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Brazil Soybean Transportation

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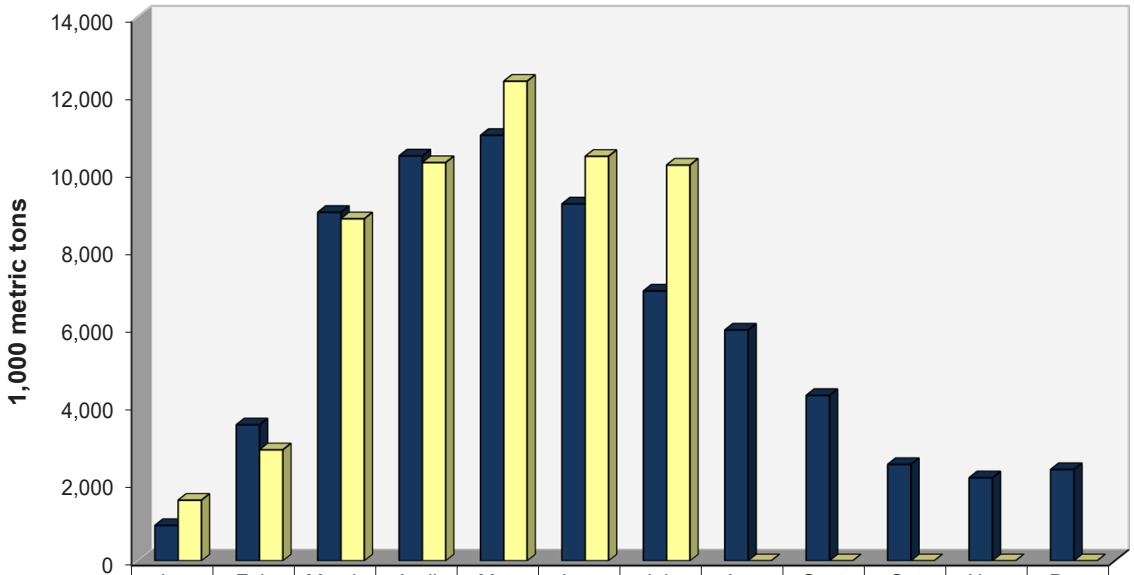
Contents

Record Harvest, Increased Soybean Transportation Costs, and Truck Drivers Strike

Increased planted area and higher productivity in the North, Northeast, and Center West regions of Brazil increased soybean production to 118.9 million metric ton (mmt) in 2018, compared with 114 mmt last year (National Company of Food Supply (CONAB)). During the peak of the harvest season, the cost of shipping a metric ton (mt) of soybeans 100 miles by truck increased 4 percent to $9.21, from $8.82 in the second quarter of 2017 (table 9). However, Brazilian truck rates (measured in reais (R$)), were proportionally higher due to the real (R$) depreciation against the U.S. dollar. The Brazilian real (R$) depreciated nearly 37 percent against the U.S. dollar, to R$3.77 per US$1.00, from R$3.21 during the same period in 2017. The weakened Brazilian real against the U.S. dollar, raised farm prices—because soybeans are priced in U.S. dollars but paid in reais—

Figure 1. Brazil average monthly soybean exports



	Jan	Feb	March	April	May	June	July	Aug	Sept	Oct	Nov	Dec
2017	912	3,509	8,979	10,432	10,960	9,197	6,955	5,951	4,268	2,487	2,143	2,355
2018	1,564	2,864	8,814	10,259	12,353	10,420	10,195	-	-	-	-	-

Source: Secretariat of Foreign Trade (SECEX), MDIC

offsetting the increase in transportation costs. The increase resulted in lower total landed costs for soybeans shipped from the southern ports to Shanghai, China, and Hamburg, Germany (tables 1 and 2), compared with second quarter 2017.

Farm prices increased nearly 11 percent in 2018, up to $333.59/mt from $301.28/mt, in second quarter 2017. The average farm prices in the Brazilian real (R$) increased about 28 percent, to R$1,194.97/mt from R$935.08/mt (Brazil Central Bank and CONAB). Due to higher export demand and fuel prices, ocean rates to Shanghai, China, increased nearly 7 percent on average. At the same time, ocean rates to Hamburg, Germany, increased 1 percent (tables 1,1.a, 2, 2.a and 9).

During the second quarter of 2018 (mostly during May and June), Brazil exported 46.2 mmt soybeans, 8 percent more than the 43.9 mmt exported during the second quarter of 2017 (SECEX, MDIC). By the end of July, Brazilian soybean exports had increased 47 percent to nearly 56.5 mmt, from 50.9 mmt at the same time last year (figure 1). Most of these exports were to China, through the Ports of Santos, Paranaguá, Rio Grande, São Luis, São Francisco do Sul, Vitoria, and Salvador (SECEX, MDIC). Second quarter 2018, average soybean export prices increased to $434 mt from $371 mt at the same time last year.

China is Brazil's major soybean buyer. From January to July 2018, China accounted for about 78 percent of total exports, followed by Spain, Iran, Turkey, Netherlands, and Thailand. China bought 43.9 mmt of Brazilian soybeans, valued at US$17.5 billion (SECEX, MDIC). The southern ports of Santos, Paranaguá, Rio Grande, and São Francisco do Sul accounted for 65.3 percent of total soybean exports and 75 percent of exports to China. The Northeastern ports of São Luís, Vitória, Salvador, Belém, and Barcarena, exported nearly 23 percent of total Brazilian soybeans and about the same amount of exports to China. The Northern ports of Santarém and Manaus represented 8 percent of total Brazil exports and 1.2 percent of exports to China (SECEX, MDIC).

In second quarter of 2018, it costs $24.63 per metric ton more to ship soybeans by truck than rail, from Sorriso, North MT, to Shanghai, China, through the Port of Santos (table 1). Sorriso is located 1,190 miles from the Port of Santos by truck, and 1,401 miles by rail (table 7). In Sorriso, North MT (the largest Brazilian soybean-producing State), transportation costs represented 29 percent of the total landed costs of shipping soybeans to Shanghai, through Santos (tables 1).

The truckers' strike, which began in late May, did not have a significant impact on soybean truck rates because the Brazilian soybean harvest was nearly finished. Rail cargo was also unaffected by the strike (USDA, Foreign Agricultural Service (FAS), Gain Report: BR1810). Additionally, the North and Northeast ports shipped 31 percent of total soybean exports—with more than 80 percent going to the European Union (EU)—preventing congestion of Southern ports (Secretariat of Foreign Trade (SECEX).

Brazilian Trucker Strike

On May 21, 2018, hundreds of thousands of Brazil's nearly 2 million truck drivers began an 11-day strike to protest high diesel prices. The strike slowed Brazil's economy, crippled transportation dependent industries, and caused estimated losses of US$ 1.75 billion to Brazil's agricultural sector. The swine and pork industries were hit especially hard (USDA, FAS, Gain Report BR1810). Shortages of fuel and animal feed affected farms and feedlots; and slaughterhouses idled their production lines when transportation to the ports was cut off and their refrigerated warehouses reached full capacity. (USDA, FAS, Gain Report BR1810). Soybean exports were not significantly affected since Brazil's soybean harvest was nearly finished when the strike began and the harvest for second-crop "safrinha" corn was just beginning. On day eight of the strike, most export terminals

ran out of soybeans for shipment. On the ninth day of the strike, the Brazilian government agreed to reduce diesel prices by 0.46 reals per liter, hold prices stable for 60 days, reduce tolls for large trucks, and suspend or eliminate some taxes to coax drivers back to the roads. The measures largely worked, with most truckers returning to the road. Deliveries of food, fuel, and medicine also began to flow again, albeit at a slower, more unreliable pace (USDA, FAS, Gain Report BR1810).

On August 9, 2018, the Brazilian government published in the Official Gazette, the new law 13,703/18 that allows the National Transport Agency (ANTT) to set minimum rates, for trucking freight across the country, reflecting total transportation operating costs across the country based on fuel costs, distances, tolls, and other factors (Confederação Nacional do Transporte (CNT) and AgriCensus). The new law requires truck freight prices to be equal to, or above, minimum prices set by the ANTT. Rates will be published twice a year, on January 20 and July 20. The frequency with which rates will be published will change if the price of diesel fluctuates more than 10 percent from the set minimum price (USDA, FAS, Gain Report BR1812). If the rates are not published within the identified timeframe, the previous period's truck freight rates—updated by IPCA (wide consumer price index)—will be valid. The legislation forbids truckers from negotiating contract prices below the ANTT minimum (USDA, FAS, Gain Report BR1812). For more information, contact Delmy L. Salin at delmy.salin@ams.usda.gov

Brazil Soybean Transportation

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

	2017 2nd qtr	2018 2nd qtr	% Change	2017 2nd qtr	2018 2nd qtr	% Change
	North MT[1] - Santos[2] BY TRUCK —US$/mt—			Northwest RS[1] - Rio Grande[2] —US$/mt—		
Truck	90.63	101.44	11.9	30.66	31.29	2.0
Ocean	29.00	31.00	6.9	29.50	31.50	6.8
Total transportation	119.63	132.44	10.7	60.16	62.79	4.4
Farm price[3]	275.60	323.46	17.4	302.06	343.90	13.9
Landed cost	395.23	455.90	15.4	362.22	406.68	12.3
Transport % of landed cost	30.3	29.1	-4.0	16.6	15.4	-7.0
	North MT[1] - Santos[2] BY RAIL —US$/mt—			North MT[1] - Paranaguá[2] —US$/mt—		
Truck	-	32.93	-	87.47	99.91	14.2
Rail[4] - Santos	-	43.89	-	-	-	-
Ocean	-	31.00	-	30.50	32.00	4.9
Total transportation	-	107.82	-	117.97	131.91	11.8
Farm price[3]	-	323.46	-	275.60	323.46	17.4
Landed cost	-	431.28	-	393.57	455.37	15.7
Transport % of landed cost	-	25.0	-	30.0	29.0	-3.4

[1]Producing regions: MT= Mato Grosso and RS = Rio Grande Do Sul

[2]Export ports

[3]Source: Companhia Nacional de Abastecimento (CONAB) www.conab.gov.br

[4]Note: In Brazil there are no public/official rail tariff rates. Rail rates can be approximately 30 percent

Source: ESALQ/ USP (University of São Paulo, Brazil) and USDA/AMS

Brazil Soybean Transportation

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

	2017 2nd qtr	2018 2nd qtr	% Change	2017 2nd qtr	2018 2nd qtr	% Change
	North MT[1] - Santarém[2] —US$/mt—			South MA[1] - São Luís[2] —US$/mt—		
Truck	53.69	65.07	21.2	38.89	38.89	0.0
Ocean	33.50	35.50	6.0	30.25	34.80	15.0
Total transportation	87.19	100.57	15.4	69.14	73.69	6.6
Farm price[3]	275.60	323.46	17.4	327.17	342.78	4.8
Landed cost	362.78	424.03	16.9	396.30	416.47	5.1
Transport % of landed cost	24.0	23.7	-1.3	17.4	17.7	1.4
	Southwest PI[1] - São Luís[2] —US$/mt—					
Truck	44.05	50.61	14.9			
Ocean	30.25	34.80	15.0			
Total transportation	74.30	85.41	15.0			
Farm price[3]	304.16	320.70	5.4			
Landed cost	378.46	406.11	7.3			
Transport % of landed cost	19.6	21.0	7.1			

[1]Producing regions: MT= Mato Grosso, PI = Piauí, MA = Maranhão
[2]Export ports
[3]Source: Companhia Nacional de Abastecimento (CONAB) www.conab.gov.br
Source: ESALQ/ USP (University of São Paulo, Brazil) and USDA/AMS

Brazil Soybean Transportation

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

	2017 2nd qtr	2018 2nd qtr	% Change	2017 2nd qtr	2018 2nd qtr	% Change
	North MT[1] - Santos[2] BY TRUCK —US$/mt—			Northwest RS[1] - Rio Grande[2] —US$/mt—		
Truck	90.63	101.44	11.9	30.66	31.29	2.0
Ocean	24.00	25.00	4.2	25.00	26.00	4.0
Total transportation	114.63	126.44	10.3	55.66	57.29	2.9
Farm price[3]	275.60	323.46	17.4	302.06	343.90	13.9
Landed cost	390.23	449.90	15.3	357.72	401.18	12.2
Transport % of landed cost	29.4	28.1	-4.3	15.6	14.3	-8.2
	North MT[1] - Santos[2] BY RAIL —US$/mt—			North MT[1] - Paranaguá[2] —US$/mt—		
Truck	-	32.93	-	87.47	99.91	14.2
Rail[4] - Santos	-	43.89	-	-	-	-
Ocean	-	25.00	-	25.00	26.00	4.0
Total transportation	-	101.82	-	112.47	125.91	11.9
Farm price[3]	-	323.46	-	275.60	323.46	17.4
Landed cost	-	425.28	-	388.07	449.37	15.8
Transport % of landed cost	-	23.9	-	29.0	28.0	-3.3

[1]Producing regions: MT= Mato Grosso and RS = Rio Grande Do Sul

[2]Export ports

[3]Source: Companhia Nacional de Abastecimento (CONAB) www.conab.gov.br

Source: ESALQ/ USP (University of São Paulo, Brazil) and USDA/AMS

Brazil Soybean Transportation

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

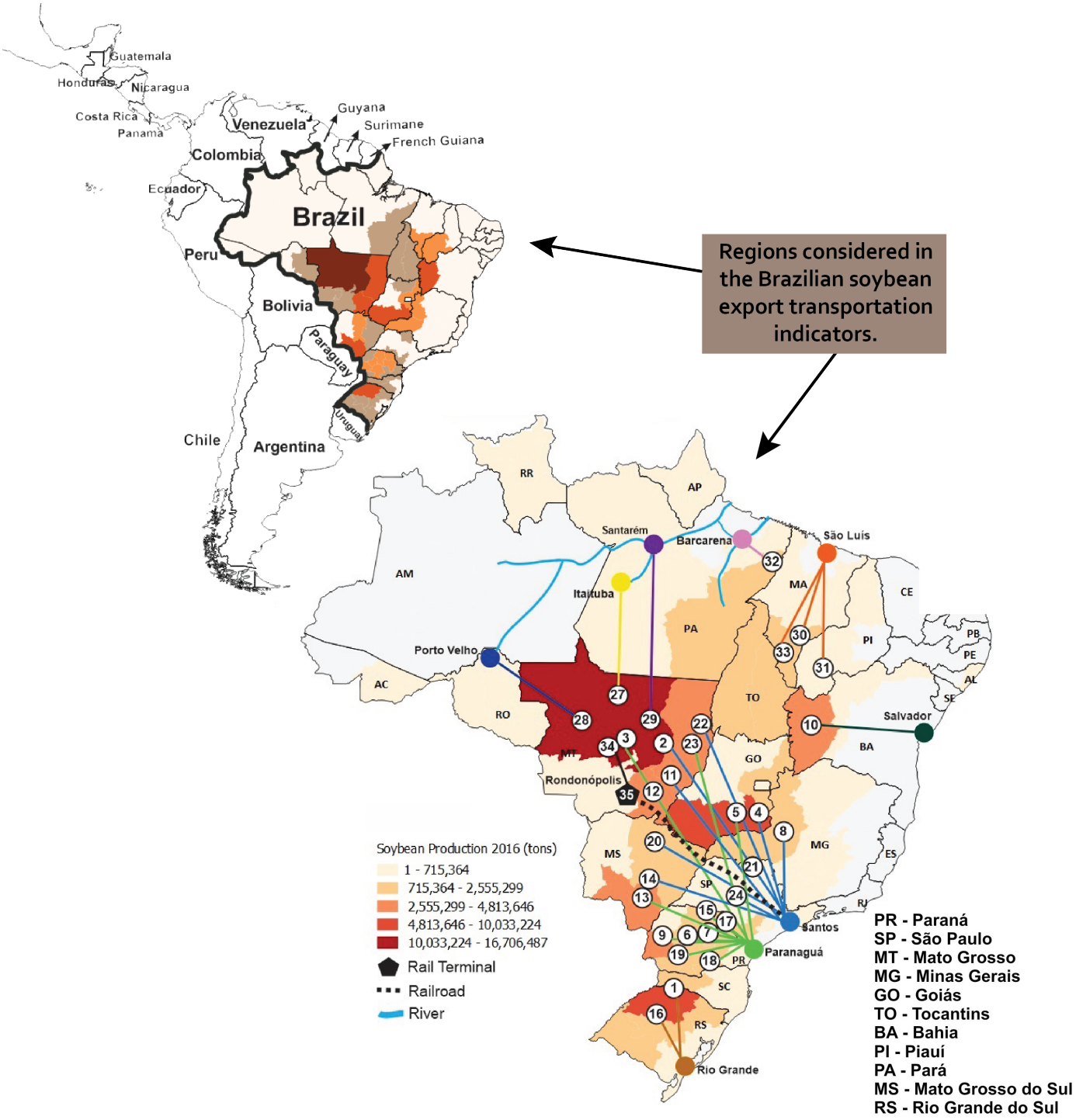
	2017 2nd qtr	2018 2nd qtr	% Change	2017 2nd qtr	2018 2nd qtr	% Change
	North MT[1] - Santarém[2] —US$/mt—			South MA[1] - São Luís[2] —US$/mt—		
Truck	53.69	65.07	21.2	38.89	38.89	0.0
Ocean	23.60	22.90	-3.0	20.00	19.10	-4.5
Total transportation	77.29	87.97	13.8	58.89	57.99	-1.5
Farm price[3]	275.60	323.46	17.4	327.17	342.78	4.8
Landed cost	352.88	411.43	16.6	386.05	400.77	3.8
Transport % of landed cost	21.9	21.4	-2.4	15.3	14.5	-5.1
	Southwest PI[1] - São Luís[2] —US$/mt—					
Truck	44.05	50.6	14.9			
Ocean	20.00	19.1	-4.5			
Total transportation	64.05	69.7	8.8			
Farm price[3]	304.16	320.7	5.4			
Landed cost	368.21	390.4	6.0			
Transport % of landed cost	17.4	17.9	2.6			

[1]Producing regions: MT= Mato Grosso, PI = Piauí, MA = Maranhão
[2]Export ports
[3]Source: Companhia Nacional de Abastecimento (CONAB) www.conab.gov.br
Source: ESALQ/ USP (University of São Paulo, Brazil) and USDA/AMS

Brazil Soybean Transportation

Brazil Soybean Transportation Indicators

Figure 2. Routes[1] and regions considered in the Brazilian soybean export transportation indicator[2]



[1]Table defining routes by number is shown on page 12

[2]Regions comprised about 80 percent of Brazilian soybean production, 2016

Source: ESALQ/ USP (University of São Paulo, Brazil) and USDA/AMS

Brazil Soybean Transportation

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

	—2018—									
	1st qtr	2nd qtr	3rd qtr	4th qtr	Avg	1st qtr	2nd qtr	3rd qtr	4th qtr	Avg
	North MT[1] - Santos[2] BY TRUCK —US$/mt—					North MT[1] - Paranaguá[2] —US$/mt—				
Truck	93.44	101.44			97.44	92.46	99.91			96.18
Ocean	32.50	31.00			31.75	32.00	32.00			32.00
Total transportation	125.94	132.44			64.60	124.46	131.91			64.09
Farm price[3]	305.85	323.46			314.66	305.85	323.46			314.66
Landed cost	431.80	455.90			221.93	430.31	455.37			442.84
Transport % of landed cost	29.2	29.1			29.1	28.9	29.0			28.9
	North MT[1] - Santos[2] BY RAIL —US$/mt—					Northwest RS[1] - Rio Grande[2] —US$/mt—				
Truck	39.07	32.93			36.00	31.51	31.29			31.40
Rail[4] - Santos	46.94	43.89			45.42	-	-			-
Ocean	32.50	31.00			31.75	33.00	31.50			32.25
Total transportation	118.51	107.82			56.58	64.51	62.79			31.82
Farm price[3]	305.85	323.46			314.66	334.43	343.90			339.16
Landed cost	424.36	431.28			427.82	398.94	406.68			402.81
Transport % of landed cost	27.9	25.0			26.5	16.2	15.4			15.8

[1]Producing regions: MT= Mato Grosso and RS = Rio Grande Do Sul

[2]Export ports

[3]Source: Companhia Nacional de Abastecimento (CONAB) www.conab.gov.br

[4]Note: In Brazil there are no public/official rail tariff rates. Rail rates can be approximately 30 percent lower than truck rates, depending on volumes hauled and the terms of contracts signed between the railroad company and shippers (Source: ESALQ-LOG, 2018).

Source: ESALQ/ USP (University of São Paulo, Brazil) and USDA/AMS

Brazil Soybean Transportation

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

	—2018—									
	1st qtr	2nd qtr	3rd qtr	4th qtr	Avg	1st qtr	2nd qtr	3rd qtr	4th qtr	Avg
	North MT[1] - Santos[2] BY TRUCK —US$/mt—					North MT[1] - Paranaguá[2] —US$/mt—				
Truck	93.44	101.44			97.44	92.46	99.91			96.18
Ocean	27.00	25.00			26.00	28.00	26.00			27.00
Total transportation	120.44	126.44			123.44	120.46	125.91			123.18
Farm price[3]	305.85	323.46			314.66	305.85	323.46			314.66
Landed cost	426.30	449.90			438.10	426.31	449.37			437.84
Transport % of landed cost	28.3	28.1			28.2	28.3	28.0			28.1
	North MT[1] - Santos[2] BY RAIL —US$/mt—					Northwest RS[1] - Rio Grande[2] —US$/mt—				
Truck	39.07	32.93			36.00	31.51	31.29			31.40
Rail[4] - Santos	46.94	43.89			45.42	-	-			-
Ocean	27.00	25.00			26.00	28.00	26.00			27.00
Total transportation	113.01	101.82			53.71	59.51	57.29			58.40
Farm price[3]	305.85	323.46			314.66	334.43	343.90			339.16
Landed cost	418.86	425.28			422.07	393.94	401.18			397.56
Transport % of landed cost	27.0	23.9			25.5	15.1	14.3			14.7

[1]Producing regions: MT= Mato Grosso and RS = Rio Grande Do Sul

[2]Export ports

[3]Source: Companhia Nacional de Abastecimento (CONAB) www.conab.gov.br

[4]Note: In Brazil there are no public/official rail tariff rates. Rail rates can be approximately 30 percent lower than truck rates, depending on volumes hauled and the terms of contracts signed between the railroad company and shippers (Source: ESALQ-LOG, 2018).

Source: ESALQ/ USP (University of São Paulo, Brazil) and USDA/AMS

Brazil Soybean Transportation

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

	—2018—									
	1st qtr	2nd qtr	3rd qtr	4th qtr	Avg	1st qtr	2nd qtr	3rd qtr	4th qtr	Avg
	North MT[1] - Santarém[2] —US$/mt—					South MA[1] - São Luís[2] —US$/mt—				
Truck	61.09	65.07			63.08	36.57	38.89			37.73
Ocean	38.50	35.50			37.00	37.00	34.80			35.90
Total transportation	99.59	100.57			100.08	73.57	73.69			73.63
Farm price[3]	305.85	323.46			314.66	357.97	342.78			350.38
Landed cost	405.44	424.03			414.73	431.54	416.47			424.00
Transport % of landed cost	24.6	23.7			24.1	17.0	17.7			17.4
	Southwest PI[1] - São Luís[2] —US$/mt—									
Truck	44.28	50.61			47.45					
Ocean	37.00	34.80			35.90					
Total transportation	81.28	85.41			83.35					
Farm price[3]	321.69	320.70			321.20					
Landed cost	402.97	406.11			404.54					
Transport % of landed cost	20.2	21.0			20.6					

[1]Producing regions: MT= Mato Grosso, PI = Piauí, MA = Maranhão

[2]Export ports

[3]Source: Companhia Nacional de Abastecimento (CONAB) www.conab.gov.br

Source: ESALQ/ USP (University of São Paulo, Brazil) and USDA/AMS

Brazil Soybean Transportation

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

	—2018—									
	1st qtr	2nd qtr	3rd qtr	4th qtr	Avg	1st qtr	2nd qtr	3rd qtr	4th qtr	Avg
	North MT[1] - Santarém[2] —US$/mt—					South MA[1] - São Luís[2] —US$/mt—				
Truck	61.09	65.07			63.08	36.57	38.89			37.73
Ocean	25.00	22.90			23.95	21.00	19.10			20.05
Total transportation	86.09	87.97			87.03	57.57	57.99			57.78
Farm price[3]	305.85	323.46			314.66	357.97	342.78			350.38
Landed cost	391.94	411.43			401.68	415.54	400.77			408.15
Transport % of landed cost	22.0	21.4			21.7	13.9	14.5			14.2
	Southwest PI[1] - São Luís[2] —US$/mt—									
Truck	44.28	50.61			47.45					
Ocean	21.00	19.10			20.05					
Total transportation	65.28	69.71			67.50					
Farm price[3]	321.69	320.70			321.20					
Landed cost	386.97	390.41			388.69					
Transport % of landed cost	16.9	17.9			17.4					

[1]Producing regions: MT= Mato Grosso, PI = Piauí, MA = Maranhão
[2]Export ports
[3]Source: Companhia Nacional de Abastecimento (CONAB) www.conab.gov.br; na: not available
Source: ESALQ/ USP (University of São Paulo, Brazil) and USDA/AMS

Brazil Soybean Transportation

Table 7. Truck rates for selected Brazilian soybean export transportation routes, 2018

Route #	Origin[1] (reference city)	Destination	Distance (miles)[2]	Share (%)[3]	Freight Price (US$)				
					1st qtr	2nd qtr	3rd qtr	4th qtr	Avg
					—— (per 100 miles)[4] ——				
1	Northwest RS[5] (Cruz Alta)	Rio Grande	288	13.0	10.94	10.86			
2	North MT (Sorriso)	Santos	1,190	3.1	7.85	8.52			
3	North MT (Sorriso)	Paranaguá	1,262	2.9	7.33	7.92			
4	South GO (Rio Verde)	Santos	587	5.5	7.70	8.08			
5	South GO (Rio Verde)	Paranaguá	726	4.5	7.73	8.25			
6	North Central PR (Londrina)	Paranaguá	268	3.0	11.06	11.03			
7	Western Central PR (Mamborê)	Paranaguá	311	2.8	10.20	10.05			
8	Triangle MG (Uberaba)	Santos	339	3.3	10.43	10.77			
9	West PR (Assis Chateaubriand)	Paranaguá	377	2.8	9.19	9.28			
10	West Extreme BA (São Desidério)	Salvador	535	4.2	8.17	8.78			
11	Southeast MT (Primavera do Leste)	Santos	901	2.7	7.21	7.51			
12	Southeast MT (Primavera do Leste)	Paranaguá	975	2.5	6.85	7.12			
13	Southwest MS (Maracaju)	Paranaguá	612	3.2	8.11	8.20			
14	Southwest MS (Maracaju)	Santos	652	3.0	7.98	8.40			
15	West PR (Assis Chateaubriand)	Santos	550	1.9	8.15	8.59			
16	East GO (Cristalina)	Santos	585	2.0	8.82	9.51			
17	North PR (Cornélio Procópio)	Paranaguá	306	1.9	8.98	8.76			
18	Eastern Central PR (Castro)	Paranaguá	130	2.3	15.03	13.65			
19	South Central PR (Guarapuava)	Paranaguá	204	2.6	13.26	13.21			
20	North Central MS (São Gabriel do Oeste)	Santos	720	2.1	6.97	7.40			
21	Ribeirão Preto SP (Guairá)	Santos	314	0.0	8.79	8.96			
22	Northeast MT (Canarana)	Santos	950	3.2	7.67	8.12			
23	East MS (Chapadão do Sul)	Santos	607	0.0	7.07	7.42			
24	Northeast MT (Canarana)	Paranaguá	1,075	2.8	7.32	7.82			

[1]Although each origin region comprises several cities, the main city is considered as a reference to establish the freight price; na = not available

[2]Distance from the main city of the considered region to the mentioned ports

[3]Share is measured as a percentage of total production

[4]US$ per metric ton (average monthly exchange rate from "Banco Central do Brasil" was used to convert Brazilian reais to the U.S. dollar)

[5]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

[6]Note: In Brazil there are no public/official rail tariff rates. Rail rates can be approximately 30 percent lower than truck rates, depending on volumes hauled and the terms of contracts signed between the railroad company and shippers (Source: ESALQ-LOG, 2018).

Source: ESALQ/ USP (University of São Paulo, Brazil) and USDA/AMS

-continued on page 14-

Brazil Soybean Transportation

Table 7. Truck rates for selected Brazilian soybean export transportation routes, 2018

Route #	Origin[1] (reference city)	Destination	Distance (miles)[2]	Share (%)[3]	Freight Price (US$)				
					1st qtr	2nd qtr	3rd qtr	4th qtr	Avg
					—— (per 100 miles)[4] ——				
25	Western Central RS (Tupanciretã)	Rio Grande	273	2.7	9.68	9.23			
26	Southwest PR(Chopinzinho)	Paranaguá	291	2.1	12.93	13.45			
27	North MT (Sorriso)	Itaituba	672	5.5	8.81	9.94			
28	North MT (Sorriso)	Porto Velho	632	5.8	7.23	7.36			
29	North MT (Sorriso)	Santarém	876	4.2	6.97	7.43			
30	South MA (Balsas)	São Luís	482	1.1	7.59	8.59			
31	Southwest PI (Bom Jesus)	São Luís	606	0.8	7.31	8.35			
32	Southeast PA (Paragominas)	Barcarena	249	1.4	10.17	9.58			
33	East TO (Campos Lindos)	São Luís	842	1.2	6.81	7.37			
34	North MT(Sorriso)	Rondonópolis (**Rail terminal**)	382		10.23	8.62			
35	Rondonópolis MT (**Rail teminal**)[6]	Santos	1,019		4.61	4.31			
	Average		**587**	**100.0**	**8.94**	**9.21**			

[1]Although each origin region comprises several cities, the main city is considered as a reference to establish the freight price; na = not available

[2]Distance from the main city of the considered region to the mentioned ports

[3]Share is measured as a percentage of total production

[4]US$ per metric ton (average monthly exchange rate from "Banco Central do Brasil" was used to convert Brazilian reais to the U.S. dollar)

[5]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

[6]Note: In Brazil there are no public/official rail tariff rates. Rail rates can be approximately 30 percent lower than truck rates, depending on volumes hauled and the terms of contracts signed between the railroad company and shippers (Source: ESALQ-LOG, 2018).

Source: ESALQ/ USP (University of São Paulo, Brazil) and USDA/AMS

Brazil Soybean Transportation

Table 8. Monthly Brazilian soybean export truck transportation cost index

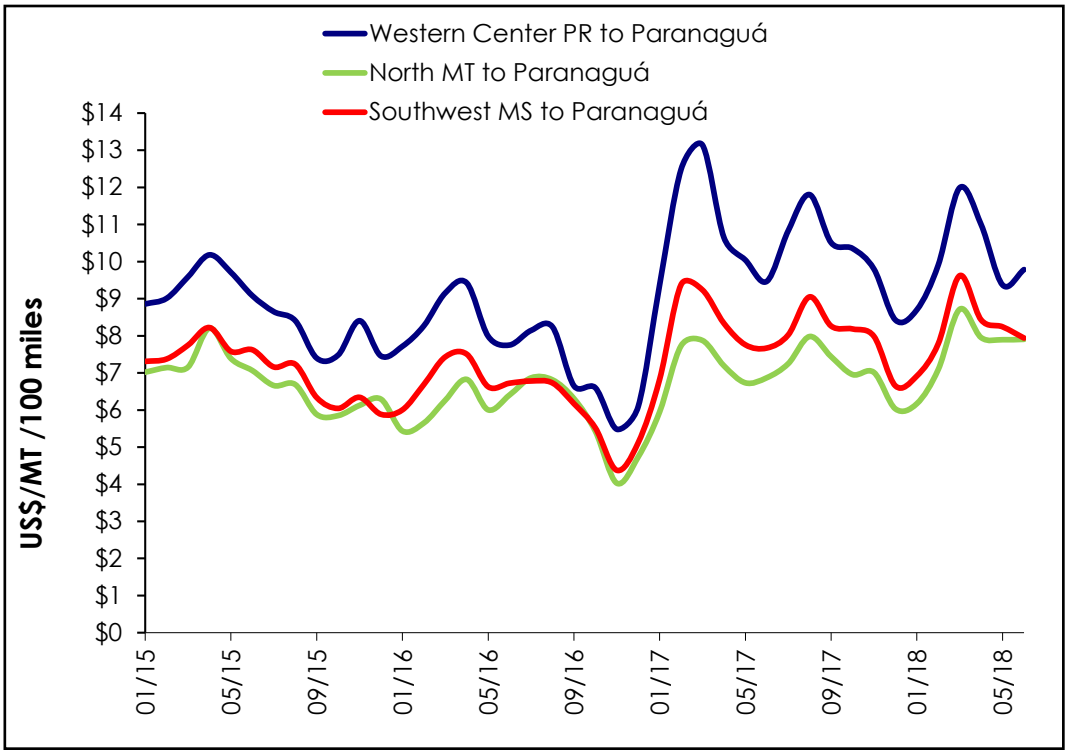
Month	Freight price* (per 100 miles)	Index variation (%) (Base: prior month)	Index value (Base: Jan. 05 = 100)	Month	Freight price* (per 100 miles)	Index variation (%) (Base: prior month)	Index value (Base: Jan. 05 = 100)
Jan-11	10.84	1.1	186.89	Oct-14	8.77	-9.3	151.13
Feb-11	11.21	3.4	193.30	Nov-14	8.36	-4.6	144.16
Mar-11	12.07	7.6	208.04	Dec-14	7.96	-4.9	137.15
Apr-11	13.30	10.2	229.22	Jan-15	8.01	0.7	138.15
May-11	12.01	-9.7	207.04	Feb-15	8.02	0.1	138.29
Jun-11	12.25	2.0	211.20	Mar-15	8.32	3.7	143.44
Jul-11	12.72	3.9	219.34	Apr-15	9.00	8.2	155.13
Aug-11	12.64	-0.7	217.84	May-15	8.39	-6.8	144.58
Sep-11	11.43	-9.6	196.95	Jun-15	8.01	-4.5	138.12
Oct-11	11.09	-3.0	191.10	Jul-15	7.56	-5.7	130.25
Nov-11	10.70	-3.4	184.52	Aug-15	7.38	-2.4	127.15
Dec-11	10.04	-6.2	173.00	Sep-15	6.60	-10.5	113.78
Jan-12	10.20	1.7	175.90	Oct-15	6.70	1.5	115.43
Feb-12	10.76	5.4	185.45	Nov-15	7.08	5.8	122.08
Mar-12	10.55	-2.0	181.82	Dec-15	6.76	-4.5	116.56
Apr-12	10.45	-1.0	180.06	Jan-16	6.42	-5.1	110.63
May-12	9.64	-7.7	166.20	Feb-16	6.73	4.8	115.98
Jun-12	9.37	-2.9	161.44	Mar-16	7.79	15.8	134.33
Jul-12	9.76	4.2	168.16	Apr-16	8.30	6.5	143.05
Aug-12	10.17	4.3	175.33	May-16	7.28	-12.3	125.43
Sep-12	10.30	1.3	177.54	Jun-16	7.16	-1.5	123.51
Oct-12	10.13	-1.6	174.66	Jul-16	7.46	4.2	128.64
Nov-12	9.84	-2.8	169.69	Aug-16	7.33	-1.7	126.41
Dec-12	9.73	-1.1	167.74	Sep-16	6.35	-13.3	109.53
Jan-13	10.11	3.9	174.31	Oct-16	5.88	-7.5	101.35
Feb-13	10.79	6.7	185.96	Nov-16	5.00	-14.9	86.21
Mar-13	11.14	3.3	192.04	Dec-16	5.47	9.4	94.32
Apr-13	10.95	-1.7	188.71	Jan-17	7.32	33.8	126.20
May-13	10.40	-5.0	179.31	Feb-17	9.85	34.6	169.85
Jun-13	9.49	-8.8	163.61	Mar-17	10.38	5.3	178.90
Jul-13	9.65	1.7	166.41	Apr-17	9.52	-8.3	164.05
Aug-13	9.80	1.5	168.95	May-17	8.75	-8.0	150.90
Sep-13	10.21	4.2	176.02	Jun-17	8.18	-6.5	141.04
Oct-13	10.17	-0.4	175.28	Jul-17	8.74	6.8	150.66
Nov-13	9.29	-8.6	160.18	Aug-17	9.85	12.7	169.76
Dec-13	8.91	-4.1	153.63	Sep-17	8.97	-9.0	154.55
Jan-14	8.86	-0.6	152.73	Oct-17	8.64	-3.6	148.93
Feb-14	10.34	16.7	178.24	Nov-17	8.36	-3.2	144.11
Mar-14	11.61	12.3	200.13	Dec-17	7.23	-13.5	124.63
Apr-14	11.35	-2.2	195.65	Jan-18	7.59	5.0	130.90
May-14	10.90	-4.0	187.89	Feb-18	8.65	13.9	149.04
Jun-14	10.34	-5.1	178.24	Mar-18	10.59	22.5	182.61
Jul-14	10.16	-1.7	175.21	Apr-18	9.78	-7.7	168.59
Aug-14	10.10	-0.6	174.08	May-18	8.96	-8.4	154.45
Sep-14	9.66	-4.3	166.54	Jun-18	8.89	-0.8	153.24

*Weighted average and quoted in US$ per metric ton

Source: ESALQ/ USP (University of São Paulo, Brazil) and USDA/AMS

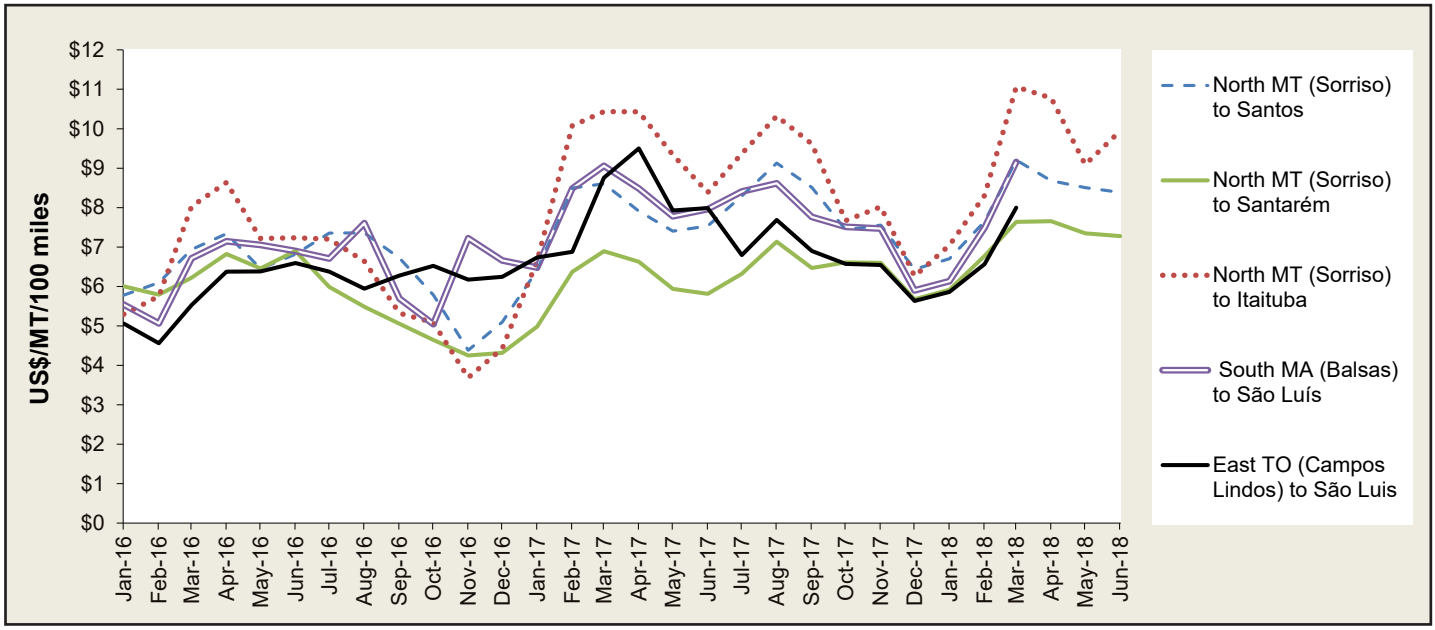
Brazil Soybean Transportation

Figure 3. Truck rates for selected southern Brazilian soybean export transportation route



Source: ESALQ/USP (University of São Paulo, Brazil) and USDA/AMS

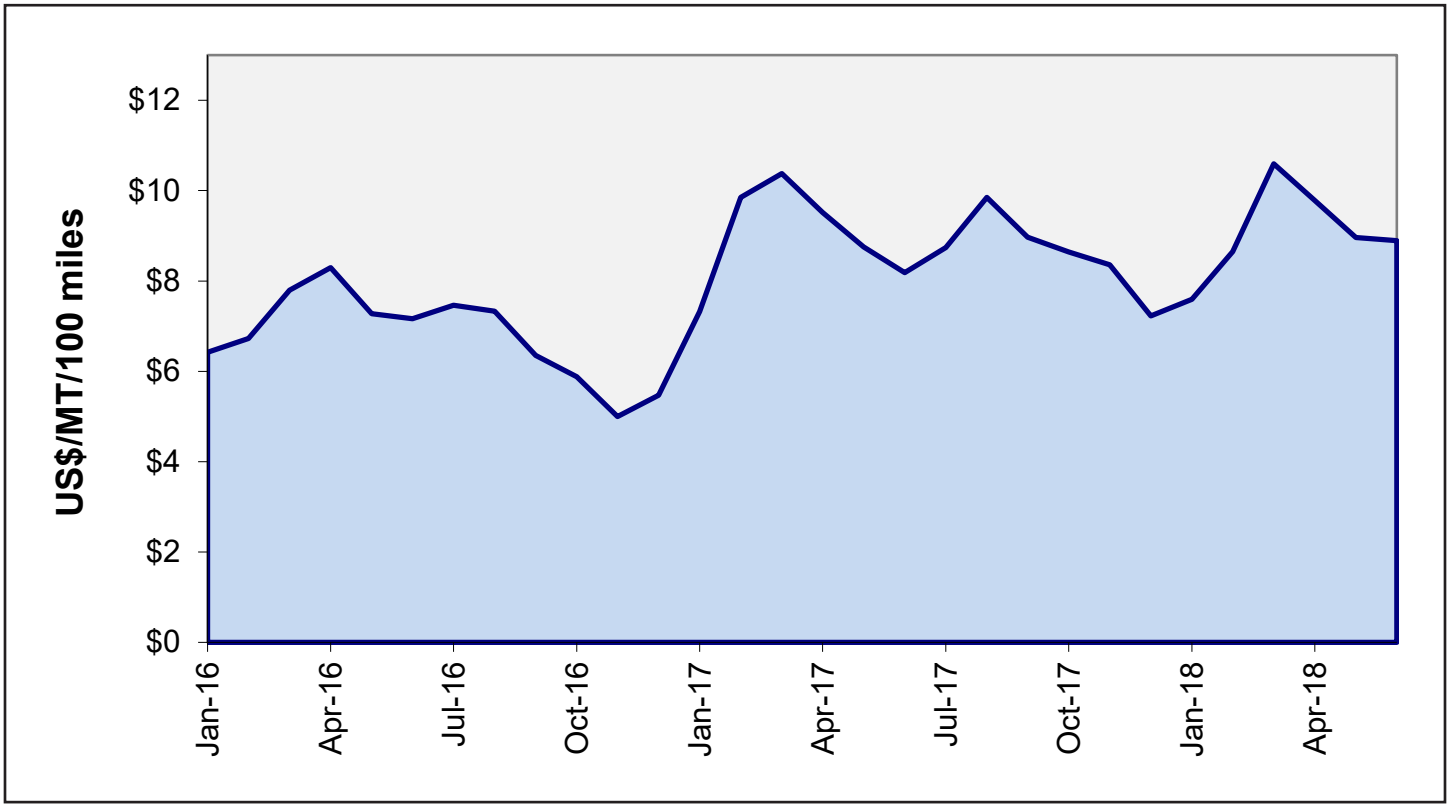
Figure 4. Truck rates for selected north, south, and northeastern Brazilian soybean export transportation route



Source: ESALQ/USP (University of São Paulo, Brazil) and USDA/AMS

Brazil Soybean Transportation

Figure 5. Brazilian soybean export truck transportation weighted average prices, 2016/18



Source: ESALQ/USP (University of São Paulo, Brazil) and USDA/AMS

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 2011	2nd qtr 2011	3rd qtr 2011	4th qtr 2011
Santos	Germany (Hamburg)	34.96	35.00	36.65	32.00
Paranagua	Germany (Hamburg)	33.86	36.00	37.29	32.63
Rio Grande	Germany (Hamburg)	35.43	36.00	37.81	35.22
Santos	China (Shanghai)	50.00	50.05	52.31	49.65
Paranagua	China (Shanghai)	56.25	57.62	59.61	55.80
Rio Grande	China (Shanghai)	50.50	50.60	53.02	50.26
Port	**Destination**	**1st qtr 2012**	**2nd qtr 2012**	**3rd qtr 2012**	**4th qtr 2012**
Santos	Germany (Hamburg)	32.00	35.00	32.00	28.00
Paranagua	Germany (Hamburg)	31.58	35.00	34.30	34.30
Rio Grande	Germany (Hamburg)	32.08	36.50	32.00	32.00
Santos	China (Shanghai)	46.62	51.35	50.42	50.42
Paranagua	China (Shanghai)	52.32	57.63	55.42	55.42
Rio Grande	China (Shanghai)	47.92	52.78	49.02	49.02
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

*Correspond to the average actual values negotiated between shippers and carriers and weighted according to the magnitude of the shipped volume

Source: Sistema de Informações de Fretes, SIFRECA, ESALQ/USP (University of São Paulo, Brazil)

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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 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
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		
Paranaguá	Germany (Hamburg)	28.00	26.00		
Rio Grande	Germany (Hamburg)	28.00	26.00		
Santarém	Germany (Hamburg)	25.00	22.90		
São Luís	Germany (Hamburg)	21.00	19.10		
Barcarena	Germany (Hamburg)	23.00	20.90		
Santos	China (Shanghai)	32.50	31.00		
Paranagua	China (Shanghai)	32.00	32.00		
Rio Grande	China (Shanghai)	33.00	31.50		
Santarém	China (Shanghai)	38.50	35.50		
São Luís	China (Shanghai)	37.00	34.80		
Barcarena	China (Shanghai)	37.50	33.80		

*Correspond to the average actual values negotiated between shippers and carriers and weighted according to the magnitude of the shipped volume

Source: Sistema de Informações de Fretes, SIFRECA, ESALQ/USP (University of São Paulo, Brazil)

Brazil Soybean Transportation

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Data Sets (XLS files):

- 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
- Table 5. Quarterly costs of transporting Brazilian soybeans from the northern and northeastern ports to Shanghai, China
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- Table 7. Truck rates for selected Brazilian soybean export transportation routes, 2018
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- Figure 5. Brazilian soybean export truck transportation weighted average prices, 2016/18
- 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: Brazil 2016 (PDF)
- Prior Articles: Brazil Soybean Transportation, May 24, 2018 (PDF)
- Related Articles: Grain Transportation Report, May 24, 2018 (PDF)

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