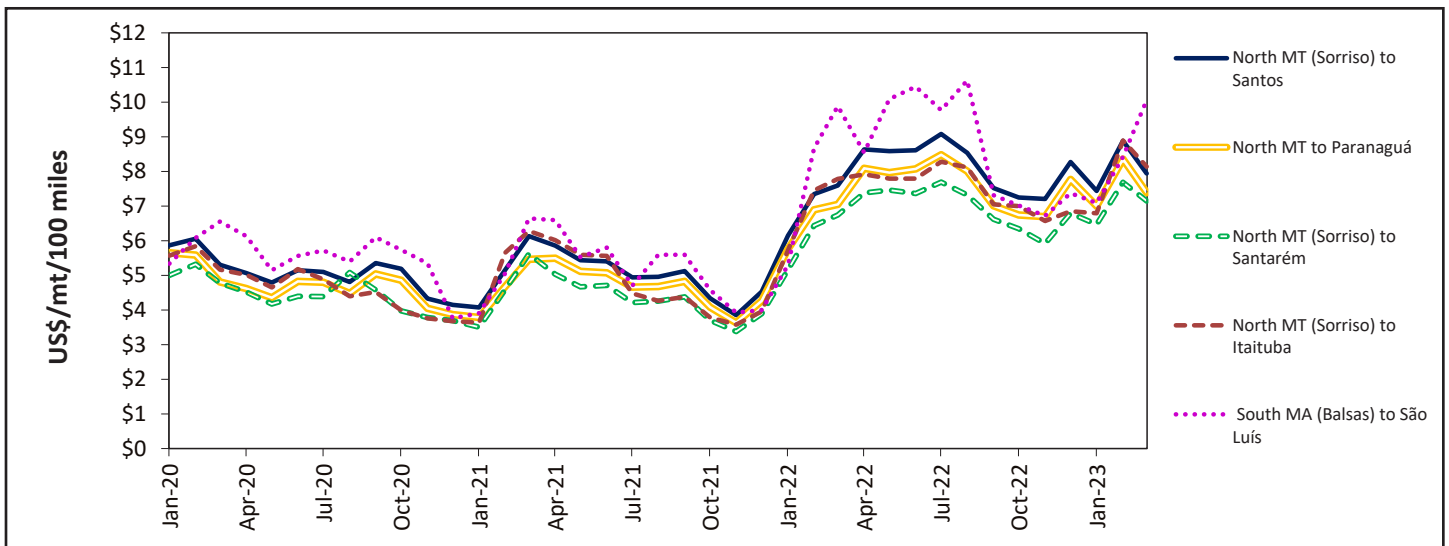
Figure 3. Truck rates for selected southern Brazilian soybean export transportation routes, 2020-23



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, 2020-23



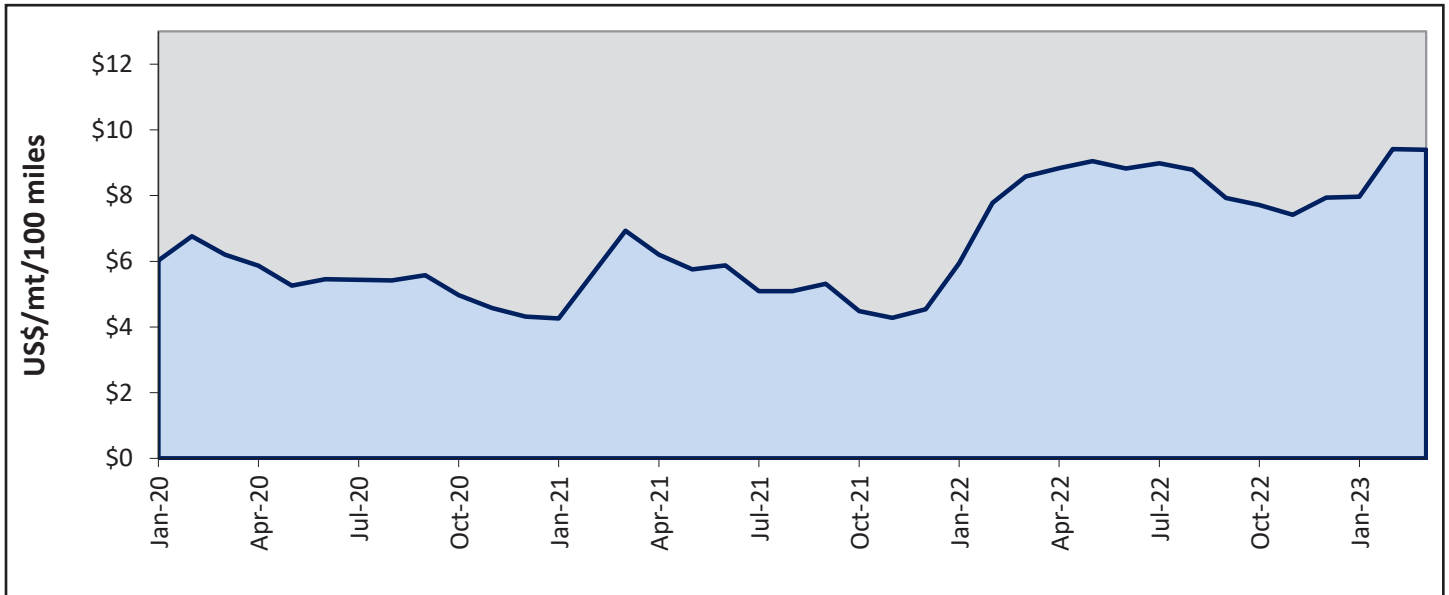
Note: mt = metric ton. MT= Mato Grosso and MA = Maranhão.

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



# Brazil Soybean Transportation

Figure 5. Brazilian soybean export truck transportation weighted average prices, 2020-23



Note: mt = metric ton.

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





# Brazil Soybean Transportation

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

Port	Destination	1st qtr. 2018	2nd qtr. 2018	3rd qtr. 2018	4th qtr. 2018
Santos	Germany (Hamburg)	27.00	25.00	24.00	25.00
Paranaguá	Germany (Hamburg)	28.00	26.00	25.00	26.00
Rio Grande	Germany (Hamburg)	28.00	26.00	25.00	26.00
Santarém	Germany (Hamburg)	25.00	22.90	22.50	23.00
São Luís	Germany (Hamburg)	21.00	19.10	18.50	19.00
Barcarena	Germany (Hamburg)	23.00	20.90	20.20	20.00
Santos	China (Shanghai)	32.50	31.00	27.75	30.00
Paranagua	China (Shanghai)	32.00	32.00	28.75	31.00
Rio Grande	China (Shanghai)	33.00	31.50	28.25	31.50
Santarém	China (Shanghai)	38.50	35.50	31.25	34.00
São Luís	China (Shanghai)	37.00	34.80	30.75	33.00
Barcarena	China (Shanghai)	37.50	33.80	32.25	35.00
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
Paranagua	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
Paranagua	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

-continued on page 18-



# Brazil Soybean Transportation

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
Paranagua	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
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
Paranagua	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			
Paranaguá	Germany (Hamburg)	31.00			
Rio Grande	Germany (Hamburg)	32.50			
Santarém	Germany (Hamburg)	30.00			
São Luís	Germany (Hamburg)	34.50			
Barcarena	Germany (Hamburg)	29.40			
Santos	China (Shanghai)	33.50			
Paranagua	China (Shanghai)	35.00			
Rio Grande	China (Shanghai)	34.00			
Santarém	China (Shanghai)	37.50			
São Luís	China (Shanghai)	38.00			
Barcarena	China (Shanghai)	38.25			

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

Note: 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, 2020-23](#)
- [Figure 4. Truck rates for selected north, south, and northeastern Brazilian soybean export transportation routes, 2020-23](#)
- [Figure 5. Brazilian soybean export truck transportation weighted average prices, 2020-23](#)
- [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, 2023](#)
- [Table 4. Quarterly costs of transporting Brazilian soybeans from the southern ports to Hamburg, Germany, 2023](#)
- [Table 5. Quarterly costs of transporting Brazilian soybeans from the northern and northeastern ports to Shanghai, China, 2023](#)
- [Table 6. Quarterly costs of transporting Brazilian soybeans from the northern and northeastern ports to Hamburg, Germany, 2023](#)
- [Table 7. Quarterly truck rates for selected Brazilian soybean export transportation routes, 2023](#)
- [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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- [Soybean Transportation Guide](#)
- Prior Articles: [Brazil Soybean Transportation](#)
- Related Articles: [Grain Transportation Report: March 23, 2023 \(PDF\)](#)

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