# Long-Term Agricultural Outlook 2026

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This outlook report is published by the Center for Agricultural and Rural Development (CARD) at Iowa State University (ISU). It provides long-term projections of global agricultural production until 2050. The results are reported in five-year intervals but the full data as well as a visualization tool are available at Long-Term Agricultural Outlook.

**Disclaimer**

While every effort has been made to ensure the accuracy and robustness of the data, methods, and models used in this report, the projections and forecasts presented herein are subject to uncertainty. The authors do not provide any warranty, express or implied, regarding the accuracy, completeness, or reliability of the predictions. Users of this report should exercise their own judgment when interpreting the results.

## Foreword

The Long-Term Agricultural Outlook marks the beginning of a renewed effort to project plausible pathways for the global food and agricultural sector based on the foundations of an earlier outlook series discontinued in 2011. Whereas the previous reports focused on a 10-year horizon, the present outlook extends projections over a 25-year period until 2050. This extended time frame is intentional because of the many dynamics shaping agriculture (e.g., structural changes in production, evolving food demand, climate pressures, technological innovation, and land-use transitions), which unfold gradually. A longer horizon better captures these trends and their implications for agricultural systems and the environment. The longer horizon also enables analysis of gradual but consequential changes shaped primarily by macroeconomic drivers embedded in the baseline, including population growth, rising incomes, and evolving market relationships. The model has been used in peer-reviewed publications to assess climate change impacts (Dumortier, Carriquiry, and Elobeid 2021), vehicle electrification and ethanol demand (Dumortier, Elobeid, and Carriquiry 2022; Dumortier, Carriquiry, and Elobeid 2022), the war in Ukraine (Carriquiry, Dumortier, and Elobeid 2022), biodiversity in Latin America (Dumortier, Elobeid, and Carriquiry 2024), and second-crop corn ethanol production in Brazil (Elobeid et al. 2026).

The modeling framework has been updated and adapted to reflect current data, market structures, and policy contexts. The extended projection period also allows for the evaluation of long-run trajectories of land use, including competition among crops and the growing relevance of carbon- and climate-related land management. As with any prospective analysis, the results should be interpreted as conditional scenarios rather than forecasts. They offer a structured lens through which to understand potential futures and the factors that may guide them.

This edition is the first step in an ongoing process. In the coming years, the outlook will be updated and expanded to better incorporate long-term structural change as well as new information, improved methods, and emerging issues. The goal is to provide stakeholders, researchers, and policymakers with a transparent, coherent, and evolving resource that supports decision-making in a period of change for agriculture and the environment.

The authors hope that this report contributes meaningfully to discussions about the future of agricultural production, resource use, and sustainability, and that it encourages continued engagement with the questions that will shape the sector in the decades ahead.

## Long-Term Agricultural Outlook 2026

The 2026 Long-Term Agricultural Outlook assesses projected trends in global agricultural production, consumption, trade, and land use from 2025 to 2050. Using a renewed modeling framework that extends the projection horizon to 25 years, the report evaluates structural developments for the following commodities:

- Field crops: Corn, Rice, Soybeans, and Wheat
- Oilseed products: Soybean meal and soybean oil
- Livestock products: Beef, broiler, and pork
- Biofuels: Biomass-based diesel and ethanol

Global agricultural markets are projected to expand steadily over the outlook period, with incremental adjustments rather than through abrupt structural shifts. Total area harvested for corn, rice, soybeans, and wheat increases by 5.9% from 742.2 to 785.9 million hectares (ha) globally. This additional area of 43.7 million ha is mostly allocated to wheat (13.1 million ha), corn (11.0 million ha), and rice (10.7 million ha).

Although the average increase in area harvested is at most 6.3% (soybeans and rice), production increases by at least 13.4% (wheat). Corn, soybeans, and rice production increase by 19.9%, 17.7%, and 16.5%, respectively. Corn production increases steadily alongside moderate expansion in harvested area, consistent with the gradual scaling of existing production systems. Wheat and rice exhibit balanced growth patterns, supported by continued demand associated with population growth, particularly in developing regions.

Soybean-derived products, that is, soybean meal and soybean oil, continue to dominate processing markets. Soybean meal maintains a key role in international feed markets increasing production by 17.9% over the projection period with the domestic consumption in China increasing by 19.2%. Soybean oil production increases by 18.1% over the projection period with some large consumers such as the United States, Brazil, and India seeing above average consumption increases of 12.4%, 32.1%, and 15.6%, respectively. The livestock sector reinforces these dynamics, with beef, broiler, and pork production and consumption concentrated in major regions including the United States, China, Brazil, and the European Union. China remains central to global pork markets by increasing domestic consumption and production by 10.5% and 10.5%, respectively. The United States maintains a leading role in pork and broiler production as well with an increase in production over the projection period by 15.9% and 11.4%, respectively.

Biofuel output expands over the projection period, with ethanol growing faster than biomass-based diesel. Global ethanol production over the 2025–2050 projection period increases by 26.2% from 117.7 to 148.5 billion liters. Growth is driven primarily by Brazil, where production rises by 66.7%, while the United States increases more moderately by 8.8%. Smaller production increases occur in India (15.8%) and China (6%), while production in the European Union declines slightly by 3.3%. Biomass-based diesel production increases by 13.4%, rising from 66.2 to 75.1 billion liters over the projection period. Production expansion is led by the United States (19.3%), Argentina (18.4%), and Brazil (18.1%), with smaller increases in the European Union (6.8%) and China (5.1%), and declines in Canada (4.5%) and India (2.9%).

Between 2025 and 2050, all major agricultural commodities experience sustained annual nominal price increases ranging from 0.9% (soybeans) to 1.5% (biomass-based diesel) associated with demand growth alongside supply expansion. Biomass-based diesel shows the strongest price growth, followed by ethanol (1.4%) and broiler meat (1.4%), while grains such as corn and wheat exhibit moderate increases (both 1.2%).

Overall, the projections describe a global agricultural system characterized by steady expansion driven primarily by macroeconomic fundamentals rather than rapid structural transformation. Growth occurs in the crops, livestock, and biofuels sectors simultaneously, resulting from rising population and income levels and evolving demand patterns across food, feed, and energy markets.

## Macroeconomic Patterns (2025–2050)

The macroeconomic and population numbers are exogenous drivers, which condition this outlook. Data and projections until 2034 are obtained from the International Macroeconomic Dataset published by the US Department of Agriculture's (USDA) Economic Research Service (ERS) and linearly extrapolated to extend the relevant drivers until 2050.

Assumed world real GDP increases on average by 2.6% while global population expand on average by 0.8% over the projection period. As a result, global per-capita income rises throughout the projection period. Real GDP grows in all cases, with higher growth in developing regions including China, India, and the Rest of the World. Advanced economies, such as the United States and European Union experience lower growth consistent with mature economic structures and aging populations.

Population dynamics introduce substantial cross-regional heterogeneity which results in differences in long-run food demand. Advanced economies (e.g., China, European Union) experience slow, flat, or negative population growth. In contrast, developing regions (e.g., Rest of the World and India) account for the majority of global population growth, although population growth rates gradually decline over time.

Global consumer price indices increase on average by 3.1%, which is more rapidly than the GDP deflator (1.6%), consistent with moderate long-run inflation in the baseline. GDP deflators and consumer price indices increase in all regions, but with important cross-regional differences. Consumer price inflation is lowest and most stable in advanced economies, moderate in middle-income economies such as Brazil, and higher in parts of the developing world. GDP deflator growth is more muted, especially in the Rest of the World, indicating that consumer price inflation growth generally exceeds deflator growth. Exchange rates remain broadly stable in advanced economies, exhibit policy-managed near stability in China, and depreciate gradually in developing regions.

**Table 1. Evolution of Real GDP and Population in Selected Countries, Regions, and the World**

| Region | Real GDP % Change | Real GDP CAGR | Population % Change | Population CAGR |
|---|---|---|---|---|
| Argentina | 49.9 | 1.2 | 19.0 | 0.7 |
| Brazil | 109.4 | 2.9 | 12.7 | 0.5 |
| China | 131.9 | 3.4 | 0.1 | 0.0 |
| European Union | 31.1 | 1.1 | -1.5 | -0.1 |
| India | 123.9 | 3.1 | 19.2 | 0.7 |
| United States | 52.0 | 1.6 | 15.6 | 0.6 |
| Rest of World | 76.1 | 2.4 | 42.2 | 1.4 |
| World | 94.7 | 2.6 | 22.8 | 0.8 |

Note: For China, population peaks early and then slowly declines. The percent change is calculated for the period 2024–2050 while the compound annual growth rate (CAGR) is calculated for the period 2025–2050.

**Table 2. Evolution of Consumer Prices, GDP Deflator, and Exchange Rates (in the local currency per US dollar in nominal terms) in Selected Countries, Regions, and the World**

| Region | Consumer Prices % Change | Consumer Prices CAGR | GDP Deflator % Change | GDP Deflator CAGR | Exchange Rate % Change | Exchange Rate CAGR |
|---|---|---|---|---|---|---|
| Argentina | 333.3 | 3.8 | 203.6 | 2.3 | 98.9 | 0.4 |
| Brazil | 103.1 | 2.7 | 80.0 | 2.2 | 31.2 | 1.0 |
| China | 63.9 | 1.9 | 36.6 | 1.2 | -5.0 | 0.0 |
| European Union | 61.0 | 1.8 | 49.3 | 1.5 | -11.0 | -0.4 |
| India | 157.6 | 3.7 | 109.5 | 2.8 | 11.2 | 0.4 |
| United States | 65.9 | 2.0 | 46.1 | N/A | N/A | N/A |
| Rest of World | 238.0 | 4.5 | 13.2 | 0.4 | 93.8 | 2.5 |
| World | 127.8 | 3.1 | 53.8 | 1.6 | 46.2 | 1.5 |

Note: The percent change is calculated for the period 2024–2050 while the compound annual growth rate (CAGR) is calculated for the period 2025–2050.

## World Prices

Between 2025 and 2050, projected global prices for agricultural commodities show an upward trend in nominal terms in nearly all major categories, with some products experiencing sharper increases. Most commodities experience price growth within a relatively tight range (0.9%–1.5%), suggesting that common macroeconomic drivers, particularly rising global population and sustained real GDP growth, underpin price dynamics in multiple markets.

Among all commodities, biomass-based diesel exhibits the strongest price increase with a compound average annual growth rate (CAGR) of 1.5% or 45.5% between 2025 and 2050, resulting from the growing demand for renewable fuels and possibly tighter supply of feedstock such as soybean and palm oil. Soybean meal and oil show a price growth of roughly 28.6% (CAGR 1.1%) and 31.5% (CAGR 1.2%), respectively.

Grain prices increase at slightly lower rates compared to soybean meal and oil. The highest increase is observed for corn and wheat with an annual compound growth rate of 1.2% in both cases over the 2025–2050 period. The total increases over the entire period are 35.6% for corn and 36.0% for wheat. Rice exhibits a smaller annual increase of 1.0%.

Livestock prices follow a similar upward trajectory with a CAGR range of 1.2%–1.4%. Beef, broiler, and pork meat prices increase by 39.2%, 40.5%, and 36.0%, respectively. Ethanol prices rise by 42.2% and biomass-based diesel prices increase by 46.8% over the entire projection period.

Macroeconomic drivers explain the price growth across commodity groups. Global population growth increases aggregate food demand while rising real incomes support higher consumption in food, feed, and livestock products. Exchange rate projections also contribute to price movements by influencing competitiveness in exporting regions and maintaining alignment throughout internationally traded commodities.

When compared with production projections, price changes appear broadly consistent with gradual expansion in supply alongside persistent demand growth. A key driver for prices are commodity yields which experience continued growth over the projection period. Corn yields in Brazil increase by 35.5% over the projection period and by 21.1% in the Rest of the World. The United States as the major corn exporter sees an increase of 15.0% in corn yield over the projection period.

**Table 3a. Commodity Prices by Year and Compound Annual Growth Rate (CAGR), Field Crops**

| Commodity | 2025 | 2030 | 2035 | 2040 | 2045 | 2050 | CAGR |
|---|---|---|---|---|---|---|---|
| Corn | 212.05 | 226.04 | 251.33 | 265.52 | 278.00 | 288.51 | 1.2% |
| Rice | 513.24 | 553.47 | 601.46 | 625.65 | 642.72 | 654.20 | 1% |
| Soybeans | 354.58 | 378.86 | 412.29 | 427.83 | 438.46 | 444.51 | 0.9% |
| Wheat | 260.69 | 280.36 | 308.00 | 326.77 | 342.45 | 355.48 | 1.2% |

Note: Prices in US dollars per metric ton for all commodities except biofuels.

**Table 3b. Commodity Prices by Year and Compound Annual Growth Rate (CAGR), Oilseed Products**

| Commodity | 2025 | 2030 | 2035 | 2040 | 2045 | 2050 | CAGR |
|---|---|---|---|---|---|---|---|
| Soybean Meal | 310.27 | 331.80 | 360.47 | 376.64 | 389.33 | 399.09 | 1% |
| Soybean Oil | 1,045.17 | 1,138.47 | 1,239.24 | 1,297.58 | 1,341.72 | 1,373.99 | 1.1% |

Note: Prices in US dollars per metric ton for all commodities except biofuels.

**Table 3c. Commodity Prices by Year and Compound Annual Growth Rate (CAGR), Livestock Products**

| Commodity | 2025 | 2030 | 2035 | 2040 | 2045 | 2050 | CAGR |
|---|---|---|---|---|---|---|---|
| Beef | 8,830.06 | 9,756.12 | 10,786.00 | 11,426.24 | 11,914.41 | 12,265.44 | 1.3% |
| Broiler | 1,319.59 | 1,433.30 | 1,592.10 | 1,694.74 | 1,780.69 | 1,849.93 | 1.4% |
| Pork | 2,863.81 | 3,080.32 | 3,409.03 | 3,605.75 | 3,763.66 | 3,883.96 | 1.2% |

Note: Prices in US dollars per metric ton for all commodities except biofuels.

**Table 3d. Commodity Prices by Year and Compound Annual Growth Rate (CAGR), Biofuels**

| Commodity | 2025 | 2030 | 2035 | 2040 | 2045 | 2050 | CAGR |
|---|---|---|---|---|---|---|---|
| Biomass-Based Diesel | 1.12 | 1.25 | 1.38 | 1.48 | 1.56 | 1.63 | 1.5% |
| Ethanol | 0.45 | 0.49 | 0.54 | 0.57 | 0.61 | 0.64 | 1.4% |

Note: Prices in US dollars per metric ton for all commodities except biofuels. Biomass-based diesel and ethanol are reported in US dollars per liter.

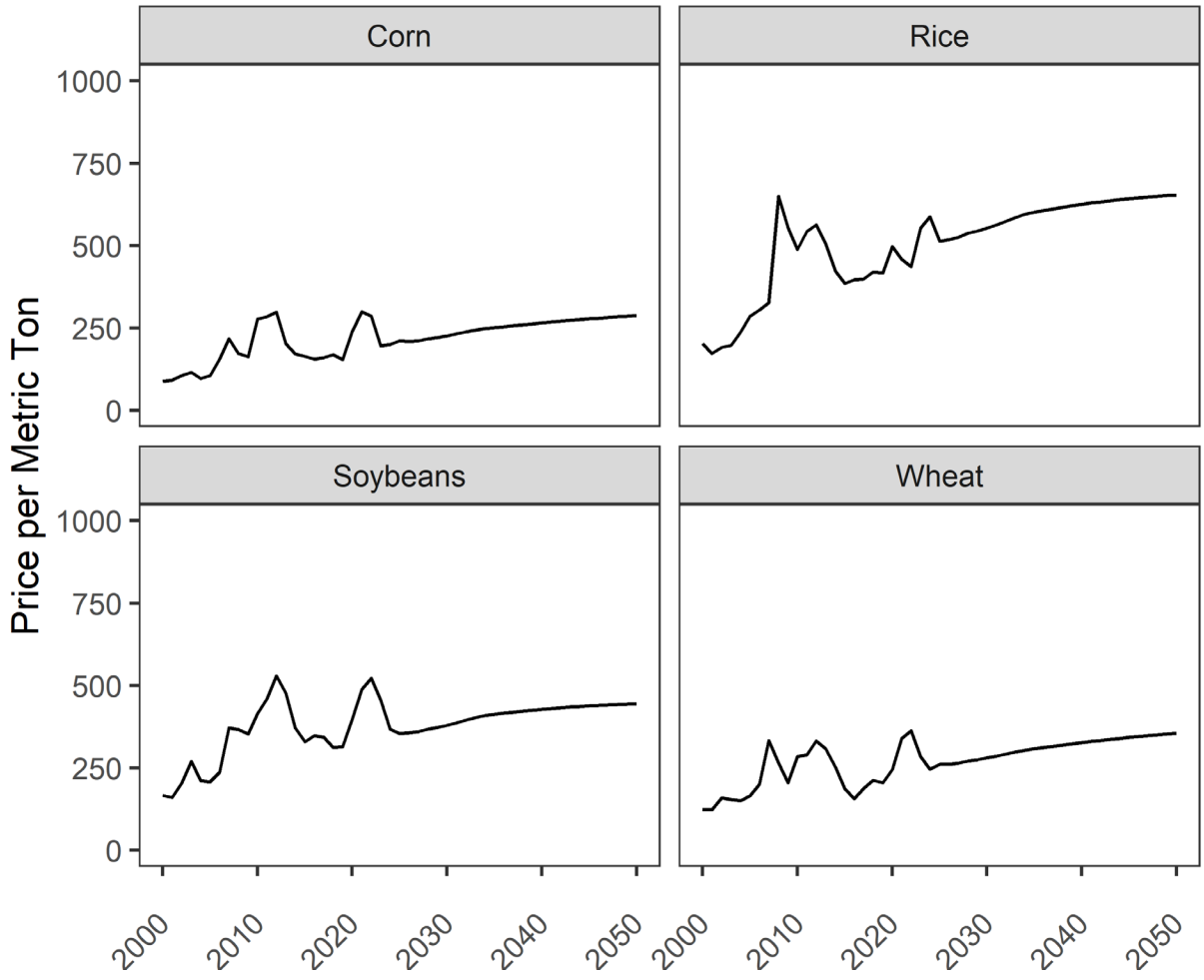


**Figure 1. Historic and future price evolution of field crops.**

## Field Crops

Across field crops, global supply expands faster than harvested area over the entire projection period indicating that production gains are driven primarily by yield growth. Corn production increases by 19.9% globally while harvested area expands by 5.4%. Among major producers, the United States increases corn production by 6.5% even though harvested area declines by 7.4%, implying that higher yields account for the increase in output. Brazil records the highest production increase among large producers, with corn production rising by 59.7%. This growth is supported by both expanding harvested area (17.3%) and substantial improvements in yields (36.1%). The increase in double-cropping (that is, second crop corn following soybeans) is partly responsible for this increase in Brazilian production. China's corn production increases by 11% as harvested area grows modestly by 2.4% and yields improve by 8.4%.

Rice production increases by 16.5% globally while harvested area expands by 6.3%. India accounts for a large share of this growth, with production increasing by 16.1% as both harvested area and yields rise by 3% and 12.7%, respectively. In China, rice production grows more slowly, increasing by 4.5% as harvested area declines slightly by 0.6% while yields continue to improve (5.2%). In the United States, production increases by 13.3% through both higher yields (7.6%) and modest area expansion (5.3%).

Soybean production increases by 17.7% globally while harvested area expands by 6.3%. Brazil remains the largest producer and increases soybean production by 25.8%, supported by continued expansion in harvested area (11.8%) as well as improvements in yields (12.5%). In the United States, soybean production grows more moderately, increasing by 12.7% as harvested area expands while yields rise only slightly (5.5%). Argentina records a production increase of 17%, largely driven by higher yields (11.4%) while harvested area remains nearly unchanged (5%).

Wheat production increases by 13.4% globally alongside a 5.8% expansion in harvested area. India experiences one of the largest increases among major producers, with wheat production rising by 19.3% as both harvested area (11.9%) and yields (6.6%) increase. Production also grows substantially in the United States and Canada, where gains in both harvested area and yields support increases of 20% and 21.6%, respectively. In contrast, wheat production grows more moderately in China and the European Union, increasing by 9.5% and 9.7%, while Russia records a smaller increase of 4.6%.

Domestic consumption expands across all four field crops, with growth generally exceeding the expansion in harvested area reported in the global totals. Global corn consumption increases by 21.9% between 2025 and 2050, led by rapid growth in Brazil where corn consumption rises by 62.5%. Consumption also increases substantially in China by 17.7% and in the United States by 12.3%, with additional growth in India of 16% and Mexico of 17.1%. Global rice consumption increases by 17.0%, driven by India at 15.1% and supported by continued growth in the United States at 18.9%. Rice consumption growth is more moderate in China at 5.4%, while Mexico increases by 27.6% and Russia declines by 3.0%. Global soybean consumption increases by 18.1%, with Brazil showing the strongest rise among large markets at 30.7%, while China increases by 19.8% and the United States by 9.8%, Argentina and India increase by 14.1% and 10.9%, respectively. Global wheat consumption increases by 13.8%, led by India at 24.8% and supported by the United States at 16.8%.

Net export projections indicate continued concentration of trade in a small set of large exporters, with import demand rising most in the Rest of the World aggregate for all four crops. For corn, Brazil strengthens its export position as net exports increase by 49.7%, while Argentina and Ukraine expand exports by 13.8% and 27.3%, respectively. The United States remains a major exporter, but its net exports decrease slightly by 2.0%. Net corn imports increase by 25.6% in the Rest of the World and by 19% in Mexico; China's net corn imports also rise, increasing by 4.3%. For rice, India remains the dominant exporter, with net exports increasing by 22.8%, while US net exports decline by -35.4%. China reduces net rice imports, with net imports declining by 24.8%, but the Rest of the World increases net imports by 29.8%. For soybeans, Brazil's net exports rise by 22.3% and US net exports by 15.2%, while China's net imports increase by 20.8% and the Rest of the World's by 36.5%. Wheat trade expands most among traditional exporters, with net exports increasing by 45.8% in the European Union, 30.4% in Canada, and 14% in Russia, while the Rest of the World increases net imports by 29% and Mexico's net imports rise by 37.1%.

*Corn*

Corn Supply

**Table 4a. Corn Supply, Area Harvested (1,000 hectares)**

| Region | 2025 | 2030 | 2035 | 2040 | 2045 | 2050 |
|---|---|---|---|---|---|---|
| Argentina | 6,726.4 | 7,044.1 | 7,028.7 | 7,005.2 | 6,989.1 | 6,975.5 |
| Australia | 46.9 | 46.9 | 46.7 | 46.0 | 45.3 | 44.5 |
| Brazil | 22,575.8 | 22,944.8 | 23,885.6 | 24,655.4 | 25,546.5 | 26,491.2 |
| Canada | 1,495.7 | 1,503.8 | 1,536.0 | 1,549.1 | 1,565.5 | 1,582.3 |
| China | 43,931.8 | 43,814.1 | 44,253.7 | 44,467.3 | 44,716.6 | 44,975.8 |
| European Union | 8,015.1 | 7,943.5 | 8,062.5 | 8,141.0 | 8,228.3 | 8,315.8 |
| India | 11,256.3 | 11,571.0 | 11,752.1 | 11,921.2 | 12,091.6 | 12,258.5 |
| Mexico | 6,200.1 | 6,282.3 | 6,371.5 | 6,418.3 | 6,471.7 | 6,526.2 |
| Russia | 2,606.0 | 2,613.4 | 2,642.7 | 2,648.2 | 2,659.0 | 2,670.4 |
| Ukraine | 4,461.8 | 4,541.0 | 4,665.3 | 4,724.5 | 4,776.4 | 4,819.8 |
| United States | 35,881.8 | 35,155.7 | 34,998.5 | 34,384.2 | 33,819.7 | 33,230.4 |
| Rest of the World | 60,568.7 | 61,610.4 | 63,259.6 | 64,415.3 | 65,634.9 | 66,858.2 |

**Table 4b. Corn Supply, Production (1,000 metric tons)**

| Region | 2025 | 2030 | 2035 | 2040 | 2045 | 2050 |
|---|---|---|---|---|---|---|
| Argentina | 51,318.5 | 54,332.0 | 54,924.1 | 55,718.5 | 56,480.1 | 57,268.4 |
| Australia | 368.2 | 381.9 | 392.3 | 401.4 | 409.6 | 417.1 |
| Brazil | 134,086.5 | 144,498.9 | 159,558.0 | 176,555.2 | 194,553.8 | 214,168.2 |
| Canada | 15,452.4 | 15,713.4 | 16,196.1 | 16,585.5 | 16,994.8 | 17,414.1 |
| China | 286,757.8 | 290,349.7 | 296,390.4 | 303,719.6 | 310,947.0 | 318,332.8 |
| European Union | 54,864.0 | 54,611.4 | 55,686.1 | 57,153.8 | 58,590.1 | 60,054.7 |
| India | 42,772.4 | 44,752.3 | 45,857.7 | 47,186.9 | 48,467.7 | 49,756.6 |
| Mexico | 24,203.4 | 25,030.9 | 25,824.5 | 26,730.7 | 27,631.9 | 28,551.9 |
| Russia | 15,906.4 | 16,210.3 | 16,560.0 | 16,899.2 | 17,238.6 | 17,586.6 |
| Ukraine | 32,192.6 | 33,002.8 | 33,990.0 | 34,825.7 | 35,552.2 | 36,228.8 |
| United States | 419,258.1 | 410,233.3 | 421,509.4 | 430,604.9 | 439,070.1 | 446,718.5 |
| Rest of the World | 323,104.0 | 341,523.4 | 362,959.3 | 385,516.1 | 408,398.3 | 431,930.4 |

**Table 4c. Corn Supply, Yield (metric tons per hectare)**

| Region | 2025 | 2030 | 2035 | 2040 | 2045 | 2050 |
|---|---|---|---|---|---|---|
| Argentina | 7.6 | 7.7 | 7.8 | 8.0 | 8.1 | 8.2 |
| Australia | 7.8 | 8.1 | 8.4 | 8.7 | 9.1 | 9.4 |
| Brazil | 5.9 | 6.3 | 6.7 | 7.2 | 7.6 | 8.1 |
| Canada | 10.3 | 10.4 | 10.5 | 10.7 | 10.9 | 11.0 |
| China | 6.5 | 6.6 | 6.7 | 6.8 | 7.0 | 7.1 |
| European Union | 6.8 | 6.9 | 6.9 | 7.0 | 7.1 | 7.2 |
| India | 3.8 | 3.9 | 3.9 | 4.0 | 4.0 | 4.1 |
| Mexico | 3.9 | 4.0 | 4.1 | 4.2 | 4.3 | 4.4 |
| Russia | 6.1 | 6.2 | 6.3 | 6.4 | 6.5 | 6.6 |
| Ukraine | 7.2 | 7.3 | 7.3 | 7.4 | 7.4 | 7.5 |
| United States | 11.7 | 11.7 | 12.0 | 12.5 | 13.0 | 13.4 |
| Rest of the World | 5.3 | 5.5 | 5.7 | 6.0 | 6.2 | 6.5 |

Corn Demand

**Table 5a. Corn Demand, Domestic Consumption (1,000 metric tons)**

| Region | 2025 | 2030 | 2035 | 2040 | 2045 | 2050 |
|---|---|---|---|---|---|---|
| Argentina | 14,942.5 | 15,318.0 | 15,556.3 | 15,858.8 | 16,156.6 | 16,453.3 |
| Australia | 251.4 | 257.6 | 258.9 | 263.3 | 268.3 | 273.6 |
| Brazil | 95,141.9 | 105,328.9 | 114,905.0 | 126,514.7 | 139,653.2 | 154,561.0 |
| Canada | 15,169.1 | 15,416.5 | 15,574.9 | 15,789.0 | 15,986.9 | 16,186.2 |
| China | 291,945.8 | 304,542.2 | 314,014.4 | 324,331.8 | 334,049.5 | 343,591.0 |
| European Union | 77,801.9 | 79,650.4 | 80,559.9 | 81,703.0 | 82,726.1 | 83,694.2 |
| India | 42,225.3 | 44,142.8 | 45,308.1 | 46,549.7 | 47,756.5 | 48,983.9 |
| Mexico | 46,052.7 | 48,113.1 | 49,546.2 | 51,080.8 | 52,516.1 | 53,917.7 |
| Russia | 10,083.1 | 10,327.9 | 10,466.9 | 10,618.8 | 10,738.2 | 10,835.2 |
| Ukraine | 5,896.5 | 6,000.4 | 6,000.2 | 6,044.8 | 6,079.1 | 6,105.3 |
| United States | 324,736.2 | 334,495.1 | 341,565.4 | 349,564.6 | 357,181.8 | 364,709.0 |
| Rest of the World | 292,781.6 | 313,363.1 | 330,883.8 | 348,936.9 | 366,568.5 | 384,043.9 |

**Table 5b. Corn Demand, Net Exports (1,000 metric tons)**

| Region | 2025 | 2030 | 2035 | 2040 | 2045 | 2050 |
|---|---|---|---|---|---|---|
| Argentina | 35,841.8 | 38,985.6 | 39,355.0 | 39,850.0 | 40,308.9 | 40,797.6 |
| Australia | 121.0 | 124.2 | 133.2 | 138.0 | 141.2 | 143.2 |
| Brazil | 39,825.0 | 39,182.9 | 44,661.3 | 50,044.8 | 54,911.4 | 59,619.4 |
| Canada | -261.2 | 304.8 | 617.7 | 794.3 | 1,005.8 | 1,225.8 |
| China | -23,821.7 | -12,425.8 | -17,789.8 | -20,277.1 | -22,679.1 | -24,853.2 |
| European Union | -23,390.1 | -25,028.2 | -24,911.2 | -24,568.7 | -24,153.7 | -23,656.7 |
| India | 140.0 | 590.0 | 541.3 | 630.3 | 704.4 | 764.0 |
| Mexico | -21,323.1 | -23,090.0 | -23,716.3 | -24,354.2 | -24,885.5 | -25,365.5 |
| Russia | 5,807.0 | 5,885.7 | 6,090.7 | 6,280.4 | 6,500.4 | 6,751.3 |
| Ukraine | 23,579.7 | 26,789.8 | 27,911.5 | 28,686.2 | 29,382.1 | 30,025.7 |
| United States | 83,652.5 | 75,795.8 | 79,898.7 | 80,997.6 | 81,851.5 | 81,975.3 |
| Rest of the World | -106,327.9 | -113,271.9 | -118,949.1 | -124,378.4 | -129,244.4 | -133,583.8 |

*Rice*

Rice Supply

**Table 6a. Rice Supply, Area Harvested (1,000 hectares)**

| Region | 2025 | 2030 | 2035 | 2040 | 2045 | 2050 |
|---|---|---|---|---|---|---|
| Argentina | 197.5 | 189.4 | 188.1 | 184.7 | 181.2 | 177.9 |
| Australia | 39.7 | 40.3 | 41.1 | 41.3 | 41.6 | 41.8 |
| Brazil | 1,580.9 | 1,437.6 | 1,436.3 | 1,410.9 | 1,385.0 | 1,359.1 |
| China | 29,254.9 | 29,519.0 | 29,226.2 | 29,195.4 | 29,138.4 | 29,073.6 |
| European Union | 371.9 | 375.9 | 381.2 | 385.4 | 389.5 | 393.6 |
| India | 50,141.3 | 50,740.1 | 51,063.1 | 51,255.4 | 51,459.6 | 51,666.9 |
| Mexico | 33.2 | 33.0 | 33.3 | 33.2 | 33.2 | 33.2 |
| Russia | 205.4 | 206.6 | 206.8 | 206.6 | 206.4 | 206.3 |
| Ukraine | 2.8 | 2.9 | 2.9 | 2.9 | 2.9 | 2.9 |
| United States | 1,078.3 | 1,078.9 | 1,096.1 | 1,108.8 | 1,122.0 | 1,135.6 |
| Rest of the World | 86,279.8 | 88,244.1 | 90,534.0 | 92,245.5 | 93,993.8 | 95,754.1 |

**Table 6b. Rice Supply, Production (1,000 metric tons)**

| Region | 2025 | 2030 | 2035 | 2040 | 2045 | 2050 |
|---|---|---|---|---|---|---|
| Argentina | 876.8 | 846.7 | 848.9 | 842.2 | 834.4 | 827.1 |
| Australia | 312.1 | 325.0 | 339.1 | 349.6 | 359.7 | 369.7 |
| Brazil | 7,401.8 | 6,819.4 | 6,907.8 | 6,889.4 | 6,859.8 | 6,825.0 |
| China | 146,945.9 | 149,476.7 | 149,531.9 | 151,067.9 | 152,366.4 | 153,596.3 |
| European Union | 1,514.7 | 1,566.9 | 1,635.0 | 1,702.1 | 1,769.0 | 1,836.4 |
| India | 146,623.6 | 152,028.5 | 156,770.8 | 161,276.3 | 165,741.1 | 170,215.8 |
| Mexico | 157.6 | 159.0 | 162.4 | 164.7 | 167.0 | 169.3 |
| Russia | 770.4 | 780.5 | 788.1 | 795.1 | 801.7 | 808.4 |
| Ukraine | 9.4 | 10.0 | 10.3 | 10.7 | 11.1 | 11.5 |
| United States | 6,323.8 | 6,403.6 | 6,601.8 | 6,788.1 | 6,975.9 | 7,167.6 |
| Rest of the World | 223,438.3 | 234,062.8 | 246,381.5 | 257,571.3 | 269,017.8 | 280,730.0 |

**Table 6c. Rice Supply, Yield (metric tons per hectare)**

| Region | 2025 | 2030 | 2035 | 2040 | 2045 | 2050 |
|---|---|---|---|---|---|---|
| Argentina | 4.4 | 4.5 | 4.5 | 4.6 | 4.6 | 4.6 |
| Australia | 7.9 | 8.1 | 8.3 | 8.5 | 8.7 | 8.9 |
| Brazil | 4.7 | 4.7 | 4.8 | 4.9 | 5.0 | 5.0 |
| China | 5.0 | 5.1 | 5.1 | 5.2 | 5.2 | 5.3 |
| European Union | 4.1 | 4.2 | 4.3 | 4.4 | 4.5 | 4.7 |
| India | 2.9 | 3.0 | 3.1 | 3.1 | 3.2 | 3.3 |
| Mexico | 4.7 | 4.8 | 4.9 | 5.0 | 5.0 | 5.1 |
| Russia | 3.8 | 3.8 | 3.8 | 3.8 | 3.9 | 3.9 |
| Ukraine | 3.4 | 3.5 | 3.6 | 3.7 | 3.8 | 4.0 |
| United States | 5.9 | 5.9 | 6.0 | 6.1 | 6.2 | 6.3 |
| Rest of the World | 2.6 | 2.7 | 2.7 | 2.8 | 2.9 | 2.9 |

Rice Demand

**Table 7a. Rice Demand, Domestic Consumption (1,000 metric tons)**

| Region | 2025 | 2030 | 2035 | 2040 | 2045 | 2050 |
|---|---|---|---|---|---|---|
| Argentina | 505.5 | 526.5 | 551.2 | 576.4 | 601.0 | 625.2 |
| Australia | 403.5 | 428.2 | 452.5 | 477.9 | 503.2 | 528.6 |
| Brazil | 7,169.3 | 7,239.7 | 7,331.2 | 7,422.4 | 7,509.0 | 7,594.3 |
| Canada | 445.7 | 463.5 | 480.4 | 499.0 | 517.7 | 536.5 |
| China | 148,891.2 | 151,978.5 | 153,255.8 | 154,710.0 | 155,942.5 | 157,003.2 |
| European Union | 3,521.1 | 3,547.9 | 3,578.4 | 3,617.3 | 3,654.6 | 3,690.1 |
| India | 123,760.7 | 128,586.0 | 132,542.2 | 135,954.4 | 139,207.5 | 142,482.9 |
| Mexico | 1,003.2 | 1,058.6 | 1,114.4 | 1,170.4 | 1,225.5 | 1,280.2 |
| Russia | 899.4 | 900.0 | 889.7 | 884.8 | 879.0 | 872.2 |
| Ukraine | 114.8 | 135.1 | 146.5 | 150.4 | 152.9 | 154.5 |
| United States | 5,260.6 | 5,454.6 | 5,641.0 | 5,844.7 | 6,048.7 | 6,253.2 |
| Rest of the World | 235,926.8 | 247,926.7 | 259,385.9 | 271,597.9 | 284,075.1 | 296,871.3 |

**Table 7b. Rice Demand, Net Exports (1,000 metric tons)**

| Region | 2025 | 2030 | 2035 | 2040 | 2045 | 2050 |
|---|---|---|---|---|---|---|
| Argentina | 385.4 | 317.8 | 296.7 | 264.8 | 232.1 | 200.3 |
| Australia | -83.7 | -104.4 | -114.3 | -129.5 | -144.7 | -160.0 |
| Brazil | 672.3 | -421.8 | -423.1 | -534.0 | -649.6 | -769.5 |
| Canada | -445.7 | -463.5 | -480.4 | -499.0 | -517.7 | -536.5 |
| China | -4,519.1 | -2,100.9 | -3,844.5 | -3,652.1 | -3,561.6 | -3,397.3 |
| European Union | -1,898.8 | -1,982.7 | -1,947.5 | -1,918.5 | -1,888.9 | -1,857.0 |
| India | 22,426.0 | 23,069.8 | 24,094.0 | 25,166.8 | 26,373.3 | 27,545.3 |
| Mexico | -862.9 | -900.4 | -951.9 | -1,006.1 | -1,058.9 | -1,111.2 |
| Russia | -76.5 | -119.4 | -102.2 | -90.0 | -77.6 | -64.2 |
| Ukraine | -105.4 | -125.0 | -136.2 | -139.7 | -141.8 | -143.0 |
| United States | 1,410.2 | 946.7 | 958.3 | 939.7 | 923.4 | 910.7 |
| Rest of the World | -12,464.8 | -13,679.2 | -12,911.9 | -13,965.3 | -15,051.0 | -16,180.8 |

*Soybeans*

Soybeans Supply

**Table 8a. Soybean Supply, Area Harvested (1,000 hectares)**

| Region | 2025 | 2030 | 2035 | 2040 | 2045 | 2050 |
|---|---|---|---|---|---|---|
| Argentina | 16,254.3 | 16,363.3 | 16,600.6 | 16,768.9 | 16,922.1 | 17,059.7 |
| Australia | 25.2 | 24.1 | 24.3 | 24.5 | 24.6 | 24.7 |
| Brazil | 48,597.0 | 50,107.5 | 51,451.7 | 52,421.2 | 53,380.5 | 54,312.3 |
| Canada | 2,299.5 | 2,304.4 | 2,324.0 | 2,328.4 | 2,332.3 | 2,334.6 |
| China | 10,510.5 | 10,895.6 | 10,918.0 | 10,859.7 | 10,780.0 | 10,689.9 |
| European Union | 1,180.7 | 1,197.1 | 1,213.8 | 1,228.4 | 1,243.1 | 1,257.6 |
| India | 13,276.2 | 13,217.2 | 13,105.7 | 13,018.9 | 12,941.5 | 12,867.9 |
| Mexico | 133.8 | 133.3 | 134.5 | 134.3 | 134.2 | 134.0 |
| Russia | 3,532.7 | 3,330.7 | 3,356.0 | 3,340.7 | 3,328.6 | 3,316.4 |
| Ukraine | 1,805.5 | 1,719.6 | 1,770.0 | 1,803.0 | 1,834.2 | 1,864.1 |
| United States | 33,045.6 | 33,639.0 | 34,076.4 | 34,506.5 | 34,910.2 | 35,310.9 |
| Rest of the World | 12,686.2 | 12,757.6 | 12,906.1 | 12,984.2 | 13,068.8 | 13,152.5 |

**Table 8b. Soybean Supply, Production (1,000 metric tons)**

| Region | 2025 | 2030 | 2035 | 2040 | 2045 | 2050 |
|---|---|---|---|---|---|---|
| Argentina | 48,105.9 | 49,300.1 | 51,057.3 | 52,843.7 | 54,574.2 | 56,268.0 |
| Australia | 45.9 | 45.4 | 47.0 | 49.2 | 51.2 | 53.3 |
| Brazil | 174,102.2 | 183,425.7 | 192,208.5 | 201,094.1 | 210,006.0 | 218,963.9 |
| Canada | 7,296.6 | 7,390.8 | 7,514.0 | 7,640.5 | 7,761.3 | 7,876.4 |
| China | 20,981.2 | 21,826.8 | 21,893.4 | 22,041.0 | 22,115.6 | 22,162.1 |
| European Union | 3,083.1 | 3,213.9 | 3,357.1 | 3,523.4 | 3,690.4 | 3,858.9 |
| India | 12,365.1 | 12,491.3 | 12,542.1 | 12,685.9 | 12,828.8 | 12,971.3 |
| Mexico | 269.2 | 274.3 | 282.5 | 288.9 | 295.2 | 301.3 |
| Russia | 6,117.2 | 5,786.3 | 5,820.5 | 5,831.5 | 5,843.2 | 5,854.1 |
| Ukraine | 4,333.8 | 4,116.3 | 4,213.9 | 4,305.6 | 4,390.2 | 4,472.2 |
| United States | 116,544.4 | 119,568.4 | 121,959.6 | 125,179.1 | 128,261.1 | 131,355.6 |
| Rest of the World | 26,453.8 | 26,902.7 | 27,577.4 | 28,283.9 | 28,994.7 | 29,705.1 |

**Table 8c. Soybean Supply, Yield (metric tons per hectare)**

| Region | 2025 | 2030 | 2035 | 2040 | 2045 | 2050 |
|---|---|---|---|---|---|---|
| Argentina | 3.0 | 3.0 | 3.1 | 3.2 | 3.2 | 3.3 |
| Australia | 1.8 | 1.9 | 1.9 | 2.0 | 2.1 | 2.2 |
| Brazil | 3.6 | 3.7 | 3.7 | 3.8 | 3.9 | 4.0 |
| Canada | 3.2 | 3.2 | 3.2 | 3.3 | 3.3 | 3.4 |
| China | 2.0 | 2.0 | 2.0 | 2.0 | 2.1 | 2.1 |
| European Union | 2.6 | 2.7 | 2.8 | 2.9 | 3.0 | 3.1 |
| India | 0.9 | 0.9 | 1.0 | 1.0 | 1.0 | 1.0 |
| Mexico | 2.0 | 2.1 | 2.1 | 2.2 | 2.2 | 2.2 |
| Russia | 1.7 | 1.7 | 1.7 | 1.7 | 1.8 | 1.8 |
| Ukraine | 2.4 | 2.4 | 2.4 | 2.4 | 2.4 | 2.4 |
| United States | 3.5 | 3.6 | 3.6 | 3.6 | 3.7 | 3.7 |
| Rest of the World | 2.1 | 2.1 | 2.1 | 2.2 | 2.2 | 2.3 |

Soybeans Demand

**Table 9a. Soybeans Demand, Domestic Consumption (1,000 metric tons)**

| Region | 2025 | 2030 | 2035 | 2040 | 2045 | 2050 |
|---|---|---|---|---|---|---|
| Argentina | 49,098.6 | 51,002.4 | 52,497.9 | 53,768.4 | 54,962.0 | 56,020.8 |
| Australia | 42.0 | 41.9 | 41.5 | 41.3 | 41.1 | 41.0 |
| Brazil | 62,510.5 | 66,790.7 | 69,712.6 | 73,604.3 | 77,582.3 | 81,716.5 |
| Canada | 2,407.3 | 2,416.9 | 2,415.3 | 2,424.8 | 2,434.9 | 2,447.2 |
| China | 132,308.6 | 136,645.9 | 142,123.2 | 147,665.6 | 153,080.9 | 158,448.8 |
| European Union | 16,468.5 | 16,633.2 | 16,893.3 | 17,186.5 | 17,470.7 | 17,765.6 |
| India | 12,573.4 | 12,777.2 | 12,885.6 | 13,230.6 | 13,584.1 | 13,946.9 |
| Mexico | 6,460.8 | 6,932.5 | 7,135.8 | 7,395.7 | 7,670.5 | 7,957.0 |
| Russia | 6,004.4 | 6,049.4 | 6,111.4 | 6,186.1 | 6,260.2 | 6,338.2 |
| Ukraine | 1,517.3 | 1,402.0 | 1,325.7 | 1,309.0 | 1,297.3 | 1,288.5 |
| United States | 70,983.6 | 72,709.7 | 73,927.8 | 75,271.7 | 76,588.3 | 77,928.4 |
| Rest of the World | 52,000.2 | 54,265.4 | 56,654.6 | 58,959.1 | 61,105.2 | 63,162.9 |

**Table 9b. Soybeans Demand, Net Exports (1,000 metric tons)**

| Region | 2025 | 2030 | 2035 | 2040 | 2045 | 2050 |
|---|---|---|---|---|---|---|
| Argentina | -2,458.3 | -1,991.0 | -1,572.2 | -1,049.9 | -557.6 | 45.9 |
| Australia | 4.0 | 3.5 | 5.5 | 7.9 | 10.1 | 12.3 |
| Brazil | 112,220.6 | 116,592.8 | 122,486.4 | 127,439.2 | 132,399.1 | 137,223.1 |
| Canada | 4,950.7 | 4,974.3 | 5,097.3 | 5,214.4 | 5,324.9 | 5,427.6 |
| China | -112,906.5 | -114,803.0 | -120,455.7 | -125,779.7 | -131,101.8 | -136,425.0 |
| European Union | -13,212.6 | -13,422.2 | -13,545.7 | -13,670.3 | -13,787.5 | -13,914.2 |
| India | -503.0 | -297.6 | -348.7 | -550.1 | -760.9 | -982.4 |
| Mexico | -6,298.5 | -6,661.0 | -6,853.4 | -7,108.5 | -7,376.7 | -7,657.0 |
| Russia | 276.4 | -262.8 | -292.6 | -355.5 | -418.0 | -485.2 |
| Ukraine | 2,461.9 | 2,680.6 | 2,875.3 | 2,980.4 | 3,076.9 | 3,166.1 |
| United States | 46,335.1 | 46,846.6 | 48,009.3 | 49,879.8 | 51,644.8 | 53,397.7 |
| Rest of the World | -24,517.9 | -27,308.4 | -29,053.6 | -30,655.7 | -32,101.4 | -33,456.9 |

*Wheat*

Wheat Supply

**Table 10a. Wheat Supply, Area Harvested (1,000 hectares)**

| Region | 2025 | 2030 | 2035 | 2040 | 2045 | 2050 |
|---|---|---|---|---|---|---|
| Argentina | 6,643.7 | 6,701.4 | 6,773.8 | 6,763.2 | 6,756.8 | 6,749.8 |
| Australia | 13,032.1 | 13,228.2 | 13,495.3 | 13,602.2 | 13,713.0 | 13,816.7 |
| Brazil | 2,887.5 | 3,222.5 | 3,497.2 | 3,590.4 | 3,720.8 | 3,849.9 |
| Canada | 10,963.8 | 11,108.2 | 11,276.0 | 11,387.6 | 11,501.6 | 11,614.7 |
| China | 24,332.5 | 24,366.7 | 24,747.0 | 24,874.9 | 25,025.4 | 25,180.2 |
| European Union | 23,862.6 | 24,237.1 | 24,520.9 | 24,764.8 | 25,011.1 | 25,256.5 |
| India | 33,089.6 | 33,714.2 | 35,078.5 | 35,708.3 | 36,374.2 | 37,026.6 |
| Mexico | 434.9 | 430.8 | 432.4 | 432.9 | 433.5 | 434.1 |
| Russia | 27,529.6 | 27,505.5 | 27,742.4 | 27,755.5 | 27,794.7 | 27,837.4 |
| Ukraine | 5,203.3 | 5,203.6 | 5,417.6 | 5,459.9 | 5,498.3 | 5,527.4 |
| United States | 15,419.1 | 15,659.7 | 16,009.9 | 16,221.9 | 16,469.2 | 16,721.6 |
| Rest of the World | 62,467.6 | 62,489.8 | 63,219.3 | 63,793.4 | 64,374.5 | 64,955.1 |

**Table 10b. Wheat Supply, Production (1,000 metric tons)**

| Region | 2025 | 2030 | 2035 | 2040 | 2045 | 2050 |
|---|---|---|---|---|---|---|
| Argentina | 17,903.3 | 18,266.5 | 18,643.1 | 18,977.7 | 19,308.3 | 19,635.4 |
| Australia | 32,602.4 | 33,907.9 | 34,914.4 | 35,933.4 | 36,933.9 | 37,923.5 |
| Brazil | 8,179.6 | 9,445.1 | 10,522.8 | 11,206.3 | 12,002.3 | 12,823.6 |
| Canada | 36,367.5 | 37,868.0 | 39,366.6 | 40,973.5 | 42,587.8 | 44,219.3 |
| China | 143,352.4 | 145,359.1 | 148,456.4 | 151,232.4 | 154,051.8 | 156,913.7 |
| European Union | 132,793.4 | 135,896.8 | 137,711.6 | 140,383.1 | 143,008.3 | 145,647.3 |
| India | 117,753.0 | 121,783.7 | 127,567.5 | 131,783.5 | 136,098.4 | 140,423.2 |
| Mexico | 2,469.5 | 2,468.0 | 2,477.5 | 2,502.6 | 2,527.4 | 2,552.4 |
| Russia | 85,680.2 | 86,373.4 | 87,205.8 | 88,003.9 | 88,809.4 | 89,623.9 |
| Ukraine | 23,520.9 | 23,813.5 | 24,920.1 | 25,402.1 | 25,854.0 | 26,264.5 |
| United States | 53,461.7 | 55,436.9 | 57,666.3 | 59,748.6 | 61,925.6 | 64,164.4 |
| Rest of the World | 152,594.2 | 155,768.1 | 159,714.3 | 164,535.3 | 169,346.7 | 174,208.6 |

**Table 10c. Wheat Supply, Yield (metric tons per hectare)**

| Region | 2025 | 2030 | 2035 | 2040 | 2045 | 2050 |
|---|---|---|---|---|---|---|
| Argentina | 2.7 | 2.7 | 2.8 | 2.8 | 2.9 | 2.9 |
| Australia | 2.5 | 2.6 | 2.6 | 2.6 | 2.7 | 2.7 |
| Brazil | 2.8 | 2.9 | 3.0 | 3.1 | 3.2 | 3.3 |
| Canada | 3.3 | 3.4 | 3.5 | 3.6 | 3.7 | 3.8 |
| China | 5.9 | 6.0 | 6.0 | 6.1 | 6.2 | 6.2 |
| European Union | 5.6 | 5.6 | 5.6 | 5.7 | 5.7 | 5.8 |
| India | 3.6 | 3.6 | 3.6 | 3.7 | 3.7 | 3.8 |
| Mexico | 5.7 | 5.7 | 5.7 | 5.8 | 5.8 | 5.9 |
| Russia | 3.1 | 3.1 | 3.1 | 3.2 | 3.2 | 3.2 |
| Ukraine | 4.5 | 4.6 | 4.6 | 4.7 | 4.7 | 4.8 |
| United States | 3.5 | 3.5 | 3.6 | 3.7 | 3.8 | 3.8 |
| Rest of the World | 2.4 | 2.5 | 2.5 | 2.6 | 2.6 | 2.7 |

Wheat Demand

**Table 11a. Wheat Demand, Domestic Consumption (1,000 metric tons)**

| Region | 2025 | 2030 | 2035 | 2040 | 2045 | 2050 |
|---|---|---|---|---|---|---|
| Argentina | 7,188.4 | 7,475.0 | 7,777.0 | 8,101.1 | 8,422.9 | 8,754.3 |
| Australia | 8,110.2 | 8,381.3 | 8,657.5 | 8,926.5 | 9,201.2 | 9,481.1 |
| Brazil | 12,765.2 | 13,290.6 | 13,851.0 | 14,315.4 | 14,741.9 | 15,145.6 |
| Canada | 9,215.8 | 9,524.7 | 9,818.1 | 10,098.6 | 10,373.3 | 10,644.5 |
| China | 156,965.9 | 157,188.7 | 159,961.2 | 162,109.3 | 163,952.4 | 165,581.6 |
| European Union | 107,743.9 | 108,420.1 | 108,644.3 | 108,730.2 | 108,827.1 | 108,914.6 |
| India | 114,151.0 | 120,911.4 | 127,217.9 | 132,541.8 | 137,562.8 | 142,442.0 |
| Mexico | 7,905.6 | 8,260.5 | 8,699.0 | 9,098.3 | 9,477.4 | 9,845.6 |
| Russia | 40,965.4 | 40,510.0 | 40,078.4 | 39,550.2 | 38,999.2 | 38,424.5 |
| Ukraine | 7,698.3 | 8,203.8 | 8,425.4 | 8,397.5 | 8,318.9 | 8,210.5 |
| United States | 32,237.0 | 33,367.7 | 34,437.4 | 35,516.5 | 36,582.4 | 37,641.5 |
| Rest of the World | 286,522.2 | 298,058.4 | 308,052.4 | 319,842.1 | 332,416.8 | 345,608.8 |

**Table 11b. Wheat Demand, Exports (1,000 metric tons)**

| Region | 2025 | 2030 | 2035 | 2040 | 2045 | 2050 |
|---|---|---|---|---|---|---|
| Argentina | 11,869.4 | 10,752.2 | 10,854.8 | 10,866.3 | 10,869.0 | 10,861.2 |
| Australia | 24,802.6 | 25,508.7 | 26,245.6 | 26,992.1 | 27,718.1 | 28,427.8 |
| Brazil | -4,089.8 | -3,845.9 | -3,324.5 | -3,107.7 | -2,736.9 | -2,319.0 |
| Canada | 25,752.9 | 28,353.2 | 29,544.4 | 30,870.3 | 32,209.6 | 33,569.4 |
| China | -13,563.4 | -11,263.9 | -11,493.6 | -10,715.6 | -9,715.4 | -8,493.1 |
| European Union | 25,172.9 | 27,465.9 | 29,018.5 | 31,623.7 | 34,152.5 | 36,704.4 |
| India | -694.5 | 756.0 | 322.5 | -787.9 | -1,495.3 | -2,059.0 |
| Mexico | -5,318.1 | -5,794.7 | -6,220.1 | -6,596.2 | -6,950.1 | -7,293.1 |
| Russia | 44,915.6 | 45,884.9 | 47,106.0 | 48,456.9 | 49,810.3 | 51,197.6 |
| Ukraine | 15,013.2 | 15,395.1 | 16,422.9 | 16,913.4 | 17,446.9 | 17,958.9 |
| United States | 22,669.5 | 22,060.1 | 23,222.7 | 24,213.0 | 25,324.1 | 26,504.5 |
| Rest of the World | -132,742.2 | -141,483.5 | -147,911.1 | -154,940.4 | -162,844.7 | -171,271.7 |

## Oilseed Products

Global soybean meal production increases from 278.7 to 328.6 million metric tons between 2025 and 2050, representing growth of 17.9%. Soybean oil follows a similar trajectory, rising from about 68.8 to 81.2 million metric tons, an increase of 18.1%. These steady gains suggest that expansion in crushing capacity largely follows gradual increases in upstream soybean supply and sustained demand for feed and vegetable oil products.

Soybean meal consumption increases across all major regions except Russia and Ukraine, with particularly strong growth in large livestock-producing countries. China remains the dominant consumer, with domestic soybean meal consumption increasing by 19.2% between 2025 and 2050. Consumption also grows substantially in Brazil and the United States, increasing by 41.1% and 13.3%, respectively, as livestock production continues to expand. Additional growth occurs in India and the Rest of the World, where soybean meal consumption rises by 20.1% and 23.5%. These increases reflect the continued role of soybean meal as a central input in global feed markets.

Global soybean oil demand is supported by both food consumption and industrial uses. In the United States, domestic soybean oil consumption increases by 12.4% over the projection period, while Brazil records a larger increase of 32.1%. India shows the strongest growth among major consumers, with soybean oil consumption rising by 15.6%, reflecting continued expansion in edible oil demand. China also records steady growth, with domestic consumption increasing by 19.1%.

Growth in soybean meal and soybean oil production occurs primarily in countries with large soybean crushing industries. China increases soybean meal production by 17.3%, while Brazil and the United States record increases of 32.1% and 10.1%, respectively. Soybean oil production follows a similar pattern, with increases of 18.1% globally and strong growth in Brazil and India. Overall, the projections indicate that oilseed product markets expand steadily across both developed and emerging economies, with demand growth closely linked to livestock production and food consumption trends.

*Soybean Meal*

**Table 12a. Soybean Meal, Production (1,000 metric tons)**

| Region | 2025 | 2030 | 2035 | 2040 | 2045 | 2050 |
|---|---|---|---|---|---|---|
| Argentina | 32,328 | 33,763 | 34,910 | 35,807 | 36,641 | 37,351 |
| Australia | 33 | 33 | 33 | 33 | 32 | 32 |
| Brazil | 45,032 | 48,250 | 50,419 | 53,346 | 56,349 | 59,475 |
| Canada | 1,188 | 1,186 | 1,184 | 1,186 | 1,188 | 1,192 |
| China | 84,877 | 87,232 | 90,302 | 93,422 | 96,477 | 99,525 |
| European Union | 11,688 | 11,760 | 11,937 | 12,132 | 12,320 | 12,518 |
| India | 8,310 | 8,388 | 8,420 | 8,651 | 8,891 | 9,136 |
| Mexico | 5,050 | 5,423 | 5,584 | 5,789 | 6,005 | 6,231 |
| Russia | 4,177 | 4,189 | 4,230 | 4,277 | 4,323 | 4,373 |
| Ukraine | 991 | 870 | 786 | 760 | 738 | 718 |
| United States | 53,803 | 55,157 | 56,119 | 57,165 | 58,190 | 59,233 |
| Rest of the World | 31,255 | 32,761 | 34,492 | 36,079 | 37,519 | 38,863 |

**Table 12b. Soybean Meal, Consumption (1,000 metric tons)**

| Region | 2025 | 2030 | 2035 | 2040 | 2045 | 2050 |
|---|---|---|---|---|---|---|
| Argentina | 3,469 | 3,504 | 3,557 | 3,631 | 3,710 | 3,793 |
| Australia | 943 | 960 | 979 | 1,001 | 1,025 | 1,049 |
| Brazil | 21,640 | 23,799 | 25,423 | 27,147 | 28,840 | 30,532 |
| Canada | 2,431 | 2,463 | 2,494 | 2,536 | 2,574 | 2,612 |
| China | 81,428 | 84,801 | 87,742 | 90,992 | 94,075 | 97,096 |
| European Union | 30,055 | 30,330 | 30,315 | 30,375 | 30,429 | 30,481 |
| India | 7,201 | 7,567 | 7,850 | 8,124 | 8,388 | 8,648 |
| Mexico | 7,620 | 7,747 | 7,952 | 8,146 | 8,322 | 8,487 |
| Russia | 3,947 | 3,944 | 3,941 | 3,943 | 3,940 | 3,932 |
| Ukraine | 726 | 738 | 735 | 730 | 725 | 722 |
| United States | 38,041 | 39,071 | 39,999 | 41,043 | 42,065 | 43,093 |
| Rest of the World | 74,459 | 77,876 | 81,200 | 84,749 | 88,341 | 91,949 |

**Table 12c. Soybean Meal, Net Exports (1,000 metric tons)**

| Region | 2025 | 2030 | 2035 | 2040 | 2045 | 2050 |
|---|---|---|---|---|---|---|
| Argentina | 28,983 | 30,225 | 31,338 | 32,163 | 32,913 | 33,538 |
| Australia | -898 | -927 | -946 | -969 | -992 | -1,016 |
| Brazil | 22,105 | 24,447 | 24,995 | 26,196 | 27,509 | 28,945 |
| Canada | -1,301 | -1,277 | -1,311 | -1,350 | -1,386 | -1,420 |
| China | 3,396 | 2,436 | 2,557 | 2,430 | 2,403 | 2,429 |
| European Union | -17,986 | -18,572 | -18,384 | -18,246 | -18,112 | -17,966 |
| India | 1,014 | 818 | 568 | 526 | 502 | 487 |
| Mexico | -2,520 | -2,325 | -2,368 | -2,358 | -2,317 | -2,255 |
| Russia | 289 | 245 | 288 | 333 | 383 | 440 |
| Ukraine | 246 | 101 | 38 | 15 | -1 | -19 |
| United States | 15,748 | 16,085 | 16,119 | 16,121 | 16,124 | 16,138 |
| Rest of the World | -42,852 | -45,034 | -46,672 | -48,637 | -50,802 | -53,077 |

*Soybean Oil*

**Table 13a. Soybean Oil, Production (1,000 metric tons)**

| Region | 2025 | 2030 | 2035 | 2040 | 2045 | 2050 |
|---|---|---|---|---|---|---|
| Argentina | 8,269 | 8,636 | 8,929 | 9,159 | 9,372 | 9,554 |
| Australia | 8 | 8 | 8 | 8 | 8 | 8 |
| Brazil | 11,925 | 12,777 | 13,351 | 14,126 | 14,921 | 15,749 |
| Canada | 290 | 289 | 289 | 289 | 290 | 291 |
| China | 20,362 | 20,927 | 21,663 | 22,412 | 23,145 | 23,876 |
| European Union | 2,811 | 2,828 | 2,871 | 2,918 | 2,963 | 3,011 |
| India | 1,870 | 1,887 | 1,894 | 1,947 | 2,001 | 2,056 |
| Mexico | 1,179 | 1,266 | 1,304 | 1,352 | 1,402 | 1,455 |
| Russia | 950 | 953 | 962 | 973 | 984 | 995 |
| Ukraine | 231 | 203 | 183 | 177 | 172 | 167 |
| United States | 13,464 | 13,803 | 14,043 | 14,305 | 14,562 | 14,823 |
| Rest of the World | 7,413 | 7,768 | 8,178 | 8,552 | 8,892 | 9,210 |

**Table 13b. Soybean Oil, Consumption (1,000 metric tons)**

| Region | 2025 | 2030 | 2035 | 2040 | 2045 | 2050 |
|---|---|---|---|---|---|---|
| Argentina | 1,811 | 1,914 | 1,980 | 2,050 | 2,117 | 2,178 |
| Australia | 40 | 42 | 45 | 47 | 50 | 53 |
| Brazil | 10,429 | 11,089 | 11,722 | 12,402 | 13,086 | 13,781 |
| Canada | 256 | 266 | 276 | 287 | 298 | 310 |
| China | 20,323 | 21,256 | 22,042 | 22,823 | 23,534 | 24,196 |
| European Union | 2,546 | 2,593 | 2,614 | 2,645 | 2,675 | 2,706 |
| India | 6,084 | 6,320 | 6,514 | 6,692 | 6,863 | 7,036 |
| Mexico | 1,341 | 1,399 | 1,470 | 1,543 | 1,615 | 1,687 |
| Russia | 333 | 331 | 327 | 325 | 322 | 318 |
| Ukraine | 2 | 2 | 2 | 2 | 2 | 2 |
| United States | 13,002 | 13,338 | 13,608 | 13,934 | 14,267 | 14,609 |
| Rest of the World | 10,992 | 11,303 | 11,579 | 11,968 | 12,381 | 12,811 |

**Table 13c. Soybean Oil, Net Exports (1,000 metric tons)**

| Region | 2025 | 2030 | 2035 | 2040 | 2045 | 2050 |
|---|---|---|---|---|---|---|
| Argentina | 6,373 | 6,715 | 6,947 | 7,106 | 7,252 | 7,372 |
| Australia | -32 | -35 | -37 | -40 | -43 | -45 |
| Brazil | 1,076 | 1,687 | 1,630 | 1,724 | 1,836 | 1,968 |
| Canada | 133 | 24 | 13 | 2 | -9 | -19 |
| China | -193 | -324 | -380 | -410 | -388 | -319 |
| European Union | 210 | 235 | 254 | 271 | 286 | 303 |
| India | -3,693 | -4,440 | -4,622 | -4,748 | -4,865 | -4,984 |
| Mexico | -182 | -134 | -166 | -192 | -213 | -232 |
| Russia | 647 | 622 | 635 | 648 | 662 | 676 |
| Ukraine | 200 | 199 | 180 | 174 | 169 | 164 |
| United States | 451 | 463 | 434 | 369 | 293 | 212 |
| Rest of the World | -3,493 | -3,516 | -3,392 | -3,408 | -3,483 | -3,599 |

## Livestock Products

Beef (including veal) production remains concentrated in the United States and Brazil. The United States leads in both production and domestic consumption, increasing production from 12.4 to 12.8 million metric tons over the 2025/2050 period. Although the United States remains the largest producer, growth is slow: production increases by 2.8% and domestic consumption by 2.4%. In terms of production, Brazil follows closely, with production rising from 11.3 to 12.8 million metric tons. That is, both countries are expected to produce the same amount of beef at the end of the projection period. Brazil shows stronger expansion on both the supply and demand sides, with production increasing by 12.8% and domestic consumption by 13.5%, while its net exports rise by 11.2%. In terms of domestic demand, the United States remains the largest consumer, with consumption increasing from 12.8 to 13.1 million tons. China shows stronger demand growth, with domestic consumption rising from 11.1 to 11.9 million tons, reinforcing its importance as a major global beef market. Brazil remains the major exporter with a growth of 11.2% over the projection period. China continues to be a major net importer since domestic consumption increases by 7.6% and production by 11.6%, and its net imports decrease slightly by 1.2%. In contrast, the European Union contracts, with production falling by 5.0% and domestic consumption by 4.0%.

Broiler production shows a more broadly distributed pattern of production compared to beef. The Rest of the World produces approximately 25.7 million tons in 2025, increasing to 35.1 million tons by 2050, representing 36.9% growth over the projection period. Given the production increase, imports decline in the rest of the world by 18.0%. The United States remains a leading producer, with production increasing from 21.2 to 23.6 million tons (an increase of 11.4%), while domestic consumption rises from 18.2 to 21.4 million tons (17.1%). China ranks among the largest consumers, with more modest consumption increases of 5.1% over the projection period. Net exports of broiler from the United States declines by 23.9% over the projection period. Brazil strengthens its role as the leading exporter: production increases by 15%, domestic consumption by 14%, and net exports by 17.2%. China's production grows only 2.2% while domestic consumption increases 5.1%. Mexico also becomes more import-dependent, with domestic consumption increasing by 25% and imports increasing by 50%.

Pork production and consumption remain heavily concentrated in China, which continues to dominate the global sector. Chinese pork production increases by 10.5%, rising from 55.7 million metric tons in 2025 to 61.5 million metric tons in 2050, while domestic consumption increases by 10.5%, from 58.2 to 64.4 million metric tons. Despite large domestic production, China remains a net importer, with net imports increasing by 11.4%, underscoring persistent supply-demand gaps and the continued role of international trade in balancing global markets.

The United States strengthens its position as a major producer and exporter. Pork production increases by 15.9% over the projection period, while domestic consumption grows by 15.5%. At the same time, US net exports expand by 18.1%, reinforcing the country's role as a key supplier to international markets. In contrast, the European Union shows slower growth and modest structural adjustment. Pork production increases slightly by 1.5%, rising from 21.6 to 21.9 million metric tons, while domestic consumption declines by 3.7%, falling from 18.4 to 17.7 million metric tons. Despite weaker domestic demand, the European Union increases its export position, with net exports rising by 31.1%.

**Figure 2. Consumption (in 1,000 metric tons) of beef, broiler, and pork from 2000–2050 for select countries.**

*Beef*

**Table 14a. Beef Production (1,000 metric tons; carcass weight equivalent)**

| Region | 2025 | 2030 | 2035 | 2040 | 2045 | 2050 |
|---|---|---|---|---|---|---|
| Argentina | 3,046 | 3,056 | 3,118 | 3,188 | 3,261 | 3,338 |
| Australia | 2,140 | 2,135 | 2,146 | 2,155 | 2,169 | 2,185 |
| Brazil | 11,336 | 11,693 | 11,914 | 12,204 | 12,494 | 12,789 |
| Canada | 1,404 | 1,390 | 1,382 | 1,374 | 1,366 | 1,360 |
| China | 7,564 | 7,848 | 8,001 | 8,157 | 8,303 | 8,443 |
| European Union | 6,600 | 6,522 | 6,447 | 6,379 | 6,318 | 6,267 |
| India | 4,413 | 4,477 | 4,615 | 4,725 | 4,825 | 4,922 |
| Mexico | 2,293 | 2,345 | 2,397 | 2,447 | 2,495 | 2,541 |
| Russia | 1,428 | 1,429 | 1,402 | 1,378 | 1,351 | 1,323 |
| Ukraine | 300 | 291 | 270 | 256 | 245 | 236 |
| United States | 12,426 | 12,478 | 12,559 | 12,622 | 12,696 | 12,779 |
| Rest of the World | 6,732 | 6,823 | 6,858 | 6,931 | 7,028 | 7,147 |

**Table 14b. Beef Consumption (1,000 metric tons; carcass weight equivalent)**

| Region | 2025 | 2030 | 2035 | 2040 | 2045 | 2050 |
|---|---|---|---|---|---|---|
| Argentina | 2,413 | 2,424 | 2,441 | 2,481 | 2,525 | 2,577 |
| Australia | 689 | 711 | 734 | 758 | 782 | 807 |
| Brazil | 8,092 | 8,304 | 8,546 | 8,765 | 8,975 | 9,183 |
| Canada | 1,037 | 1,051 | 1,064 | 1,081 | 1,098 | 1,117 |
| China | 11,056 | 11,365 | 11,511 | 11,652 | 11,777 | 11,891 |
| European Union | 6,400 | 6,362 | 6,287 | 6,233 | 6,187 | 6,146 |
| India | 2,906 | 3,055 | 3,176 | 3,271 | 3,363 | 3,456 |
| Mexico | 2,065 | 2,076 | 2,122 | 2,168 | 2,212 | 2,258 |
| Russia | 1,632 | 1,595 | 1,549 | 1,510 | 1,474 | 1,439 |
| Ukraine | 247 | 263 | 260 | 249 | 237 | 226 |
| United States | 12,778 | 12,770 | 12,816 | 12,888 | 12,979 | 13,086 |
| Rest of the World | 8,543 | 8,704 | 8,797 | 8,954 | 9,134 | 9,334 |

**Table 14c. Beef Net Exports (1,000 metric tons; carcass weight equivalent)**

| Region | 2025 | 2030 | 2035 | 2040 | 2045 | 2050 |
|---|---|---|---|---|---|---|
| Argentina | 632 | 631 | 677 | 708 | 737 | 761 |
| Australia | 1,451 | 1,424 | 1,412 | 1,397 | 1,386 | 1,379 |
| Brazil | 3,244 | 3,389 | 3,369 | 3,440 | 3,519 | 3,606 |
| Canada | 365 | 340 | 318 | 293 | 268 | 243 |
| China | -3,492 | -3,517 | -3,510 | -3,495 | -3,474 | -3,448 |
| European Union | 200 | 160 | 161 | 146 | 132 | 120 |
| India | 1,507 | 1,422 | 1,439 | 1,454 | 1,463 | 1,465 |
| Mexico | 228 | 269 | 275 | 279 | 282 | 283 |
| Russia | -204 | -166 | -147 | -133 | -123 | -116 |
| Ukraine | 53 | 28 | 10 | 8 | 8 | 10 |
| United States | -376 | -293 | -257 | -267 | -284 | -308 |
| Rest of the World | -1,804 | -1,884 | -1,941 | -2,026 | -2,110 | -2,191 |

*Broiler*

**Table 15a. Broiler Production (1,000 metric tons; carcass weight equivalent)**

| Region | 2025 | 2030 | 2035 | 2040 | 2045 | 2050 |
|---|---|---|---|---|---|---|
| Argentina | 2,377 | 2,419 | 2,556 | 2,691 | 2,832 | 2,976 |
| Australia | 1,439 | 1,484 | 1,557 | 1,623 | 1,693 | 1,763 |
| Brazil | 14,987 | 15,607 | 15,931 | 16,371 | 16,805 | 17,233 |
| Canada | 1,435 | 1,477 | 1,542 | 1,602 | 1,661 | 1,720 |
| China | 15,185 | 15,433 | 15,438 | 15,520 | 15,538 | 15,525 |
| European Union | 11,612 | 11,618 | 11,517 | 11,402 | 11,295 | 11,202 |
| Mexico | 3,922 | 3,910 | 4,101 | 4,299 | 4,492 | 4,672 |
| Russia | 4,750 | 4,756 | 4,843 | 4,909 | 4,956 | 4,993 |
| Ukraine | 1,504 | 1,490 | 1,391 | 1,318 | 1,253 | 1,199 |
| United States | 21,170 | 21,635 | 22,143 | 22,604 | 23,084 | 23,588 |
| Rest of the World | 25,651 | 27,845 | 29,746 | 31,572 | 33,364 | 35,124 |

**Table 15b. Broiler Consumption (1,000 metric tons; carcass weight equivalent)**

| Region | 2025 | 2030 | 2035 | 2040 | 2045 | 2050 |
|---|---|---|---|---|---|---|
| Argentina | 2,232 | 2,325 | 2,423 | 2,522 | 2,618 | 2,713 |
| Australia | 1,406 | 1,489 | 1,564 | 1,639 | 1,713 | 1,786 |
| Brazil | 10,325 | 10,654 | 10,945 | 11,227 | 11,500 | 11,768 |
| Canada | 1,516 | 1,579 | 1,637 | 1,698 | 1,758 | 1,817 |
| China | 15,269 | 15,610 | 15,752 | 15,878 | 15,973 | 16,049 |
| European Union | 10,483 | 10,490 | 10,461 | 10,439 | 10,415 | 10,391 |
| Mexico | 4,840 | 5,096 | 5,345 | 5,587 | 5,820 | 6,049 |
| Russia | 4,780 | 4,723 | 4,695 | 4,657 | 4,612 | 4,562 |
| Ukraine | 994 | 1,056 | 1,070 | 1,059 | 1,038 | 1,011 |
| United States | 18,243 | 18,926 | 19,545 | 20,163 | 20,768 | 21,367 |
| Rest of the World | 30,829 | 32,597 | 34,200 | 35,912 | 37,626 | 39,352 |

**Table 15c. Broiler Net Exports (1,000 metric tons; carcass weight equivalent)**

| Region | 2025 | 2030 | 2035 | 2040 | 2045 | 2050 |
|---|---|---|---|---|---|---|
| Argentina | 144 | 94 | 133 | 169 | 214 | 264 |
| Australia | 33 | -5 | -7 | -16 | -20 | -23 |
| Brazil | 4,662 | 4,953 | 4,987 | 5,143 | 5,305 | 5,465 |
| Canada | -81 | -102 | -95 | -96 | -97 | -97 |
| China | -84 | -177 | -314 | -358 | -435 | -524 |
| European Union | 1,129 | 1,128 | 1,056 | 963 | 880 | 811 |
| Mexico | -918 | -1,186 | -1,244 | -1,287 | -1,328 | -1,377 |
| Russia | -29 | 33 | 148 | 252 | 344 | 432 |
| Ukraine | 510 | 434 | 321 | 259 | 215 | 188 |
| United States | 2,919 | 2,709 | 2,599 | 2,441 | 2,315 | 2,221 |
| Rest of the World | -5,160 | -4,755 | -4,458 | -4,345 | -4,267 | -4,233 |

*Pork*

**Table 16a. Pork Production (1,000 metric tons; carcass weight equivalent)**

| Region | 2025 | 2030 | 2035 | 2040 | 2045 | 2050 |
|---|---|---|---|---|---|---|
| Argentina | 733 | 739 | 781 | 823 | 866 | 910 |
| Australia | 493 | 516 | 534 | 549 | 564 | 579 |
| Brazil | 4,590 | 4,800 | 4,927 | 5,068 | 5,207 | 5,345 |
| Canada | 2,118 | 2,141 | 2,191 | 2,233 | 2,271 | 2,307 |
| China | 55,706 | 57,742 | 58,646 | 59,732 | 60,676 | 61,545 |
| European Union | 21,556 | 21,739 | 21,790 | 21,823 | 21,849 | 21,876 |
| Mexico | 1,785 | 1,891 | 1,940 | 1,989 | 2,035 | 2,077 |
| Russia | 4,230 | 4,212 | 4,250 | 4,272 | 4,283 | 4,288 |
| Ukraine | 728 | 719 | 690 | 661 | 630 | 600 |
| United States | 12,900 | 13,450 | 13,846 | 14,218 | 14,588 | 14,958 |
| Rest of the World | 10,452 | 10,993 | 11,382 | 11,744 | 12,086 | 12,412 |

**Table 16b. Pork Consumption (1,000 metric tons; carcass weight equivalent)**

| Region | 2025 | 2030 | 2035 | 2040 | 2045 | 2050 |
|---|---|---|---|---|---|---|
| Argentina | 777 | 812 | 844 | 880 | 915 | 952 |
| Australia | 656 | 699 | 738 | 779 | 820 | 862 |
| Brazil | 3,092 | 3,275 | 3,445 | 3,605 | 3,756 | 3,900 |
| Canada | 901 | 920 | 930 | 944 | 958 | 974 |
| China | 58,234 | 60,243 | 61,454 | 62,577 | 63,525 | 64,362 |
| European Union | 18,361 | 18,283 | 18,072 | 17,932 | 17,804 | 17,688 |
| Mexico | 2,603 | 2,728 | 2,853 | 2,979 | 3,100 | 3,220 |
| Russia | 3,951 | 3,936 | 3,908 | 3,883 | 3,852 | 3,818 |
| Ukraine | 766 | 826 | 844 | 840 | 828 | 811 |
| United States | 10,262 | 10,626 | 10,903 | 11,219 | 11,534 | 11,851 |
| Rest of the World | 13,850 | 14,706 | 15,099 | 15,582 | 16,069 | 16,567 |

**Table 16c. Pork Net Exports (1,000 metric tons; carcass weight equivalent)**

| Region | 2025 | 2030 | 2035 | 2040 | 2045 | 2050 |
|---|---|---|---|---|---|---|
| Argentina | -44 | -73 | -63 | -57 | -49 | -42 |
| Australia | -163 | -183 | -204 | -230 | -256 | -282 |
| Brazil | 1,498 | 1,525 | 1,482 | 1,462 | 1,452 | 1,445 |
| Canada | 1,213 | 1,221 | 1,262 | 1,289 | 1,312 | 1,333 |
| China | -2,529 | -2,501 | -2,808 | -2,845 | -2,849 | -2,817 |
| European Union | 3,195 | 3,456 | 3,719 | 3,891 | 4,045 | 4,188 |
| Mexico | -818 | -836 | -913 | -990 | -1,065 | -1,143 |
| Russia | 279 | 276 | 342 | 389 | 431 | 471 |
| Ukraine | -39 | -107 | -154 | -179 | -198 | -210 |
| United States | 2,631 | 2,823 | 2,943 | 2,999 | 3,054 | 3,106 |
| Rest of the World | -3,335 | -3,710 | -3,716 | -3,838 | -3,986 | -4,159 |

## Biofuels

Ethanol and biomass-based diesel remain the two most prominent biofuels, particularly in the transport sector. Production and consumption remain concentrated in a small number of regions, with Brazil, the European Union, and the United States continuing to play central roles. Ethanol production shows stronger regional divergence, with Brazil expanding more rapidly than the United States, while biomass-based diesel growth remains more evenly distributed in the three major producing regions. However, there remain large technological and policy uncertainties in the use of biofuels. The trajectory of electric vehicle deployment and the uptake of sustainable aviation fuels can lead to substantial differences by 2050.

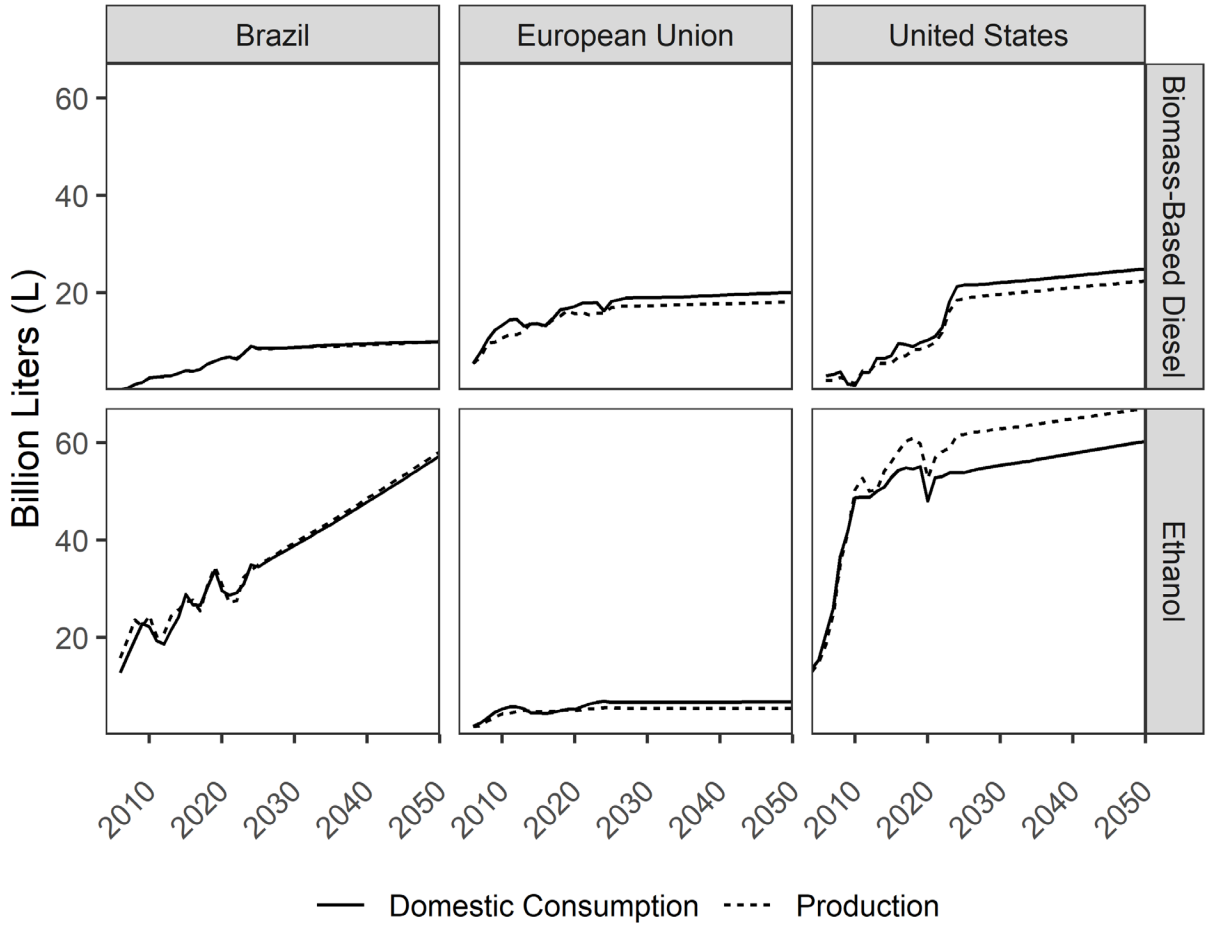


**Figure 3. Ethanol and biomass-based diesel consumption and production in Brazil, the European Union, and the United States.**

*Ethanol*

The United States remains the largest ethanol producer, with output increasing from 61.7 billion liters in 2025 to 67.1 billion liters by 2050, representing growth of 8.8% over the projection period. Brazil exhibits substantially stronger expansion, with production rising from 34.9 to 58.1 billion liters, an increase of 66.7%.

The United States remains the largest consumer, with demand increasing from 53.9 billion liters in 2025 to 60.3 billion liters by 2050, reflecting an increase of 11.9%. Brazilian consumption rises from 34.5 billion liters to 57.4 billion liters, indicating strong domestic demand expansion alongside production growth. The European Union remains a smaller market, with consumption remaining relatively stable around 6.6 billion liters, suggesting limited structural change over the projection horizon. Overall, projections show continued dominance by the United States and Brazil in global ethanol markets, with Brazil's faster growth narrowing the production gap between the two countries.

**Table 17a. Ethanol Production (million L)**

| Region | 2025 | 2030 | 2035 | 2040 | 2045 | 2050 |
|---|---|---|---|---|---|---|
| Argentina | 1,118 | 1,144 | 1,168 | 1,192 | 1,215 | 1,238 |
| Australia | 173 | 182 | 190 | 199 | 208 | 218 |
| Brazil | 34,877 | 39,510 | 43,861 | 48,557 | 53,326 | 58,142 |
| Canada | 1,742 | 1,777 | 1,831 | 1,881 | 1,930 | 1,979 |
| China | 4,844 | 4,872 | 4,930 | 4,998 | 5,065 | 5,134 |
| European Union | 5,505 | 5,386 | 5,380 | 5,360 | 5,342 | 5,326 |
| India | 5,097 | 5,234 | 5,394 | 5,563 | 5,734 | 5,903 |
| United States | 61,665 | 62,867 | 63,825 | 64,918 | 65,986 | 67,064 |
| Rest of the World | 2,663 | 2,820 | 3,005 | 3,169 | 3,322 | 3,467 |

**Table 17b. Ethanol Consumption (million L)**

| Region | 2025 | 2030 | 2035 | 2040 | 2045 | 2050 |
|---|---|---|---|---|---|---|
| Argentina | 1,125 | 1,162 | 1,192 | 1,225 | 1,258 | 1,289 |
| Australia | 174 | 184 | 192 | 202 | 211 | 220 |
| Brazil | 34,523 | 38,921 | 43,225 | 47,793 | 52,501 | 57,353 |
| Canada | 4,015 | 4,123 | 4,200 | 4,289 | 4,375 | 4,458 |
| China | 4,625 | 4,759 | 4,849 | 4,956 | 5,060 | 5,163 |
| European Union | 6,644 | 6,657 | 6,651 | 6,663 | 6,671 | 6,678 |
| India | 5,281 | 5,482 | 5,671 | 5,867 | 6,061 | 6,255 |
| United States | 53,859 | 55,352 | 56,496 | 57,795 | 59,056 | 60,279 |
| Rest of the World | 5,348 | 5,380 | 5,343 | 5,283 | 5,176 | 5,023 |

**Table 17c. Ethanol Net Exports (million L)**

| Region | 2025 | 2030 | 2035 | 2040 | 2045 | 2050 |
|---|---|---|---|---|---|---|
| Argentina | -22 | -19 | -24 | -34 | -43 | -52 |
| Australia | -2 | -3 | -2 | -2 | -2 | -2 |
| Brazil | 437 | 596 | 657 | 781 | 850 | 818 |
| Canada | -2,287 | -2,346 | -2,369 | -2,409 | -2,446 | -2,480 |
| China | 220 | 113 | 81 | 42 | 5 | -29 |
| European Union | -1,285 | -1,271 | -1,273 | -1,302 | -1,330 | -1,352 |
| India | -119 | -248 | -277 | -303 | -327 | -352 |
| United States | 7,498 | 7,517 | 7,327 | 7,122 | 6,929 | 6,785 |
| Rest of the World | -2,655 | -2,553 | -2,333 | -2,108 | -1,850 | -1,552 |

*Biomass-Based Diesel*

Biomass-based diesel production remains concentrated in a few major regions but expands steadily over the projection period. The United States continues to lead global production, increasing from 18.8 billion liters in 2025 to 22.4 billion liters by 2050, representing growth of 19.3%. The European Union remains another major producer, with output increasing more modestly from 17.0 to 18.1 billion liters.

The United States remains the largest biomass-based diesel consumer, with demand rising from 21.6 billion liters in 2025 to 24.9 billion liters by 2050, representing growth of 15.5% The European Union continues as a major consumer as well, with biomass-based diesel use increasing from 18.3 to 20.0 billion liters over the projection period, indicating steady but slower expansion compared with emerging markets.

**Table 18a. Biomass-based Diesel Production (million L)**

| Region | 2025 | 2030 | 2035 | 2040 | 2045 | 2050 |
|---|---|---|---|---|---|---|
| Argentina | 1,238 | 1,326 | 1,364 | 1,403 | 1,438 | 1,466 |
| Australia | 22 | 23 | 23 | 23 | 23 | 24 |
| Brazil | 8,405 | 8,716 | 8,936 | 9,244 | 9,572 | 9,923 |
| Canada | 722 | 678 | 681 | 683 | 686 | 689 |
| China | 2,573 | 2,591 | 2,611 | 2,640 | 2,670 | 2,704 |
| European Union | 16,951 | 17,286 | 17,481 | 17,684 | 17,885 | 18,109 |
| India | 302 | 285 | 285 | 288 | 291 | 293 |
| United States | 18,787 | 19,667 | 20,341 | 21,030 | 21,720 | 22,422 |
| Rest of the World | 17,244 | 17,506 | 17,956 | 18,439 | 18,954 | 19,505 |

**Table 18b. Biomass-based Diesel Consumption (million L)**

| Region | 2025 | 2030 | 2035 | 2040 | 2045 | 2050 |
|---|---|---|---|---|---|---|
| Argentina | 769 | 779 | 812 | 884 | 963 | 1,058 |
| Australia | 18 | 19 | 21 | 24 | 26 | 29 |
| Brazil | 8,530 | 8,698 | 9,202 | 9,494 | 9,708 | 9,867 |
| Canada | 1,361 | 1,414 | 1,447 | 1,494 | 1,544 | 1,592 |
| China | 699 | 746 | 735 | 720 | 702 | 681 |
| European Union | 18,175 | 18,973 | 19,136 | 19,461 | 19,776 | 20,043 |
| India | 263 | 321 | 368 | 397 | 424 | 454 |
| United States | 21,558 | 22,040 | 22,684 | 23,438 | 24,179 | 24,898 |
| Rest of the World | 16,239 | 16,419 | 16,604 | 16,853 | 17,249 | 17,845 |

**Table 18c. Biomass-based Diesel Net Exports (million L)**

| Region | 2025 | 2030 | 2035 | 2040 | 2045 | 2050 |
|---|---|---|---|---|---|---|
| Argentina | 418 | 546 | 552 | 518 | 474 | 408 |
| Australia | 4 | 4 | 2 | -1 | -3 | -5 |
| Brazil | -164 | 18 | -266 | -249 | -135 | 57 |
| Canada | -641 | -736 | -766 | -811 | -858 | -903 |
| China | 1,874 | 1,845 | 1,876 | 1,920 | 1,968 | 2,023 |
| European Union | -1,305 | -1,687 | -1,658 | -1,778 | -1,891 | -1,934 |
| India | 42 | -36 | -83 | -109 | -134 | -161 |
| United States | -2,441 | -2,373 | -2,343 | -2,409 | -2,460 | -2,476 |
| Rest of the World | 875 | 1,081 | 1,347 | 1,581 | 1,700 | 1,653 |

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