Agriculture By the Numbers

April 2026

NDSU Extension Agribusiness and Applied Economics

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NDSU EXTENSION

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Beef Replacement Heifer Dynamics Impact Herd Rebuilding

Tim Petry, Extension Livestock Marketing Specialist

The most asked question recently in the U.S. beef cattle industry is "When will beef cow herd rebuilding begin?" That question is a result of seven straight years (2019-2025) of beef cow liquidation and record- high cattle prices.

There are many obstacles to rebuilding beef cow herds, including ongoing and expanding drought across the region, production cost inflation, record-high beef replacement heifer prices, government policy decisions affecting market prices, and higher beef production due to higher fed cattle carcass weights.

One piece of the beef cow herd restocking puzzle is the availability of beef replacement heifers to rebuild the herd.

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Beef Replacement Heifer Dynamics Impact Herd Rebuilding

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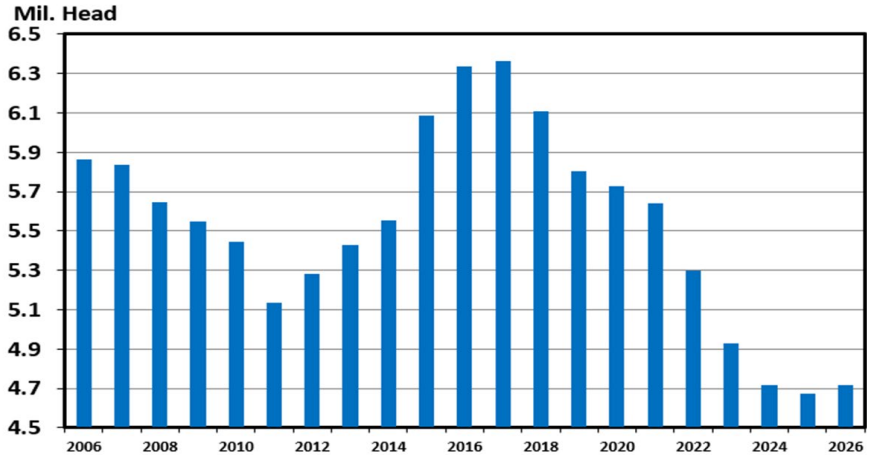
The USDA-National Agricultural Statistics Service (NASS) released the annual CATTLE inventory report on Jan. 30, 2026: https://usda.library.cornell.edu/concern/publications/h702q636h.

NASS reported the Jan. 1 U.S. beef replacement heifer inventory, at 4.7 million head, increased 41,700 head (1%) from the 4.67 million head last year, indicating some interest in herd rebuilding where forage conditions are favorable. Last year had the lowest number of replacement heifers since 1950, and the slight increase in 2026 was still historically low. So, the availability of heifers for herd rebuilding is another hurdle to significant herd rebuilding.

Heifers Held as Beef Cow Replacements — January 1, U.S.



Source: USDA NASS

After the last cyclical low in beef cow numbers on Jan. 1, 2014, with record prices, much-improved moisture conditions allowed herd rebuilding to start in earnest. However, there were more replacement heifers available then than there are now. Compared to the 4.7 million heifers available to begin 2026, there were 5.56 million heifers available to begin 2014 and 6.09 million available in 2015.

The number of replacement heifers can change throughout the year, though.

Since 2001, the NASS report has divided beef replacement heifers into two categories. The first category is beef replacement heifers over 500 pounds expected to calve as 2-year-old heifers in 2026. Those heifers were bred in 2025. The second category is heifers over 500 pounds, which may be bred as yearlings in 2026 to calve in 2027.

Also reported as "Other Heifers" are beef heifers over 500 pounds that are not reported by producers as replacements.

The number of beef heifers expected to calve in 2026, at 2.96 million head, was up 1.4% from 2.92 million in 2025.

All the heifers expected to calve do not enter the cow herd and get reported as cows the following January. Some heifers may not be pregnant, others may lose a calf and be sold, and some may raise a calf but not rebreed or have other issues and be marketed.

The number of beef heifers planned for breeding in 2026 was 1.75 million head, down just 300 head from 2025, and historically low.

The number of heifers reported for breeding is usually only 60%-65% of the following year's heifers expected to calve. For example, on Jan. 1, 2025, 1.75 million heifers were kept for breeding. But on Jan. 1, 2026, there were 2.96 million bred heifers.

The difference comes from the "Other Heifers" category. Some cattle producers purchase replacement heifers from the other heifer category to breed instead of keeping their own. Others purchase heifers to develop, breed and market as a value-added enterprise.

In years when adequate moisture conditions allow restocking plans to begin, the replacement heifer category may need to be adjusted upward if more heifers are bred than planned.

That was the case in the rapid beef cow herd expansion in 2015 and 2016. The number of other heifers in 2026 was 9.4 million, down from 9.5 million in 2025.

Due to the dynamics of the "Other Heifers" category, sometimes NASS revises the previous year's replacement heifer category. For example, on Jan. 1, 2026, NASS revised 2025 beef replacement heifer numbers up 100,000 head due to improved pasture conditions in some areas, leading to more heifers being bred.

Keep in mind that NASS numbers are not wrong when issued, but they may be revised as producers change plans throughout the year.

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Beef Replacement Heifer Dynamics Impact Herd Rebuilding

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The number of bred heifers expected to calve in 2026 is up, and there is potential for additional heifers to be bred during 2026 than originally planned if moisture conditions improve.

The top 10 beef cow states, in order of importance, are Texas, Oklahoma, Missouri, Nebraska, South Dakota, Montana, Kansas, North Dakota, Florida and Kentucky; these states account for 57% of the U.S. beef cow herd. Many are currently experiencing varying degrees of drought conditions according to the U.S. Drought Monitor.

On Jan.1, 2026, NASS reported 164,000 North Dakota beef replacement heifers, up 6,000 head from 2025.

North Dakota has led the nation in beef cow herd rebuilding, adding 10,000 beef cows in 2024 and another 21,000 head in 2025.

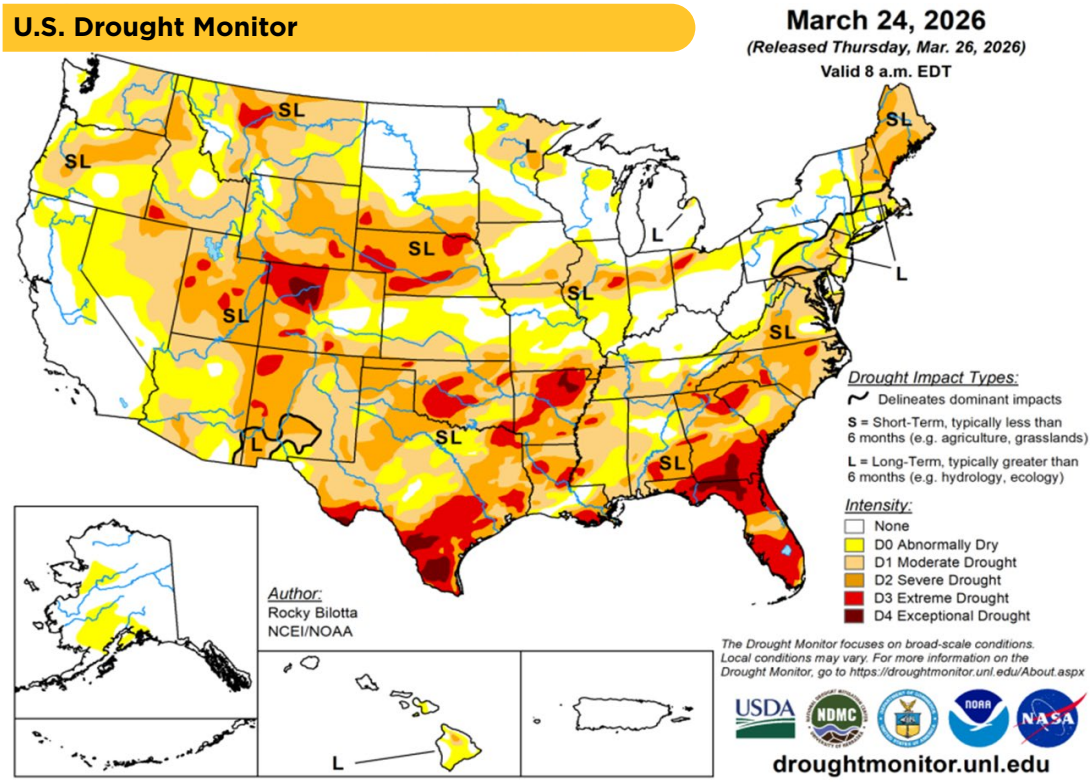
North Dakota cattle producers typically background and develop many replacement heifers as a value-added enterprise.

There are several reasons why many heifers are usually retained in North Dakota. Lightweight heifers receive $30/cwt. or more price discounts to steers in the fall but continue to gain in price relative to steers as weights increase.

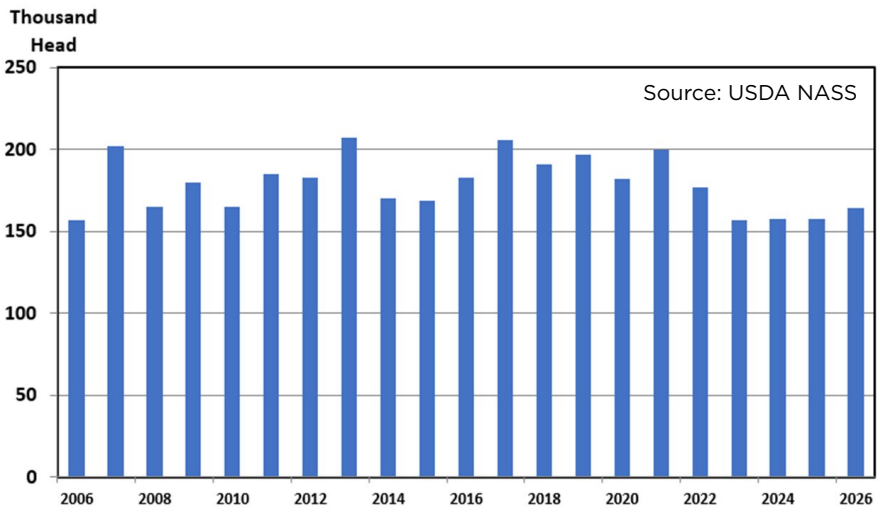
Retaining heifers provides marketing flexibility. They can be kept and bred in the summer or marketed in the spring as feeder cattle, depending on weather and market conditions.

North Dakota cattle auction markets are reporting replacement-quality, Bangs-vaccinated, 800-900-lb heifers from the "Other Heifers" category, bringing $2,800-$3,100 per head, which may indicate optimism to breed more heifers in 2026.

U.S. Drought Monitor



Heifers Held as Beef Cow Replacements — January 1, N.D.



Trends in Hog Inventory by State, 1995-2025

By Jon T. Biermacher, Professor of Practice and Extension Livestock Development Specialist

Over the past 30 years, there have been some interesting changes in the total number of hogs on farms across the country. Table 1 reports hogs on farms inventory for those states that have a sizeable swine industry based on data collected by the USDA National Agricultural Statistics Service's Quick Stats database. The data in Table 1 has been sorted by the 2025 hog inventory by state from largest to smallest level of inventory. In addition, the table includes a category, "All other states," that represents the remaining 33 states with relatively few hogs on farms in 2025 (fewer than 450 thousand).

For all four years of data reported (1995, 2005, 2015 and 2025), Iowa realized the largest number of hogs on farms, accounting for 23% of total farms in the nation in 1995 to more than 30% in 2025. For comparison, North Dakota share of inventory declined from 0.5% in 1995 to 0.2% in 2025. For the most part, the rankings by state over the four years remained relatively constant, with Iowa, Minnesota, North Carolina, Illinois and Indiana accounting for 70% of the national hog inventory in 2025, which is up from 60% in 1995.

The trend comparison between Minnesota and North Carolina over the past 30 years is quite interesting. In 1995, North Carolina had 14.1% of the nation's hog inventory, while Minnesota only had 8.5%. By 2025, Minnesota's swine industry realized steady continuous growth from 8.5% in 1995 to 12.4% in 2025, while North Carolina's realized declines in their share of national inventory from 14% to 10.5% in 2025. In addition to Iowa and Minnesota, other states that realized an increase in their share of the nation's total inventory included Ohio, South Dakota, Oklahoma and Pennsylvania.

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Table 1. Inventory of Hogs on Farms by State by Year

State	1995	% total	2005	% total	2015	% total	2025	% total
Iowa	13,500,000	23.2%	16,600,000	25.4%	21,100,000	29.2%	25,300,000	33.5%
Minnesota	4,950,000	8.5%	6,600,000	10.1%	8,100,000	11.2%	9,400,000	12.4%
North Carolina	8,200,000	14.1%	9,800,000	15.0%	8,900,000	12.3%	7,900,000	10.5%
Illinois	4,800,000	8.2%	4,000,000	6.1%	5,100,000	7.1%	5,450,000	7.2%
Indiana	4,000,000	6.9%	3,250,000	5.0%	3,850,000	5.3%	4,450,000	5.9%
Nebraska	4,050,000	7.0%	2,900,000	4.4%	3,300,000	4.6%	3,650,000	4.8%
Missouri	3,550,000	6.1%	2,700,000	4.1%	3,050,000	4.2%	3,400,000	4.5%
Ohio	1,800,000	3.1%	1,560,000	2.4%	2,400,000	3.3%	2,750,000	3.6%
South Dakota	1,450,000	2.5%	1,430,000	2.2%	1,360,000	1.9%	2,190,000	2.9%
Oklahoma	1,000,000	1.7%	2,370,000	3.6%	2,110,000	2.9%	2,010,000	2.7%
Kansas	1,300,000	2.2%	1,800,000	2.8%	1,940,000	2.7%	1,920,000	2.5%
Pennsylvania	1,000,000	1.7%	1,100,000	1.7%	1,160,000	1.6%	1,420,000	1.9%
Michigan	1,100,000	1.9%	960,000	1.5%	1,120,000	1.6%	1,170,000	1.5%
Texas	500,000	0.9%	930,000	1.4%	860,000	1.2%	1,140,000	1.5%
Colorado	580,000	1.0%	850,000	1.3%	700,000	1.0%	560,000	0.7%
Kentucky	800,000	1.4%	380,000	0.6%	425,000	0.6%	470,000	0.6%
North Dakota	280,000	0.5%	157,000	0.2%	137,000	0.2%	150,000	0.2%
Other states	5,340,500	9.2%	7,974,800	12.2%	6,640,300	9.2%	2,214,700	2.9%
Nation	58,200,500	100.0%	65,361,800	100.0%	72,252,300	100.0%	75,544,700	100.0%

Trends in Hog Inventory by State, 1995-2025

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The hogs on farm inventory for all of the other states as a percent of the nation's total inventory trended down significantly over the past 30 years, moving from 9.2% in 1995 to 2.9% in 2025, providing some indication of the scale at which the swine industry has grown during that period. For example, Iowa had 13.5 million hogs on farms in 1996, growing to 25.3 million in 2026.

The percentage change in hog inventory is reported by state and time period category in Table 2. Circling back to Iowa, the 11.8 million head increase of hogs on farms the state realized over the 30 years between 1996 and 2025 equaled a 87.4% increase. Minnesota realized an even greater return of 90% during the same period. Even more noteworthy are the increases realized by Oklahoma (101%) and Texas (128%) over the same 30-year period. However, Oklahoma's increase actually came during the first 10 years (1995-2005), when it saw a 137% increase but has since seen reductions in those increases for the past two 10-year periods. Texas, on the other hand, did see a smaller (7.5%) reduction between 2005 and 2015 but snapped back between 2015 and 2025 with a 32.6% increase.

Table 2. Percentage Change in Inventory of Hogs on Farms by State and Time Period Category

State	Change (%) 1995-2005	Change (%) 2005-2015	Change (%) 2015-2025	Change (%) 1995-2025
Iowa	23.0%	27.1%	19.9%	87.4%
Minnesota	33.3%	22.7%	16.0%	89.9%
North Carolina	19.5%	-9.2%	-11.2%	-3.7%
Illinois	-16.7%	27.5%	6.9%	13.5%
Indiana	-18.8%	18.5%	15.6%	11.3%
Nebraska	-28.4%	13.8%	10.6%	-9.9%
Missouri	-23.9%	13.0%	11.5%	-4.2%
Ohio	-13.3%	53.8%	14.6%	52.8%
South Dakota	-1.4%	-4.9%	61.0%	51.0%
Oklahoma	137.0%	-11.0%	-4.7%	101.0%
Kansas	38.5%	7.8%	-1.0%	47.7%
Pennsylvania	10.0%	5.5%	22.4%	42.0%
Michigan	-12.7%	16.7%	4.5%	6.4%
Texas	86.0%	-7.5%	32.6%	128.0%
Colorado	46.6%	-17.6%	-20.0%	-3.4%
Kentucky	-52.5%	11.8%	10.6%	-41.3%
North Dakota	-43.9%	-12.7%	9.5%	-46.4%
Other states	49.3%	-16.7%	-66.6%	-58.5%
Nation	12.3%	10.5%	4.6%	29.8%

South Dakota also has an interesting trend, but the state's story has been more recent. In fact, for 2015 to 2025, South Dakota has realized a 61% increase in its hog inventory, moving from 1.36 to 2.19 million during that time. Ohio has a similar story for the past 20 years.

Overall, during the past 30 years, the nation's swine industry has expanded by 29%, moving from 58.2 million hogs on farms in 1996 to 75.6 million hogs in 2025. Much of this expansion has been realized by 11 states, with most expanding operations that feed pigs in large, modern, confined farrowing and finishing facilities. Moreover, this expansion has occurred while the remaining 39 states have experienced declines in their swine industries.

Similar to their South Dakota and Minnesota neighbors, North Dakota could expand its swine industry from the continued relocation of hogs on farms from other states by promoting their advantages of biosecurity (i.e., smaller populations in rural communities and cooler summer temperatures), economic advantages of having a large supply of feed ingredients, and their willingness to adopt larger, modern and confined farrowing and finishing operations.

Reach out with any questions at jon.biermacher@ndsu.edu.

Comparing U.S. and Brazilian Soybean Transportation Costs

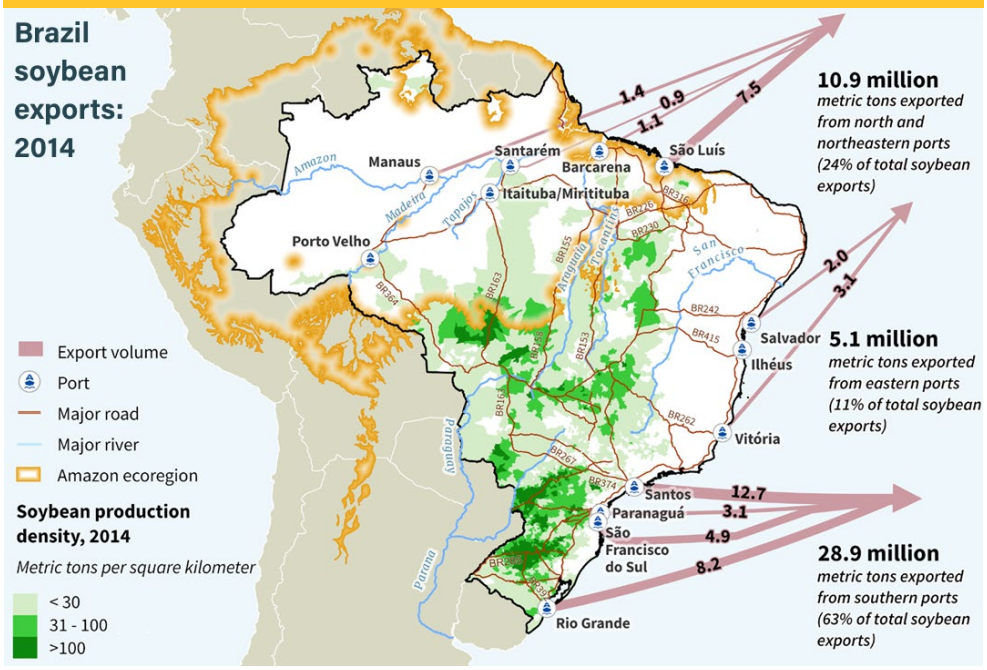
Frayne Olson, Crop Economist/Marketing Specialist

Over the past 15 years, Brazil has grown into a significant competitor for U.S. corn and soybean exports in the global grain markets. Historically, the U.S. has maintained an advantage due to its more efficient domestic grain logistics system and port facilities. However, the differential between the U.S. and Brazilian systems has been shrinking over time.

Figure 1 shows the Brazilian soybean export capacity by port for 2014. Note that about 63% of the soybeans were exported through the southern ports of Santos, Paranaguá, São Francisco do Sul and Rio Grande. The majority of the soybeans produced in the northern growing regions of Mato Grosso and Goiás were driven by truck to the southern ports.

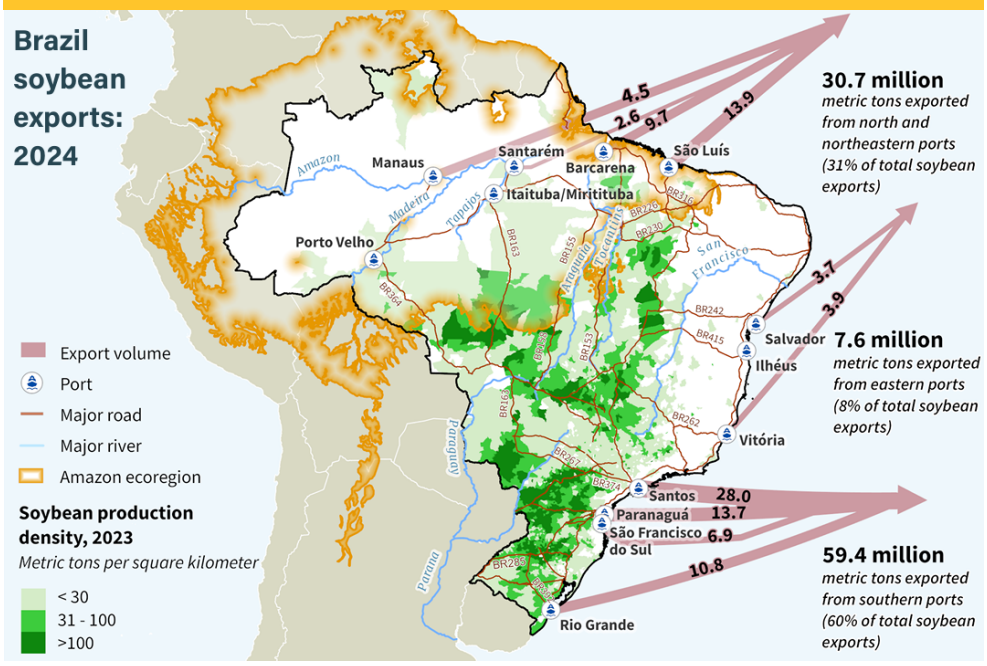
Figure 2 shows the Brazilian soybean export capacity by port for 2024. Total soybean export volumes have increased from 45.7 million metric tons in 2014 to 98.8 million metric tons in 2024, a two-fold increase. The southern ports still handle the majority of the exports, accounting for about 60% of the total volume. However, the northern ports of São Luís, Barcarena, Santarém and Manaus have tripled their export volumes and now account for over 30% of the total export volume. Brazil's port loading facilities have been upgraded and expanded, and the soybean transportation flows for the farmland expansion in the northern savanna are shifting.

Figure 1 – 2014 Brazilian Soybean Exports by Port



USDA Agricultural Marketing Service Soybean Transportation Guide – Brazil 2024

Figure 2 – 2024 Brazilian Soybean Exports by Port



USDA Agricultural Marketing Service Soybean Transportation Guide – Brazil 2024

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Comparing U.S. and Brazilian Soybean Transportation Costs — continued from page 6

The March 26, 2026, edition of the USDA Agricultural Marketing Service's weekly Grain Transportation Report provided a comparison of soybean transportation costs from four U.S. and two Brazilian soybean growing regions to Shanghai, China. These costs are compiled and reported each calendar quarter. Table 1 summarizes the comparison for the fourth quarter of 2025.

The cost estimates in Table 1 show that the southern region of Goias, Brazil, has the lowest total transportation costs from farm gate to Shanghai, China, at $96.08 per metric ton. Davenport, Iowa, is second-lowest at $105.76 per ton, and Fargo, North Dakota, is third-lowest at $106.92 per ton. Santos, Mato Grosso, Brazil, had the highest total transportation costs at $131.55 per metric ton.

However, the total landed cost, which includes transportation costs and the farm value of the soybeans delivered to Shanghai, China, is lowest for Fargo, North Dakota, at $459.41 per metric ton. This is because the average farm gate prices for soybeans are lower in North Dakota than the other locations. The farm value cost data was collected by the USDA National Agricultural Statistics Service for U.S. origins and by Companhia Nacional de Abastecimento for the Brazilian origins.

The fourth quarter farm value is the average price received by farmers in October, November and December. The fourth quarter is the peak of U.S. harvest and export sales, and U.S. soybean supplies are most competitive in the global market during this time period.

Table 2 shows the same cost comparison for the second quarter of 2025, which is April, May and June. This is the time period when Brazilian harvest and export sales are more competitive in the global market.

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Table 1 – U.S. and Brazilian Soybean Transportation and Landed Costs to Shanghai, China for Fourth Quarter 2025

Cost in $/metric ton	Fargo, ND	Minneapolis, MN	Sioux Falls, SD	Davenport, IA	Santos, Mato Grosso, BR	South Goias, BR
Truck	16.31	16.31	16.31	16.31	92.65	55.68
Rail	61.84	0.00	62.98	0.00	0.00	0.00
Barge	0.00	38.55	0.00	34.13	0.00	
Ocean	28.77	55.32	28.77	55.32	38.90	40.40
Total Transportation	106.92	110.18	108.06	105.76	131.55	96.08
Farm Value	352.49	362.05	356.29	376.26	369.95	372.87
Landed Cost	459.41	472.23	464.35	482.02	501.50	468.95

USDA Agricultural Marketing Service Grain Transportation Report – March 26, 2026

Table 2 – U.S. and Brazilian Soybean Transportation and Landed Costs to Shanghai, China, for Second Quarter 2025

Cost in $/metric ton	Fargo, ND	Minneapolis, MN	Sioux Falls, SD	Davenport. IA	Santos Mato Grosso, BR	South Goias, BR
Truck	18.07	18.07	18.07	18.07	87.35	50.98
Rail	61.78	0.00	62.92	0.00	0.00	0.00
Barge	0.00	36.64	0.00	29.50	0.00	
Ocean	26.62	45.67	26.62	45.67	37.00	38.50
Total Transportation	106.47	100.38	107.61	93.24	124.35	89.48
Farm Value	356.90	366.33	365.97	376.01	325.53	334.59
Landed Cost	463.37	466.71	473.58	469.25	449.88	424.07

USDA Agricultural Marketing Service Grain Transportation Report – Sept. 18, 2025

Comparing U.S. and Brazilian Soybean Transportation Costs — continued from page 7

Notice that the total landed costs for Brazilian soybeans were considerably lower than the fourth-quarter values. The Minneapolis, Minnesota, total landed cost was lower in the second quarter, but the Fargo, North Dakota, Sioux Falls, South Dakota, and Davenport, Iowa, landed costs were higher. Most of this change was due to the change in farm value.

There is little doubt that relative transportation costs from the farm gate to an international destination impact the flow of grain. However, the value of the grain at the farm level also plays a significant role. Brazil continues to increase its corn and soybean production capability and improve its grain transportation and storage capacity. This increasing volume and efficiency will pressure U.S. agriculture to remain competitive.