

# Brazil Soybean Transportation

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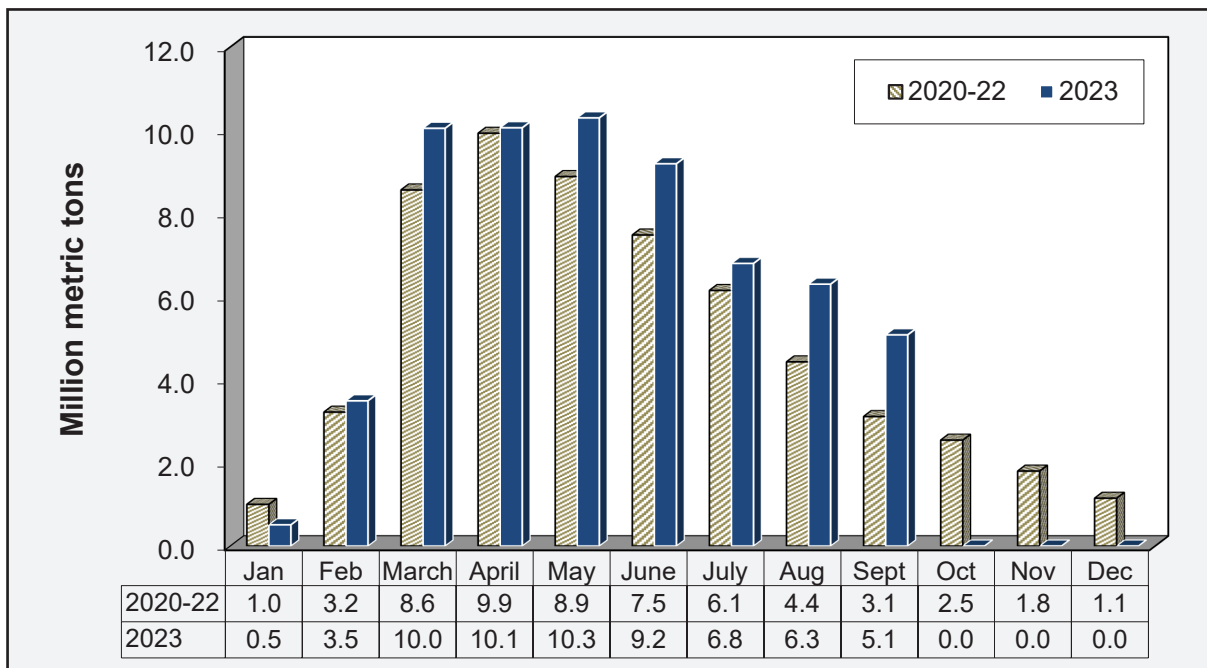


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## Record Brazilian Soybean Export Season Increases Inland Transportation Costs

In the first 9 months of 2023, Brazil exported a record 87.2 million metric tons (mmt) of soybeans, valued at \$45.6 billion (fig. 1), mostly to China ([Comex Stat](#), [Ministério do Desenvolvimento, Indústria, Comércio e Serviços \(MDIC\)](#)).<sup>1</sup> From third quarter 2022 to third quarter 2023 (year to year), the cost of shipping a metric ton (mt) of soybeans 100 miles by truck rose 19 percent, from \$8.57 per mt to \$10.23 per mt (table 8). Inland (truck, rail, and barge) Brazilian transportation costs rose because of greater-than-usual soybean exports in August and September, which overlapped with the corn export window. Ocean shipping rates from Brazil declined because of extreme weather, the ending of the Black Sea Grain Initiative, and the market’s pessimism about China’s economic season ([Grain Transportation Report \(GTR\), October 26](#)) (tables 1a, 1b, 2a, 2b, and 9). Total transportation costs varied by Brazilian region. However—for the route to Shanghai, China, from Sorriso, Mato Grosso (the largest Brazilian soybean-producing State) via Santos—third quarter 2023 soybean transportation costs rose 1-6 percent. Those same costs were 25-27 percent of the total landed costs in third quarter 2023, versus 34 percent in 2008 and 45 percent in 2006 (table 1.a). Year to year, soybean transportation costs to Shanghai, China—as a share of total landed costs—rose 10-27 percent for the routes from northern Mato Grosso to Santos, Santarém, and Barcarena (table 1b).

Figure 1. Brazil average monthly soybean exports to China, 2020-23



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

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



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Year to year, Brazil's soybean exports increased from 17 mmt to 24 mmt. The average third-quarter 2023, Brazilian soybean export price (\$499.68) was down 20 percent from third quarter 2022's average (\$627.92) and down nearly 16 percent from the average for all of 2022 (\$591.37). Because soybeans are priced in U.S. dollars but paid in reais, Brazilian farmers continue to benefit from the real's relative weakness against the U.S. dollar. Year to year, the Brazilian real slightly depreciated against the U.S. dollar—from R\$4.93 per U.S. dollar to R\$4.95 per U.S. dollar ([Brazil Central Bank](#)). Brazil's average farm gate prices for soybeans fell 30 percent, because of abundant local soybean supplies. Measured in U.S. dollars, that decline was from \$591.59/mt to \$413.76/mt—and in reais, from R\$2,909.69/mt to R\$2,048.41/mt ([CONAB](#)).

From January to September 2023, Brazil exported 61.7 mmt of soybeans to China, valued at \$32.2 billion—nearly 31 percent more than the total of 47.3 mmt from January to September 2022. The next highest shares of Brazil's soybean exports (in declining order) went to Argentina, Spain, Thailand, and Turkey. The southern ports of Santos, Rio Grande, Paranaguá, and São Francisco do Sul still dominate the soybean trade to China, accounting for 69 percent of Brazil's soybean exports to China in the first 9 months of 2023. Also, during the same period, the northeastern ports of São Luís, Vitória, Salvador, and Barcarena accounted for nearly 31 percent of soybean exports to China, and the Amazon River port of Manaus exported only a very small amount to China (less than 1 percent). The ocean freight spread (or cost difference) between the routes to Shanghai, China, from the northeastern port of São Luís (\$42/mt) and the port of Santos (\$37/mt) was \$5/mt (table 9).

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**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
	3rd qtr. 2022	3rd qtr. 2023	2022-23	3rd qtr. 2022	3rd qtr. 2023	2022-23
Truck	99.71	113.56	13.9	30.05	35.89	19.4
Ocean	48.70	37.00	-24.0	50.30	38.50	-23.5
Total transportation	148.41	150.56	1.5	80.35	74.39	-7.4
Farm gate price <sup>3</sup>	514.98	399.94	-22.3	552.66	469.48	-15.1
Landed cost	663.39	550.51	-17.0	633.01	543.87	-14.1
Transport % of landed cost	22.4	27.4	22.3	12.7	13.7	7.8
	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
	3rd qtr. 2022	3rd qtr. 2023	2022-23	3rd qtr. 2022	3rd qtr. 2023	2022-23
Truck	32.45	40.22	23.9	98.83	112.54	13.9
Rail <sup>4</sup>	46.56	58.44	25.5	-	-	-
Ocean	48.70	37.00	-24.0	49.00	37.50	-23.5
Total transportation	127.71	135.66	6.2	147.83	150.04	1.5
Farm gate price <sup>3</sup>	514.98	399.94	-22.3	514.98	399.94	-22.3
Landed cost	642.69	535.60	-16.7	662.81	549.99	-17.0
Transport % of landed cost	19.9	25.3	27.5	22.3	27.3	22.3

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

<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
	3rd qtr. 2022	3rd qtr. 2023	2022-23	3rd qtr. 2022	3rd qtr. 2023	2022-23
Truck	63.19	73.96	17.0	44.47	48.72	9.6
Ocean	56.00	41.40	-26.1	56.00	42.00	-25.0
Total transportation	119.19	115.36	-3.2	100.47	90.72	-9.7
Farm gate price <sup>3</sup>	514.98	399.94	-22.3	545.43	428.33	-21.5
Landed cost	634.17	515.30	-18.7	645.91	519.05	-19.6
Transport % of landed cost	18.8	22.4	19.1	15.6	17.5	12.4
	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
	3rd qtr. 2022	3rd qtr. 2023	2022-23	3rd qtr. 2022	3rd qtr. 2023	2022-23
Truck	47.29	52.28	10.6	52.49	61.36	16.9
Barge <sup>4</sup>	-	-	-	19.43	30.47	56.8
Ocean	56.00	42.00	-25.0	55.40	42.20	-23.8
Total transportation	103.29	94.28	-8.7	127.32	134.03	5.3
Farm gate price <sup>3</sup>	529.04	432.42	-18.3	514.98	399.94	-22.3
Landed cost	632.33	526.70	-16.7	642.29	533.97	-16.9
Transport % of landed cost	16.3	17.9	9.6	19.8	25.1	26.6

<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> by truck			Northwest RS <sup>1</sup> - Rio Grande <sup>2</sup>		
	—US\$/mt—		% Change	—US\$/mt—		% Change
	3rd qtr. 2022	3rd qtr. 2023	2022-23	3rd qtr. 2022	3rd qtr. 2023	2022-23
Truck	99.71	113.56	13.9	30.05	35.89	19.4
Ocean	42.60	35.00	-17.8	43.60	36.00	-17.4
Total transportation	142.31	148.56	4.4	73.65	71.89	-2.4
Farm gate price <sup>3</sup>	514.98	399.94	-22.3	552.66	469.48	-15.1
Landed cost	657.29	548.51	-16.5	626.31	541.37	-13.6
Transport % of landed cost	21.7	27.1	25.1	11.8	13.3	12.9
	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
	3rd qtr. 2022	3rd qtr. 2023	2022-23	3rd qtr. 2022	3rd qtr. 2023	2022-23
Truck	32.45	40.22	23.9	98.83	112.54	13.9
Rail <sup>4</sup>	46.56	58.44	25.5	-	-	-
Ocean	42.60	35.00	-17.8	41.60	34.20	-17.8
Total transportation	121.61	133.66	9.9	140.43	146.74	4.5
Farm gate price <sup>3</sup>	514.98	399.94	-22.3	514.98	399.94	-22.3
Landed cost	636.59	533.60	-16.2	655.41	546.69	-16.6
Transport % of landed cost	19.1	25.0	31.1	21.4	26.8	25.3

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

<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
	3rd qtr. 2022	3rd qtr. 2023	2022-23	3rd qtr. 2022	3rd qtr. 2023	2022-23
Truck	63.19	73.96	17.0	44.47	48.72	9.6
Ocean	46.00	33.00	-28.3	40.00	38.20	-4.5
Total transportation	109.19	106.96	-2.0	84.47	86.92	2.9
Farm gate price <sup>3</sup>	514.98	399.94	-22.3	545.43	428.33	-21.5
Landed cost	624.17	506.90	-18.8	629.91	515.25	-18.2
Transport % of landed cost	17.5	21.1	20.6	13.4	16.9	25.8
	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
	3rd qtr. 2022	3rd qtr. 2023	2022-23	3rd qtr. 2022	3rd qtr. 2023	2022-23
Truck	47.29	52.28	10.6	52.49	61.36	16.9
Barge <sup>4</sup>	-	-	-	19.43	30.47	56.8
Ocean	40.00	38.20	-4.5	39.70	32.50	-18.1
Total transportation	87.29	90.48	3.7	111.62	124.33	11.4
Farm gate price <sup>3</sup>	529.04	432.42	-18.3	514.98	399.94	-22.3
Landed cost	616.33	522.90	-15.2	626.59	524.27	-16.3
Transport % of landed cost	14.2	17.3	22.2	17.8	23.7	33.1

<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.

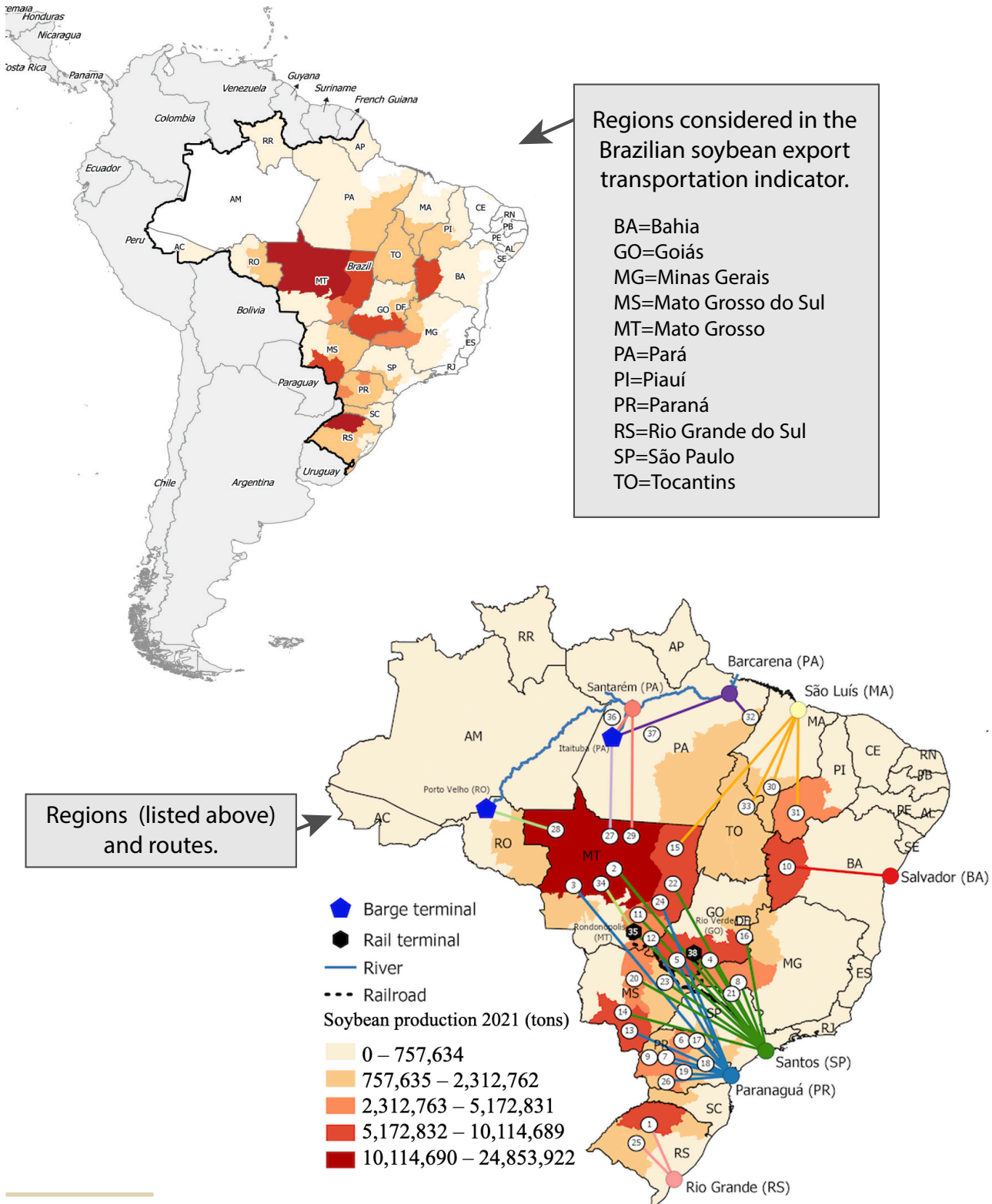
Source: University of São Paulo, Escola Superior de Agricultura "Luiz de Queiroz," Brazil (ESALQ/ USP) and USDA, Agricultural Marketing Service.



# Brazil Soybean Transportation

## Indicators

Figure 2. Routes<sup>2</sup> and regions considered in the Brazilian soybean export transportation indicator<sup>3</sup>



<sup>2</sup> Table defining routes by number is shown on page 12.

<sup>3</sup> Regions comprised about 79 percent of Brazilian soybean production, 2021 (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, 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	100.36	113.56		103.39	95.66	98.90	112.54		102.37
Ocean	33.50	35.20	37.00		35.23	35.00	36.70	37.50		36.40
Total transportation	129.75	135.56	150.56		138.62	130.66	135.60	150.04		138.77
Farm gate price <sup>3</sup>	472.04	384.93	399.94		418.97	472.04	384.93	399.94		418.97
Landed cost	601.78	520.49	550.51		557.59	602.70	520.53	549.99		557.74
Transport % of landed cost	21.6	26.0	27.4		25.0	21.7	26.1	27.3		25.0
	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	35.89	40.22		36.99	33.02	33.70	35.89		34.20
Rail <sup>4</sup>	49.62	54.47	58.44		54.18	-	-	-		-
Ocean	33.50	35.20	37.00		35.23	34.00	35.70	38.50		36.07
Total transportation	117.97	125.56	135.66		126.40	67.02	69.40	74.39		70.27
Farm gate price <sup>3</sup>	472.04	384.93	399.94		418.97	525.80	437.80	469.48		477.69
Landed cost	590.00	510.49	535.60		545.37	592.81	507.20	543.87		547.96
Transport % of landed cost	20.0	24.6	25.3		23.3	11.3	13.7	13.7		12.9

<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. 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, 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	100.36	113.56		103.39	95.66	98.90	112.54		102.37
Ocean	31.65	33.20	35.00		33.28	31.00	32.50	34.20		32.57
Total transportation	127.90	133.56	148.56		136.67	126.66	131.40	146.74		134.94
Farm gate price <sup>3</sup>	472.04	384.93	399.94		418.97	472.04	384.93	399.94		418.97
Landed cost	599.93	518.49	548.51		555.64	598.70	516.33	546.69		553.90
Transport % of landed cost	21.3	25.8	27.1		24.7	21.2	21.6	26.8		23.2
	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	35.89	40.22		36.99	33.02	33.70	35.89		34.20
Rail <sup>4</sup>	49.62	54.47	58.44		54.18	-	-	-		-
Ocean	31.65	33.20	35.00		33.28	32.50	34.20	36.00		34.23
Total transportation	116.12	123.56	133.66		124.45	65.52	67.90	71.89		68.44
Farm gate price <sup>3</sup>	472.04	384.93	399.94		418.97	525.80	437.80	469.48		477.69
Landed cost	588.15	508.49	533.60		543.42	591.31	505.70	541.37		546.13
Transport % of landed cost	19.7	19.4	25.0		21.4	11.1	13.4	13.3		12.6

<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.



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**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	68.56	73.96		68.25	41.03	41.07	48.72		43.61
Ocean	37.50	39.40	41.40		39.43	38.00	40.00	42.00		40.00
Total transportation	99.73	107.96	115.36		107.68	79.03	81.07	90.72		83.61
Farm gate price <sup>3</sup>	472.04	384.93	399.94		418.97	508.13	420.39	428.33		452.28
Landed cost	571.76	492.89	515.30		526.65	587.16	501.46	519.05		535.89
Transport % of landed cost	17.4	21.9	22.4		20.6	13.5	16.2	17.5		15.7
	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	46.41	52.28		48.54	53.34	58.45	61.36		57.72
Barge <sup>4</sup>	-	-	-		-	21.24	27.47	30.47		26.39
Ocean	38.00	40.00	42.00		40.00	38.25	40.20	42.20		40.22
Total transportation	84.93	86.41	94.28		88.54	112.83	126.12	134.03		124.33
Farm gate price <sup>3</sup>	499.05	406.67	432.42		446.05	472.04	384.93	399.94		418.97
Landed cost	583.97	493.08	526.70		534.59	584.86	511.05	533.97		543.30
Transport % of landed cost	14.5	17.5	17.9		16.7	19.3	24.7	25.1		23.0

<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	68.56	73.96		68.25	41.03	41.07	48.72		43.61
Ocean	30.00	31.50	33.00		31.50	34.50	36.30	38.20		36.33
Total transportation	92.23	100.06	106.96		99.75	75.53	77.37	86.92		79.94
Farm gate price <sup>3</sup>	472.04	384.93	399.94		418.97	508.13	420.39	428.33		452.28
Landed cost	564.26	484.99	506.90		518.72	583.66	497.76	515.25		532.22
Transport % of landed cost	16.3	20.6	21.1		19.4	12.9	15.5	16.9		15.1
	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	46.41	52.28		48.54	53.34	58.45	61.36		57.72
Barge <sup>4</sup>	-	-	-		-	21.24	27.47	30.47		26.39
Ocean	34.50	36.30	38.20		36.33	29.40	31.00	32.50		30.97
Total transportation	81.43	82.71	90.48		84.87	103.98	116.92	124.33		115.08
Farm gate price <sup>3</sup>	499.05	406.67	432.42		446.05	472.04	384.93	399.94		418.97
Landed cost	580.47	489.38	522.90		530.92	576.01	501.85	524.27		534.05
Transport % of landed cost	14.0	16.9	17.3		16.1	18.1	23.3	23.7		21.7

<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	11.70	12.46		11.88
2	North MT (Sorriso)	Santos	1,190	2.9	8.09	8.43	9.54		8.69
3	North MT (Sorriso)	Paranaguá	1,262	2.7	7.58	7.84	8.92		8.11
4	South GO (Rio Verde)	Santos	587	5.0	7.77	8.38	9.25		8.47
5	South GO (Rio Verde)	Paranaguá	726	4.0	7.96	8.19	9.32		8.49
6	North Central PR (Londrina)	Paranaguá	268	2.8	11.40	11.96	13.09		12.15
7	Western Central PR (Mamborê)	Paranaguá	311	2.2	10.59	10.82	12.16		11.19
8	Triangle MG (Uberaba)	Santos	339	3.3	10.77	11.57	12.66		11.67
9	West PR (Assis Chateaubriand)	Paranaguá	377	3.1	9.50	9.73	10.93		10.05
10	West Extreme BA (São Desidério)	Salvador	535	6.4	8.61	9.39	9.99		9.33
11	Southeast MT (Primavera do Leste)	Santos	901	2.4	7.37	7.92	8.98		8.09
12	Southeast MT (Primavera do Leste)	Paranaguá	975	2.2	7.17	7.52	8.51		7.74
13	Southwest MS (Maracaju)	Paranaguá	612	3.7	8.47	9.02	9.90		9.13
14	Southwest MS (Maracaju)	Santos	652	3.5	8.46	9.16	9.39		9.00
15	Northeast MT (Canarana)	São Luís	1,177	2.0	6.96	7.31	8.37		7.55
16	East GO (Cristalina)	Santos	585	2.0	8.98	9.58	10.54		9.70
17	North PR (Cornélio Procópio)	Paranaguá	306	1.7	9.28	9.68	10.58		9.85
18	Eastern Central PR (Castro)	Paranaguá	130	1.8	14.81	16.09	16.53		15.81
19	South Central PR (Guarapuava)	Paranaguá	204	2.2	13.16	14.28	15.61		14.35
20	North Central MS (São Gabriel do Oeste)	Santos	720	2.7	7.26	8.02	8.80		8.03
21	Ribeirão Preto SP (Guairá)	Santos	314	0.4	9.15	9.43	10.34		9.64
22	Northeast MT (Canarana)	Santos	950	2.4	7.87	8.46	9.02		8.45
23	East MS (Chapadão do Sul)	Santos	607	1.4	7.23	7.76	8.62		7.87

<sup>1</sup>The main city in the regions is considered as a reference to establish the freight price.

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

<sup>3</sup>Share of exports in total production (percentage).

<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	7.78	8.75		7.98
25	Western Central RS (Tupanciretã)	Rio Grande	273	2.7	10.01	10.58	10.81		10.47
26	Southwest PR(Chopinzinho)	Paranaguá	291	1.6	10.33	10.98	11.94		11.08
27	North MT (Sorriso)	Itaituba	672	5.2	7.94	8.70	9.13		8.59
28	North MT (Sorriso)	Porto Velho	632	5.5	7.46	7.75	8.47		7.89
29	North MT (Sorriso)	Santarém	876	4.0	7.10	7.82	8.44		7.79
30	South MA (Balsas)	São Luís	482	2.0	8.52	8.53	10.12		9.06
31	Southwest PI (Bom Jesus)	São Luís	606	2.5	7.75	7.66	8.63		8.01
32	Southeast PA (Paragominas)	Barcarena	249	1.6	10.50	10.16	9.56		10.07
33	East TO (Campos Lindos)	São Luís	842	1.8	7.06	7.26	8.13		7.49
	<b>Weighted average</b>		<b>587</b>	<b>100.0</b>	<b>8.92</b>	<b>9.41</b>	<b>10.23</b>		<b>9.52</b>
34	North MT (Sorriso)	Rondonópolis (Rail terminal)	382		9.12	9.39	10.53		9.68
35	Rondonópolis MT (Rail terminal) <sup>6</sup>	Santos	1,019		4.87	5.35	5.73		5.32
36	Itaituba PA (Barge terminal) <sup>7</sup>	Santarém	153		7.93	5.39	5.46		6.26
37	Itaituba PA (Barge terminal) <sup>7</sup>	Barcarena	600		3.54	4.58	5.08		4.40
38	South GO (Rio Verde) (Rail terminal) <sup>6</sup>	Santos	546		5.96	6.72	7.39		6.69

<sup>1</sup>The main city in the regions is considered as a reference to establish the freight price.

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

<sup>3</sup>Share of exports in total production (percentage).

<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	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				
Nov-19	6.41	-2.3	110.54				
Dec-19	5.93	-7.5	102.21				

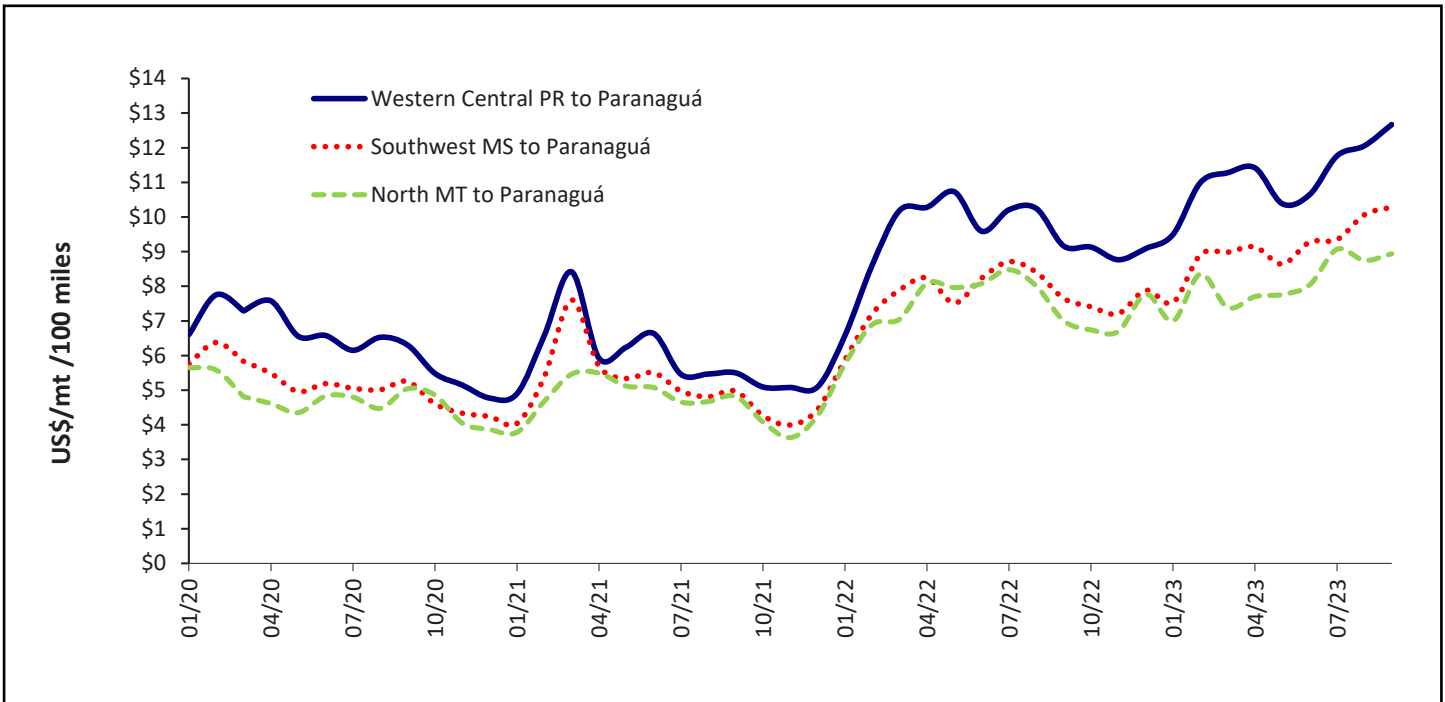
\*Weighted average is calculated from production-based shares to weigh high-volume routes more heavily than low-volume routes. The share associated with each route is used to define the weight of a given route's freight price in the composition of the monthly weighted export truck freight index.

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



# Brazil Soybean Transportation

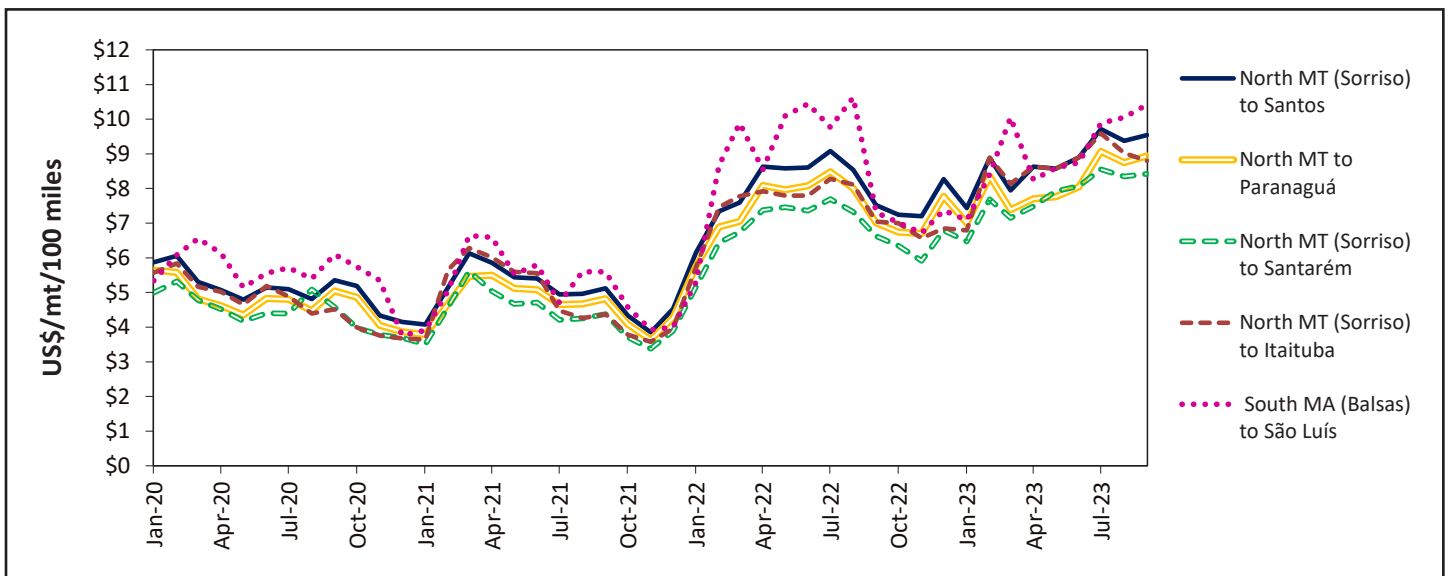
Figure 3. Truck rates for selected southern Brazilian soybean export transportation routes, 2020-23



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



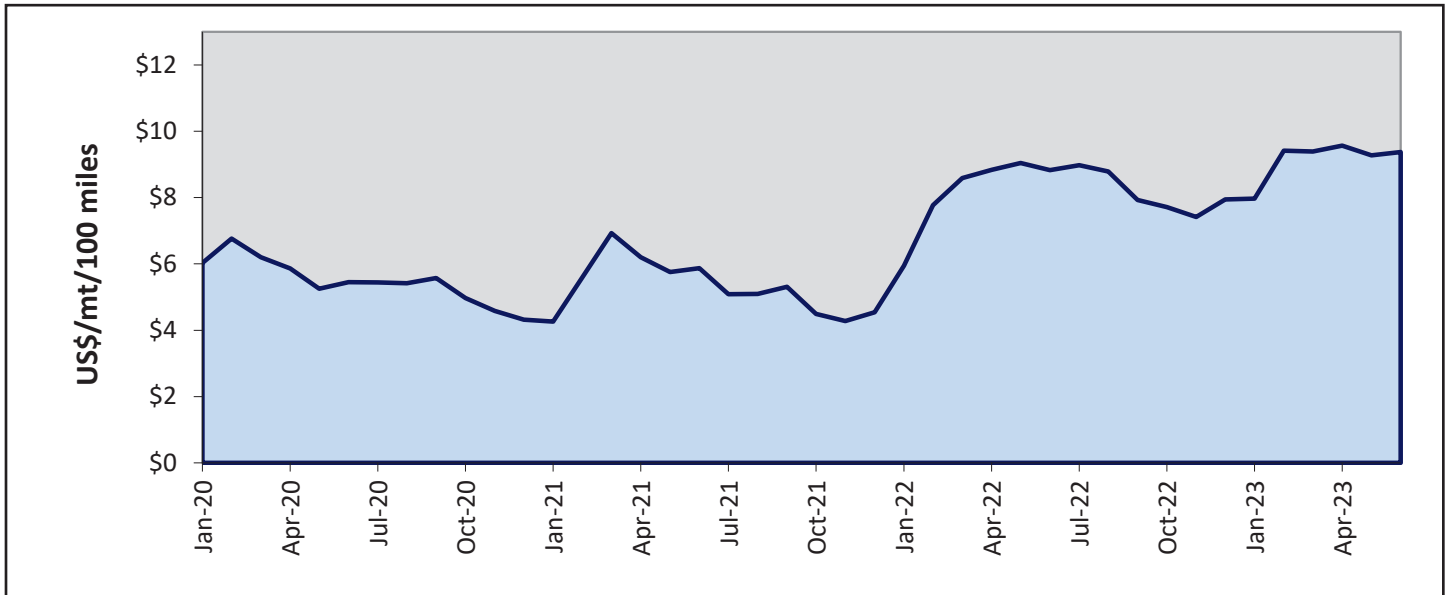
Note: mt = metric ton. MT= Mato Grosso and MA = Maranhão.

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	33.20	35.00	
Paranaguá	Germany (Hamburg)	31.00	32.50	34.20	
Rio Grande	Germany (Hamburg)	32.50	34.20	36.00	
Santarém	Germany (Hamburg)	30.00	31.50	33.00	
São Luís	Germany (Hamburg)	34.50	36.30	38.20	
Barcarena	Germany (Hamburg)	29.40	31.00	32.50	
Santos	China (Shanghai)	33.50	35.20	37.00	
Paranagua	China (Shanghai)	35.00	36.70	37.50	
Rio Grande	China (Shanghai)	34.00	35.70	38.50	
Santarém	China (Shanghai)	37.50	39.40	41.40	
São Luís	China (Shanghai)	38.00	40.00	42.00	
Barcarena	China (Shanghai)	38.25	40.20	42.20	

\*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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## Related Websites:

- [Soybean Transportation Guide](#)
- Prior Articles: [Brazil Soybean Transportation](#)
- Related Articles: [Grain Transportation Report: September 21, 2023 \(PDF\)](#)

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