

# Brazil Soybean Transportation



a quarterly publication of the Agricultural Marketing Service  
[www.ams.usda.gov/services/transportation-analysis](http://www.ams.usda.gov/services/transportation-analysis)

Third Quarter 2019 (July, August, September)  
 Published November 26, 2019

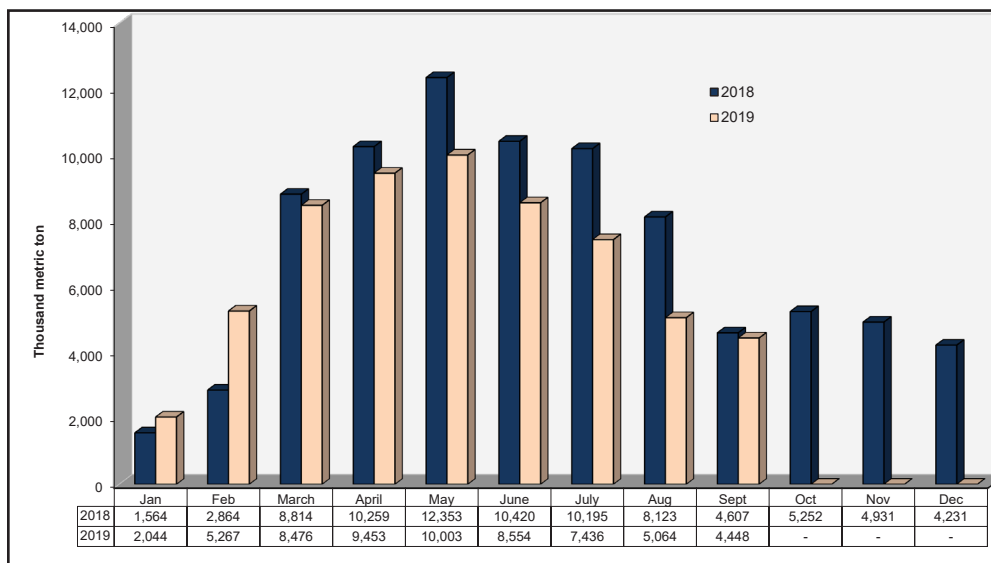
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### Brazilian Soybean Export Season Closes With Lower Exports, Mixed Transportation Costs and Lower Farm Prices

From January to September, Brazil exported 60.8 million metric tons (mmt) of soybeans, 12 percent less than last year's total of 69.2 mmt (fig. 1) ([Secretariat of Foreign Trade \(SECEX\)](#)). Each year, Brazilian soybean exports usually peak in May and decline through the end of the year. During the third quarter of 2019, transportation costs were mixed. In the selected routes from North Mato Grosso (MT) and Northwest Rio Grande do Sul (via Santos, Rio Grande, Paranaguá, Santarém, and São Luís) to Shanghai, China, total transportation costs increased (tables 1 and 1.a). However, from North MT (by truck via Santos and Paranaguá) to Hamburg, Germany, total transportation costs decreased (table 2). From the third quarter of 2018 to the third quarter of 2019, the cost of shipping a metric ton of soybeans 100 miles by truck decreased nearly 5 percent to \$8.15 from \$7.75 (table 8 and fig. 5). Ocean rates increased significantly because of higher bunker fuel prices and a strong iron ore trade that reduced the availability of Panamax vessels for grain exports at the Brazilian ports (table 9) ([Grain Transportation Report \(GTR\)](#)).

**Figure 1. Brazil average monthly soybean exports**



Source: Secretariat of Foreign Trade (SECEX), MDIC

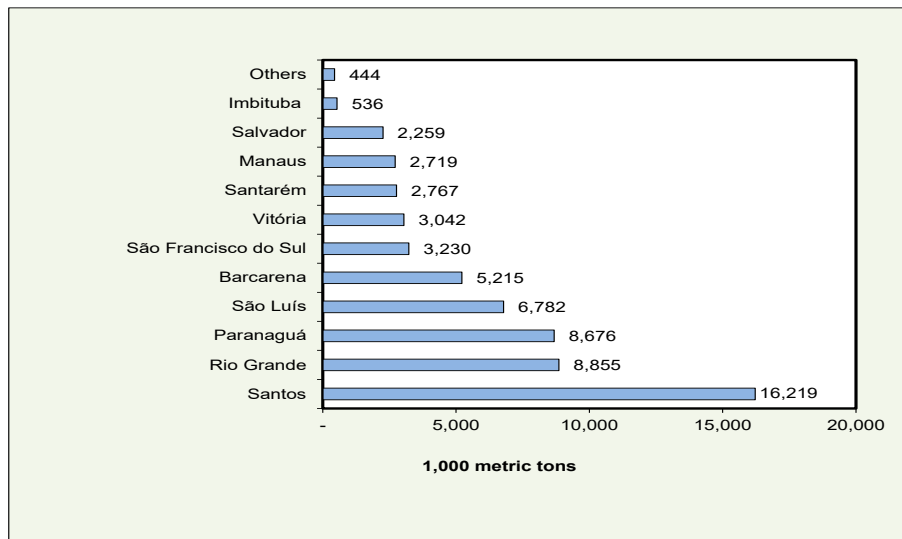


# Brazil Soybean Transportation

In the third quarter of 2019, Santos was the largest Brazilian soybean export port, followed by Rio Grande, Paranaguá, São Luís, Barcarena, and São Francisco do Sul (fig. 1.a). These six ports accounted for nearly 81 percent of Brazil's total exports. Looking at the split from a different north/south perspective, the southern ports of Santos, Rio Grande, Paranaguá, and São Francisco do Sul dominated the soybean trade, accounting for about 61 percent of Brazil's soybean exports. Meanwhile, the northeastern ports of São Luís, Vitória, Salvador, and Barcarena accounted for 23 percent of exports. The Amazon River ports of Manaus and Santarém exported less than 1 percent.

From the third quarter of 2018 to the third quarter of 2019, the Brazilian real (R\$) depreciated almost 1 percent against the U.S. dollar, from R\$3.95/US\$ to R\$3.97/US\$ ([Brazil Central Bank](#)). Average Brazilian soybean export prices decreased 10 percent to \$357 per metric ton (mt), down from \$397/mt at the same time last year ([SECEX](#)). The weakening of the Brazilian real against the U.S. dollar partially offset the 5 percent fall in farm gate prices, when measured in U.S. dollars (Companhia Nacional de Abastecimento ([CONAB](#))). Soybeans are priced in U.S. dollars but paid in reais. Farm prices measured in reais decreased, on average, 6 percent.

**Figure 1a. Brazil soybean exports by port, January-September 2019**



Source: Bureau of Foreign Trade (SECEX), MDIC

Soybean exports to China declined 16 percent because of an epidemic of African swine fever that reduced the country's hog herd. According to the [Wall Street Journal](#), China lost 41 percent of its pigs compared with a year ago. China accounts for 75 percent of total Brazilian soybean exports. In Sorriso, North MT (the largest Brazilian soybean-producing State), transportation costs represented nearly 30 percent of the total landed costs of shipping soybeans to Shanghai through Santos by truck and 28 percent by rail. Transportation costs also represented about 23 percent of the total landed costs of shipping soybeans to Shanghai through the port of Barcarena by barge (tables 1, 1a, and 7). For more information, contact Delmy L. Salin at [delmy.salin@usda.gov](mailto:delmy.salin@usda.gov).



# Brazil Soybean Transportation

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

	2018 3rd qtr.	2019 3rd qtr.	% Change 2018-2019	2018 3rd qtr.	2019 3rd qtr.	% Change 2018-2019
	<b>North MT<sup>1</sup> - Santos<sup>2</sup> —US\$/mt—</b>			<b>Northwest RS<sup>1</sup> - Rio Grande<sup>2</sup> —US\$/mt—</b>		
Truck	92.79	88.37	-4.8	27.79	26.82	-3.5
Ocean	27.75	33.25	19.8	28.25	34.25	21.2
Total transportation	120.54	121.62	0.9	56.04	61.07	9.0
Farm gate price <sup>3</sup>	301.39	286.87	-4.8	326.13	304.20	-6.7
Landed cost	421.93	408.48	-3.2	382.17	365.27	-4.4
Transport % of landed cost	28.6	29.8	4.2	14.7	16.7	14.0
	<b>North MT<sup>1</sup> - Santos<sup>2</sup> —US\$/mt—</b>			<b>North MT<sup>1</sup> - Paranaguá<sup>2</sup> —US\$/mt—</b>		
Truck	32.31	30.03	-7.1	91.43	87.49	-4.3
Rail <sup>4</sup>	42.77	48.04	12.3	-	-	-
Ocean	27.75	33.25	19.8	28.75	34.75	20.9
Total transportation	102.84	111.32	8.3	120.18	122.24	1.7
Farm gate price <sup>3</sup>	301.39	286.87	-4.8	301.39	286.87	-4.8
Landed cost	404.23	398.19	-1.5	421.57	409.10	-3.0
Transport % of landed cost	25.4	28.0	9.9	28.5	29.9	4.8

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

<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 public/official 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.

Source: University of São Paulo, Escola Superior de Agricultura “Luiz de Queiroz,” Brazil (ESALQ/ USP) and USDA, Agricultural Marketing Service. 3



# Brazil Soybean Transportation

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

	2018 3rd qtr.	2019 3rd qtr.	% Change 2018-2019	2018 3rd qtr.	2019 3rd qtr.	% Change 2018-2019
	<b>North MT<sup>1</sup> - Santarém<sup>2</sup> —US\$/mt—</b>			<b>South MA<sup>1</sup> - São Luís<sup>2</sup> —US\$/mt—</b>		
Truck	58.29	55.66	-4.5	37.04	36.22	-2.2
Ocean	31.25	38.25	22.4	30.75	38.25	24.4
Total transportation	89.54	93.91	4.9	67.79	74.47	9.8
Farm gate price <sup>3</sup>	301.39	286.87	-4.8	305.07	300.20	-1.6
Landed cost	390.93	380.78	-2.6	372.86	374.67	0.5
Transport % of landed cost	22.9	24.7	7.7	18.2	19.9	9.3
	<b>Southwest PI<sup>1</sup> - São Luís<sup>2</sup> —US\$/mt—</b>			<b>North MT<sup>1</sup> - Barcarena<sup>2</sup> —US\$/mt—</b>		
Truck	44.56	41.42	-7.0	-	49.49	-
Barge <sup>4</sup>	-	-	-	-	20.63	-
Ocean	30.75	38.25	24.4	-	38.25	-
Total transportation	75.31	79.67	5.8	-	87.74	-
Farm gate price <sup>3</sup>	290.62	288.35	-0.8	-	286.87	-
Landed cost	365.93	368.03	0.6	-	374.61	-
Transport % of landed cost	20.6	21.6	5.2	-	23.4	-

<sup>1</sup>Producing regions: MT= Mato Grosso, PI = Piauí, 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 public/official 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.

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



# Brazil Soybean Transportation

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

	2018 3rd qtr.	2019 3rd qtr.	% Change 2018-2019	2018 3rd qtr.	2019 3rd qtr.	% Change 2018-2019
	<b>North MT<sup>1</sup> - Santos<sup>2</sup> —US\$/mt—</b>			<b>Northwest RS<sup>1</sup> - Rio Grande<sup>2</sup> —US\$/mt—</b>		
Truck	92.79	88.37	-4.8	27.79	26.82	-3.5
Ocean	24.00	27.00	12.5	25.00	27.00	8.0
Total transportation	116.79	115.37	-1.2	52.79	53.82	1.9
Farm gate price <sup>3</sup>	301.39	286.87	-4.8	326.13	304.20	-6.7
Landed cost	418.18	402.23	-3.8	378.92	358.02	-5.5
Transport % of landed cost	27.9	28.7	2.7	13.9	15.0	7.9
	<b>North MT<sup>1</sup> - Santos<sup>2</sup> —US\$/mt—</b>			<b>North MT<sup>1</sup> - Paranaguá<sup>2</sup> —US\$/mt—</b>		
Truck	32.31	30.03	-7.1	91.43	87.49	-4.3
Rail <sup>4</sup>	42.77	48.04	12.3	-	-	-
Ocean	24.00	27.00	12.5	25.00	27.00	8.0
Total transportation	99.09	105.07	6.0	116.43	114.49	-1.7
Farm gate price <sup>3</sup>	301.39	286.87	-4.8	301.39	286.87	-4.8
Landed cost	400.48	391.94	-2.1	417.82	401.35	-3.9
Transport % of landed cost	24.7	26.8	8.4	27.9	28.5	2.4

<sup>1</sup>Producing regions: RS = Rio Grande Do Sul, MT= Mato Grosso, GO = Goiás, 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 public/official 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.

Source: University of São Paulo, Escola Superior de Agricultura “Luiz de Queiroz,” Brazil (ESALQ/ USP) and USDA, Agricultural Marketing Service. 5



# Brazil Soybean Transportation

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

	2018 3rd qtr.	2019 3rd qtr.	% Change 2018-2019	2018 3rd qtr.	2019 3rd qtr.	% Change 2018-2019
	<b>North MT<sup>1</sup> - Santarém<sup>2</sup> —US\$/mt—</b>			<b>South MA<sup>1</sup> - São Luís<sup>2</sup> —US\$/mt—</b>		
Truck	58.29	55.66	-4.5	37.04	36.22	-2.2
Ocean	22.50	25.92	15.2	18.50	22.77	23.1
Total transportation	80.79	81.58	1.0	55.54	58.99	6.2
Farm gate price <sup>3</sup>	301.39	286.87	-4.8	305.07	300.20	-1.6
Landed cost	382.18	368.45	-3.6	360.61	359.19	-0.4
Transport % of landed cost	21.1	22.1	4.7	15.4	16.4	6.6
	<b>Southwest PI<sup>1</sup> - São Luís<sup>2</sup> —US\$/mt—</b>			<b>North MT<sup>1</sup> - Barcarena<sup>2</sup> --US\$/mt--</b>		
Truck	44.56	41.4	-7.0	-	49.49	-
Barge <sup>4</sup>	-	-	-	-	20.63	-
Ocean	18.50	22.8	23.1	-	23.52	-
Total transportation	63.06	64.2	1.8	-	73.01	-
Farm gate price <sup>3</sup>	290.62	288.4	-0.8	-	286.87	-
Landed cost	353.68	352.5	-0.3	-	359.88	-
Transport % of landed cost	17.8	18.2	2.1	-	20.3	-

<sup>1</sup>Producing regions: MT= Mato Grosso, PI = Piauí, 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 public/official 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.

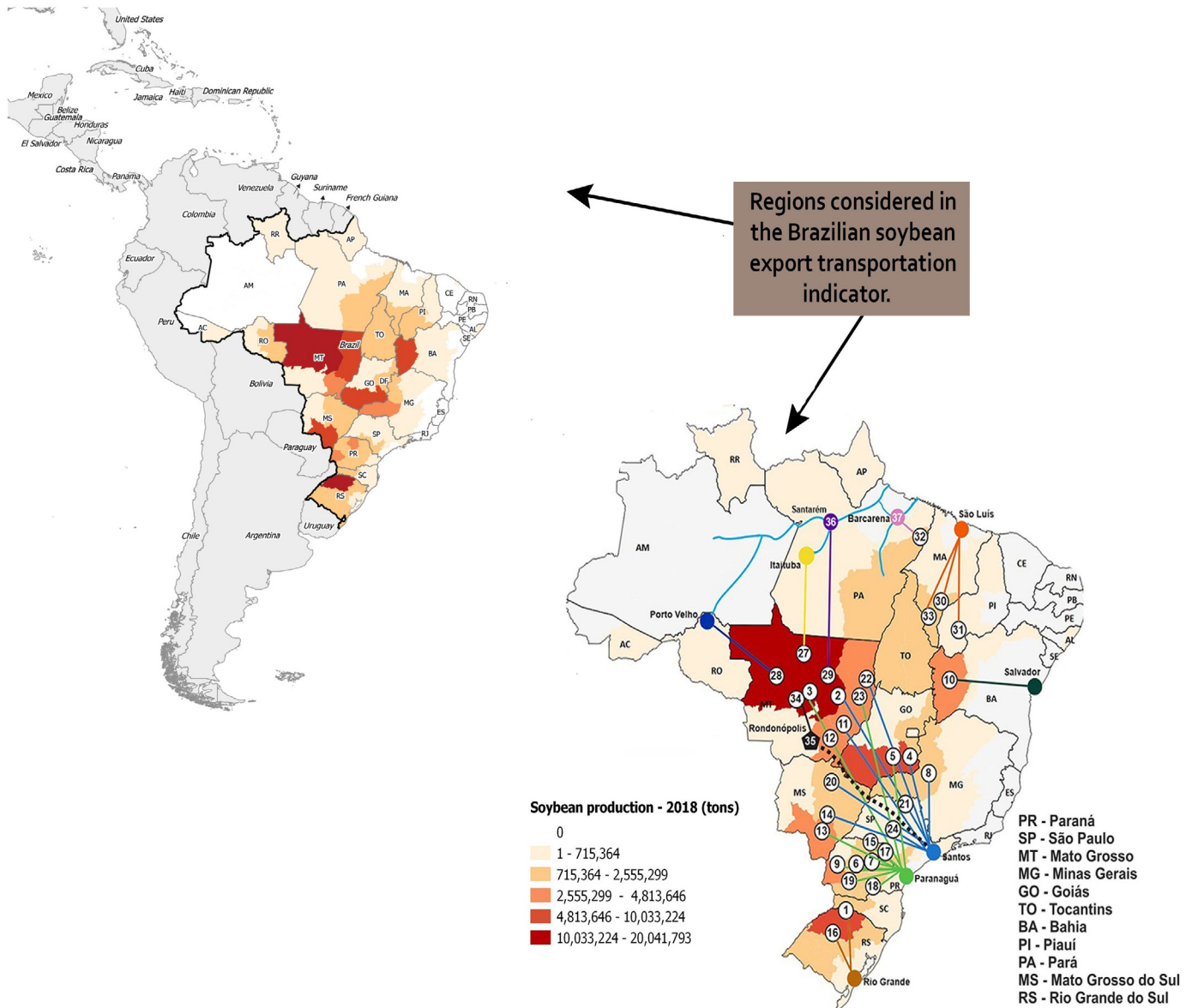
Source: University of São Paulo, Escola Superior de Agricultura "Luiz de Queiroz," Brazil (ESALQ/ USP) and USDA, Agricultural Marketing Service.



# Brazil Soybean Transportation

## 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 80 percent of Brazilian soybean production, 2017.

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



# Brazil Soybean Transportation

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

	—2019—									
	1st qtr.	2nd qtr.	3rd qtr.	4th qtr.	Avg.	1st qtr.	2nd qtr.	3rd qtr.	4th qtr.	Avg.
	North MT <sup>1</sup> - Santos <sup>2</sup> —US\$/mt—					North MT <sup>1</sup> - Paranaguá <sup>2</sup> —US\$/mt—				
Truck	81.92	73.96	88.37		81.41	71.05	72.82	87.49		77.12
Ocean	32.25	30.92	33.25		32.14	33.75	31.42	34.75		33.31
Total transportation	114.17	104.88	121.62		113.55	104.80	104.24	122.24		110.43
Farm gate price <sup>3</sup>	275.38	271.70	286.87		277.98	275.38	271.70	286.87		277.98
Landed cost	389.54	376.58	408.48		391.53	380.18	375.94	409.10		388.41
Transport % of landed cost	29.3	27.8	29.8		29.0	27.6	27.7	29.9		28.4
	North MT <sup>1</sup> - Santos <sup>2</sup> —US\$/mt—					Northwest RS <sup>1</sup> - Rio Grande <sup>2</sup> —US\$/mt—				
Truck	29.89	26.49	30.03		28.80	26.05	24.86	26.82		25.91
Rail <sup>4</sup>	41.21	31.39	48.04		40.22	-	-	-		-
Ocean	32.25	30.92	33.25		32.14	31.58	30.25	34.25		32.03
Total transportation	103.36	88.80	111.32		101.16	57.63	55.11	61.07		57.94
Farm gate price <sup>3</sup>	275.38	271.70	286.87		277.98	308.52	294.72	304.20		302.48
Landed cost	378.73	360.50	398.19		379.14	366.2	349.83	365.27		360.42
Transport % of landed cost	27.3	24.6	28.0		26.6	15.7	15.8	16.7		16.1

<sup>1</sup>Producing regions: RS = Rio Grande Do Sul, MT= Mato Grosso,GO = Goiás, 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 public/official 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.

Note: Avg. = average.

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**

	—2019—									
	1st qtr.	2nd qtr.	3rd qtr.	4th qtr.	Avg.	1st qtr.	2nd qtr.	3rd qtr.	4th qtr.	Avg.
	North MT <sup>1</sup> - Santos <sup>2</sup> —US\$/mt—					North MT <sup>1</sup> - Paranaguá <sup>2</sup> —US\$/mt—				
Truck	81.92	73.96	88.37		81.41	71.05	72.82	87.49		77.12
Ocean	23.00	21.50	27.00		23.83	23.00	21.25	27.00		23.75
Total transportation	104.92	95.46	115.37		105.25	94.05	94.07	114.49		100.87
Farm gate price <sup>3</sup>	275.38	271.70	286.87		277.98	275.38	271.70	286.87		277.98
Landed cost	380.29	367.16	402.23		383.23	369.43	365.77	401.35		378.85
Transport % of landed cost	27.6	26.0	28.7		27.4	25.5	25.7	28.5		26.6
	North MT <sup>1</sup> - Santos <sup>2</sup> —US\$/mt—					Northwest RS <sup>1</sup> - Rio Grande <sup>2</sup> —US\$/mt—				
Truck	29.89	26.49	30.03		28.80	26.05	24.86	26.82		25.91
Rail <sup>4</sup>	41.21	31.39	48.04		40.22	-	-	-		-
Ocean	23.00	21.50	27.00		23.83	23.00	21.25	27.00		23.75
Total transportation	94.11	79.38	105.07		92.85	49.05	46.11	53.82		49.66
Farm gate price <sup>3</sup>	275.38	271.70	286.87		277.98	308.52	294.72	304.20		302.48
Landed cost	369.48	351.08	391.94		370.83	357.57	340.83	358.02		352.14
Transport % of landed cost	25.5	22.6	26.8		25.0	13.7	13.5	15.0		14.1

<sup>1</sup>Producing regions: RS = Rio Grande Do Sul, MT= Mato Grosso, GO = Goiás, 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 public/official 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.

Note: Avg. = average.

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**

	—2019—									
	1st qtr.	2nd qtr.	3rd qtr.	4th qtr.	Avg.	1st qtr.	2nd qtr.	3rd qtr.	4th qtr.	Avg.
	North MT <sup>1</sup> - Santarém <sup>2</sup> —US\$/mt—					South MA <sup>1</sup> - São Luís <sup>2</sup> —US\$/mt—				
Truck	59.40	47.34	55.66		54.13	37.04	31.80	36.22		35.02
Ocean	32.25	30.58	38.25		33.69	31.00	30.58	38.25		33.28
Total transportation	91.65	77.92	93.91		87.83	68.04	62.38	74.47		68.29
Farm gate price <sup>3</sup>	275.38	271.70	286.87		277.98	298.43	278.70	300.20		292.44
Landed cost	367.03	349.62	380.78		365.81	366.47	341.08	374.67		360.74
Transport % of landed cost	25.0	22.3	24.7		24.0	18.6	18.3	19.9		18.9
	Southwest PI <sup>1</sup> - São Luís <sup>2</sup> —US\$/mt—					North MT <sup>1</sup> - Barcarena <sup>2</sup> --US\$/mt-				
Truck	45.24	38.41	41.42		41.69	53.99	45.66	49.49		49.71
Barge <sup>4</sup>	-	-	-		-	19.66	18.30	20.63		19.53
Ocean	31.00	30.58	38.25		33.28	32.25	29.92	38.25		33.47
Total transportation	76.24	68.99	79.67		74.97	86.24	75.58	87.74		83.19
Farm gate price <sup>3</sup>	292.96	285.28	288.35		288.86	298.43	271.70	286.87		285.67
Landed cost	369.20	354.27	368.03		363.83	384.67	347.29	374.61		368.86
Transport % of landed cost	20.7	19.5	21.6		20.6	22.4	21.8	23.4		22.5

<sup>1</sup>Producing regions: MT= Mato Grosso, PI = Piauí, 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 public/official 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.

Note: Avg. = average.

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**

	—2019—									
	1st qtr.	2nd qtr.	3rd qtr.	4th qtr.	Avg.	1st qtr.	2nd qtr.	3rd qtr.	4th qtr.	Avg.
	North MT <sup>1</sup> - Santarém <sup>2</sup> —US\$/mt—					South MA <sup>1</sup> - São Luís <sup>2</sup> —US\$/mt—				
Truck	59.40	47.34	55.66		54.13	37.04	31.80	36.22		35.02
Ocean	21.00	20.25	25.92		22.39	18.00	17.10	22.77		19.29
Total transportation	80.40	67.59	81.58		76.52	55.04	48.90	58.99		54.31
Farm gate price <sup>3</sup>	275.38	271.70	286.87		277.98	298.43	278.70	300.20		292.44
Landed cost	355.78	339.29	368.45		354.51	353.47	327.60	359.19		346.75
Transport % of landed cost	22.6	19.9	22.1		21.6	15.6	14.9	16.4		15.6
	Southwest PI <sup>1</sup> - São Luís <sup>2</sup> —US\$/mt—					North MT <sup>1</sup> - Barcarena <sup>2</sup> --US\$/mt-				
Truck	45.24	38.41	41.42		41.69	53.99	45.66	49.49		49.71
Barge <sup>4</sup>	-	-	-		-	19.66	18.30	20.63		19.53
Ocean	18.00	17.10	22.77		19.29	19.00	17.85	23.52		20.12
Total transportation	63.24	55.51	64.19		60.98	72.99	63.51	73.01		69.84
Farm gate price <sup>3</sup>	292.96	285.28	288.35		288.86	298.43	271.70	286.87		285.67
Landed cost	356.20	340.79	352.55		349.85	371.42	335.22	359.88		355.51
Transport % of landed cost	17.8	16.3	18.2		17.4	19.7	18.9	20.3		19.6

<sup>1</sup>Producing regions: MT= Mato Grosso, PI = Piauí, 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 public/official 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.

Note: Avg. = average.

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, 2019**

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	12.0	9.05	8.63	9.31		9.00
2	North MT (Sorriso)	Santos	1,190	3.0	6.88	6.21	7.43		6.84
3	North MT (Sorriso)	Paranaguá	1,262	2.8	5.63	5.77	6.93		6.11
4	South GO (Rio Verde)	Santos	587	5.1	7.29	5.89	6.75		6.64
5	South GO (Rio Verde)	Paranaguá	726	4.1	6.15	6.03	7.06		6.41
6	North Central PR (Londrina)	Paranaguá	268	3.3	8.86	8.40	9.06		8.77
7	Western Central PR (Mamborê)	Paranaguá	311	2.6	7.96	7.76	8.48		8.07
8	Triangle MG (Uberaba)	Santos	339	3.1	10.13	8.11	9.02		9.08
9	West PR (Assis Chateaubriand)	Paranaguá	377	2.5	7.45	7.00	7.86		7.44
10	West Extreme BA (São Desidério)	Salvador	535	5.6	7.03	6.48	7.41		6.97
11	Southeast MT (Primavera do Leste)	Santos	901	2.5	6.23	5.60	6.61		6.15
12	Southeast MT (Primavera do Leste)	Paranaguá	975	2.3	5.21	5.26	6.35		5.60
13	Southwest MS (Maracaju)	Paranaguá	612	3.3	6.48	6.33	7.28		6.70
14	Southwest MS (Maracaju)	Santos	652	3.1	7.67	6.20	7.21		7.03
15	West PR (Assis Chateaubriand)	Santos	550	1.7	7.76	6.29	7.27		7.11
16	East GO (Cristalina)	Santos	585	1.9	8.18	6.80	7.94		7.64
17	North PR (Cornélio Procópio)	Paranaguá	306	1.8	7.16	6.78	7.24		7.06
18	Eastern Central PR (Castro)	Paranaguá	130	2.1	12.15	10.87	11.15		11.39
19	South Central PR (Guarapuava)	Paranaguá	204	2.3	11.22	10.29	11.06		10.86
20	North Central MS (São Gabriel do Oeste)	Santos	720	2.3	6.79	5.44	6.29		6.17
21	Ribeirão Preto SP (Guairá)	Santos	314	0.0	8.57	6.62	7.30		7.50
22	Northeast MT (Canarana)	Santos	950	3.4	7.04	5.71	6.84		6.53
23	East MS (Chapadão do Sul)	Santos	607	0.0	6.71	5.45	6.23		6.13

<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, TO=Tocantins.

<sup>6</sup>In Brazil, there are no public/official 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 public/official 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.

Note: Avg. = average.

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, 2019**

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	3.0	6.04	5.66	6.66		6.12
25	Western Central RS (Tupanciretã)	Rio Grande	273	2.7	9.40	8.31	8.47		8.73
26	Southwest PR(Chopinzinho)	Paranaguá	291	1.8	11.75	10.44	11.81		11.34
27	North MT (Sorriso)	Itaituba	672	5.3	8.04	6.80	7.37		7.40
28	North MT (Sorriso)	Porto Velho	632	5.7	6.29	5.98	6.26		6.18
29	North MT (Sorriso)	Santarém	876	4.1	6.78	5.40	6.35		6.18
30	South MA (Balsas)	São Luís	482	1.9	7.69	6.60	7.52		7.27
31	Southwest PI (Bom Jesus)	São Luís	606	2.2	7.47	6.34	6.84		6.88
32	Southeast PA (Paragominas)	Barcarena	249	1.5	10.05	7.58	8.08		8.57
33	East TO (Campos Lindos)	São Luís	842	1.1	6.43	5.36	6.68		6.16
34	North MT (Sorriso)	Rondonópolis (Rail terminal)	382		7.83	6.93	7.86		7.54
35	Rondonópolis MT (Rail terminal) <sup>6</sup>	Santos	1,019		4.04	3.08	4.71		3.95
36	Itaituba PA (Barge terminal) <sup>7</sup>	Santarém	224		9.24	7.84	5.15		7.41
37	Itaituba PA (Barge terminal) <sup>7</sup>	Barcarena	738		2.67	2.48	2.80		2.65
	<b>Average</b>		<b>587</b>	<b>100.0</b>	<b>7.75</b>	<b>6.94</b>	<b>7.75</b>		<b>7.48</b>

<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, TO=Tocantins.

<sup>6</sup>In Brazil, there are no public/official 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 public/official 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.

Note: Avg. = average.

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) miles	Index variation (%) (Base: prior month)	Index value (Base: Jan. 05 = 100)
Jan-12	10.20	1.7	175.90	Jan-16	6.42	-5.1	110.63
Feb-12	10.76	5.4	185.45	Feb-16	6.73	4.8	115.98
Mar-12	10.55	-2.0	181.82	Mar-16	7.79	15.8	134.33
Apr-12	10.45	-1.0	180.06	Apr-16	8.30	6.5	143.05
May-12	9.64	-7.7	166.20	May-16	7.28	-12.3	125.43
Jun-12	9.37	-2.9	161.44	Jun-16	7.16	-1.5	123.51
Jul-12	9.76	4.2	168.16	Jul-16	7.46	4.2	128.64
Aug-12	10.17	4.3	175.33	Aug-16	7.33	-1.7	126.41
Sep-12	10.30	1.3	177.54	Sep-16	6.35	-13.3	109.53
Oct-12	10.13	-1.6	174.66	Oct-16	5.88	-7.5	101.35
Nov-12	9.84	-2.8	169.69	Nov-16	5.00	-14.9	86.21
Dec-12	9.73	-1.1	167.74	Dec-16	5.47	9.4	94.32
Jan-13	10.11	3.9	174.31	Jan-17	7.32	33.8	126.20
Feb-13	10.79	6.7	185.96	Feb-17	9.85	34.6	169.85
Mar-13	11.14	3.3	192.04	Mar-17	10.38	5.3	178.90
Apr-13	10.95	-1.7	188.71	Apr-17	9.52	-8.3	164.05
May-13	10.40	-5.0	179.31	May-17	8.75	-8.0	150.90
Jun-13	9.49	-8.8	163.61	Jun-17	8.18	-6.5	141.04
Jul-13	9.65	1.7	166.41	Jul-17	8.74	6.8	150.66
Aug-13	9.80	1.5	168.95	Aug-17	9.85	12.7	169.76
Sep-13	10.21	4.2	176.02	Sep-17	8.97	-9.0	154.55
Oct-13	10.17	-0.4	175.28	Oct-17	8.64	-3.6	148.93
Nov-13	9.29	-8.6	160.18	Nov-17	8.36	-3.2	144.11
Dec-13	8.91	-4.1	153.63	Dec-17	7.23	-13.5	124.63
Jan-14	8.86	-0.6	152.73	Jan-18	7.59	5.0	130.90
Feb-14	10.34	16.7	178.24	Feb-18	8.65	13.9	149.04
Mar-14	11.61	12.3	200.13	Mar-18	10.59	22.5	182.61
Apr-14	11.35	-2.2	195.65	Apr-18	9.78	-7.7	168.59
May-14	10.90	-4.0	187.89	May-18	8.96	-8.4	154.45
Jun-14	10.34	-5.1	178.24	Jun-18	8.89	-0.8	153.24
Jul-14	10.16	-1.7	175.21	Jul-18	8.97	0.9	154.58
Aug-14	10.10	-0.6	174.08	Aug-18	8.24	-8.1	142.00
Sep-14	9.66	-4.3	166.54	Sep-18	7.24	-12.1	124.78
Oct-14	8.77	-9.3	151.13	Oct-18	7.69	6.2	132.55
Nov-14	8.36	-4.6	144.16	Nov-18	7.51	-2.3	129.44
Dec-14	7.96	-4.9	137.15	Dec-18	7.19	-4.3	123.87
Jan-15	8.01	0.7	138.15	Jan-19	7.72	7.5	133.13
Feb-15	8.02	0.1	138.29	Feb-19	8.19	6.0	141.15
Mar-15	8.32	3.7	143.44	Mar-19	7.34	-10.3	126.61
Apr-15	9.00	8.2	155.13	Apr-19	7.16	-2.6	123.35
May-15	8.39	-6.8	144.58	May-19	6.73	-5.9	116.02
Jun-15	8.01	-4.5	138.12	Jun-19	6.94	3.1	119.56
Jul-15	7.56	-5.7	130.25	Jul-19	8.33	20.1	143.60
Aug-15	7.38	-2.4	127.15	Aug-19	7.85	-5.8	135.23
Sep-15	6.60	-10.5	113.78	Sep-19	7.09	-9.7	122.17
Oct-15	6.70	1.5	115.43				
Nov-15	7.08	5.8	122.08				
Dec-15	6.76	-4.5	116.56				

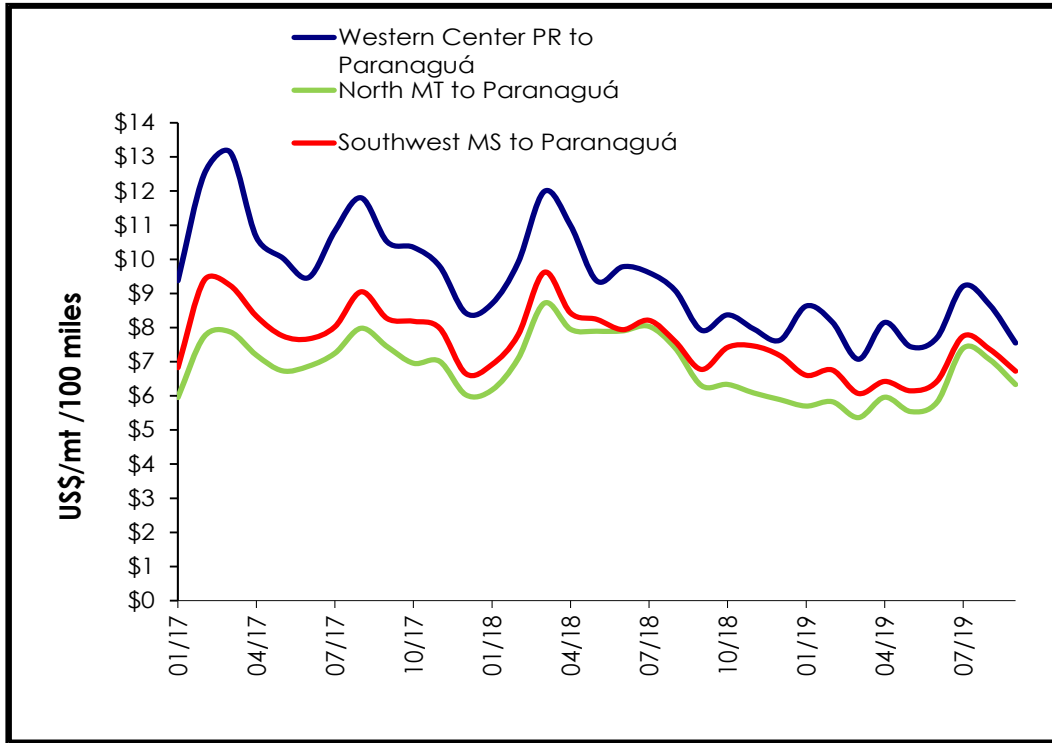
\*Weighted average.

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



# Brazil Soybean Transportation

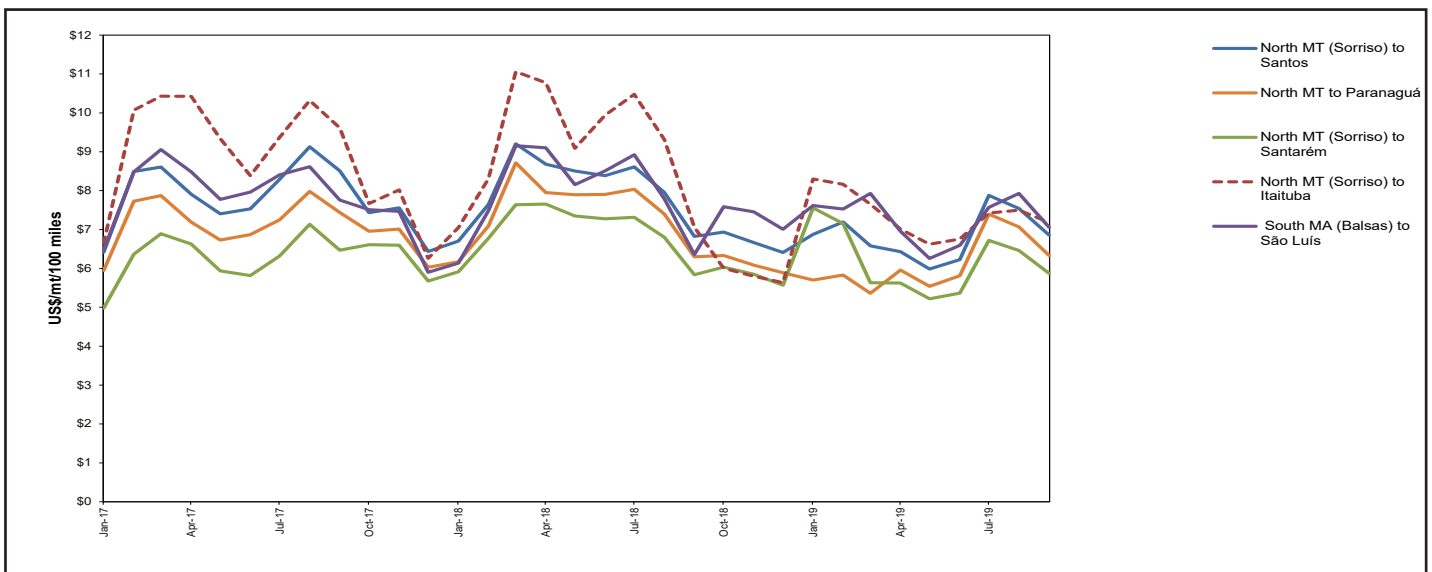
**Figure 3. Truck rates for selected southern Brazilian soybean export transportation routes, 2017-19**



Note: mt = metric ton.

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, 2017-19**



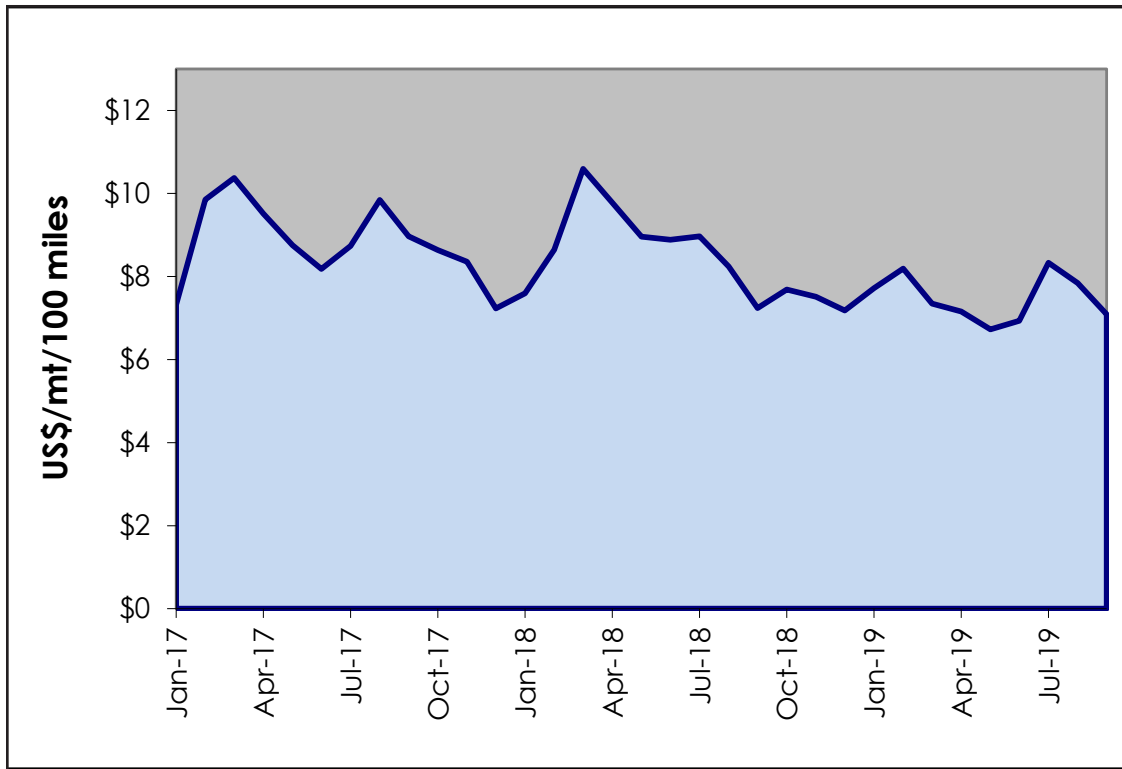
Note: mt = metric ton.

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



# Brazil Soybean Transportation

Figure 5. Brazilian soybean export truck transportation weighted average prices, 2017-19



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. 2013	2nd qtr. 2013	3rd qtr. 2013	4th qtr. 2013
Santos	Germany (Hamburg)	30.00	29.00	29.00	30.00
Paranagua	Germany (Hamburg)	30.00	29.00	29.00	30.00
Rio Grande	Germany (Hamburg)	30.00	29.00	29.00	30.00
Santos	China (Shanghai)	52.34	34.50	34.50	42.50
Paranagua	China (Shanghai)	56.03	36.75	36.75	46.00
Rio Grande	China (Shanghai)	51.34	35.25	35.25	44.25
Port	Destination	1st qtr. 2014	2nd qtr. 2014	3rd qtr. 2014	4th qtr. 2014
Santos	Germany (Hamburg)	31.00	30.00	26.00	24.00
Paranagua	Germany (Hamburg)	31.00	30.00	28.00	26.00
Rio Grande	Germany (Hamburg)	31.00	30.00	24.50	22.50
Santos	China (Shanghai)	44.83	38.07	34.00	30.50
Paranagua	China (Shanghai)	47.22	41.13	36.00	32.50
Rio Grande	China (Shanghai)	44.83	38.75	32.50	30.50
Port	Destination	1st qtr. 2015	2nd qtr. 2015	3rd qtr. 2015	4th qtr. 2015
Santos	Germany (Hamburg)	22.00	21.00	19.00	17.00
Paranaguá	Germany (Hamburg)	22.00	21.00	19.00	17.00
Rio Grande	Germany (Hamburg)	22.00	21.00	19.00	17.00
Santarém	Germany (Hamburg)	20.00	14.50	13.50	20.00
São Luís	Germany (Hamburg)	20.00	18.25	16.38	20.50
Barcarena	Germany (Hamburg)	20.00	16.00	15.20	21.00
Santos	China (Shanghai)	29.50	22.50	23.25	20.00
Paranagua	China (Shanghai)	31.50	23.50	24.18	20.50
Rio Grande	China (Shanghai)	29.50	25.00	25.75	21.00
Santarém	China (Shanghai)	32.00	25.00	25.75	23.50
São Luís	China (Shanghai)	32.00	25.00	25.75	23.50
Barcarena	China (Shanghai)	32.00	25.00	25.75	23.50
Port	Destination	1st qtr. 2016	2nd qtr. 2016	3rd qtr. 2016	4th qtr. 2016
Santos	Germany (Hamburg)	16.00	17.00	16.50	23.00
Paranaguá	Germany (Hamburg)	16.00	17.00	16.50	24.00
Rio Grande	Germany (Hamburg)	16.00	17.00	16.50	23.00
Santarém	Germany (Hamburg)	11.03	14.13	15.00	19.80
São Luís	Germany (Hamburg)	8.25	11.00	11.80	15.80
Barcarena	Germany (Hamburg)	9.60	12.45	13.20	17.35
Santos	China (Shanghai)	17.50	16.50	12.50	20.00
Paranagua	China (Shanghai)	18.00	18.50	14.50	21.50
Rio Grande	China (Shanghai)	18.50	17.00	13.00	20.50
Santarém	China (Shanghai)	22.00	21.00	19.40	23.75
São Luís	China (Shanghai)	20.00	18.40	17.50	22.00
Barcarena	China (Shanghai)	22.50	21.50	20.00	23.75

\*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.

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# 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. 2017	2nd qtr. 2017	3rd qtr. 2017	4th qtr. 2017
Santos	Germany (Hamburg)	21.00	24.00	26.00	27.00
Paranaguá	Germany (Hamburg)	22.00	25.00	27.00	28.00
Rio Grande	Germany (Hamburg)	22.00	25.00	27.00	28.00
Santarém	Germany (Hamburg)	21.00	23.60	25.00	26.00
São Luís	Germany (Hamburg)	17.60	20.00	21.20	22.00
Barcarena	Germany (Hamburg)	18.00	20.60	21.80	22.70
Santos	China (Shanghai)	18.50	29.00	30.00	30.00
Paranagua	China (Shanghai)	20.50	30.50	31.00	31.50
Rio Grande	China (Shanghai)	18.00	29.50	31.00	30.70
Santarém	China (Shanghai)	24.00	33.50	31.00	34.50
São Luís	China (Shanghai)	23.50	30.25	31.00	33.50
Barcarena	China (Shanghai)	24.00	33.50	31.00	34.50
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	
Paranaguá	Germany (Hamburg)	23.00	21.25	27.00	
Rio Grande	Germany (Hamburg)	23.00	21.25	27.00	
Santarém	Germany (Hamburg)	21.00	20.25	25.92	
São Luís	Germany (Hamburg)	18.00	17.10	22.77	
Barcarena	Germany (Hamburg)	19.00	17.85	23.52	
Santos	China (Shanghai)	32.25	30.92	33.25	
Paranagua	China (Shanghai)	33.75	31.42	34.75	
Rio Grande	China (Shanghai)	31.58	30.25	34.25	
Santarém	China (Shanghai)	32.25	30.58	38.25	
São Luís	China (Shanghai)	31.00	30.58	38.25	
Barcarena	China (Shanghai)	32.25	29.92	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, 2017-2019](#)
- [Figure 4. Truck rates for selected north, south, and northeastern Brazilian soybean export transportation routes, 2017-2019](#)
- [Figure 5. Brazilian soybean export truck transportation weighted average prices, 2017-2019](#)
- [Table 1. Quarterly costs of transporting Brazilian soybeans from the southern ports to Shanghai, China](#)
- [Table 1a. Quarterly costs of transporting Brazilian soybeans from the northern and northeastern ports to Shanghai, China](#)
- [Table 2. Quarterly costs of transporting Brazilian soybeans from the southern ports to Hamburg, Germany](#)
- [Table 2a. 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](#)
- [Table 4. Quarterly costs of transporting Brazilian soybeans from the southern ports to Hamburg, Germany](#)
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- [Table 6. Quarterly costs of transporting Brazilian soybeans from the northern and northeastern ports to Hamburg, Germany](#)
- [Table 7. Quarterly truck rates for selected Brazilian soybean export transportation routes, 2019](#)
- [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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Salin, Delmy. Brazil Soybean Transportation. November 2019. U.S. Department of Agriculture, Agricultural Marketing Service. Web. <<http://dx.doi.org/10.9752/TS052.11-2019>>

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