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USDA Agricultural Projections to 2033

Interagency Agricultural Projections Committee

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USDA Long-Term Projections, February 2024

Approved by USDA's Office of the Chief Economist

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Abstract

This report provides projections for the agricultural sector to 2033. Projections cover agricultural commodities, agricultural trade, and aggregate indicators of the sector, such as farm income. The projections are based on specific assumptions, including a macroeconomic scenario, existing U.S. policy, and current international agreements. The Agriculture Improvement Act of 2018 is assumed to remain in effect through the projection period, as no agreement had been reached on a new Farm Bill as of October 2023. The projections are one representative scenario for the agricultural sector and reflect a composite of model results and judgment-based analyses. The projections in this report were prepared using data through the October 2023 *World Agricultural Supply and Demand Estimates (WASDE*) report, except where noted otherwise. Macroeconomic assumptions were concluded in August 2023.

Keywords: Projections, crops, livestock, biofuel, ethanol, biodiesel, U.S. dollar, crude oil, trade, farm income, U.S. Department of Agriculture, USDA.

Acknowledgments and Contacts

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USDA Long-Term Projections: Background

USDA's long-term agricultural projections presented in this report are a departmental consensus on a conditional long-run scenario for the agricultural sector. These projections provide a starting point for discussion of alternative outcomes for the sector and are prepared in support of the President's annual budget process as defined in the Budget Control Act.

The projections, colloquially referred to as the Baseline projections, were prepared using data available through the October 2023 *World Agricultural Supply and Demand Estimates* (WASDE) report, except where noted. The macroeconomic forecasts were completed in August 2023. The Agriculture Improvement Act of 2018 is assumed to remain in effect through the projection period, and the projections include only policies in place or already expected to be implemented as of the October *WASDE*. The scenario presented in this report is not a USDA forecast about the future. Instead, it is a conditional, long-run scenario of how markets would evolve under current conditions, existing laws, normal weather patterns, and underlying trends. Rather than serving as a prediction of the future, it is intended to serve as a neutral benchmark for measuring the effects of proposed legislation or external developments that could have enduring effects on agricultural markets.

Critical long-term assumptions are made for U.S. and international macroeconomic conditions, U.S. and foreign agricultural and trade policies, and growth rates of agricultural productivity in the United States and abroad. The report assumes that no new domestic or external shocks occur during the projection period that would affect underlying global agricultural supply and demand trends. Changes in any of these assumptions can significantly affect the projections, and actual conditions will alter the outcomes.

The projections analysis was conducted by interagency committees in USDA and reflect a composite of model results and judgment-based analyses. The Economic Research Service had the lead role in preparing the departmental report. The projections and the report were reviewed and cleared by the Interagency Agricultural Projections Committee, chaired by the World Agricultural Outlook Board. USDA participants in the projections analysis and review include the World Agricultural Outlook Board, the Economic Research Service, the Farm Production and Conservation Business Center, the Foreign Agricultural Service, the Agricultural Marketing Service, the Office of the Chief Economist, the Office of Budget and Program Analysis, the Risk Management Agency, the Natural Resources Conservation Service, and the National Institute of Food and Agriculture.

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The macroeconomic projections underlying the USDA's 2024 Baseline reflect modest economic growth in the near term following the volatility that occurred in the immediate aftermath of the Coronavirus (COVID-19) pandemic. Economic growth remains positive but global growth rates continue to contract over the long term. Negative ramifications from Russia's war on Ukraine are diminishing as food and energy prices have come down from wartime highs. The macroeconomic forecasts were completed in August 2023.

As prices continue to drop from the elevated levels exhibited by most crops in recent years, total planted acres for the eight major field crops are projected at 252.6 million acres in 2024/25, down 1.3 million acres from the prior year. Total planted acres for these eight crops are expected to edge down to under 248 million acres by 2027 and hold steady at 246.7 million acres during the last 3 years of the projections. The reduction comes primarily from lower corn and wheat acres. Upland cotton is the only crop projected to show upward movement over the projection period. Harvested acres mirror planted acres, with the eight-crop total starting at 229.9 million acres in 2024 and projected to fall to 224.6 million acres in 2033. Conservation Reserve Program (CRP) acres are projected to climb by 2.6 million acres from 2023 to 2024 (reaching 25.8 million acres). CRP acres are projected at 26.9 million acres the remainder of the projection period. In Baseline reporting, the area for each crop typically follows a smooth trend, up or down or stable, after an initial adjustment in the first or second marketing year of the Baseline (2024/25 and 2025/26).

Production for all main animal products rise over the projection period, achieving record levels at indicated points during the decade for all products except turkey. Production growth, in percent terms, is projected to be near or above double digits for all products except turkey. Note that for animals and animal products, the Baseline projection begins with calendar year 2025. Figures for calendar years 2023 and 2024 are based on published projections from the October 12, 2023, *World Agricultural Supply and Demand Estimates* (*WASDE*) report. Beef commercial production is projected to rise by 11.3 percent, commercial pork by 13.6 percent, and chicken by 11 percent. Overall milk production rises by 9.1 percent and eggs by 11.8 percent. Turkey production growth is the slowest, at 4.1 percent.

Global economic and market circumstances continue to challenge the U.S. agriculture sector. Inflation, severe weather events, supply chain disruptions, high input costs, and Russia's war against Ukraine continued to pressure crop prices above their long-term averages over 2021/22 through 2023/24. This combination of conditions sets the stage for the first year's projections and a return to more "normal" conditions for later years. Prices of all crops remain steady or

decline before stabilizing early in the projection period. The Baseline projections assume no major shocks to supply or demand.

Corn prices are projected to decline from the elevated levels in 2022/23 and 2023/24, and corn planted acreage is projected to fall from 94.9 million acres in 2023/24 to 91 million acres in 2024/25. Prices start at $4.50 per bushel in 2024/25 and then level off at $4.30 per bushel the remainder of the projection period. Planted corn acreage declines incrementally after 2024/25, ending the last 4 years of the projections at 88 million acres. Corn production, however, increases almost uninterrupted throughout the decade (except in 2025/26), due to yield growth. Soybean prices are projected at $11.30 per bushel in 2024/25, continuing a downward adjustment from the near-record $14.20 per bushel in 2022/23, and flatten at $10.50 bushel starting in 2026/27. Planted soybean area in 2024/25 is projected to be up by 3.4 million acres from the previous year to 87 million acres and remain flat at that level throughout the projection period. With higher yields, soybean production is projected to rise 9 percent in 2024/25 to 4.48 billion bushels and climb to a projected 4.87 billion bushels in 2033/34.

As wheat prices come down from the elevated levels of 2021/22–2022/23, planted acres also decline from recent levels. Planted wheat area is projected at 48 million acres in 2024/25, down from 49.6 million acres in 2023/24. Planted area declines to 46 million acres in 2026/27 and stabilizes at 45.5 million acres thereafter. Wheat prices are projected at $6.80 per/bushel in 2024/25, down from $8.83 per bushel in 2022/23, and flatten at $6.00 per bushel starting in 2026/27. U.S. rice planted area is projected to be steady at 2.8 million acres throughout the projections. Long-grain rice and medium- and short-grain rice are each unchanged during the projection period, at 2.1 million and 700,000 acres, respectively. Prices decline during the projection period and remain well below the record of $19.3 per hundred-weight (cwt) in 2022/23. The all-rice price starts at $15.30 per cwt in 2024/25 and declines to $14.40 per cwt in the middle of the projections before finishing at $14.50 per cwt during the final 4 years. U.S. upland cotton prices are projected to decline from the price spike in 2021/22 and 2022/23 but remain above the prices that prevailed during the latter half of the 2010s, remaining at 75 cents per pound for most of the projection period. Cotton planted acreage is projected to rebound from the relatively low 10.1 million acres in 2023/24, rising to 11.7 million acres in 2024/25, the first year of the projections. Planted acreage climbs to 12.2 million acres by 2027/28 and remains at that level through 2033/34.

Nominal prices for all animals and animal products initially come down from recent record or near record levels in 2022, 2023, or 2024. Most prices decline during the majority of the projection period with the exception of eggs, milk, and broilers. Cattle prices decline through the middle part of the projection period before beginning to climb. Broiler farm prices increase by 3.5 percent while hog prices decline almost continuously. Cattle and steer prices and hog prices decline by 20 percent or more over the projections. With cattle prices still projected strong in 2025 and the following several years, and inventories beginning to rebuild, beef production does not exceed 2022 levels until 2030. As inventories and slaughter weights climb, commercial beef production grows by 11.3 percent over the projection period.

Milk production is projected to rise by 9.1 percent during the projection period; domestic commercial use should keep pace. Moderate growth in domestic and global dairy and dairy product demand is expected to result in rising nominal farm-level all-milk prices, which are projected to rise by 19.5 percent over the projection period.

U.S. egg production is projected to continue to grow, rising by 11.8 percent through 2033. Farm prices are projected to drop sharply from their 2022 record high of 239.2 cents per dozen, falling to 127.9 cents by 2025, as the industry recovers from outbreaks of highly pathogenic avian influenza (HPAI), before registering a 16.6 percent gain for the projection period.

Broiler national composite prices almost doubled between 2020 and 2022. Prices are projected to decline somewhat from the 2022 peak of 140.5 cents per pound but are still elevated compared to historical levels. Prices reach a projection period low of 119.5 cents per pound in 2028 and then climb to 125.3 cents per pound in 2033. Broiler production grows by almost 11 percent and exports by 8.3 percent, both ending at record levels.

Increasing pig slaughter weights, rising numbers of pigs per litter, increasing inventories, as well as higher commercial hog slaughter are expected to support the upward trend in total pork production, which increases 13.6 percent during the projection period. After spikes in hog prices in 2021 and 2022, with a farm price peaking at nearly $73 per cwt, hog prices remain strong in 2025 but then fall during the remainder of the projection period. Prices are projected to drop almost 20 percent, ending at $52.50 per cwt.

Net farm income and net cash income are projected to decrease in 2024, following the trend seen in 2023. Net farm income is expected to decrease $7.3 billion, or 4.8 percent, from $151.1 billion in 2023 to $143.8 billion in 2024. Net farm income is projected at $123.6 billion in 2033. Net cash farm income is projected to decrease $19 billion (12 percent) from $157.9 billion in 2023 to $138.9 billion in 2024 and is projected to fall to $123.4 billion in 2033. Lower cash receipts, due to lower commodity prices, are the primary contributors to the projected decline in net farm income for 2024 relative to 2023.

U.S agricultural trade is projected using data released by the U.S. Department of Commerce, Bureau of the Census, on November 7, 2023. It includes values and volumes of U.S. imports and exports through September 30, 2023. This section covers fiscal years (FY) 2022 (October 1, 2021, through September 31, 2022) through 2033, with projections beginning in FY 2024.

In 2024, U.S. total agricultural exports are projected to decrease by 14 percent to $169.5 billion from a record $196.1 billion in 2022, due to declines in a broad range of commodities. The largest reductions come from corn, soybeans, and cotton, but also from livestock, dairy, and poultry. Agricultural imports have continued to rise and are forecast to post a record $200.0 billion in 2024 before slowing. This projection is up from the previous record of $195.4 billion in 2023. Recent growth was largely driven by strong imports of the combined livestock, dairy, and poultry category, processed grain products, sugar and tropical products, and horticultural products (especially fresh fruits and vegetables). As macroeconomic headwinds slow exports of U.S. products (primarily bulk) and encourage imports, a negative trade balance is expected to widen. The trade deficit is expected to be largest in 2024 at $30.5 billion before shrinking as macroeconomic conditions facilitate the slowing of imports. However, a smaller trade balance persists to 2033. This is in part due to strong import demand for processed food products from Canada and Mexico, from year-round demand for horticultural products, and increased imports of biofuel feedstocks. Conversely, an increasing supply of grains and oilseeds from South America coupled with changing trade patterns is expected to negatively affect U.S. exports, especially in the short term.

General Policy Assumptions

U.S. Agricultural Policy

The projections include policies in place as of October 2023. The Agriculture Improvement Act of 2018, also known as the 2018 Farm Bill, is assumed to be in effect through the projection period, as no agreement on a new Farm Bill had been reached as of October 2023. Ongoing provisions from earlier farm legislation and other legislation are also assumed to continue. The projections assume there will be no new ad hoc payments over the course of the Baseline. Land enrolled in the Conservation Reserve Program is assumed to rise to 26.9 million acres by 2025—and remain at that level through 2033—which is the maximum level legislated in the 2018 Farm Bill.

Similarly, trade tariff policies in place as of October 2023 are assumed to remain in effect throughout the next 10 years. Trade agreements implemented before October 2023, such as the United States-Mexico-Canada Agreement (USMCA) and the Japan-U.S. Free Trade Agreement, have also been considered in these projections.

International Policy

Agricultural trade projections assume that trade agreements, sanitary and phytosanitary restrictions, and domestic policies in place as of October 2023 remain in place throughout the projection period.

In August 2014, Russia imposed a ban on most agricultural imports from select Western countries—including the European Union (EU), the United States, and Canada. Russia's invasion of Ukraine generated Western economic sanctions against Russia. Other commercial impediments have reduced Russia's imports from Western countries even further. The Baseline economists assume these trade-impeding policies will continue to be renewed and that Russia will maintain policies to stimulate domestic pork and poultry production and to reduce its reliance on imports.

When Russia invaded Ukraine in early 2022, it blockaded Ukraine's exports of agricultural products via the Black Sea. Before the war, about 90 percent of Ukraine's exports of grain and other agricultural goods were from Black Sea ports. Beginning in July 2022 Russia allowed Ukraine to ship some exports from the Black Sea; in July 2023, however, it reimposed a full blockade upon the dissolution of the Black Sea Grain Initiative. Ukraine countered by exporting more goods by land to EU countries to the west, and by having its export-carrying ships travel a new corridor nearer to the Black Sea coast for protection. However, the blockade substantially reduced Ukraine's agricultural exports, and the Baseline economists assume this impediment will continue.

Projections assume continuation of China's policies in effect in 2022. Domestic policies include a payment for all grain producers, direct payments for cotton, soybean, corn, and rice producers, and minimum prices for wheat and rice. Chinese food security remains a top priority, with a goal of achieving annual grain production of 650 million metric tons and stabilizing grain area at 118 million hectares. Increasing grain crop yields, particularly in corn and soy, has become a priority. China maintains large grain reserves and exports surplus rice.

Argentina's projections reflect the export duty of 33 percent on soybeans and 31 percent on soybean meal and soybean oil in effect during the December 2022 through September 2023 period. The 12 percent tariffs on corn and wheat are also reflected in the projections. In late November 2022, the Argentine Government eliminated the equalization of export taxes on soybeans and products that was implemented in March 2022, and re-introduced the differential export tax (DET) to keep export taxes on soybean meal and soybean oil lower than export taxes on soybeans.

In May 2022, in an effort to fight inflation, Brazil suspended import tariffs on various agricultural products including corn (previously a 7.2 percent tariff), wheat flour (previously a 10.8 percent tariff), soybean oil (from 10.0 percent), beef (from 10.8 percent), and poultry (from 9 percent) from countries outside the Mercosur trade bloc. Consequently, the projections incorporate these reductions in tariffs for the projection period. The projections also assume the reimposition of tariffs on soybeans and corn (8.0 percent), soybean meal (6.0 percent), and soybean oil (10.0 percent) from January 2023, for the duration of the projection period. The projections reflect the reinstated 18 percent import tax on ethanol in February 2023 (which had been waived in March 2022). The Mercosur trade bloc includes Brazil, Argentina, Paraguay, and Uruguay.

In December 2020, the Government of Mexico published a presidential decree calling for a ban on the use of glyphosate and of human consumption of bioengineered corn in Mexico, effective January 1, 2024. When these Baseline projections were being prepared, the Government of Mexico was still developing its approach to implementing the bans, and this report does not consider the possible effects of the decree. A dispute resolution panel requested by the United States is currently evaluating whether the decree is consistent with Mexico's obligations under the United States-Mexico-Canada Agreement (USMCA).

Japan has a series of tariff-rate quotas in place on various commodities. In accordance with the U.S.-Japan Trade Agreement (USJTA), Japan placed a tariff of 38.5 percent on U.S. beef imports surpassing 242,000 metric tons. The USJTA's safeguard mechanism was revised in 2022 to accommodate higher demand for U.S. beef, raising the threshold required to trigger the implementation of higher tariffs on U.S beef. However, in 2023, Japan's duty on beef imports for trade-agreement signatories fell to 23.3 percent. Japan has also removed restrictions that date back 20 years on processed beef imports from Canada, allowing for expanded trade. The projections account for these policy initiatives.

Similar to 2022, the Government of South Korea implemented three rounds of tariff-rate quotas on a number of imported agricultural commodities in early 2023 to combat lingering price inflation. The measures were primarily aimed at reducing the price of consumer-oriented and intermediate goods like fresh vegetables, meat and fish, food and beverage ingredients, and feed products. The trade measures are expected to primarily impact imports from China, which is the main supplier of fresh vegetables, as well as poultry exporters like Brazil, Thailand, and EU countries, due to the current outbreak of highly pathogenic avian influenza (HPAI) affecting U.S. poultry exports to South Korea. The projections take these policy changes into consideration.

The projections account for the Government of Taiwan's announcement in September 2022 that it would extend tariff and tax exemptions for several agricultural commodities through the end of 2022. Tariffs on beef imports were reduced by 50 percent and wheat to zero to combat food price inflation. Imports on select butter products and milk powder were also reduced by 50

percent; tariffs on soybeans and wheat were also waived. These measures have been in place since December 2021.

India's agricultural sector policies continue to focus on food security issues, with provision of production incentives, such as procurement prices for wheat and rice, which are important consumption staples. These incentives and consumption subsidies led to improved production of major food grains. Farm yields in India, however, are still generally below the world averages, primarily due to domestic policies and trade restrictions that lower productivity. The Government of India banned the export of broken rice in 2022. In July 2023, the Government of India also banned exports of non-basmati white rice and placed a 20 percent export duty on parboiled rice. The Government of India indicated that the policy is necessary to protect the domestic prices of rice from the global surge in food prices. As incomes rise and consumption habits change, per capita demand for staples like rice and wheat are being replaced by fresh and processed products. Overall, strong population growth also drives increasing food consumption in India. Recent analysis by the Government of India notes that excess supplies of wheat and rice will soon exist, but there will be a significant deficit in oilseed and pulse production. Consequently, India's agricultural sector policies are expected to focus more on ensuring a reasonable return to producers of all crops, including coarse grains and oilseeds.

On March 24, 2023, the National Food Agency of Indonesia assigned the Government-owned National Logistics Agency (BULOG) to import 2 million metric tons of rice by the end of 2023 to replenish the nation's rice stocks. On October 11, 2023, Indonesia's National Food Agency instructed the BULOG to import 500,000 metric tons of corn to be distributed to small holder poultry farmers.

On May 25, 2023, Vietnam issued a decision to increase the added value, improve the export value, and reduce the export volume of rice to 4 million metric tons by 2030. This is a 35 percent drop from the 6.15 million metric tons Vietnam exported in 2022.

On January 13, 2023, the Philippines extended 5 percent tariffs for mechanically deboned or separated poultry imports through Dember 31, 2024. On August 24, 2023, the Philippines approved Bt cotton for commercial propagation.

Investments by Saudi Arabia in foreign agricultural production, intended to promote agricultural imports into the country, are projected to continue as the Government continues to provide investment incentives and domestic freshwater scarcity persists.

The bread subsidy in Egypt is projected to remain in place through the duration of the decade. Approximately two-thirds of Egyptians qualify for the bread subsidy, which allots the recipients 150 discounted loaves of bread per month.

Biofuel Assumptions

U.S. Biofuels

Final renewable fuel obligations for cellulosic biofuel, advanced biofuel, and total renewable fuel for 2023, 2024, and 2025 were announced by the U.S. Environmental Protection Agency (EPA) on June 21, 2023. The biomass-based diesel (BBD) standard was also set in the same announcement. These scenarios, completed in October 2023, incorporate the current volume requirements and make no assumptions about future policies throughout the Baseline period.

Corn is the primary feedstock for U.S. ethanol, accounting for more than 98 percent of production, and prospects for cellulosic ethanol remain limited. Over the period, corn use for ethanol production is expected to remain relatively flat with slight growth. Initially, corn use for ethanol grows through the middle of the period and subsequently falls on lower gasoline consumption. New technological developments in sustainable aviation fuel production, using ethanol as a feedstock, boost domestic ethanol use in the second half of the Baseline projection during the period of declining gasoline consumption. Ethanol exports are assumed to remain a small share of ethanol consumption, with limited potential to expand for fuel use or other industrial applications. Ethanol imports remain small and constant throughout the period. Ethanol remains a substantial source of demand for the corn sector, accounting for about one-third of total U.S. corn use through the projection period.

The Baseline anticipates declines in overall U.S. gasoline consumption through the decade. The United States is not projected to return to annual gasoline consumption levels seen prior to COVID-19, as electric vehicles, improved fleet efficiency, and lifestyle changes affect motor vehicle fuel consumption. Most gasoline in the United States continues to be a 10 percent ethanol blend (E10). Some growth is projected in the 15 percent ethanol blend (E15) market early in the projection period, but infrastructure and other constraints limit growth over the long term and the expansion of mid- and high-level blending is not sufficient to prevent declining U.S. domestic fuel ethanol use. The 85 percent ethanol (E85) market remains small with limited growth potential.

The volume requirement for U.S. biomass-based diesel use, as administered by the EPA under the Renewable Fuels Standard, steadily increases over 2023–25 with 2.82 billion gallons for 2023, 3.04 billion in 2024, and 3.35 billion gallons in 2025. The projection assumes the volume requirement continues at the 2025 level. Some production of fatty acid methyl ester (FAME) biodiesel and renewable diesel above the biomass-based diesel volume requirement is assumed to continue meeting a portion of the nonspecific advanced biofuel requirement. The Inflation Reduction Act extended the BBD $1.00 per gallon Federal tax credit through 2024 for biodiesel and renewable diesel. In addition, the bill provided a tax credit for sustainable aviation fuel ranging from $1.25 to $1.75 per gallon through 2024 with clean-fuel production credits starting in 2025 through 2027, which offer incentives based on greenhouse gas (GHG) reductions for clean on-road and aviation fuels.

California’s Low Carbon Fuel Standard (LCFS) program remains a significant driver for renewable diesel expansion in the United States. Currently, California consumes a large amount of U.S. renewable diesel production. The recent adoption and expansion of LCFS-type programs in the United States and abroad support the continued development of renewable diesel and sustainable aviation fuel (SAF) capacity which underpins expanded domestic usage and exports over the baseline period. California is the largest fuels market in the country and combined renewable diesel and biodiesel use in the diesel pool reached 45 percent, by volume, in 2022. Through the first half of 2023, the volume grew to 59 percent. This penetration rate is expected to grow further, supported by California’s LCFS and carbon market. In the LCFS-type markets, renewable diesel and biodiesel produced with low-carbon intensity feedstocks are better value propositions than using vegetable oils. USDA expects that the planned expansion of renewable diesel production plants could rely increasingly on non-soybean oil feedstocks to fulfill a large portion of the growing demand due to lower carbon intensity scores. Nevertheless, vegetable oil feedstock usage continues to grow over the period.

Demand increases for renewable diesel and sustainable aviation fuel are expected to support soybean oil prices over the near term. With prices at or exceeding 50 cents per pound, USDA expects market erosion for the conventional, non-integrated FAME producers. Biofuel blenders could increasingly substitute FAME with renewable diesel because it is considered a higher quality, drop-in replacement fuel. Soybean crush expansion over the Baseline period drives soybean oil supply growth. Higher supplies combined with a decelerating biofuel usage trajectory for soybean oil leads to prices falling over the later part of the Baseline period, to the low 40 cent per pound or below range. The scenario assumes expansion in soybean oil-based renewable diesel as well as substitution for FAME in markets. The projections make no assumptions about future policies throughout the Baseline period and do not include proposed LCFS-type programs in other States.

International Biofuels

Europe, Brazil, and Indonesia remain the major foreign markets for transport biofuels, while China, India, Argentina, Thailand, Canada, and Malaysia remain second-tier markets. Another dozen or so countries remain minor players for transportation biofuels. The projection period assumes no change in these groupings. The larger fuel markets where biofuels remain generally unused and could make a difference in global biofuel demand, are most notably Japan and India for biodiesel, Indonesia, Malaysia and South Korea for ethanol, and Russia, Mexico, Iran, Saudi Arabia, and Nigeria for both fuel types.

Most biofuel-producing countries produce and use both ethanol and biodiesel, but others are limited to one type if there is no feedstock industry to support both. Except for Japan, all the biofuel consuming countries have feedstock industries large enough to support most, if not all, domestic demand. All are expected to continue managing their markets to avoid undue price pressures or increased reliance on imports. Developing countries focus on economic benefits to rural areas and are sensitive to balance of trade- and debt-servicing costs using biofuels production to decrease fossil fuel imports. Biofuel markets are increasingly dependent on changes in fuel pool size in most countries, as inclusion rates of biofuels in fossil fuels have mostly stagnated in recent years, adjusting up or down temporarily to dampen price spikes and inflation. Many countries place limitations placed on imports of biofuels and biofuel feedstock, and are not moving to introduce new biofuels or policies to incentivize lower carbon emissions.

Commercial-scale production using the hydrogenation-derived renewable diesel (HDRD) process is established in Europe, the United States, and export-oriented Singapore and China with incentivized demand for the fuel in Europe, the United States, and Canada. Utilization rates are high in select regions of Europe, the United States, and Canada, and are expected to climb higher. This is expected to account for most of global demand growth for HDRD in the next decade even as new markets are added in South America and Southeast Asia. While volumes remain small, sustainable aviation fuel (SAF) production is established and will continue to grow in the United States and Europe, which are expected to account for most of the global demand growth over the projection period. Global SAF use is expected to expand with the carbon neutral (“net-zero”) goal adopted by the International Civil Aviation Organization and continued proliferation of corporate net-zero goals.

Biofuels in countries that produce and consume them are principally supported by usage mandates and tax policy, and in some cases price-setting. Carbon markets are expected to proliferate, but their future effectiveness and degree to which they target transport fuels is

uncertain. The European Union further strengthens renewable energy goals and continues policies that have the potential to reduce production of food and feed-based biofuels while incentivizing the use of waste products. The European Union is further expected to continue supporting research and development for biofuels not dependent on arable land use. In addition, the high cost of biofuels and their feedstock, the elimination of palm oil use in biofuel production, difficulties sourcing adequate waste-based feedstock, and fuel pools in long-term decline or faltering create a bearish outlook for the production of food and feed-based biofuels in the European Union.

Brazil and Canada could see higher penetration rates for existing biofuels with HDRD and SAF production added to the mix. Brazil is considering raising the rates at which ethanol and biodiesel are blended into fossil fuels. Canada's average national ethanol blend approaches the U.S. average, and renewables in diesel is expected to see advances supported by its Clean Fuel Standard and carbon market. Both Canada and Brazil have overlayed mandates with market-oriented policy to lower the carbon intensity of transport fuels.

Indonesia, the largest market for biodiesel, is expected to extend its lead as production and use expands further with both blending and diesel pool growth. Indonesia is blending biodiesel at a 35 percent inclusion level (B35) and a move to B40 is planned for 2024. Over the long-term, the outlook for high-level blending seems favorable as long as public concerns over high domestic palm oil prices used for food are adequately addressed. Indonesia's work with Japan's truck manufacturers to safeguard engines at higher blend levels has been successful. No fuel ethanol program relevant to global markets is expected. China's fuel ethanol program remains a surplus corn disposal program, and no major ethanol expansion drive is expected. With no national support for biodiesel, domestic use in China continues at low levels.

India's redesign of its pricing and procurement system, expanded feedstock eligibility, and investments in production capacity support continued historically high levels of fuel ethanol production and use. However, inclusion rates of 20 percent of ethanol (E20) by 2025 remains out of reach without imports given fuel pool growth. India's biodiesel market remains undeveloped due to feedstock scarcity and ethanol imports are not permitted. Argentina and Thailand, where biofuel imports are prohibited, are expected to see little or no meaningful change in the coming decade. Despite considerable potential, Argentina's long history of market control policies remains unfavorable to domestic biofuel suppliers. Thailand's feedstock limitations continue as it pivots to electric vehicles and improved mass transit.

Brazil is expected to drive more additional ethanol use than any other country over the next decade. Corn now accounts for 20 percent of the country's ethanol production—sugarcane covers the rest—and that share is expected to grow. Brazil and Indonesia's demand drive much of the world's biodiesel expansion, the former mainly soyoil-based and the latter palm oil based. Europe and the United States drive most of the expansion for HDRD and SAF, the former using soyoil and a mix of waste-based feedstock and the latter mostly using waste feedstock.

The United States remains the world's leading exporter of fuel ethanol with non-fuel end uses gaining greater importance, the latter supported by sales to Japan, Korea, and India. Canada remains the top U.S. ethanol export market, while ethanol sales to Brazil continue to be volatile. Brazil remains the second-largest ethanol exporter. Argentina and possibly China are projected to remain the world's leading exporters of biodiesel and Europe remains the main buyer.

Global gasoline pool growth (and thus fuel ethanol growth prospects) is waning with peak demand possibly reached this decade. Factors driving change through the decade are continued internal combustion engine fleet efficiency gains coupled with electric vehicle tax credits, a proliferation of new electric vehicles (EV) models, and investments in charging infrastructure as well as changing consumer lifestyles and mass urbanization. The global diesel pool (including biocomponents) fares better than the gasoline-ethanol pool. Unlike the global gasoline market, diesel has fully recovered from the impact of the pandemic and its economic aftershocks, and the renewable alternatives to liquid biofuels will take longer to commercialize for heavy-duty engines.

Macroeconomic Projections

The macroeconomic projections underlying the USDA's 2024 Baseline reflect modest economic growth in the near term following the volatility experienced during and shortly after the Coronavirus (COVID-19) pandemic. Economic growth remains positive but global growth rates continue to contract over the long term. Negative ramifications from Russia's war on Ukraine are diminishing as food and energy prices are lower than their wartime highs. The macroeconomic forecasts were finalized in August 2023 and were used to develop the model-based international projections for the Baseline.

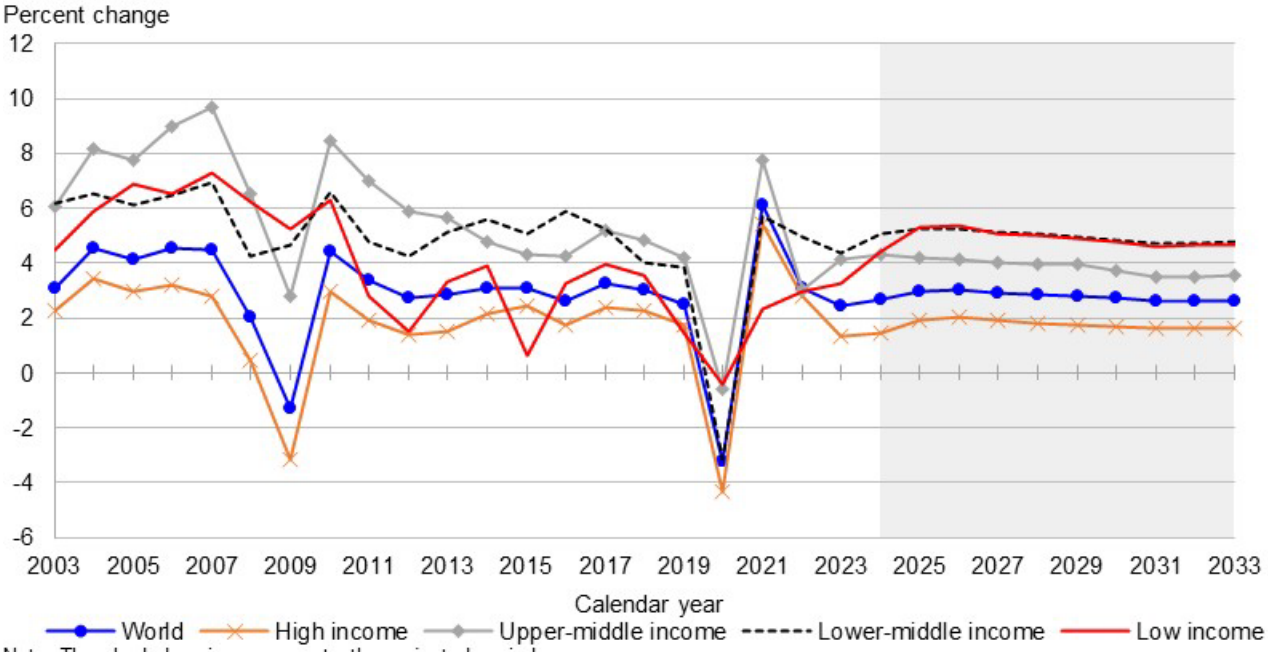
In the near term, global economic growth reflects continued, yet diminished inflationary pressures. Tightening monetary policy and the recovery from supply chain shocks have helped to drive inflation sharply lower from recent highs. However, inflation remains elevated, which will continue to depress global economic output entering the 2024–2033 projection period.

The macroeconomic assumptions and analysis underlying the Baseline are compiled by USDA, Economic Research Service (ERS) analysts based on information from private forecast services, U.S. Government and international agency projections, and ERS regional and country experts. The projections were completed in August 2023 and reflect policies in place at that time and the associated expectations for market impacts. The assumptions for global Gross Domestic Product (GDP), U.S. macroeconomic indicators, exchange rates, and population data are presented in tables 1–4 at the end of this section.

Global Growth Outlook

Over the past few years, countries around the world have responded to rising prices with a variety of anti-inflationary measures. However, inflation remains persistent, albeit below the recent highs, and the global economy is projected to grow over 2024–33 at a slightly higher rate than the previous 10-year average. Following a global recovery in 2021 from the COVID-19 pandemic, global real GDP growth was projected to decrease from 3.1 percent in 2022 to 2.4 percent in 2023 due to the economic shocks and tightening monetary policies. Global GDP growth is expected to increase to 2.7 percent in 2024 as the economy makes a small recovery from the inflationary period. Global growth is then expected to settle to a long-term rate of 2.7 percent after 2027 and global real GDP growth is projected to average 2.8 percent annually during 2024–33 (table 1).

Figure 1: Real gross domestic product growth by global income classification, 2003–2033



Note: The shaded region represents the projected period.
Source: USDA, Economic Research Service based on World Bank World Development Indicators, IHS Global Insight, Oxford Economics Forecasting, as well as estimated and projected values developed by the Economic Research Service, all converted to a 2015 base year.

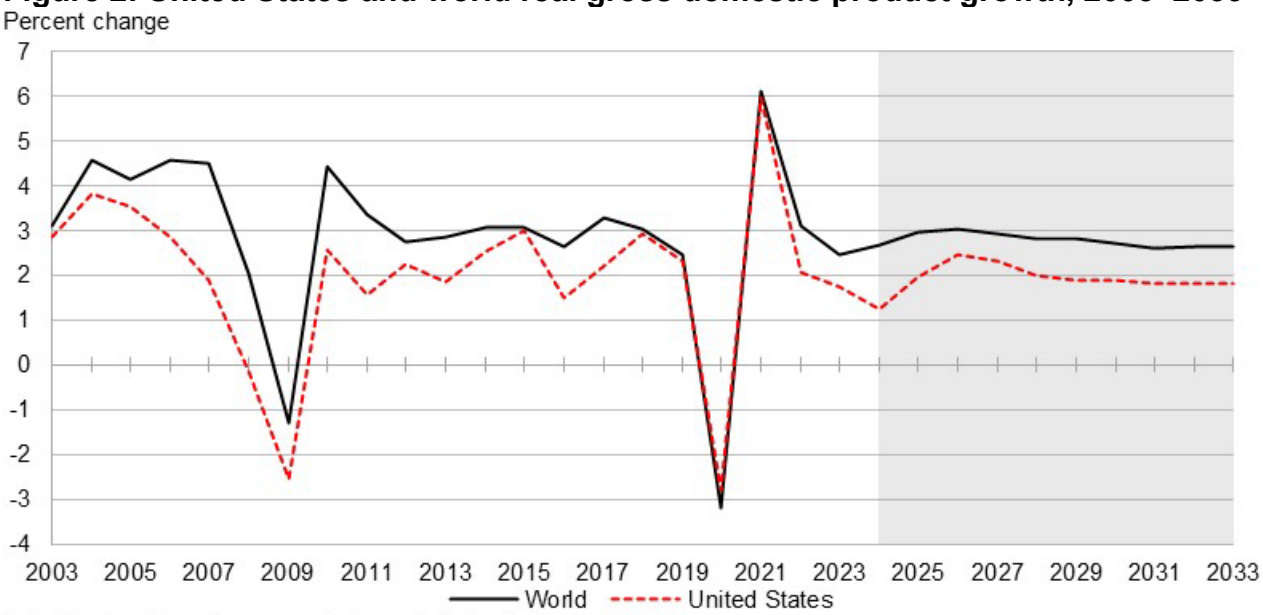
- Real GDP was expected to increase by 2.4 percent globally in 2023, a decline from the 3.1 percent growth rate in 2022. This 2023 growth rate was lower than the average growth rate of 2.6 percent during 2013–2022. Most countries showed significantly lower growth in 2023 due to worsening economic conditions reflecting inflationary pressures and tightening monetary policy. The United States, Canada, and several other major economies were projected to realize GDP gains in 2023, but less so compared to 2022.

- During 2024–33, projected global GDP growth is slightly below rates achieved before the pandemic although higher than the 2014-23 average, which encompassed COVID-19 related impacts to growth.

- Low-income countries' real GDP growth continues to be an important driver of demand for agricultural products and is expected to continue to outpace high-income country growth. During 2024–33, low-income countries' growth is projected to average 4.9 percent annually, more than double that of high-income countries, which are projected to average 1.8 percent growth. However, while growth rates have mostly recovered, both high- and low-income economies fell below pre-pandemic projected GDP growth rates.

U.S. Economic Outlook

Figure 2: United States and world real gross domestic product growth, 2003–2033



Note: The shaded region represents the projected period.
Source: USDA, Economic Research Service based on World Bank World Development Indicators, IHS Global Insight, Oxford Economics Forecasting, as well as estimated and projected values developed by the Economic Research Service, all converted to a 2015 base year.

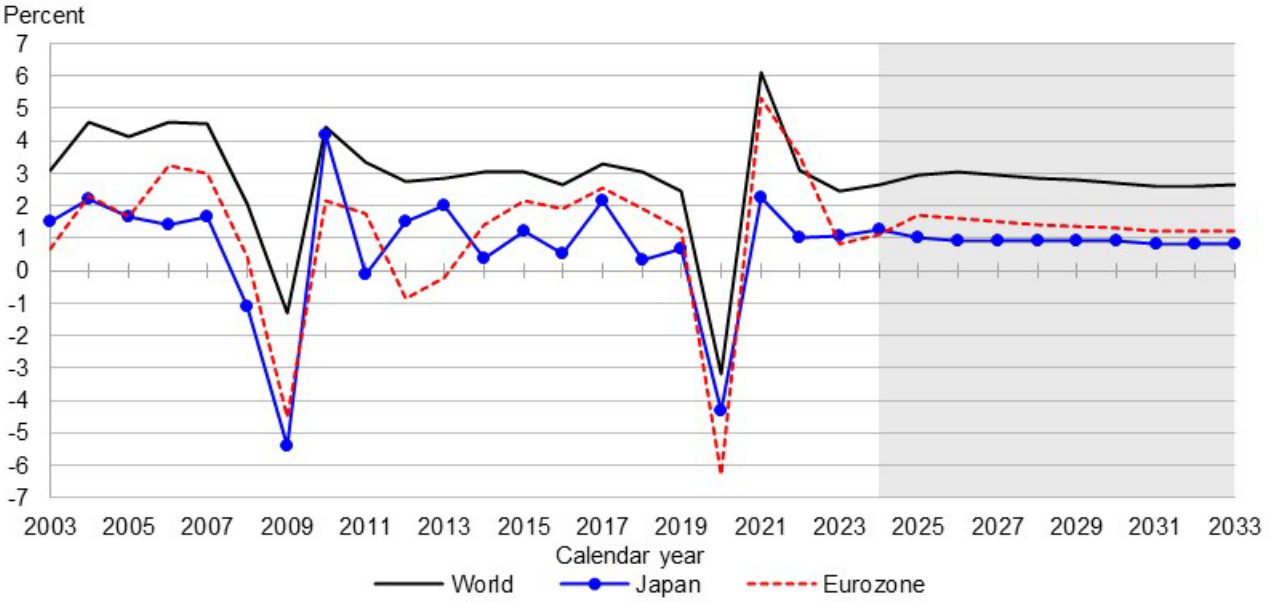
When the macroeconomic projections were completed in August 2023, U.S. real GDP growth was projected to slow to 1.7 percent in 2023 (table 1), following 2.1 percent growth in 2022. This growth rate is lower than the average growth rate of 2.2 percent during 2013–2022. Although the United States was among the leading economies to recover fully and exceed pre-pandemic levels of economic recovery in 2021, the country was also affected by inflation, along with Europe, prompting central bank tightening.

During the projection period from 2024–33, the U.S. real GDP growth is projected at an annual average of 1.9 percent. The positive average projected for 2024–33 continues beyond the initial recovery from COVID-19 but the expected trend is for lower long-term growth rates in the United States compared to previous decades.

High-Income Country Outlook

High-income economies excluding the United States were projected for slower real GDP growth in 2023. These economies were expected to average 1.1 percent real GDP growth in 2023, and average 1.6 percent annually from 2024 to 2033. Many high-income economy countries continue to experience the stressors from ongoing inflation and tightening monetary policy in the near term.

Figure 3: Japan, Eurozone, Canada real gross domestic product growth, 2003–2033



Note: The shaded region represents the projected period. The Eurozone consists of the European countries using a common currency.
Source: USDA, Economic Research Service, based on World Bank World Development Indicators, IHS Global Insight, Oxford Economics Forecasting, as well as estimated and projected values developed by the Economic Research Service, all converted to a 2015 base year.

- The European Union's (EU-27, post-Brexit) real GDP was projected to grow 0.7 percent in 2023, following the growth rate of 3.6 percent in 2022. Growth is projected to average 1.5 percent during 2024 to 2033. The macroeconomic assumptions in this year's Baseline continue to reflect Brexit, which separated the United Kingdom (UK) from the European Union in early 2020 and left 27 countries as member States of the European Union. The UK GDP growth rate was projected at 0.2 percent in 2023 and 0.6 percent for 2024. The UK average annual growth rate for the next decade is projected at 1.3 percent, lower than the EU-27's 1.5 percent. In the short term, while drought continues to affect all of Europe, Brexit-induced supply chain issues continue to depress long-term UK economic growth relative to the rest of Europe.

- Japan's economy was expected to grow 1.1 percent in 2023, with 1.2 percent growth in 2024. During 2024–33, growth is projected to average 0.9 percent annually, continuing an established downward trend associated with an aging and declining labor force, compounded by inflation and a depreciating yen.

- The Canadian economy was forecast to grow by 1.4 percent in 2023, followed by 1.6 percent growth in 2024. Canada is projected to average 1.8 percent growth annually over 2024–33.

Upper-Middle Income Country Outlook

Upper-middle income economies such as Turkey, Thailand, and Brazil were expected to experience an increase in economic growth in 2023. Real GDP growth in upper-middle income countries was projected to average 4.1 percent in 2023, an increase from 2022's 3.0 percent. Growth is expected to average 3.9 percent through the decade as these economies mount a recovery from recent inflation stressors.

- Brazil, a key economy in South America, was expected to experience a decline in real GDP growth in 2023, only growing 1.6 percent, down from 3.0 percent in 2022. Growth is projected to rise to 2.2 percent in 2024, with Brazil's economy projected to average 3.1 percent growth across the decade.

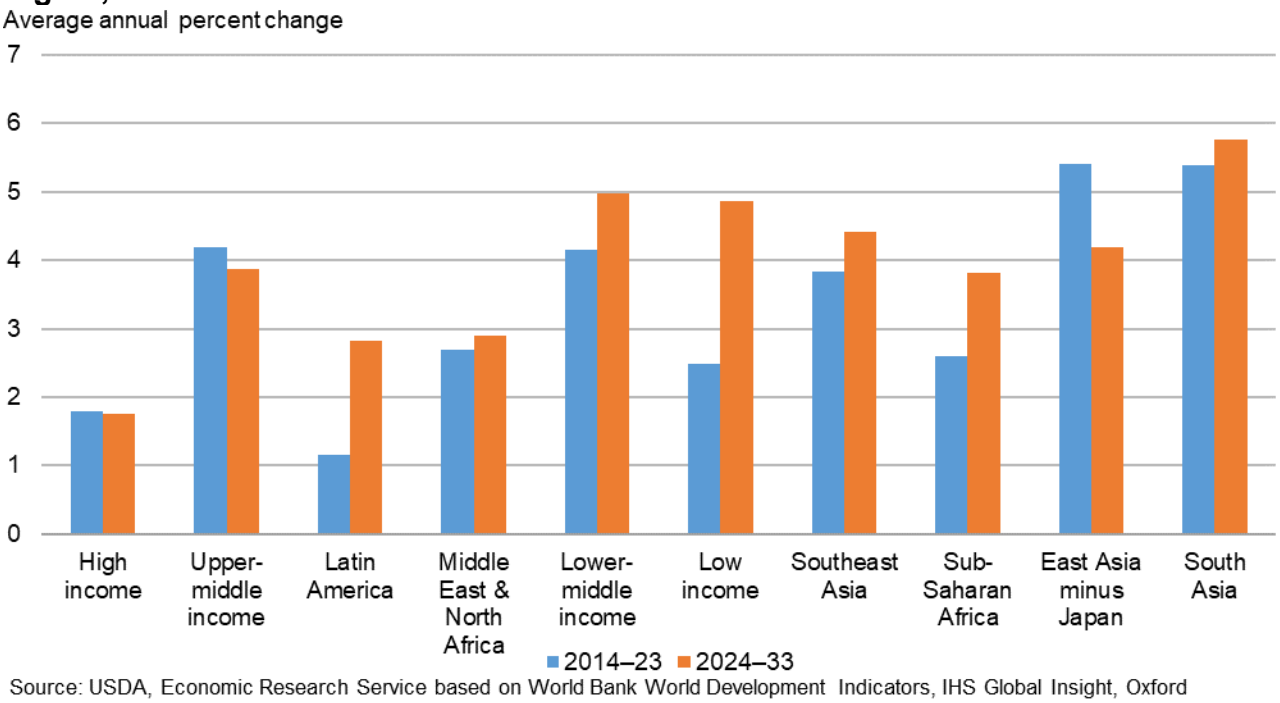
- Turkey was expecting 1.9 percent economic growth in 2023, a large decline from 2022's 5.4 percent real GDP growth, as well as a large decline from the average growth rate of 5.3 percent over 2012–2022. Growth is projected to recover to 3.0 percent in 2024, with 2.6 percent average growth from 2024 to 2033.

Lower-Middle and Low-Income Country Outlook

Similar to upper-middle income economies, lower-middle income economies such as Egypt and Vietnam are expecting growth to remain steady. These economies were projected to experience a slight drop in real GDP growth in 2023 of 4.3 percent, down from 2022's 4.9 percent. Growth is expected to increase to 5.1 percent in 2024. Average growth for 2024–2033 is projected to be 5.0 percent.

Low-income economies continue to recover from recent global economic downturns more rapidly than developed economies. Global financial conditions remain tight due to high borrowing costs, and negative spillovers from the invasion of Ukraine more than offset any near-term boost to commodity exporters from higher energy prices. However, as of August 2023, the low-income countries' real 2023 GDP growth was expected to be 3.3 percent, a slight increase from 3.0 percent in 2022.

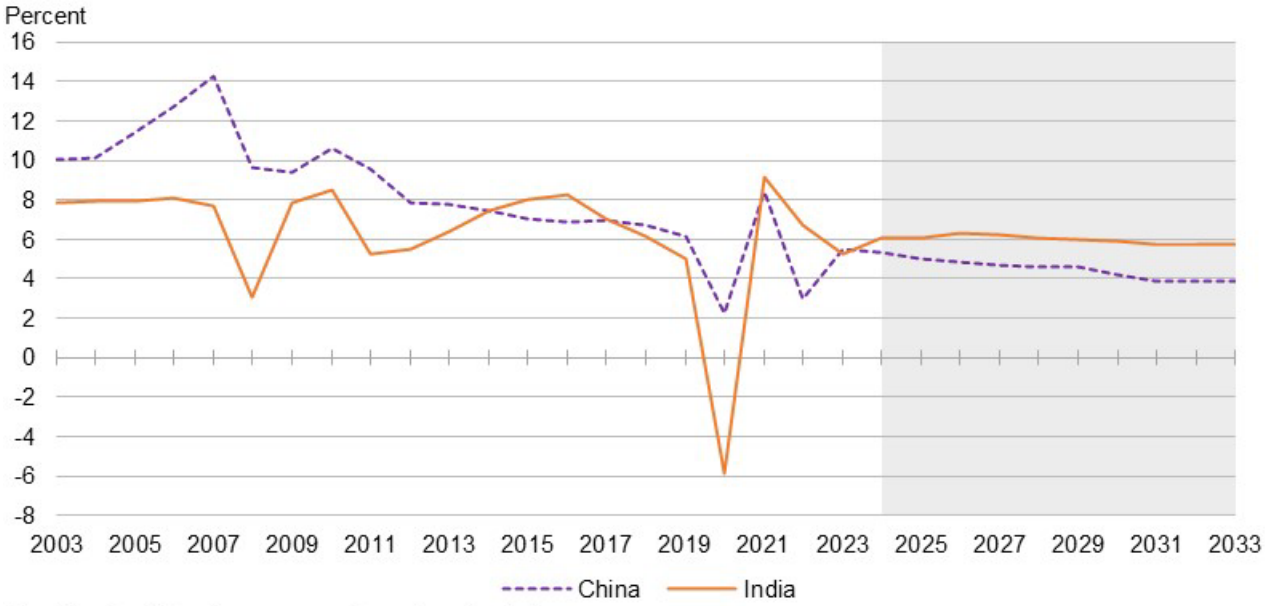
Figure 4: Real gross domestic product growth by income classification and region, 2014–2033



Source: USDA, Economic Research Service based on World Bank World Development Indicators, IHS Global Insight, Oxford Economics Forecasting, as well as estimated and projected values developed by the Economic Research Service, all converted to a 2015 base year.

Low-income country economic growth will remain a key factor in the global outlook for demand for agricultural products. Projected rising per capita income will likely lead to people in developing countries spending income gains on improving and diversifying their diets. Real GDP growth in developing regions is projected to continue to outpace growth in developed countries over the course of 2024–33. However, growth is projected to decelerate across developing countries.

Figure 5: China and India real gross domestic product growth, 2003–2033



Note: The shaded region represents the projected period.
Source: USDA, Economic Research Service based on World Bank World Development Indicators, IHS Global Insight, Oxford Economics Forecasting, as well as estimated and projected values developed by the Economic Research Service, all converted to a 2015 base year.

GDP growth rates are projected to vary substantially by country and region during the projection period. China, India, and Southeast Asia are expected to have among the highest growth rates globally while East Asia and Latin America are projected to experience more muted growth. Growth prospects in Africa and the Middle East are mixed.

- China, India, and Southeast Asian countries were among those that experienced the largest real GDP growth in 2023.

- China's economy was projected to grow 5.5 percent in 2023, supported by fiscal spending and exports. China's export reliance will keep growth rates lower than pre-pandemic levels for the rest of the decade, especially as exports have begun to decline. Political and trade conflicts over myriad foreign policy issues (e.g., Taiwan tensions, Russian-Ukraine war) will exert uncertain effects on China's continued recovery, with the Russia-Ukraine conflict potentially lending advantages to China through increased exports and cheaper oil imports from Russia. Finally, China's ongoing property crisis and demographic challenges (e.g. aging population) are likely to be a major headwind that will affect its GDP growth as it reduces growth in the real estate sector, and its economy is therefore expected to slow from the prior decade (2014–23), to average 4.5 percent growth for the coming decade.

- Other major economies in Asia like India, Indonesia, Philippines, and Vietnam, are projected to average higher growth rates of up to 6 percent or more annually during 2024–33.
- India's growth rate for 2023 is projected at 5.2. This sets the world's second most populous country on the path of continued recovery following the sharp 5.9-percent decline in GDP growth in 2020 due to a prolonged national lockdown aimed at controlling COVID-19. India is also projected to average a higher growth rate of 6.0 percent annually over the next decade

from 2024–33, an increase over the previous decade's average annual growth rate of 5.7 percent.

- During 2024–33, South Asian economies collectively are projected to average 5.8 percent real GDP growth annually, with India serving as the region's leading driver of economic growth. Bangladesh was forecast to grow at a rate of 4.7 percent in 2023, while Pakistan was set for a decline of 0.3 percent.

- Japan was set to experience a slightly higher rate of real GDP growth in 2023, 1.1 percent, up from 1.0 percent in 2022. However, an aging population and inflation keep Japan's average annual growth rate projection for 2024–33 to under 1.0 percent. Other East Asian economies including South Korea and Taiwan saw their recovery rates slow in 2023, whereas Hong Kong experienced positive growth. For the rest of the decade, South Korea, Taiwan, and Hong Kong are projected to average 2.0, 2.1, and 2.0 percent growth annually, respectively.

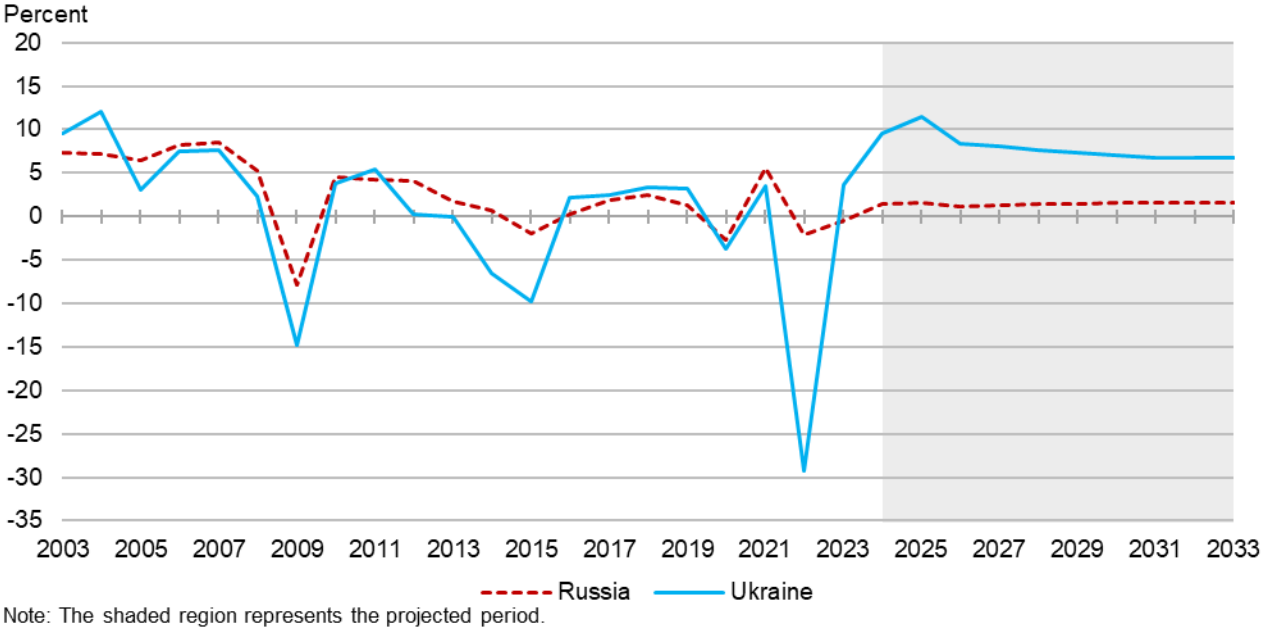
- Southeast Asia was forecast to continue its recovery that began in 2021 with growth rates ranging from 3.0 to over 6.0 percent in 2023. In the longer term, Southeast Asia is projected to remain one of the fastest growing regions in the world with an average annual growth rate of 4.4 percent during 2024–33.

- Since 2020, Latin America has been among the world's regions most affected by the COVID-19 pandemic. A prolonged period of depressed growth was experienced before the region began to reach pre-pandemic growth levels. Real GDP in Latin America was expected to grow 1.8 and 2.3 percent in 2023 and 2024, respectively. Growth is projected to average 2.8 percent annually during 2024–33. Growth in the major economies of Latin America, particularly Mexico, Argentina, and Colombia are expected to be significantly slowed due to social and policy uncertainties, and rising inflation in product markets. The sluggish long-term recovery is largely the result of weakening investment, falling private consumption, and rising borrowing costs, especially in Argentina and Colombia.

- Real GDP in Sub-Saharan Africa, the poorest region in the world, is forecast to continue to recover from the pandemic shock with 3.1 percent growth in 2023, slightly lower than 2022's 3.5-percent growth. The region has a projected 3.7 percent growth rate in 2024. Growth in Sub-Saharan Africa is projected to average 3.8 percent per year during 2024–33. Nigeria and South Africa (the region's two largest economies) were projected to experience depressed growth in 2023, at 2.9 percent and 0.5 percent, respectively. Reliance on natural resources, particularly oil, without equivalent diversified investments factors into the reserved growth prospects for these two countries. The Economic Community of West Africa (ECOWAS) outside of Nigeria and South Africa, has strong short-term economic growth and continues to out-perform its neighbors with an average annual 4.8 percent growth projected for 2024–33.

- Most of the North Africa and the Middle East region economies were projected to expand in 2023, though at lower rates than in 2022. North Africa and the Middle East are projected to grow at 3.7 and 2.7 percent, respectively, for the rest of the decade.

Figure 6: Russia and Ukraine, real gross domestic product growth, 2003–2033



Note: The shaded region represents the projected period.
Source: USDA, Economic Research Service based on World Bank World Development Indicators, IHS Global Insight, Oxford Economics Forecasting, as well as estimated and projected values developed by the Economic Research Service, all converted to a 2015 base year.

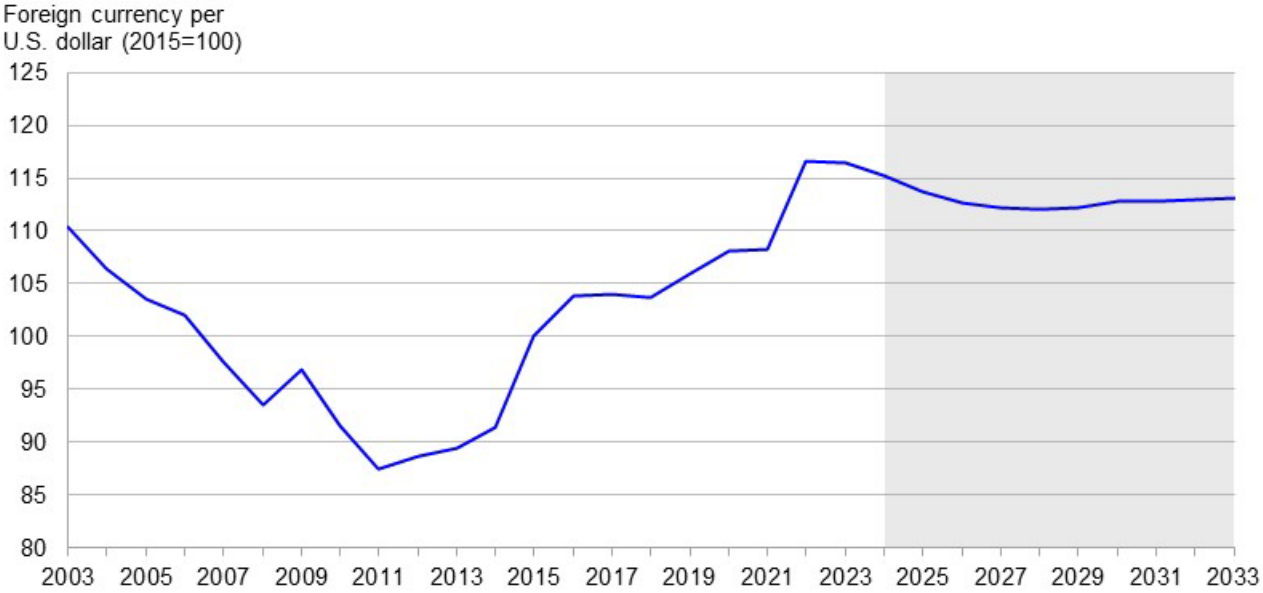
The ongoing Russian war with Ukraine, which began in February 2022, continues to disrupt global markets and contribute to geo-political tensions. Additional global conflicts have the potential to further disrupt global trade. The macroeconomic projections reported here do not factor in the costs of potentially significant disruptions to shipping through the Red Sea due to terrorist attacks by the Houthis. These attacks started well after the projections were made in August 2023. As of early 2024, the effects of these attacks were not yet well-known.

- Ukraine's economic output contracted by 29.2 percent in 2022. Despite expectations for war in Ukraine potentially lasting years, projected long-term growth is optimistic with a 3.6 percent recovery in 2023 and further growth of 9.6 percent and 11.5 percent in 2024 and 2025, respectively. From 2024–33, Ukraine is projected to experience an average annual growth rate of 8.0 percent, but real GDP does not exceed pre-war levels until 2027.

- Sanctions by a variety of countries against Russia in response to its invasion of Ukraine have had potentially negative impacts on its economy and its economic growth. Russia's economy shrunk by 2.1 percent in 2022, which was expected to continue with a 0.6 percent decline in 2023. Russia's long-term growth from 2024–33 is projected at 1.5 percent due to the continued lack of access to international banking, credit, and product markets. Most remaining former Soviet States are forecast to experience markedly better prospects with average long-term growth projected to be 3.3 percent from 2024–33.

Exchange Rate Outlook

Figure 7: Agricultural trade-weighted U.S. dollar exchange rate, 2003–2033



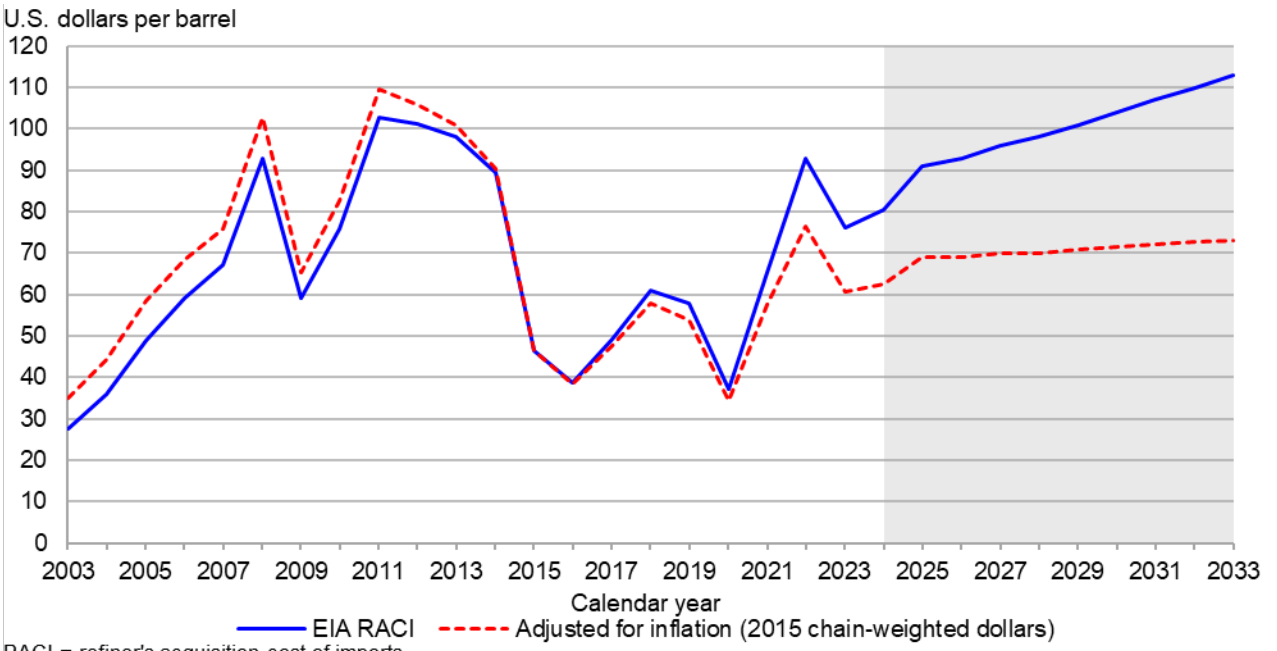
Note: The shaded region represents the projected period.
Source: USDA, Economic Research Service based on IHS Market Insight, and estimated and projected values developed by the Economic Research Service, all converted to a 2015 base year.

The real (inflation-adjusted) agricultural trade-weighted exchange rate for the United States in 2023 was expected to decline slightly after growing 7.7 percent in 2022 (table 3). The U.S. dollar, which was on upward trend since 2011, peaked in 2022. For the projection period, the agricultural trade-weighted exchange rate of the U.S. dollar dips and then remains relatively flat. The value of the dollar versus the currencies of U.S. trade partners affects the demand for U.S. agricultural exports, particularly bulk commodities.

Over the 2024–33 projection period, the U.S. dollar is forecast to weaken gradually in the initial years but remains strong compared to many currencies. The U.S. dollar value is expected to decrease slightly against the currencies of its agricultural trade partners.

Oil Price Outlook

Figure 8: Energy Information Administration refiners acquisition cost of imports, 2003–2033



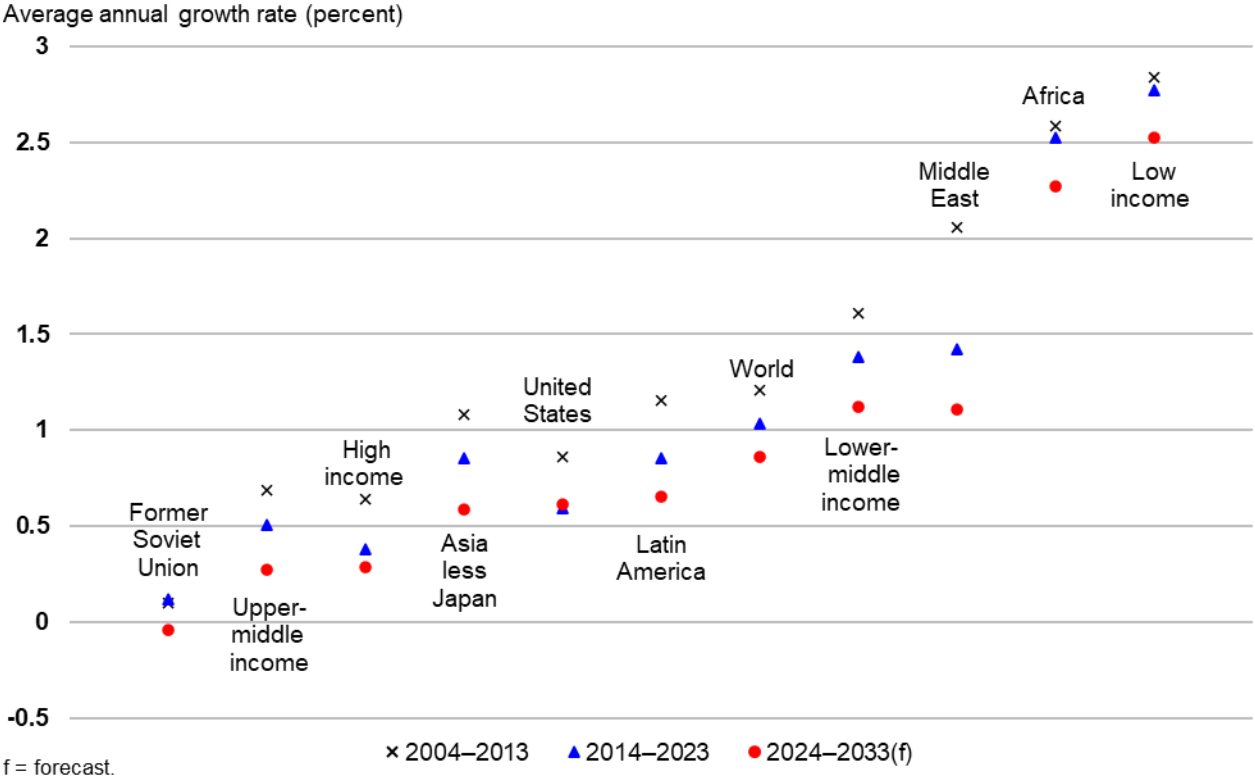
RACI = refiner's acquisition cost of imports.
Note: The shaded region represents the projected period.
Source: USDA, Economic Research Service based on data from Department of Energy, Energy Information Administration.

Oil prices in 2021 completely rebounded from the pandemic-induced recession price level in 2020 and climbed to more than $90 per barrel in 2022. However, the projected price of crude oil in 2023 was forecast to be substantially lower than its 2022 values. This is attributable to the waning impact of inflation and energy supply disruptions from Russia's war against Ukraine. While crude oil demand is projected to slow, nominal oil prices are expected to rise during 2024–33 due to supply management measures implemented by the Organization of Petroleum Exporting Countries (OPEC) and Russia (table 2).

In the longer term, nominal crude oil prices are projected to rise from about $76 per barrel in 2023 to $113 per barrel in 2033. Oil price increases are anticipated to lead to higher production costs for agricultural producers in the United States and other countries.

Population Projections

Figure 9: World population growth rates, 2004–2033



f = forecast.
Source: USDA, Economic Research Service based on Department of Commerce, Bureau of the Census, U.S. Department of Agriculture, Economic Research Service, International Database.

World population growth is projected to continue to slow throughout 2024–33, with annual growth projected at 0.9 percent per year compared with 1.0 percent over the prior decade (table 4). Population growth rates vary by a country or region's income level, with higher income countries and regions associated with lower growth rates than those with lower incomes.

- High-income countries have relatively low projected population growth rates, averaging 0.3 percent per year over the coming decade. The U.S. population is projected to grow faster than most other high-income countries; 0.6 percent per year, on average. Population in the EU-27 is expected to remain flat, while "other Europe" (which includes the UK), averages 0.1 percent annual growth. Japan's population is projected to continue to decline.

- Population growth rates in low-income countries are higher compared to high-income countries but are also projected to slow during 2024–33. Slower population growth in low-income regions is associated with rising incomes, literacy rates, and life expectancy, all of which tend to lower birth rates. The average annual population growth rate for low-income countries is projected about 2.5 percent during 2024–33.

- Across low and lower-middle income regions, population growth rates vary inversely with per capita income. East Asia, with generally high incomes, is projected to have a population growth rate near zero during 2024–33. Lower income regions have higher projected growth rates, including Southeast Asia (0.8 percent), South Asia (0.9 percent), and the Middle East

(1.1 percent). Population growth in the lowest income region, Sub-Saharan Africa, is projected to average 2.5 percent during 2024–33. Overall, lower-middle and low-income region population growth is projected to slow compared to the growth rates of previous decades.

- Average annual population growth in the former Soviet States is expected to decline to below zero during the 10-year projection period but the annual average is 0.0 percent. In Russia and Ukraine, populations are forecast to decline due to poor and worsening economic prospects as a result of the ongoing war. These projections, based on data from the U.S. Department of Commerce, Bureau of the Census, do not account for people leaving Ukraine due to the war.

Table 1: Global real Gross Domestic Product (GDP) shares and GDP growth assumptions to 2033

Region/country	GDP 2023	GDP share 2021-23	Per capita GDP, 2023	2022	2023	2024	2025	2026	2027	Average 2004–13	Average 2014–23	Average 2024–33
	Dollars (billions, 2015)	Percent	Dollars (2015)	Annual percent change in real GDP								
World	91,148	100.0	11,636	3.1	2.4	2.7	3.0	3.0	2.9	3.2	2.6	2.8
U.S. and Canada	23,070	25.5	61,701	2.2	1.7	1.3	2.0	2.4	2.3	1.8	2.1	1.9
Canada	1,758	1.9	45,596	3.4	1.4	1.6	1.9	2.0	1.9	2.8	1.6	1.8
United States	21,312	23.6	63,552	2.1	1.7	1.2	2.0	2.5	2.3	1.8	2.1	1.9
Latin America	5,577	6.1	8,888	3.7	1.8	2.3	2.8	2.9	2.9	3.8	1.2	2.8
Mexico	1,276	1.4	9,815	3.1	2.4	2.0	2.3	2.2	2.2	2.3	1.5	2.2
Caribbean and Central America	645	0.7	7,014	4.4	3.1	2.8	3.0	3.0	3.0	3.2	2.0	2.9
South America	3,656	4.0	9,016	3.8	1.4	2.3	2.9	3.2	3.1	4.5	0.9	3.0
Argentina	601	0.7	12,899	5.2	0.8	1.3	1.5	1.5	1.8	5.1	0.3	2.2
Brazil	1,924	2.1	8,922	3.0	1.6	2.2	3.1	3.4	3.3	4.0	0.4	3.1
Other South America	1,131	1.2	7,894	4.5	1.4	2.8	3.3	3.7	3.3	5.1	2.3	3.3
Europe	19,705	21.8	35,921	3.6	0.7	1.2	1.7	1.7	1.6	1.2	1.6	1.5
European Union 27	15,265	16.9	33,830	3.6	0.7	1.3	1.9	1.8	1.6	1.1	1.6	1.5
Other Europe 1/	1,318	1.5	43,351	2.6	1.0	1.4	1.6	1.7	1.7	2.1	1.7	1.6
Former Soviet Union (FSU)	2,109	2.4	7,347	-1.9	0.7	2.4	2.5	2.2	2.2	4.8	1.0	2.3
Russia	1,447	1.6	10,279	-2.1	-0.6	1.5	1.6	1.2	1.3	4.2	0.5	1.5
Ukraine	74	0.1	1,717	-29.2	3.6	9.6	11.5	8.3	8.0	2.7	-3.1	8.0
Other FSU-10 2/	588	0.6	5,707	3.7	3.4	3.8	3.7	3.6	3.4	7.6	3.2	3.3
Asia and Oceania	34,323	37.2	7,954	3.1	4.2	4.4	4.2	4.2	4.1	5.8	4.2	3.9
East Asia	24,615	26.7	15,265	2.4	4.3	4.3	4.0	3.9	3.8	6.0	4.3	3.6
China	17,251	18.6	12,305	3.0	5.5	5.3	5.0	4.9	4.7	10.3	6.0	4.5
Hong Kong	337	0.4	46,214	-3.5	5.2	3.3	2.8	2.1	2.0	4.6	1.4	2.0
Japan	4,547	5.1	36,681	1.0	1.1	1.2	1.0	0.9	0.9	0.8	0.5	0.9
Korea	1,757	1.9	33,797	2.6	1.6	2.6	2.2	2.1	2.0	4.0	2.4	2.0
Taiwan	679	0.8	28,818	2.5	1.2	3.3	2.3	2.0	2.0	4.3	3.1	2.1
Southeast Asia	3,292	3.5	4,801	5.5	4.3	4.7	4.7	4.6	4.5	5.5	3.8	4.4
Cambodia	26	0.0	1,504	5.0	5.6	6.1	6.4	6.5	6.3	7.9	5.3	6.2
Indonesia	1,175	1.3	4,284	5.3	4.7	4.8	5.0	5.0	5.0	5.7	4.2	4.8
Malaysia	398	0.4	11,892	8.8	3.4	4.4	4.5	4.3	4.2	5.0	4.0	4.1
Burma	75	0.1	1,293	2.6	3.0	2.5	2.6	2.6	2.5	10.4	2.8	2.4
Philippines	432	0.5	3,732	7.7	5.9	6.0	5.7	5.3	4.9	5.4	4.9	4.9
Thailand	466	0.5	6,690	2.6	3.4	3.7	3.6	3.5	3.4	4.0	2.0	3.3
Vietnam	304	0.3	2,968	8.0	6.3	6.8	6.6	6.6	6.5	6.4	6.0	6.3
South Asia	3,943	4.2	2,117	6.0	4.6	5.9	6.0	6.1	6.0	6.4	5.4	5.8
Bangladesh	322	0.3	1,927	6.5	4.7	5.6	6.2	5.8	5.7	6.1	6.5	5.6
India	3,133	3.3	2,315	6.7	5.2	6.1	6.0	6.3	6.2	6.8	5.7	6.0
Pakistan	353	0.4	1,424	4.5	-0.3	4.0	5.6	4.7	4.6	4.2	3.7	4.4
Oceania	1,878	2.1	44,574	3.5	1.5	2.4	2.9	3.0	2.9	3.0	2.4	2.6
Australia	1,620	1.8	61,226	3.7	1.4	2.3	3.0	3.0	2.9	3.1	2.3	2.6
New Zealand	218	0.2	42,597	2.2	1.0	2.7	2.7	2.7	2.6	2.1	2.8	2.3
Middle East	3,927	4.3	11,235	6.0	2.5	2.9	3.0	2.6	2.6	5.0	2.6	2.7
Iran	409	0.4	4,671	2.3	2.8	3.5	3.7	4.3	4.1	2.3	1.2	3.2
Iraq	209	0.2	5,055	8.0	2.5	2.1	3.6	2.1	2.2	11.7	2.2	2.4
Saudi Arabia	756	0.8	21,035	8.7	3.0	2.5	3.5	1.1	1.6	4.6	2.3	2.7
Turkey	1,206	1.3	14,418	5.4	1.9	3.0	2.4	2.4	2.5	6.0	4.6	2.6
Other Middle East	1,347	1.5	13,331	5.8	2.5	3.1	3.1	3.0	2.9	4.9	1.9	2.8
Africa	2,839	3.1	2,008	3.8	3.3	3.8	4.1	3.9	3.8	5.0	2.7	3.8
North Africa	864	0.9	4,118	4.5	3.7	3.9	4.0	4.2	4.0	3.9	3.1	3.7
Egypt	477	0.5	4,361	6.6	4.0	4.2	4.8	5.4	5.0	4.6	4.4	4.4
Morocco	117	0.1	3,206	1.0	2.8	3.2	3.0	3.3	3.3	4.6	2.3	3.2
Sub-Saharan Africa	1,975	2.2	1,640	3.5	3.1	3.7	4.1	3.8	3.8	5.6	2.6	3.8
South Africa, Republic	329	0.4	5,667	2.0	0.5	1.8	2.5	2.2	2.3	3.3	0.7	2.5
Nigeria	550	0.6	2,381	3.1	2.9	2.9	3.1	2.2	2.4	6.7	2.0	2.7
Other West African Community	275	0.3	1,358	4.9	5.4	5.7	5.4	5.3	5.1	4.8	5.2	4.8
Other Sub-Saharan Africa	821	0.9	1,152	3.8	3.4	4.4	4.9	4.9	4.8	6.2	3.2	4.7

Note: 1/ Other Europe now includes Great Britain. 2/ Armenia, Azerbaijan, Belarus, Georgia, Kazakhstan, Kyrgyzstan, Moldova, Tajikistan, Turkmenistan, Uzbekistan.

Source: USDA, Economic Research Service estimations and projected values based on data from World Bank, World Development Indicators, IHS Global Insight, and Oxford Economics. Forecasting Projections completed in August 2023.

Table 2: U.S. macroeconomic assumptions to 2033

Item	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
Gross domestic product												
Nominal billion dollars	25,463	26,821	27,771	28,998	30,315	31,628	32,901	34,198	35,530	36,896	38,292	39,715
Real 2015 chain-weighted dollars	20,946	21,312	21,576	22,002	22,544	23,060	23,517	23,965	24,411	24,852	25,286	25,712
Percent change	2.1	1.7	1.2	2.0	2.5	2.3	2.0	1.9	1.9	1.8	1.7	1.7
Disposable personal income												
Nominal billion dollars	18,581	19,919	20,812	21,836	22,710	23,500	24,288	25,127	25,994	26,901	27,851	28,836
Percent change	-0.3	7.2	4.5	4.9	4.0	3.5	3.4	3.5	3.4	3.5	3.5	3.5
Nominal per capita, dollars	55,783	59,396	61,649	64,259	66,403	68,284	70,145	72,135	74,190	76,347	78,612	80,957
Percent change	-1.0	6.5	3.8	4.2	3.3	2.8	2.7	2.8	2.8	2.9	3.0	3.0
Real 2015 chain-weighted dollars	15,284	15,828	16,170	16,568	16,888	17,133	17,361	17,608	17,859	18,120	18,392	18,668
Percent change	-6.8	3.6	2.2	2.5	1.9	1.5	1.3	1.4	1.4	1.5	1.5	1.5
Real per capita, 2015 chained dollars	45,888	47,198	47,897	48,756	49,380	49,785	50,139	50,550	50,973	51,425	51,912	52,412
Percent change	-7.5	2.9	1.5	1.8	1.3	0.8	0.7	0.8	0.8	0.9	0.9	1.0
Personal consumption expenditures												
Real 2015 chain-weighted dollars	14,278	14,586	14,749	15,011	15,300	15,611	15,914	16,225	16,548	16,876	17,222	17,557
Percent change	2.0	2.2	1.1	1.8	1.9	2.0	1.9	2.0	2.0	2.0	2.1	1.9
Inflation measures												
GDP chained price index, 2015=100	121.6	125.8	128.7	131.8	134.5	137.2	139.9	142.7	145.5	148.5	151.4	154.5
Percent change	7.0	3.5	2.3	2.4	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
CPI-U, 1982-84=100	292.6	304.8	313.7	321.0	327.6	334.3	341.6	349.3	357.3	365.4	373.7	382.2
Percent change	8.0	4.2	2.9	2.3	2.1	2.1	2.2	2.3	2.3	2.3	2.3	2.3
PPI, finished goods 1982=100	250.8	253.5	257.2	262.0	267.4	272.8	278.3	284.0	289.8	295.6	301.6	307.8
Percent change	13.4	1.1	1.5	1.9	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
PPI, crude goods 1982=100	316.8	248.3	244.5	243.7	244.6	247.3	252.3	258.3	264.4	270.5	275.8	280.5
Percent change	30.8	-21.6	-1.5	-0.4	0.4	1.1	2.0	2.4	2.4	2.3	2.0	1.7
Crude oil price, dollars per barrel												
EIA Refiner acquisition cost, imports	92.8	76.3	80.5	91.0	93.0	96.0	98.0	101.0	104.0	107.0	110.0	113.0
Percent change	42.0	-17.8	5.5	13.1	2.2	3.2	2.1	3.1	3.0	2.9	2.8	2.7
Real 2015 chain-weighted dollars	76.4	60.6	62.5	69.0	69.2	70.0	70.0	70.8	71.5	72.1	72.6	73.2
Percent change	32.7	-20.6	3.2	10.5	0.2	1.2	0.1	1.0	1.0	0.9	0.8	0.7
Labor compensation per hour												
Nonfarm business, 2015=100	130.7	137.5	144.6	151.0	157.2	162.9	168.7	174.7	180.9	187.2	193.6	200.1
Percent change	4.1	5.2	5.2	4.4	4.1	3.7	3.6	3.6	3.5	3.5	3.4	3.3
Interest rates, percent												
3-month Treasury bills	2.02	5.06	4.70	3.60	3.28	3.26	3.30	3.33	3.35	3.37	3.38	3.39
Bank prime rate	4.85	8.19	7.70	5.30	4.78	4.78	4.78	4.78	4.78	4.78	4.78	4.78
10-year Treasury bonds	2.95	3.76	4.04	3.72	3.72	3.72	3.73	3.73	3.74	3.74	3.74	3.75
Labor and population												
Civilian unemployment rate, percent	3.6	3.7	4.5	4.6	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4
Civilian nonfarm employees, millions	152.6	156.1	156.7	156.6	157.7	158.6	159.6	160.5	161.3	162.1	162.8	163.5
Percent change	4.3	2.3	0.4	-0.1	0.7	0.6	0.6	0.6	0.5	0.5	0.4	0.5
Total population, millions	333.1	335.4	337.6	339.8	342.0	344.1	346.3	348.3	350.4	352.4	354.3	356.2
Percent change	0.7	0.7	0.7	0.7	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.5

Note: Domestic macroeconomic assumptions were completed in August 2023. GDP=gross domestic product. CPI-U=Consumer Price Index for all urban consumers. PPI=Producer Price Index. EIA=Energy Information Administration.
Source: USDA, Economic Research Service estimations and projected values based on U.S. Bureau of Labor Statistics, International Financial Statistics International Monetary Fund, IHS Global Insight, Oxford Economics Forecasting, and the Energy Information Administration.

Table 3: Real exchange rate growth rates assumptions to 2033

Region/country	Local currency per U.S. dollar, 2023	2022	2023	2024	2025	2026	2027	Average 2004–13	Average 2014–23	Average 2024–33
	Index value, 2015 base 1/	Percent change in real exchange rate								
Total all countries	116.40	7.7	-0.1	-1.0	-1.3	-0.9	-0.5	-2.0	2.7	-0.3
Canada	1.38	5.0	3.0	0.0	-2.8	-1.2	-0.7	-2.3	3.0	-0.4
Latin America	111.69	-1.5	-6.9	4.5	0.7	0.3	-0.1	-1.8	2.7	0.5
Mexico	16.23	-0.7	-8.7	10.6	1.9	1.1	0.1	0.1	2.2	1.3
Caribbean and Central America	123.41	-7.4	-7.2	-2.8	-1.2	-0.5	-0.2	-2.8	2.7	-0.4
South America	125.51	3.8	-1.9	-1.8	-0.5	-1.0	-0.7	-4.7	4.8	-0.6
Argentina	12.15	-14.3	-4.8	-6.9	-5.2	-4.3	-2.1	0.3	5.7	-2.8
Brazil	4.21	-5.4	-2.6	-0.7	0.5	0.0	0.1	-5.9	6.3	-0.1
Other South America	125.08	7.3	-1.6	-1.9	-0.7	-1.2	-0.9	-4.4	4.5	-0.7
Europe	107.65	11.1	-4.9	-2.7	-1.6	-1.0	-0.5	-0.9	2.5	-0.5
European Union 27	104.23	11.2	-5.4	-3.0	-1.4	-0.8	-0.3	-1.1	2.6	-0.5
Other Europe 2/	112.94	10.4	-2.8	-2.2	-1.3	-0.4	1.0	-1.6	2.5	0.2
Former Soviet Union (FSU)	104.69	-8.2	6.9	1.3	-1.8	-1.5	-0.1	-5.3	5.2	-0.7
Russia	65.46	-11.4	15.5	4.6	-0.5	-0.6	1.3	-5.8	6.2	0.3
Ukraine	19.21	6.4	1.5	-10.6	-12.8	-10.2	-9.4	-2.6	4.7	-8.6
Other FSU-10 3/	105.98	-5.5	-10.4	-2.8	-1.4	-1.4	-1.4	-4.8	3.4	-1.3
Asia and Oceania	121.17	13.4	2.7	-2.9	-1.7	-1.5	-1.1	-2.4	2.6	-0.7
East Asia	123.20	14.9	3.3	-3.4	-2.0	-1.9	-1.3	-2.0	2.7	-0.7
China	7.57	10.5	4.4	-4.3	-1.9	-1.4	-0.1	-3.5	1.9	-0.3
Hong Kong	8.69	6.8	2.1	0.5	-0.2	-0.4	0.0	-0.2	0.6	0.2
Japan	159.65	26.0	2.5	-3.5	-3.2	-4.0	-4.4	1.1	5.2	-0.6
Korea	1,417.91	16.0	0.9	-2.8	-0.7	-0.9	-0.6	-1.0	2.7	-0.4
Taiwan	35.26	11.5	4.4	-2.1	-2.6	-1.0	-0.8	-0.4	1.9	-0.7
Southeast Asia	114.16	8.9	0.5	-0.8	-1.0	-0.5	-0.8	-3.6	2.2	-0.7
Cambodia	4,117.49	3.0	0.8	-0.7	-1.0	-1.2	-0.9	-3.3	-0.1	-0.8
Indonesia	15,039.38	7.6	1.1	-1.5	-2.2	0.1	-1.6	-2.3	2.7	-1.8
Malaysia	4.83	11.0	0.2	-2.7	-1.4	-1.1	-1.4	-1.8	4.1	-1.1
Burma	1,480.23	10.5	4.1	-0.5	0.6	1.0	1.4	1169.5	3.7	1.3
Philippines	52.94	12.9	-0.5	-2.0	-3.9	-2.2	-1.3	-4.4	2.1	-1.5
Thailand	39.32	11.6	-0.8	0.6	1.4	0.1	0.0	-3.5	2.7	0.4
Vietnam	24,240.71	5.2	3.3	0.5	0.7	0.1	-0.2	-4.4	1.2	0.1
South Asia	121.11	9.3	6.4	-1.4	-1.8	-1.0	-1.1	-2.6	1.6	-1.1
Bangladesh	87.54	10.5	12.9	-0.5	-2.7	-0.8	0.2	-2.1	0.2	-0.2
India	72.15	7.6	4.0	-1.9	-1.4	-1.1	-1.8	-2.8	1.2	-1.4
Pakistan	157.02	13.3	12.2	-1.4	-2.5	-1.8	-1.6	-2.1	3.9	-1.6
Oceania	113.63	10.1	0.5	-4.8	-0.2	2.4	1.5	-3.9	3.7	-0.2
Australia	1.53	9.7	1.6	-5.5	-1.1	2.4	1.3	-4.0	4.0	-0.5
New Zealand	1.56	12.4	-3.8	-2.8	3.1	2.8	2.5	-3.2	2.8	0.8
Middle East	132.67	7.7	-4.3	-4.7	0.1	0.5	-0.4	-3.1	3.4	-1.0
Iran	85,422.34	-10.2	15.4	-30.5	-12.6	-10.2	-10.1	-6.6	29.1	-11.7
Iraq	1,427.52	2.9	-9.9	-2.9	-1.0	-0.7	-0.7	-12.7	2.1	-0.7
Saudi Arabia	4.23	5.4	1.3	0.5	0.2	0.0	0.1	-1.5	1.1	0.4
Turkey	4.76	17.2	-13.6	-8.8	1.9	2.1	-0.6	-2.9	8.4	-2.1
Other Middle East	111.72	1.6	2.2	-1.0	-0.6	0.1	0.0	-2.4	1.0	-0.1
Africa	134.90	6.2	13.0	-1.5	-3.1	-2.5	-1.8	14.5	3.7	-1.2
North Africa	164.40	13.6	24.1	0.1	-3.7	-3.2	-2.5	-3.9	5.8	-1.3
Egypt	14.64	16.0	43.0	0.4	-5.2	-4.5	-3.6	-5.3	7.6	-2.0
Morocco	10.64	14.4	-3.5	-5.1	-1.6	0.3	0.9	-0.6	2.5	0.3
Sub-Saharan Africa	102.94	-2.5	-2.3	-4.2	-1.8	-1.3	-0.7	14.5	1.2	-1.0
South Africa, Republic	15.48	11.9	7.7	-3.6	-0.5	0.2	0.9	-0.1	4.3	-0.3
Nigeria	181.60	-3.4	-7.9	-9.5	-4.1	-4.7	-3.4	-6.2	0.3	-2.9
Other West African Community	105.76	11.8	-3.0	-5.2	-1.3	-0.8	-0.6	-1.8	2.6	-1.0
Other Sub-Saharan Africa	102.13	-11.9	-1.2	0.6	-0.9	0.3	0.5	14.7	0.8	0.1

1/ Index values are for regional aggregates only. 2/ Other Europe now includes Great Britain. 3/ Armenia, Azerbaijan, Belarus, Georgia, Kazakhstan, Kyrgyzstan, Moldova, Tajikistan, Turkmenistan, Uzbekistan.
Source: USDA, Economic Research Service based on data from International Financial Statistics International Monetary Fund, IHS Global Insight, and Oxford Economics Forecasting. Projections completed August 2023.

Table 4: Population growth assumptions to 2033

Region/country	Population in 2023	2022	2023	2024	2025	2026	2027	Average 2004–13	Average 2014–23	Average 2024–33
	Millions	Percent change in population								
World 1/	7,833	0.9	0.9	0.9	0.9	0.9	0.9	1.2	1.0	0.9
United States and Canada	374	0.7	0.7	0.7	0.7	0.6	0.6	0.9	0.6	0.6
Canada	39	0.8	0.7	0.7	0.7	0.7	0.7	1.1	0.9	0.6
United States	335	0.7	0.7	0.7	0.7	0.6	0.6	0.9	0.6	0.6
Latin America	627	0.7	0.7	0.7	0.7	0.7	0.7	1.2	0.9	0.7
Mexico	130	0.5	0.6	0.7	0.8	0.8	0.8	1.4	0.9	0.8
Caribbean and Central America	92	0.9	0.9	0.8	0.8	0.8	0.8	1.1	0.9	0.8
South America	406	0.7	0.7	0.7	0.6	0.6	0.6	1.1	0.8	0.6
Argentina	47	0.8	0.8	0.8	0.8	0.8	0.8	1.0	0.9	0.7
Brazil	216	0.6	0.7	0.6	0.6	0.6	0.6	1.0	0.7	0.5
Other South America	143	0.7	0.7	0.7	0.7	0.7	0.6	1.2	1.0	0.6
Europe	549	0.0	0.1	0.1	0.0	0.0	0.0	0.3	0.1	0.0
European Union 27	451	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.1	0.0
Other Europe 2/	30	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.1
Former Soviet Union (FSU)	287	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0
Russia	141	-0.2	-0.2	-0.2	-0.2	-0.3	-0.3	-0.2	-0.1	-0.3
Ukraine	43	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5
Other FSU-10 3/	103	0.6	0.6	0.6	0.6	0.5	0.5	0.8	0.7	0.5
Asia and Oceania	4,315	0.6	0.6	0.6	0.6	0.6	0.6	1.0	0.8	0.6
East Asia	1,613	0.2	0.1	0.2	0.1	0.1	0.1	0.5	0.3	0.0
China	1,402	0.2	0.2	0.2	0.2	0.1	0.1	0.5	0.3	0.1
Hong Kong	7	0.2	0.2	0.1	0.1	0.1	0.1	0.4	0.3	0.0
Japan	124	-0.4	-0.4	-0.4	-0.4	-0.5	-0.5	0.0	-0.3	-0.5
Korea	52	0.3	0.2	0.2	0.2	0.2	0.2	0.5	0.4	0.2
Taiwan	24	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.1	0.0
Southeast Asia	686	0.9	0.9	0.9	0.9	0.8	0.8	1.2	1.0	0.8
Cambodia	17	1.1	1.1	1.0	1.0	0.9	0.9	1.6	1.4	0.9
Indonesia	274	0.8	0.8	0.7	0.7	0.7	0.7	1.2	0.9	0.7
Malaysia	33	1.1	1.0	1.0	1.0	1.0	0.9	1.8	1.2	0.9
Burma	58	0.8	0.8	0.7	0.7	0.7	0.7	0.9	0.9	0.6
Philippines	116	1.6	1.6	1.6	1.6	1.5	1.5	1.8	1.7	1.4
Thailand	70	0.2	0.2	0.2	0.1	0.1	0.1	0.5	0.3	0.1
Vietnam	103	1.0	1.0	0.9	0.9	0.8	0.8	1.2	1.0	0.8
South Asia	1,862	0.9	0.9	0.9	0.9	0.9	0.9	1.5	1.2	0.9
Bangladesh	167	0.9	0.9	0.9	0.9	0.9	0.8	1.2	1.0	0.8
India	1,353	0.6	0.7	0.7	0.7	0.7	0.7	1.4	1.0	0.7
Pakistan	248	2.0	1.9	1.9	1.9	1.8	1.8	2.3	2.1	1.7
Oceania	42	1.5	1.4	1.3	1.3	1.2	1.2	1.6	1.5	1.2
Australia	26	1.3	1.2	1.2	1.1	1.1	1.0	1.6	1.4	1.0
New Zealand	5	1.2	1.1	1.0	0.9	0.8	0.8	1.0	1.6	0.8
Middle East	349	1.5	1.5	1.3	1.2	1.2	1.2	2.1	1.4	1.1
Iran	88	1.0	1.0	0.9	0.9	0.8	0.8	1.2	1.2	0.7
Iraq	41	2.0	2.0	2.0	2.0	1.9	1.9	2.8	2.3	1.9
Saudi Arabia	36	1.6	1.7	1.7	1.7	1.7	1.6	2.8	1.8	1.5
Turkey	84	0.7	0.7	0.6	0.6	0.6	0.6	1.2	0.8	0.5
Other Middle East	101	2.3	2.4	1.9	1.4	1.4	1.4	3.2	1.7	1.4
Africa	1,414	2.4	2.4	2.4	2.3	2.3	2.3	2.6	2.5	2.3
North Africa	210	1.5	1.4	1.3	1.2	1.2	1.1	1.9	1.8	1.1
Egypt	109	1.7	1.6	1.6	1.5	1.4	1.3	2.3	2.2	1.3
Morocco	37	0.9	0.9	0.9	0.8	0.8	0.8	1.2	1.0	0.8
Sub-Saharan Africa	1,204	2.6	2.6	2.6	2.5	2.5	2.5	2.7	2.7	2.5
South Africa, Republic	58	0.9	0.9	0.9	0.9	0.9	0.8	1.1	1.0	0.8
Nigeria	231	2.6	2.6	2.6	2.6	2.6	2.5	2.8	2.5	2.5
Other West African Community	202	2.7	2.7	2.7	2.6	2.6	2.6	2.8	2.8	2.6
Other Sub-Saharan Africa	713	2.7	2.7	2.7	2.6	2.6	2.6	2.9	2.8	2.5

1/ Totals for the world include countries not otherwise included in the table.
2/ Other Europe now includes Great Britain.
3/ Armenia, Azerbaijan, Belarus, Georgia, Kazakhstan, Kyrgyzstan, Moldova, Tajikistan, Turkmenistan, Uzbekistan.
Source: USDA, Economic Research Service using based on data from the U.S. Department of Commerce, Bureau of the Census.
The population assumptions were completed in August 2023.

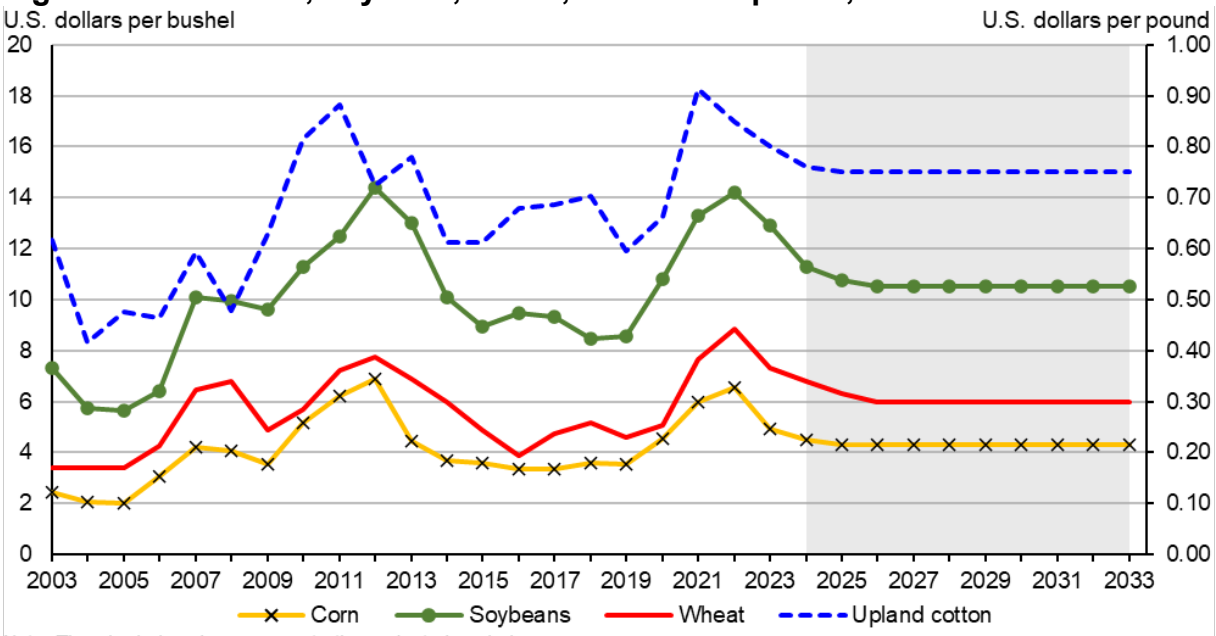
U.S. Crops, Livestock & Dairy, and Farm Income Projections

U.S. Crops

Global economic and market circumstances including persistent inflation, drought, supply chain disruptions, high input costs, Russia's war against Ukraine, and demand strength have influenced the U.S. agricultural sector and pushed nominal commodity prices, particularly crops, above their historic long-term averages in recent years. Prices, however, are projected to decline or remain stable at lower levels during the 2024–2033 projection period. Rising global demand for diversified diets and increased protein will stimulate import demand for feed grains and soybeans. Increased demand for these crops, as well as for wheat, rice, and cotton, are accompanied by rising competition for market share from Brazil, Argentina, the European Union (EU), India, and others, depending on the commodity. Note that Baseline projections start in marketing year 2024/25 and end in 2033/34. Data for 2023/24 and prior years are based on information as of the October 2023 *World Agricultural Supply and Demand Estimates* (*WASDE*).

Potential exports from the United States also face challenges related to a relatively strong, but slowly weakening dollar. This tends to keep U.S. commodity prices relatively high in foreign currency terms. Although strong trade competition continues, U.S. agricultural commodities remain generally competitive in global agricultural markets throughout the projection period. Export levels for corn, soybeans, wheat, rice, and cotton are expected to increase over the next decade. Upland cotton and corn end the projection period at the second-highest export volumes on record, and soybean exports rise to the fourth-highest level on record. Wheat exports are projected to rise from a forecast 52-year low during 2023/24. Nominal prices for corn, soybeans, wheat, and cotton are expected to decline from their recent peaks in 2021/22 and/or 2022/23 (as of October 12, 2023) and stabilize at significantly lower levels after the first several years of the projection period.

Figure 10: U.S. corn, soybean, wheat, and cotton prices, 2003–2033



Note: The shaded region represents the projected period.
Source: USDA, Economic Research Service, based on data from the USDA, Interagency Agricultural Projections Committee.

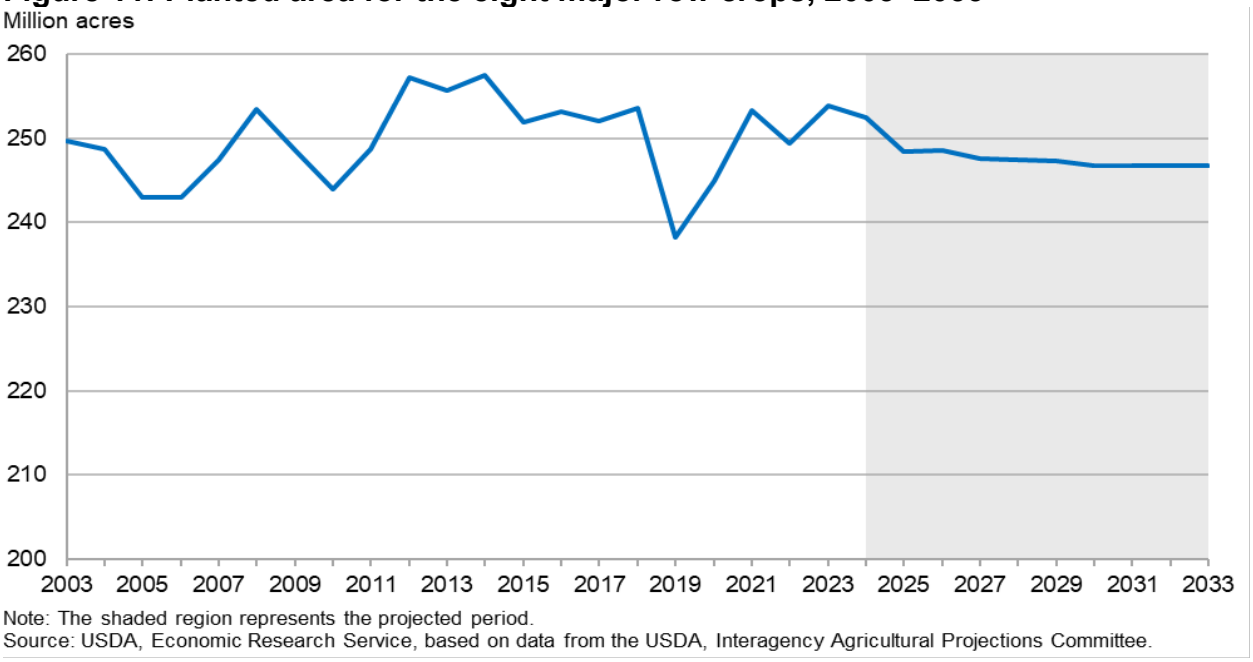
Corn prices are expected to fall by 24.3 percent in 2023/24 from the recent peak of $6.54 per bushel in 2022/23. This downward trend extends to 2024/25 as corn prices are expected to fall to $4.50 per bushel before flattening out in 2025/26 through 2033/34 at $4.30 per bushel. Growth in domestic corn use is driven exclusively by the feed and residual category, spurred by expanding corn supplies and meat production growth to meet domestic and export demand for beef, pork, and poultry. The Baseline projects corn use for the food, seed, and industrial category (including ethanol) to decline slightly over the projection period, while exports rise by 22 percent.

Soybean prices are projected to follow a similar trend as corn, falling to $12.90 per bushel in 2023/24, down $1.30 from the recent 2022/23 peak. Soybean prices continue their downward trend through 2026/27 before stabilizing at $10.50 per bushel through 2033/34. Soybean crush volume is expected to increase continuously during the Baseline period with the expansion in crush capacity to meet growing demand for soybean oil. With a higher domestic demand for soybean oil, soybean meal exports are projected to increase from 15.3 million short tons in marketing year (MY) 2023/24 to a record 16.55 million short tons by 2026/27 and decline marginally to 15.75 million short tons by the end of 2033/34. Soybean exports are also expected to rise slowly, growing nearly 11 percent over the projected period. U.S. share in global soybean trade is projected to decline while Brazil's share is expected to increase. Global import demand growth, led by China, is mainly fulfilled by increased exports from Brazil.

Wheat prices are expected to drop from $7.30 per bushel in 2023/24 to $6.80 in the first year of the projection period. Prices continue to fall until 2026/27, settling at $6.00 per bushel through 2033/34. Domestic food use for wheat is projected to increase modestly, rising only 1.8 percent over the 10-year projection period while exports climb at a stronger rate, rising from 800 million bushels in 2024/25 to 915 million bushels in 2033/34, a 14.4 percent increase over the 10-year period.

The market year average prices for upland cotton remain stable throughout the projection period, starting at 76 cents per pound in nominal terms in 2024/25 before slipping to 75 cents in 2025/26 and remaining flat through 2033/34. The cotton price ratio is higher relative to corn and soybeans for 2024–33 compared with the previous 5-year average. U.S. mill use remains near the lowest levels of the past century as increased competition from foreign manufacturing of cotton and synthetic fibers, such as polyester, has reduced U.S. mill use significantly since the late 1990s. U.S. upland cotton exports rise throughout the Baseline but remain below the 2005/06 record. The United States is projected to remain the world's largest cotton exporter.

Figure 11: Planted area for the eight major row crops, 2003–2033

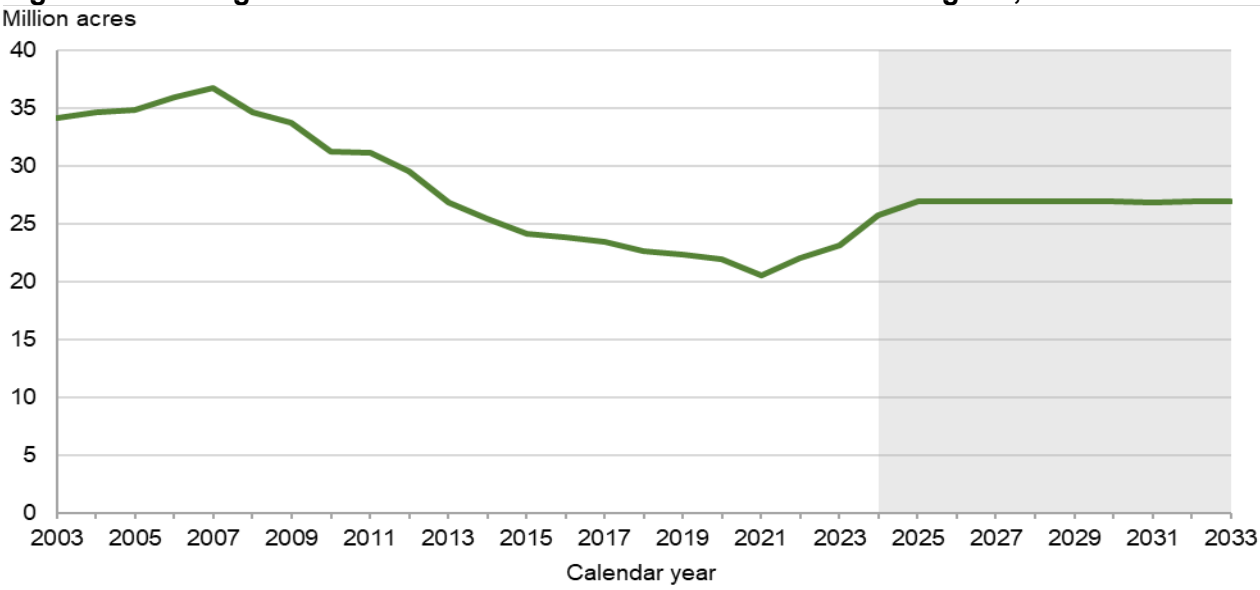


Note: The shaded region represents the projected period.
Source: USDA, Economic Research Service, based on data from the USDA, Interagency Agricultural Projections Committee.

With prices projected to continue to decline in 2024/25 from the elevated levels of recent years, total area planted to the eight major field crops (barley, corn, cotton, oats, rice, sorghum, soybeans, and wheat) is projected to dip from 253.9 million acres in 2023/24 to 248.5 million acres in 2024/25. The decrease in the eight-crop area planted is projected to be driven primarily by a reduction in corn and wheat acres, which partially offset increases to soybean and cotton area. For the projection period, the eight-crop total declines from 252.6 million acres in 2024/25 to 246.7 million in 2033/34. A ramp-up of USDA Conservation Reserve Program (CRP) acres from 23.2 million in 2023 to 25.8 million acres in 2024 is assumed to contribute some to the decline in planted area in the first year of the projections, and yield growth may limit planting incentives over the coming decade. After 2024, CRP acres increase to 26.9 million for the remainder of the projections period. The maximum level legislated by the Agriculture Improvement Act of 2018, also known as the 2018 Farm Bill, is 27 million acres.

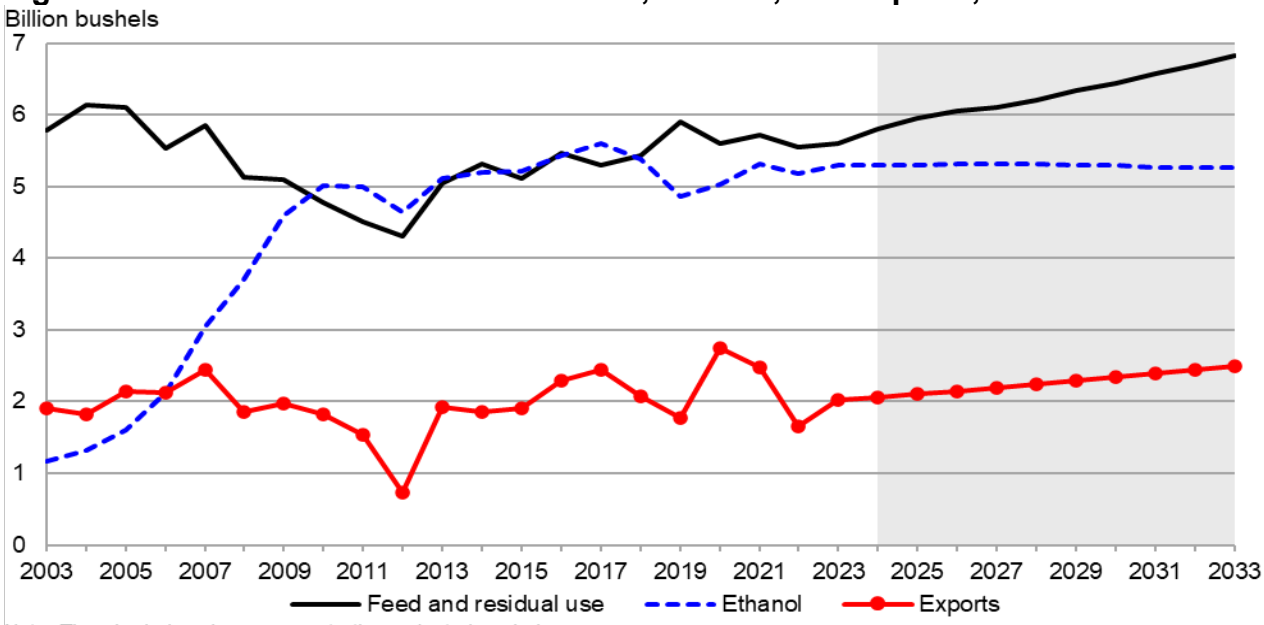
For corn, soybeans, wheat, and rice, rising yields more than offset declining or stable area, resulting in production reaching record levels for corn and soybeans, and slowly rising production for wheat and rice during the projection period. Growth in cotton production is driven by both yield and area gains. Barley, oats, and sorghum production all decline somewhat.

Figure 12: Acreage enrolled in the USDA Conservation Reserve Program, 2003–2033



Note: The shaded region represents the projected period.
Source: USDA, Economic Research Service, based on data from the USDA, Interagency Agricultural Projections Committee.

Figure 13: U.S. corn feed and residual use, ethanol, and exports, 2003–2033



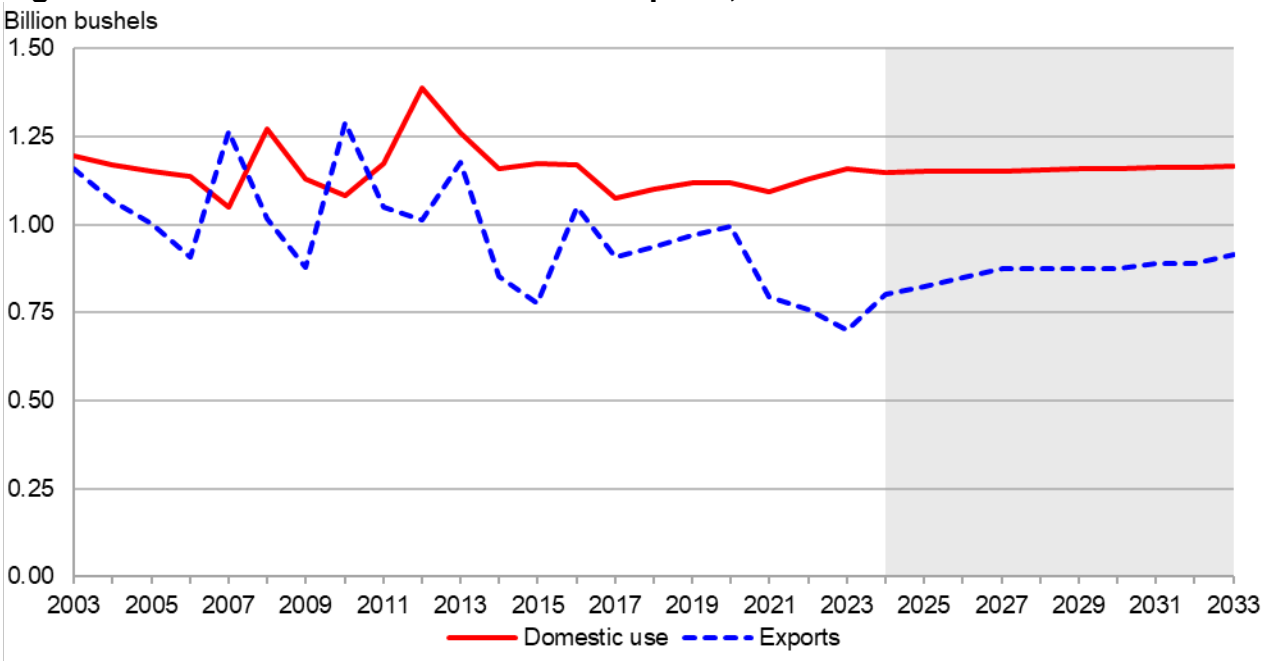
Note: The shaded region represents the projected period.
Source: USDA, Economic Research Service, based on data from the USDA, Interagency Agricultural Projections Committee.

The Baseline projects U.S. corn production to grow over the next decade as yield gains offset a small decline in acreage. Planted area is projected to slightly decline after 2023/24's strong response to increased global demand and tight supplies. Exports are expected to be the fastest growing category of corn use. Feed and residual use also expands, supported by rising supplies and growing livestock inventories. The stocks-to-use ratio is expected to rise through 2029/30, peaking at 19.9 percent. Starting in 2030/31, however, growth in corn use is expected to outpace supply gains. Ultimately, this results in the stocks-to-use ratio declining somewhat at the end of the projection period, ending at 18.8 percent, just above the 2024/25 projection.

Season-average nominal producer prices begin the projection period at $4.50 per bushel in 2024/25 before declining to $4.30 the following year through the end of the Baseline period as global production responds to increased global demand. The Baseline also projects the following outlook for the corn market:

- Corn used for ethanol production is expected to remain stable through 2025/26 at 5.300 billion bushels. Slight growth is expected in 2026/27 to 5.325 billion bushels, which is maintained through 2029/30. The projection period ends with corn used for ethanol production at 5.275 billion bushels (see “U.S. Biofuels Assumptions” in the introductory section of this report for additional details).
- Food, seed, and industrial (FSI) use of corn (other than ethanol production) are projected to gradually decline through the middle of the projection period, largely driven by a continuation of the historical trend of declining corn used for high-fructose corn syrup (HFCS) production. Corn for food and beverage use grows in a continuation of long-term per capita consumption trends, while glucose, dextrose, and starch use are projected to remain flat.
- U.S. corn exports are projected to reach 2.5 billion bushels by 2033/34, driven by global demand. Somewhat higher stocks relative to use are expected to mitigate global weather and production risks, as the United States competes for market share with major exporters in South America, particularly as an increasing share of global trade becomes more reliant on a favorable outcome to the rainy season in Brazil’s Center-West region.

Figure 14: U.S. wheat domestic use and exports, 2003–2033



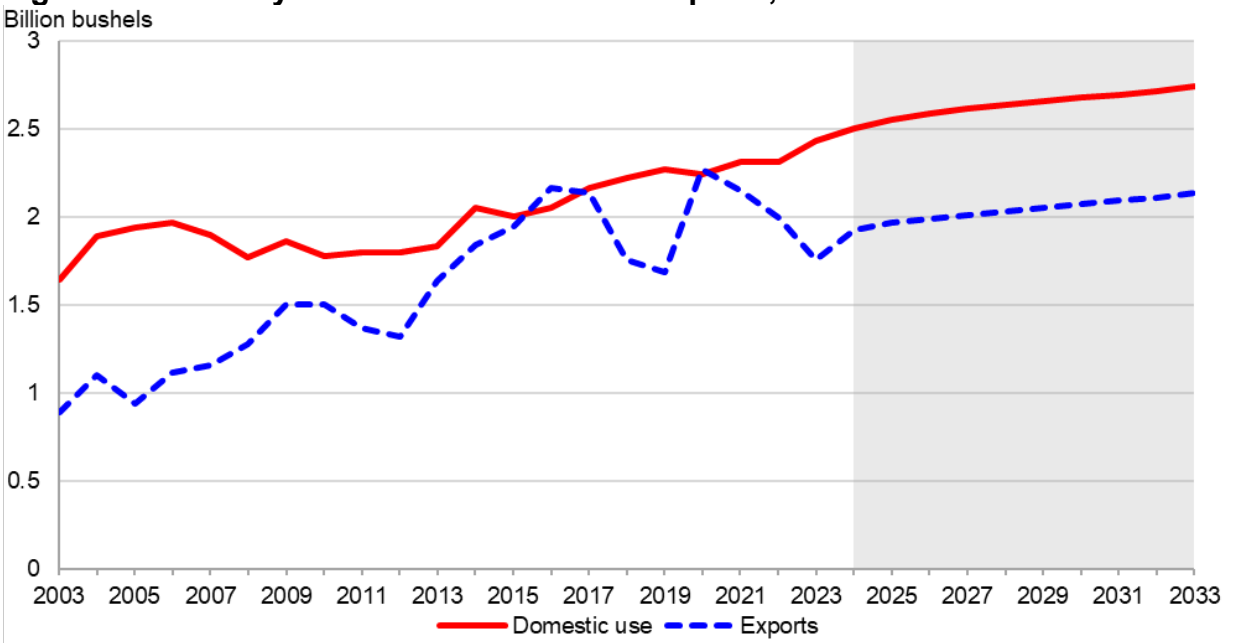
Note: The shaded region represents the projected period.
Source: USDA, Economic Research Service, based on data from the USDA, Interagency Agricultural Projections Committee.

U.S. plantings of wheat are projected to start at 48.0 million acres in 2024/25 and decline to 45.5 million acres by 2033/34, remaining very close to the recent 5-year average (2019/20–2023/24) of 46.4 million. Plantings in 2024/25 are projected down from 2023/24 as futures and cash prices declined from the historic highs seen in 2022/23. However, prices remain somewhat

elevated amid tight U.S. and global supplies, resulting in a slightly higher than average level of planting in 2024/25. Over the rest of the projection period, however, prices are expected to gradually decline to their long-term averages, and plantings are projected to trend lower due to weak relative returns compared to alternative crops. Domestic wheat use, especially for food use, is expected to grow more slowly than population growth. Over the long term, food use for wheat is expected to continue slow growth, reflecting a mature market and long-term per capita trends. Exports in 2024/25 are projected to rebound by 100 million bushels from the previous year to 800 million bushels. U.S. exports are expected to gradually rise to 915 million bushels by 2033/34, limited by expectations of continued large supplies in key global competitors. The Baseline also projects the following outlook for the wheat market:

- Wheat-to-corn price ratios are projected to be somewhat elevated in the first 2 years, then stabilize at a more typical level throughout the rest of the projection period. Wheat prices are not expected to favor additional wheat feeding as corn supplies remain ample.
- Wheat imports, mainly from Canada, are projected to be down slightly to 120 million bushels in 2024/25, then flat at 110 million bushels for 2025/26 through 2033/34.
- Rising incomes, particularly in emerging economies with rising per capita demand, support global demand growth and a corresponding increase in global wheat trade contributing to somewhat higher U.S. exports.
- Sustained price competition from Russia and the European Union, however, tempers U.S. exports and keeps U.S. market share relatively steady, between 10 and 11 percent, over the projection period.

Figure 15: U.S. soybean domestic use and exports, 2003–2033



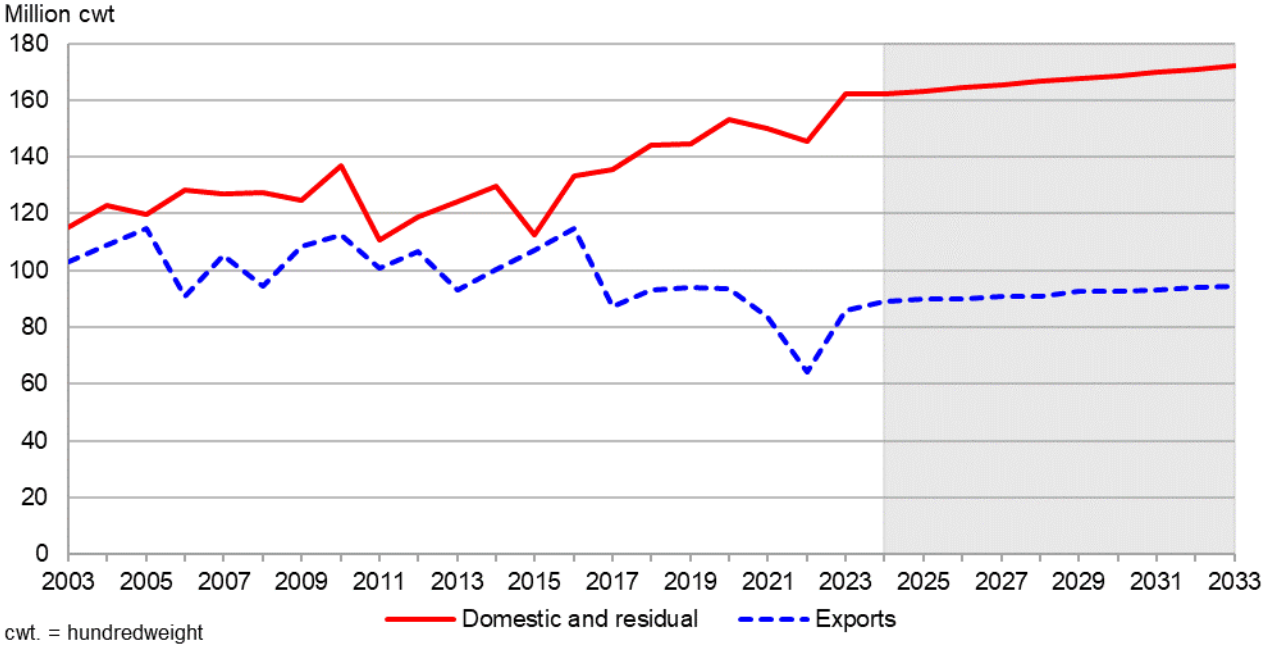
Note: The shaded region represents the projected period.
Source: USDA, Economic Research Service, based on data from the USDA, Interagency Agricultural Projections Committee.

U.S. soybean plantings are projected to recover from a steep decline in marketing year 2023/24 with area rising to 87 million acres in 2024/25 before leveling out through the end of the

projections. Soybean plantings are supported by competitive prices compared to alternative crops. In addition, the Baseline projects the following outlook for the soybean market:

- U.S. soybean prices are projected to decline from elevated levels in 2023/24 as soybean production in the United States and the world is expected to increase, rebuilding ending stocks. Nominal soybean prices in 2024/25 start at $11.30 per bushel and decline through the beginning of the projection period to $10.50 per bushel by 2026/27 and remain at this level as the stocks-to-use ratio stabilizes.
- Domestic soybean oil demand is expected to continue its upward trend, supported by Federal and State biofuels mandates. Soybean oil use for production of biofuels increases from 12.8 billion pounds in 2023/24 to 14.55 billion pounds by 2033/34. The Federal and State policies in place as of October 2023 are assumed to remain in place through 2033/34. Projections are largely driven by increasing renewable diesel production for the California market and Federal mandates. As a result of strong domestic demand, U.S. soybean oil exports are projected to remain low at the beginning of the decade and increase to more historical levels by 2033/24.
- Domestic soybean meal demand is expected to grow steadily supported by expanding animal products output. Soybean meal exports are projected to increase in the beginning of the projection period as U.S. crush volume is expected to rise on higher domestic soybean oil demand and an increase in U.S. soybean crush capacity.
- U.S. soybean exports maintain steady growth over the projected period as global consumption rebounds, particularly in China. The U.S. share of global soybean trade drops from 28 percent to 26 percent between 2023/24 and 2033/34, with Brazil gaining share.

Figure 16: U.S. rice domestic and residual use and exports, 2003–2033



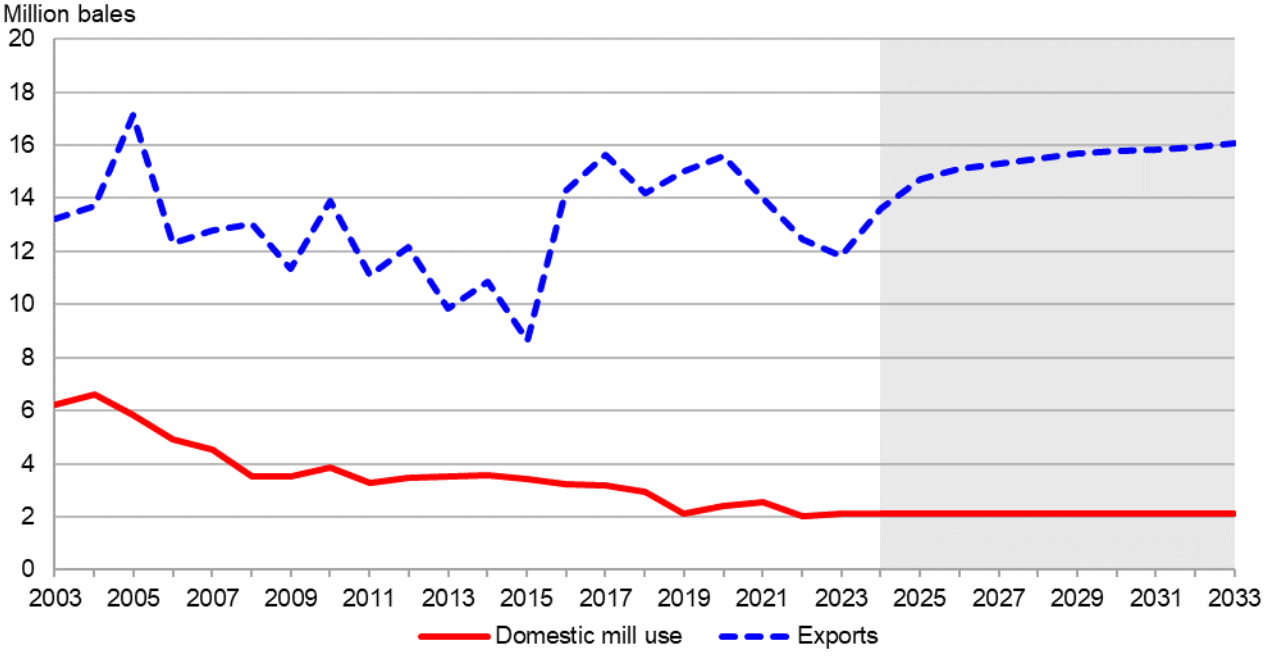
cwt. = hundredweight
Note: The shaded region represents the projected period.
Source: USDA, Economic Research Service, based on data from the USDA, Interagency Agricultural Projections Committee.

After increasing 30.4 percent in marketing year 2023/24, the Baseline projects U.S. rice planted area to decrease 3.3 percent in 2024/25 and remain unchanged at 2.8 million acres

through 2033/34. Long-grain area is expected to decrease 1.6 percent in 2024/25 and remain unchanged through 2033/34. Medium- and short-grain area is projected to decrease 15.8 percent in 2024/25 and remain unchanged through 2033/34. All-rice production decreases 4.3 percent in 2024/25 and then rises slightly each year due to increasing yields. Baseline projections for rice also include the following:

- Domestic and residual use remains the primary component of demand, expanding 0.6–0.7 percent annually from 2025/26 to 2033/34. Imports account for an increasing share of domestic use, with growth in imports driven by a rising population and increasing consumer preferences for Asian aromatic rice varieties. Demand for imports is projected to grow 2.2–2.8 percent per year from 2024/25 to 2033/34.
- U.S. rice exports slowly expand over the Baseline, with a total increase of 6 percent. Long-grain exports increase more than 7 percent, with Latin America accounting for the bulk of sales and expansion. Growth is limited by increasing competition from South American suppliers. U.S. exports of medium- and short-grain rice increase a projected 4 percent by 2033/34. East Asia remains the largest market for medium- and short-grain exports on existing trade agreements, with sales to North Africa and the Middle East expected to resume on greater U.S. supplies.
- The U.S. share of global exports is projected to rise to 5.4 percent in 2024/25. The U.S. share declines after 2024/25 and is forecast at 4.9 percent in 2033/34. The United States is projected to ship very little rice to Sub-Saharan Africa, the largest and fastest growing commercial global rice market, due to price competition from suppliers in Asia.
- Nominal U.S. long-grain rice prices are projected to decrease through 2027/28 and remain unchanged the remainder of the Baseline. California medium- and short-grain prices decline in 2024/25 and 2025/26, and then slowly increase after 2026/27.

Figure 17: U.S. upland cotton domestic mill use and exports, 2003–2033

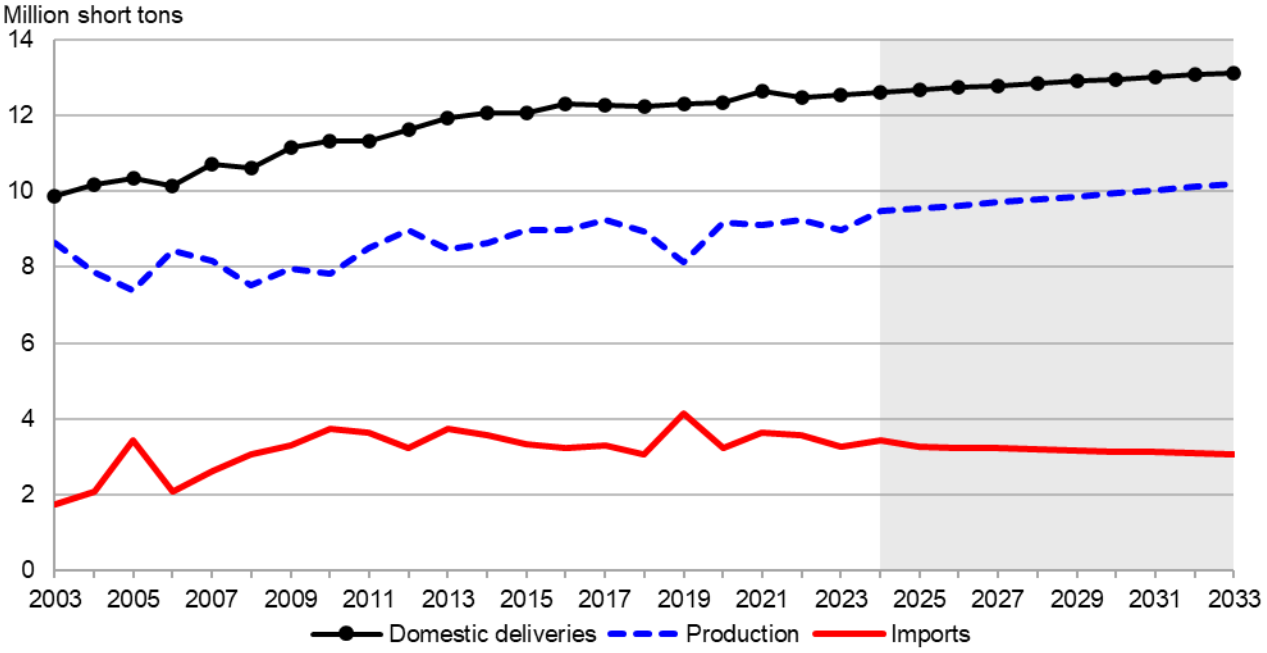


Note: The shaded region represents the projected period.
Source: USDA, Economic Research Service, based on data from the USDA, Interagency Agricultural Projections Committee.

The average prices for upland cotton remain stable throughout the projection period, starting at 76 cents per pound in nominal terms in 2024/25 before slipping to 75 cents in 2025/26 and remaining flat through 2033/34. The cotton price ratio is higher relative to corn and soybeans for 2024–33 compared with the previous 5-year average. The Baseline projects upland cotton plantings in 2024/25 at 11.65 million acres, slightly above the previous 10-year average before rising slightly for the first half of the projection period and then stabilizing at 12.2 million acres. The average plantings for the projection period are roughly 0.5 million acres higher than in the prior decade. Domestic mill use is projected to remain flat over the Baseline at a relatively low 2.1 million bales. Upland cotton exports expand with production growth, rising from 13.6 million bales to about 16.1 million bales by the final year but are still 1.0 million bales below the 2005/06 record. In addition, the Baseline projects the following for the cotton market:

- U.S. mill use remains near the lowest levels of the past century as increased competition from foreign manufacturing of cotton and synthetic fibers, such as polyester has reduced U.S. mill use significantly since the late 1990s. Mill use accounts for only 12 percent of total U.S. disappearance of upland cotton over the projection period, about half the share of a decade ago.
- U.S. upland cotton exports rise throughout the Baseline but remain below their 2005/06 record. The United States continues to be the world's largest cotton exporter. With growing international demand but strong export growth in Brazil and to a lesser extent in West Africa and Australia, the U.S. trade share for all cotton (upland plus Extra Long Staple) averaged 34 percent in the decade before 2024/25. After that time, the U.S. trade share begins trending downward in 2027/28 and falls to 32 percent by 2033/24. Brazil, Australia, and the countries that are part of the Economic Community of West African States (ECOWAS) exported roughly 16.1 million bales combined in 2022/23. The Baseline projects their exports to increase to 24.6 million bales by 2033/34. Bangladesh, China, and Vietnam are expected to remain the largest importers, accounting for 58 percent of total imports in 2033/34, compared with 52 percent in 2022/23.

Figure 18: U.S. sugar domestic deliveries, production, and imports, 2003–2033



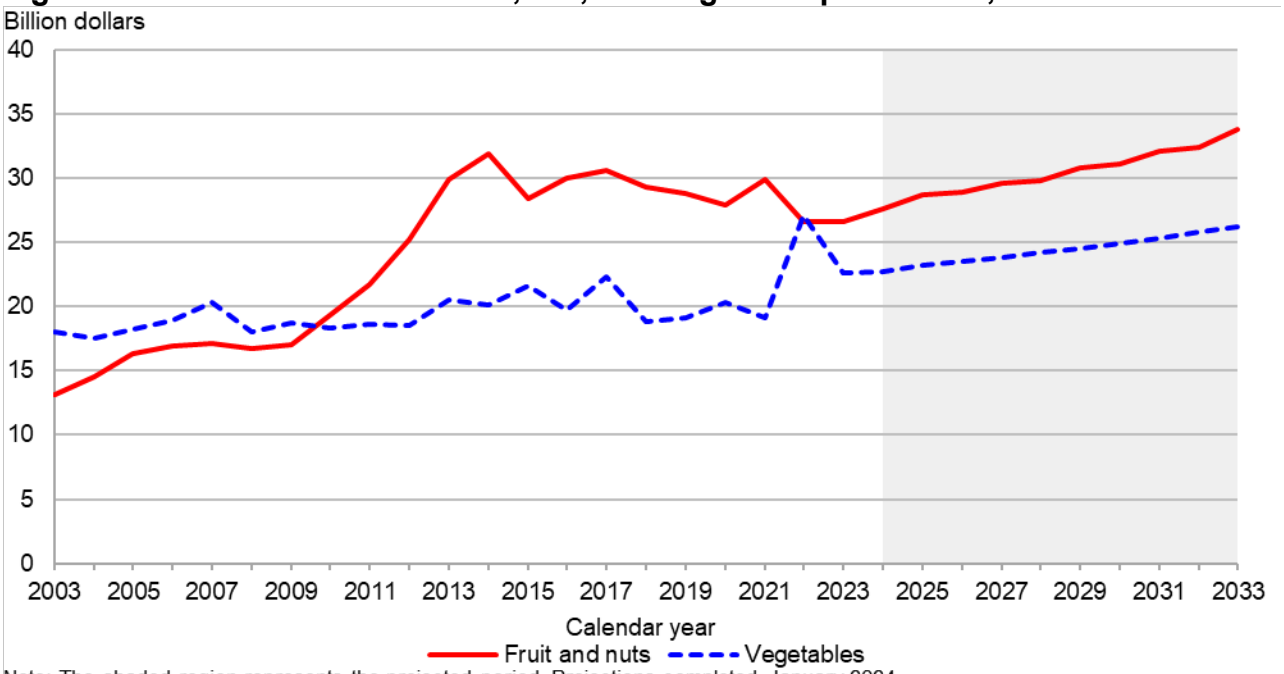
Notes: The shaded region represents the projected period. Short tons are 2 thousand pounds.
Source: USDA, Economic Research Service, based on data from the USDA, Interagency Agricultural Projections Committee.

The Baseline projects domestic sugar deliveries for food and beverage use to rise during the projection period, from 12.6 million short tons, raw value (STRV) in 2024/25 to 13.1 million STRV in 2033/34. This increase is in line with population growth. Domestic sugar use is projected to be primarily met by domestic production, with imports projected at the minimum levels stipulated in trade agreements.

- Domestic sugar production increases from 9.5 million STRV in 2024/25 to 10.2 million by 2033/34, with production of beet and cane sugar both expected to rise. Beet sugar production rises from 5.3 million STRV in 2024/25 to 5.7 million in 2033/34 due to improvement in yield and sucrose recovery rates; harvested area is assumed to be steady. Cane sugar production increases from 4.2 million STRV in 2024/25 to 4.5 million by 2033/34, also mainly due to improvements in yields and recovery rate amid stable harvested area.
- Total sugar imports are projected to decline from 3.4 million STRV in 2024/25 to 3.1 million in 2033/34, primarily driven by lower expected imports from Mexico. The Baseline reflects expectations that most U.S. sugar imports will be obtained through multilateral or bilateral trade agreements.
- Trade with Mexico will continue to be governed by the terms of the Suspension Agreements signed between the Mexican sugar industry, the Government of Mexico, and the U.S. Department of Commerce in 2014 and amended in 2017. As the residual supplier to the U.S. market as defined by the agreements, imports from Mexico are expected to decline from 1.4 million STRV in 2024/25 to 1.0 million in 2033/34, mostly due to the increases in U.S. domestic production to meet sugar use.
- U.S. prices for both sugarcane and sugar-beet growers are stable in nominal terms through 2033/34, as relatively tight projected ending stock levels help to maintain a 13.5 percent stocks-to-use ratio and support raw and refined sugar prices. There are no projected

forfeitures to the Commodity Credit Corporation (CCC), nor public expenditures under the U.S. sugar program.

Figure 19. Farm value of U.S. fruit, nut, and vegetable production, 2003–2033



Note: The shaded region represents the projected period. Projections completed January 2024.
Source: USDA, Economic Research Service, based on data from the USDA, Interagency Agricultural Projections Committee.

The total combined farm value of fruit, tree nuts, vegetables, and pulse crop production is projected to reach $60 billion by calendar year 2033, up from $54 billion in 2022. By 2033, the value of fruit (citrus and noncitrus) represents 41 percent of the total value of the category, tree nuts approximately 15 percent, and all vegetable and pulse crops roughly 44 percent. The Baseline outlook for these crops also includes:

- Combined production of fruit, tree nuts, vegetables, and pulses are projected to grow slightly over the next decade, reaching 173 billion pounds by 2033, up from 166 billion in 2022. By 2033, fruit contributes 24 percent of the total output, tree nuts approximately 5 percent, and all vegetable and pulse crops roughly 71 percent.
- From 2022 to 2033, vegetable and pulse crop production is projected to grow more slowly than in the previous decade—rising by 4 percent. This primarily reflects technical measurement issues and rising import competition. Technical issues largely center on the rapid growth of the protected culture subsector (mostly greenhouses and urban vertical farms) that is slowly replacing field-grown production for several major fresh vegetables. With some exceptions, this sector is still not well represented in traditional USDA data collection programs that have recorded declining field-grown area and production for some crops. In recent years import volumes across many fresh and processed vegetables rose rapidly, including imports of organic foods produced in the Southern hemisphere. This projection assumes a continuation of import growth.

- The vegetable category is split into five main groups: fresh, processing, potatoes, pulses, and mushrooms. Fresh-market vegetable production share declines from 32 percent in 2022 to 30 percent of vegetable production through 2033 as imports are projected to largely fill stronger demand through 2033. Processing vegetable production share remains steady around 29 percent over the 10-year period based largely on steady processing tomato output. Potatoes will account for 35 percent of vegetable production by 2033, up 1 percent from the production share from 2022, according to Baseline projections. Pulse crops are projected to remain steady at 4 percent of all vegetable production from 2022 through 2033.
- Despite increasing production of higher-priced vegetables such as romaine lettuce, broccoli, and organic vegetables, the value of fresh-market vegetable production, including melons, is projected to decrease by 11 percent between 2022–33 as price pressure continues from strong import growth. The production value for fresh market vegetables accounts for a 57 percent share of vegetable and pulse receipts by 2033—down from 62 percent in 2022.
- Key fresh-market vegetable production over the next 10 years includes lettuce, melons, onions, carrots, and sweet potatoes. Within the lettuce subsector, steady growth is projected in romaine and field-grown leaf production while iceberg output declines. Field-grown iceberg lettuce share is expected to be limited by rising protected culture (greenhouse and other similar systems) output and rising popularity of romaine lettuce. Production of onions is expected to remain steady.
- Vegetables for processing currently account for about one-third of annual vegetable and pulse output. In 2022, 62 percent of processing vegetable production consisted of tomatoes, which is projected to increase to 66 percent by 2033. Over the next decade, processing tomato production is expected to fall as yields drop and planted acres stabilize.
- Partly because of maturing domestic demand, limited export growth, and rising productivity per acre, nominal prices of vegetables used for processing historically rose much more slowly than those for the fresh market. Comparing average price trends from 2022–2024 and 2031–2033, nominal processing vegetable prices are expected to rise about 14 percent while constant dollar prices are down 6 percent.
- Potatoes are expected to account for 20 percent of vegetable farm value by 2033, a 1-percent increase from 2022, according to Baseline projections. Projected potato production grows 8 percent while value rises 3 percent over the 2022–33 Baseline. Planted acres are forecast to decrease slightly in 2024, but total planted acres in the top 13 potato-producing States are forecast to remain flat through 2033. The long-term potato forecast assumes average weather and adequate water supplies, an upward yield trend, and steady demand in the United States and abroad for processed potatoes.
- Commercial domestic mushroom production is forecast to decline slightly throughout the Baseline period. Mushroom farm value is projected to increase 2 percent over the 2022–33 as decreased white button mushroom (Agaricus) production volume is offset by higher prices per unit of other mushroom varieties.

- Production of pulse crops is expected to rise 3 percent from 2022-2024 to 2031-2033 based on the assumptions that yields continue to increase at historical rates, export demand remains strong, and increased production decreases pulse prices. Dry edible peas, lentils, and chickpeas continue to exhibit strong growth in comparison to dry beans. The total value of all pulse crop production trends higher through 2033.
- Total U.S. fruit and tree nut production is expected to exceed 51 billion pounds in 2033. While noncitrus production volume is expected to remain relatively stable throughout the Baseline period, citrus production is projected to fluctuate while tree nut output is expected to rise. The farm value of fruit and tree nuts rises to $33.8 billion by 2033, up from $26.6 billion in 2023, led by selected noncitrus fruit and tree nuts.
- In 2022, grapes, strawberries, and apples represented 70 percent of noncitrus fruit farm value. During the 2022–33 period, the share of fruit farm value for these top noncitrus commodities is expected to increase slightly while stone fruit acreage in some States is transitioned to other crops. Production volume for noncitrus commodities is expected to be relatively flat over the next decade, as plantings of higher yielding varieties offset a slight decline in noncitrus acreage.
- U.S. citrus includes a diverse set of fruit types–oranges, grapefruit, lemons, and tangerines. Total citrus production levels are projected to continue their long-term decline through the middle of the Baseline period before stabilizing. This trend is attributable to declining orange and grapefruit production alongside increasing production of lemons and tangerines. California is expected to remain the production leader of fresh oranges, grapefruit, tangerines, and lemons but is expected to see mild reductions to the volume of its grapefruit and orange crops, as they lose market share to other citrus and noncitrus fruits. Production in California of lemons and tangerines (a group that includes easy-peel mandarins) is expected to increase throughout the projection period. Florida production of oranges, grapefruits, and tangerines is expected to continue its decades-long decline as citrus groves are converted to other uses. Similar production and acreage changes are expected for orange and grapefruit orchards in Texas and lemon orchards in Arizona, which account for a relatively small share of combined U.S. citrus production. Total value of citrus production in the United States is projected to increase 25 percent during the 2022–33 Baseline due to higher prices.
- In the short run, low output prices and high-input prices are expected to shrink tree nut producers' margins, causing small decreases in bearing acres for almonds and walnuts. Over the entire projection period, population increases are expected to fuel global demand for tree nuts, putting upward pressure on prices and pushing total bearing acreage and production higher. From 2022 to 2033, aggregate tree nut production (almond, walnut, hazelnut, pecan, pistachio, and macadamia nut) is expected to increase by approximately 17 percent, from 7 billion pounds in 2022 to 8.1 billion pounds in 2033. The value of tree nut production is expected to increase during the Baseline period to $9.2 billion by 2033 but remain below total tree nut values recorded in 2021. These projections assume export demand gradually increases and average yields for most nuts remain flat or slightly lower during the Baseline period.

Table 5: U.S. acreage for major field crops and Conservation Reserve Program (CRP) assumptions, long-term projections

	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
					Million acres							
Planted acreage, eight major crops												
Corn	88.6	94.9	91.0	89.0	89.0	88.5	88.5	88.5	88.0	88.0	88.0	88.0
Sorghum	6.3	7.2	6.7	6.6	6.6	6.6	6.6	6.5	6.5	6.5	6.5	6.5
Barley	3.0	3.1	2.8	2.6	2.5	2.5	2.5	2.5	2.5	2.4	2.4	2.4
Oats	2.6	2.6	2.6	2.6	2.6	2.5	2.4	2.3	2.3	2.3	2.3	2.3
Wheat	45.7	49.6	48.0	46.0	46.0	45.5	45.5	45.5	45.5	45.5	45.5	45.5
Rice	2.2	2.9	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8
Upland cotton	13.6	10.1	11.7	11.9	12.1	12.2	12.2	12.2	12.2	12.2	12.2	12.2
Soybeans	87.5	83.6	87.0	87.0	87.0	87.0	87.0	87.0	87.0	87.0	87.0	87.0
Total	249.4	253.9	252.6	248.5	248.6	247.6	247.5	247.3	246.8	246.7	246.7	246.7
CRP acreage assumptions												
Total CRP	22.0	23.2	25.8	26.9	26.9	26.9	26.9	26.9	26.9	26.9	26.9	26.9
Total planted plus CRP	271.4	277.0	278.3	275.4	275.5	274.5	274.4	274.2	273.7	273.6	273.6	273.6
Harvested acreage, eight major crops												
Corn	79.1	87.1	83.1	81.1	81.1	80.6	80.6	80.6	80.1	80.1	80.1	80.1
Sorghum	4.6	6.3	5.9	5.8	5.8	5.8	5.8	5.7	5.7	5.7	5.7	5.7
Barley	2.4	2.6	2.3	2.1	2.1	2.1	2.1	2.1	2.1	2.0	2.0	2.0
Oats	0.9	0.8	0.8	0.8	0.8	0.8	0.8	0.7	0.7	0.7	0.7	0.7
Wheat	35.5	37.3	39.2	37.6	37.6	37.2	37.2	37.2	37.2	37.2	37.2	37.2
Rice	2.2	2.9	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8
Upland cotton	7.1	7.9	9.8	9.8	9.9	10.0	10.1	10.1	10.1	10.1	10.1	10.1
Soybeans	86.2	82.8	86.1	86.1	86.1	86.1	86.1	86.1	86.1	86.1	86.1	86.1
Total	218.0	227.5	229.9	226.0	226.2	225.4	225.4	225.2	224.7	224.6	224.6	224.6

Note: The projections were completed in October 2023. CRP data is as of end of September 2023.
Source: USDA, Economic Research Service, based on data from USDA, Interagency Agricultural Projections Committee.

Table 6: U.S. corn long-term projections

Item	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	2031/32	2032/33	2033/34
Area (million acres):												
Planted acres	88.6	94.9	91.0	89.0	89.0	88.5	88.5	88.5	88.0	88.0	88.0	88.0
Harvested acres	79.1	87.1	83.1	81.1	81.1	80.6	80.6	80.6	80.1	80.1	80.1	80.1
Yield:												
Bushels per harvested acre	173.4	173.0	181.0	183.0	185.0	187.0	189.0	191.0	193.0	195.0	197.0	199.0
Supply and use (million bushels):												
Beginning stocks	1,377	1,361	2,111	2,616	2,721	2,821	2,886	2,971	3,046	3,036	3,041	3,031
Production	13,715	15,064	15,040	14,840	15,005	15,070	15,235	15,395	15,460	15,620	15,780	15,940
Imports	39	25	25	25	25	25	25	25	25	25	25	25
Supply	15,130	16,451	17,176	17,481	17,751	17,916	18,146	18,391	18,531	18,681	18,846	18,996
Feed and residual	5,549	5,600	5,800	5,950	6,050	6,100	6,200	6,350	6,450	6,575	6,700	6,825
Food, seed, and industrial	6,559	6,715	6,710	6,710	6,730	6,730	6,725	6,695	6,695	6,665	6,665	6,660
Ethanol and byproducts	5,177	5,300	5,300	5,300	5,325	5,325	5,325	5,300	5,300	5,275	5,275	5,275
Domestic use	12,108	12,315	12,510	12,660	12,780	12,830	12,925	13,045	13,145	13,240	13,365	13,485
Exports	1,661	2,025	2,050	2,100	2,150	2,200	2,250	2,300	2,350	2,400	2,450	2,500
Total use	13,769	14,340	14,560	14,760	14,930	15,030	15,175	15,345	15,495	15,640	15,815	15,985
Ending stocks	1,361	2,111	2,616	2,721	2,821	2,886	2,971	3,046	3,036	3,041	3,031	3,011
Stocks-to-use ratio, percent	9.9	14.7	18.0	18.4	18.9	19.2	19.6	19.9	19.6	19.4	19.2	18.8
Prices (dollars per bushel):												
Farm price	6.54	4.95	4.50	4.30	4.30	4.30	4.30	4.30	4.30	4.30	4.30	4.30
Variable costs of production (dollars):												
Per acre	517	470	442	437	432	426	427	429	432	435	438	442
Returns over variable costs (dollars per acre):												
Net returns	617	386	372	350	363	378	385	392	398	404	409	413

Note: Totals may not add due to rounding. Marketing year beginning September 1 for corn.
The projections were completed in October 2023.
Source: USDA, Economic Research Service, based on data from USDA, Interagency Agricultural Projections Committee.

Table 7: U.S. sorghum long-term projections

Item	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	2031/32	2032/33	2033/34
Area (million acres):												
Planted acres	6.3	7.2	6.7	6.6	6.6	6.6	6.6	6.5	6.5	6.5	6.5	6.5
Harvested acres	4.6	6.3	5.9	5.8	5.8	5.8	5.8	5.7	5.7	5.7	5.7	5.7
Yield:												
Bushels per harvested acre	41.1	57.4	69.2	69.2	69.2	69.2	69.2	69.2	69.2	69.2	69.2	69.2
Supply and use (million bushels):												
Beginning stocks	47	24	29	32	28	29	30	31	30	29	28	27
Production	188	360	408	401	401	401	401	394	394	394	394	394
Imports	0	0	0	0	0	0	0	0	0	0	0	0
Supply	235	384	437	433	429	430	431	425	424	423	422	421
Feed and residual	42	55	65	65	60	60	60	55	55	55	55	55
Food, seed, and industrial	60	55	55	55	55	55	55	55	55	55	55	55
Domestic use	102	110	120	120	115	115	115	110	110	110	110	110
Exports	109	245	285	285	285	285	285	285	285	285	285	285
Total use	211	355	405	405	400	400	400	395	395	395	395	395
Ending stocks	24	29	32	28	29	30	31	30	29	28	27	26
Stocks-to-use ratio, percent	11.5	8.1	7.9	6.9	7.3	7.5	7.8	7.6	7.3	7.1	6.8	6.6
Prices (dollars per bushel):												
Farm price	5.94	4.95	4.40	4.20	4.20	4.20	4.20	4.20	4.20	4.20	4.20	4.20
Variable costs of production (dollars):												
Per acre	211	193	182	181	179	177	178	179	180	181	182	184
Returns over variable costs (dollars per acre):												
Net returns	34	91	122	110	111	113	113	112	111	110	108	107

Note: Totals may not add due to rounding. Marketing year beginning September 1 for sorghum.
The projections were completed in October 2023.
Source: USDA, Economic Research Service, based on data from USDA, Interagency Agricultural Projections Committee.

Table 8: U.S. barley long-term projections

Item	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	2031/32	2032/33	2033/34
Area (million acres):												
Planted acres	3.0	3.1	2.8	2.6	2.5	2.5	2.5	2.5	2.5	2.4	2.4	2.4
Harvested acres	2.4	2.6	2.3	2.1	2.1	2.1	2.1	2.1	2.1	2.0	2.0	2.0
Yield:												
Bushels per harvested acre	71.6	72.4	76.5	77.2	77.8	78.5	79.2	79.9	80.5	81.2	81.9	82.5
Supply and use (million bushels):												
Beginning stocks	42	58	69	79	80	77	76	76	78	81	77	75
Production	175	185	176	162	163	165	166	168	169	162	164	165
Imports	24	14	12	12	12	12	12	12	12	12	12	12
Supply	241	257	257	253	255	254	254	256	259	255	253	252
Feed and residual	49	60	45	40	45	45	45	45	45	45	45	45
Food, seed, and industrial	131	125	125	125	125	125	125	125	125	125	125	125
Domestic use	181	185	170	165	170	170	170	170	170	170	170	170
Exports	2	3	8	8	8	8	8	8	8	8	8	8
Total use	183	188	178	173	178	178	178	178	178	178	178	178
Ending stocks	58	69	79	80	77	76	76	78	81	77	75	74
Stocks-to-use ratio, percent	31.8	36.8	44.4	46.2	43.3	42.7	42.7	43.8	45.5	43.3	42.1	41.6
Prices (dollars per bushel):												
Farm price	7.40	7.00	5.40	5.20	5.20	5.20	5.20	5.20	5.20	5.20	5.20	5.20
Variable costs of production (dollars):												
Per acre	225	203	191	190	188	185	186	186	188	189	190	192
Returns over variable costs (dollars per acre):												
Net returns	305	303	222	212	217	223	226	229	231	233	236	237

Note: Totals may not add due to rounding. Marketing year beginning June 1 for barley.
The projections were completed in October 2023.
Source: USDA, Economic Research Service, based on data from USDA, Interagency Agricultural Projections Committee.

Table 9: U.S. oats long-term projections

Item	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	2031/32	2032/33	2033/34
Area (million acres):												
Planted acres	2.6	2.6	2.6	2.6	2.6	2.5	2.4	2.3	2.3	2.3	2.3	2.3
Harvested acres	0.9	0.8	0.8	0.8	0.8	0.8	0.8	0.7	0.7	0.7	0.7	0.7
Yield:												
Bushels per harvested acre	64.8	68.6	66.8	67.1	67.4	67.7	67.9	68.2	68.5	68.8	69.0	69.3
Supply and use (million bushels):												
Beginning stocks	33	35	39	38	38	37	36	34	31	32	33	33
Production	58	57	53	54	54	54	54	48	48	48	48	49
Imports	84	85	90	90	90	90	90	90	90	90	90	90
Supply	174	177	182	182	182	181	180	172	169	170	171	172
Feed and residual	57	55	60	60	60	60	60	55	50	50	50	50
Food, seed, and industrial	81	81	82	82	83	83	84	84	85	85	86	86
Domestic use	138	136	142	142	143	143	144	139	135	135	136	136
Exports	2	2	2	2	2	2	2	2	2	2	2	2
Total use	140	138	144	144	145	145	146	141	137	137	138	138
Ending stocks	35	39	38	38	37	36	34	31	32	33	33	34
Stocks-to-use ratio, percent	24.9	28.2	26.4	26.4	25.5	24.8	23.3	22.0	23.4	24.1	23.9	24.6
Prices (dollars per bushel):												
Farm price	4.57	3.30	3.10	3.10	3.10	3.10	3.10	3.10	3.10	3.10	3.10	3.10
Variable costs of production (dollars):												
Per acre	196	176	167	166	164	162	163	164	165	166	168	170
Returns over variable costs (dollars per acre):												
Net returns	100	50	40	42	45	48	48	48	47	47	46	45

Note: Totals may not add due to rounding. Marketing year beginning June 1 for oats.
The projections were completed in October 2023.
Source: USDA, Economic Research Service, based on data from USDA, Interagency Agricultural Projections Committee.

Table 10: U.S. wheat long-term projections

Item	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	2031/32	2032/33	2033/34
Area (million acres):												
Planted acres	45.7	49.6	48.0	46.0	46.0	45.5	45.5	45.5	45.5	45.5	45.5	45.5
Harvested acres	35.5	37.3	39.2	37.6	37.6	37.2	37.2	37.2	37.2	37.2	37.2	37.2
Yield:												
Bushels per harvested acre	46.5	48.6	49.5	49.9	50.3	50.7	51.1	51.4	51.8	52.2	52.6	53.0
Supply and use (million bushels):												
Beginning stocks	698	582	670	782	793	793	761	742	732	735	736	750
Production	1,650	1,812	1,940	1,876	1,891	1,886	1,901	1,912	1,927	1,942	1,957	1,972
Imports	122	135	120	110	110	110	110	110	110	110	110	110
Supply	2,470	2,529	2,730	2,768	2,794	2,789	2,772	2,764	2,769	2,787	2,803	2,832
Food	973	974	976	978	980	982	984	986	988	990	992	994
Seed	68	65	62	62	61	61	61	61	61	61	61	61
Feed and residual	89	120	110	110	110	110	110	110	110	110	110	110
Domestic use	1,130	1,159	1,148	1,150	1,151	1,153	1,155	1,157	1,159	1,161	1,163	1,165
Exports	759	700	800	825	850	875	875	875	875	890	890	915
Total use	1,888	1,859	1,948	1,975	2,001	2,028	2,030	2,032	2,034	2,051	2,053	2,080
Ending stocks	582	670	782	793	793	761	742	732	735	736	750	752
Stocks-to-use ratio, percent	30.8	36.0	40.1	40.1	39.6	37.5	36.5	36.0	36.1	35.9	36.5	36.1
Prices (dollars per bushel):												
Farm price	8.83	7.30	6.80	6.30	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00
Variable costs of production (dollars):												
Per acre	206	187	175	173	171	168	169	170	171	172	174	175
Returns over variable costs (dollars per acre):												
Net returns	204	168	161	141	131	136	138	139	140	141	142	143

Note: Totals may not add due to rounding. Marketing year beginning June 1 for wheat.
The projections were completed in October 2023.
Source: USDA, Economic Research Service, based on data from USDA, Interagency Agricultural Projections Committee.

Table 11: U.S. soybeans and soybean products long-term projections

Item	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	2031/32	2032/33	2033/34
Soybeans												
Area (million acres):												
Planted	87.5	83.6	87.0	87.0	87.0	87.0	87.0	87.0	87.0	87.0	87.0	87.0
Harvested	86.2	82.8	86.1	86.1	86.1	86.1	86.1	86.1	86.1	86.1	86.1	86.1
Yield, bushels per harvested acre	49.6	49.6	52.0	52.5	53.0	53.5	54.0	54.5	55.0	55.5	56.0	56.5
Supply (million bushels)												
Beginning stocks, September 1	274	268	220	286	303	304	300	300	301	306	316	326
Production	4,270	4,104	4,475	4,520	4,565	4,605	4,650	4,690	4,735	4,780	4,820	4,865
Imports	25	30	15	15	15	15	15	15	15	15	15	15
Total supply	4,569	4,403	4,710	4,821	4,883	4,924	4,965	5,005	5,051	5,101	5,151	5,206
Use (million bushels)												
Crush	2,212	2,300	2,375	2,430	2,465	2,490	2,510	2,530	2,550	2,570	2,590	2,615
Seed and residual	97	128	123	124	124	124	124	124	125	125	125	125
Exports	1,992	1,755	1,925	1,965	1,990	2,010	2,030	2,050	2,070	2,090	2,110	2,135
Total use	4,301	4,183	4,423	4,519	4,579	4,624	4,664	4,704	4,745	4,785	4,825	4,875
Ending stocks, August 31												
Total ending stocks	268	220	286	303	304	300	300	301	306	316	326	331
Stocks-to-use ratio, percent	6.2	5.2	6.5	6.7	6.6	6.5	6.4	6.4	6.5	6.6	6.8	6.8
Prices (dollars per bushel)												
Soybean price, farm	14.20	12.90	11.30	10.75	10.50	10.50	10.50	10.50	10.50	10.50	10.50	10.50
Variable costs of production (dollars):												
Per acre	270	253	244	244	243	242	243	245	247	248	250	252
Returns over variable costs (dollars per acre):												
Net returns	433	386	344	321	313	320	324	327	331	335	338	341
Soybean oil (million pounds)												
Beginning stocks, October 1	1,991	1,761	1,736	1,736	1,776	1,801	1,811	1,856	1,931	1,936	1,921	1,941
Production	26,265	27,025	27,925	28,590	29,025	29,335	29,595	29,850	30,105	30,360	30,620	30,935
Imports	375	400	425	400	300	300	300	300	300	300	300	300
Total supply	28,631	29,186	30,086	30,726	31,101	31,436	31,706	32,006	32,336	32,596	32,841	33,176
Domestic disappearance	26,500	27,100	28,000	28,550	28,700	28,825	28,950	29,075	29,200	29,325	29,450	29,500
Biofuel 1/	12,100	12,800	13,600	14,000	14,100	14,175	14,250	14,325	14,400	14,475	14,550	14,550
Food, feed, and other industrial	14,400	14,300	14,400	14,550	14,600	14,650	14,700	14,750	14,800	14,850	14,900	14,950
Exports	370	350	350	400	600	800	900	1,000	1,200	1,350	1,450	1,650
Total use	26,870	27,450	28,350	28,950	29,300	29,625	29,850	30,075	30,400	30,675	30,900	31,150
Ending stocks, September 30	1,761	1,736	1,736	1,776	1,801	1,811	1,856	1,931	1,936	1,921	1,941	2,026
Soybean oil price (dollars per pound)	0.653	0.630	0.550	0.500	0.460	0.450	0.440	0.430	0.420	0.410	0.400	0.395
Soybean meal (thousand short tons)												
Beginning stocks, October 1	311	350	400	400	400	400	400	400	400	400	400	400
Production	52,564	54,175	55,875	57,175	58,025	58,600	59,100	59,550	59,950	60,450	60,950	61,450
Imports	625	600	600	600	600	600	600	600	600	600	600	600
Total supply	53,500	55,125	56,875	58,175	59,025	59,600	60,100	60,550	60,950	61,450	61,950	62,450
Domestic disappearance	38,600	39,425	40,325	41,325	42,075	42,700	43,300	43,900	44,500	45,100	45,700	46,300
Exports	14,550	15,300	16,150	16,450	16,550	16,500	16,400	16,250	16,050	15,950	15,850	15,750
Total use	53,150	54,725	56,475	57,775	58,625	59,200	59,700	60,150	60,550	61,050	61,550	62,050
Ending stocks, September 30	350	400	400	400	400	400	400	400	400	400	400	400
Soybean meal price (dollars per ton)	452	380	330	330	340	347	354	361	367	374	381	385
Crushing yields (pounds per bushel)												
Soybean oil	11.83	11.75	11.76	11.77	11.77	11.78	11.79	11.80	11.81	11.81	11.82	11.83
Soybean meal	47.34	47.10	47.09	47.09	47.08	47.08	47.07	47.06	47.06	47.05	47.05	47.04
Crush margin (dollars per bushel)	4.22	3.45	2.94	2.90	2.92	2.97	3.02	3.07	3.09	3.14	3.19	3.23

1/ Reflects soybean oil used for biofuel as reported by the U.S. Department of Energy, Energy Information Administration.
Note: Totals may not add due to rounding. Marketing year beginning September 1 for soybeans; October 1 for soybean oil and soybean meal.
The projections were completed in October 2023.
Source: USDA, Economic Research Service, based on data from USDA, Interagency Agricultural Projections Committee.

Table 12: U.S. rice long-term projections, total rice, rough basis

Item	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	2031/32	2032/33	2033/34
Area (thousand acres):												
Planted	2,222	2,897	2,800	2,800	2,800	2,800	2,800	2,800	2,800	2,800	2,800	2,800
Harvested	2,172	2,850	2,754	2,756	2,756	2,756	2,756	2,756	2,756	2,756	2,756	2,756
Yield:												
Pounds per harvested acre	7,383	7,737	7,665	7,689	7,707	7,739	7,761	7,779	7,805	7,823	7,845	7,863
Supply and use (million hundredweight):												
Beginning stocks	39.7	30.3	41.8	41.9	41.8	42.2	42.5	43.4	43.3	43.9	44.5	44.7
Production	160.4	220.5	211.1	211.9	212.4	213.3	213.9	214.4	215.1	215.6	216.2	216.7
Imports	39.9	39.0	40.1	41.2	42.3	43.4	44.5	45.6	46.7	47.8	48.9	50.0
Total supply	240.0	289.8	293.0	295.0	296.5	298.9	300.9	303.4	305.1	307.3	309.6	311.4
Domestic use and residual	145.4	162.0	162.1	163.2	164.3	165.4	166.5	167.6	168.7	169.8	170.9	172.0
Exports	64.3	86.0	89.0	90.0	90.0	91.0	91.0	92.5	92.5	93.0	94.0	94.5
Total use	209.7	248.0	251.1	253.2	254.3	256.4	257.5	260.1	261.2	262.8	264.9	266.5
Ending stocks	30.3	41.8	41.9	41.8	42.2	42.5	43.4	43.3	43.9	44.5	44.7	44.9
Stocks-to-use ratio, percent	14.4	16.8	16.7	16.5	16.6	16.6	16.8	16.6	16.8	16.9	16.9	16.8
Price (dollars per hundredweight):												
Average farm price	19.30	16.80	15.30	15.00	14.70	14.40	14.40	14.40	14.50	14.50	14.50	14.50
Variable costs of production (dollars):												
Per acre	883	811	782	781	779	775	779	784	790	796	804	812
Returns over variable costs (dollars per acre):												
Net returns	542	489	391	372	354	340	338	336	341	338	334	329

Note: Totals may not add due to rounding. Marketing year beginning August 1 for rice.
The projections were completed in October 2023.
Source: USDA, Economic Research Service, based on data from USDA, Interagency Agricultural Projections Committee.

Table 13: U.S. rice long-term projections, long-grain rice, rough basis

Item	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	2031/32	2032/33	2033/34
Area (thousand acres):												
Planted	1,802	2,066	2,100	2,100	2,100	2,100	2,100	2,100	2,100	2,100	2,100	2,100
Harvested	1,774	2,040	2,071	2,066	2,066	2,066	2,066	2,066	2,066	2,066	2,066	2,066
Yield:												
Pounds per harvested acre	7,224	7,483	7,440	7,460	7,480	7,510	7,530	7,550	7,570	7,590	7,610	7,630
Supply and use (million hundredweight):												
Beginning stocks	24.6	21.2	22.8	23.9	24.0	24.5	24.7	25.3	25.3	25.7	26.5	26.7
Production	128.2	152.6	154.1	154.1	154.5	155.2	155.6	156.0	156.4	156.8	157.2	157.6
Imports	31.9	32.0	33.0	34.0	35.0	36.0	37.0	38.0	39.0	40.0	41.0	42.0
Total supply	184.7	205.8	209.9	212.0	213.5	215.7	217.3	219.3	220.7	222.5	224.7	226.3
Domestic use and residual	113.7	124.0	125.0	126.0	127.0	128.0	129.0	130.0	131.0	132.0	133.0	134.0
Exports	49.8	59.0	61.0	62.0	62.0	63.0	63.0	64.0	64.0	64.0	65.0	65.5
Total use	163.5	183.0	186.0	188.0	189.0	191.0	192.0	194.0	195.0	196.0	198.0	199.5
Ending stocks	21.2	22.8	23.9	24.0	24.5	24.7	25.3	25.3	25.7	26.5	26.7	26.8
Stocks-to-use ratio, percent	13.0	12.5	12.9	12.8	13.0	12.9	13.2	13.1	13.2	13.5	13.5	13.4
Price (dollars per hundredweight):												
Average farm price	16.80	15.00	14.00	13.75	13.50	13.00	13.00	13.00	13.00	13.00	13.00	13.00

Note: Totals may not add due to rounding. Marketing year beginning August 1 for rice.
The projections were completed in October 2023.
Source: USDA, Economic Research Service, based on data from USDA, Interagency Agricultural Projections Committee.

Table 14: U.S. rice long-term projections, medium- and short-grain rice, rough basis

Item	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	2031/32	2032/33	2033/34
Area (thousand acres):												
Planted	420	831	700	700	700	700	700	700	700	700	700	700
Harvested	398	810	683	690	690	690	690	690	690	690	690	690
Yield:												
Pounds per harvested acre	8,094	8,378	8,340	8,370	8,390	8,420	8,450	8,470	8,500	8,520	8,550	8,570
Supply and use (million hundredweight):												
Beginning stocks	13.0	6.8	16.7	15.7	15.5	15.4	15.5	15.8	15.7	15.9	15.7	15.7
Production	32.2	67.9	57.0	57.8	57.9	58.1	58.3	58.4	58.7	58.8	59.0	59.1
Imports	8.0	7.0	7.1	7.2	7.3	7.4	7.5	7.6	7.7	7.8	7.9	8.0
Total supply	53.0	81.7	80.8	80.7	80.7	80.9	81.3	81.8	82.1	82.5	82.6	82.8
Domestic use and residual	31.7	38.0	37.1	37.2	37.3	37.4	37.5	37.6	37.7	37.8	37.9	38.0
Exports	14.5	27.0	28.0	28.0	28.0	28.0	28.0	28.5	28.5	29.0	29.0	29.0
Total use	46.2	65.0	65.1	65.2	65.3	65.4	65.5	66.1	66.2	66.8	66.9	67.0
Ending stocks	6.8	16.7	15.7	15.5	15.4	15.5	15.8	15.7	15.9	15.7	15.7	15.8
Stocks-to-use ratio, percent	14.7	25.6	24.1	23.7	23.5	23.6	24.1	23.7	23.9	23.4	23.4	23.5
Price (dollars per hundredweight):												
Average farm price	29.40	22.60	19.60	18.80	18.70	18.70	18.80	19.00	19.10	19.20	19.40	19.40
California	36.00	26.00	22.00	21.00	21.00	21.20	21.40	21.60	21.80	22.00	22.20	22.20
Other States	18.20	15.50	14.50	14.15	13.90	13.40	13.40	13.40	13.40	13.40	13.40	13.40

Note: Totals may not add due to rounding. Marketing year beginning August 1 for rice; California marketing year beginning October 1.
The projections were completed in October 2023.
Source: USDA, Economic Research Service, based on data from USDA, Interagency Agricultural Projections Committee.

Table 15: U.S. upland cotton long-term projections

Item	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	2031/32	2032/33	2033/34
Area (million acres):												
Planted acres	13.6	10.1	11.7	11.9	12.1	12.2	12.2	12.2	12.2	12.2	12.2	12.2
Harvested acres	7.1	7.9	9.8	9.8	9.9	10.0	10.1	10.1	10.1	10.1	10.1	10.1
Yield:												
Pounds per harvested acre	942	759	819	824	829	834	839	844	849	854	859	864
Supply and use (thousand bales):												
Beginning stocks	4,026	4,078	2,662	3,640	3,720	3,800	3,880	3,960	3,940	3,920	3,950	3,980
Production	13,998	12,461	16,600	16,800	17,200	17,400	17,600	17,700	17,800	17,900	18,000	18,100
Imports	0	0	0	0	0	0	0	0	0	0	0	0
Supply	18,024	16,539	19,262	20,440	20,920	21,200	21,480	21,660	21,740	21,820	21,950	22,080
Domestic use	2,043	2,140	2,100	2,100	2,100	2,100	2,100	2,100	2,100	2,100	2,100	2,100
Exports	12,449	11,815	13,600	14,700	15,100	15,300	15,500	15,700	15,800	15,850	15,950	16,050
Total use	14,492	13,955	15,700	16,800	17,200	17,400	17,600	17,800	17,900	17,950	18,050	18,150
Unaccounted 1/	546	78	78	80	80	80	80	80	80	80	80	80
Ending stocks	4,078	2,662	3,640	3,720	3,800	3,880	3,960	3,940	3,920	3,950	3,980	4,010
Stocks-to-use ratio, percent	28.1	19.1	23.2	22.1	22.1	22.3	22.5	22.1	21.9	22.0	22.0	22.1
Prices (dollars per pound):												
Farm price	0.848	0.800	0.760	0.750	0.750	0.750	0.750	0.750	0.750	0.750	0.750	0.750
Variable costs of production (dollars):												
Per acre	582	554	544	545	546	545	549	553	558	564	569	576
Returns over variable costs (dollars per acre):												
Net returns*	401	199	223	196	198	203	203	202	201	200	198	196

* Includes revenue from cottonseed, beginning with USDA Agricultural Projections to 2026. Previously, net returns were calculated using an assumed cottonseed to lint ratio. The net return values now use projections of cottonseed prices and yields, so they are not directly comparable to values from years prior to 2017.
1/ Reflects the difference between the previous season's supply less total use and ending stocks.
Note: Marketing year beginning August 1 for upland cotton. The projections were completed in October 2023.
Source: USDA, Economic Research Service, based on data from USDA, Interagency Agricultural Projections Committee.

Table 16: U.S. sugar long-term projections

Item	Units	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	2031/32	2032/33	2033/34
Sugarbeets													
Planted area	1,000 acres	1,160	1,132	1,161	1,161	1,161	1,161	1,161	1,161	1,161	1,161	1,161	1,161
Harvested area	1,000 acres	1,137	1,119	1,138	1,138	1,138	1,138	1,138	1,138	1,138	1,138	1,138	1,138
Yield	Tons/acre	28.6	31.1	30.6	30.7	30.9	31.1	31.2	31.4	31.5	31.7	31.8	31.9
Production	Million short tons	32.6	34.7	34.8	35.0	35.1	35.3	35.5	35.7	35.8	36.0	36.2	36.3
Sugarcane													
Harvested area	1,000 acres	891	885	885	885	885	885	885	885	885	885	885	885
Yield	Tons/acre	37.1	35.7	37.0	37.2	37.4	37.6	37.8	37.9	38.1	38.3	38.5	38.7
Production	Million short tons	33.1	31.6	32.7	32.9	33.1	33.3	33.4	33.6	33.8	33.9	34.1	34.3
Supply:													
Beginning stocks	1,000 short tons, raw value	1,821	1,977	1,557	1,720	1,729	1,737	1,744	1,752	1,759	1,767	1,775	1,782
Production	1,000 short tons, raw value	9,237	8,969	9,465	9,546	9,626	9,707	9,787	9,868	9,949	10,030	10,111	10,192
Beet sugar	1,000 short tons, raw value	5,168	5,151	5,278	5,327	5,375	5,424	5,473	5,521	5,570	5,619	5,668	5,716
Cane sugar	1,000 short tons, raw value	4,069	3,817	4,188	4,219	4,251	4,283	4,315	4,347	4,379	4,411	4,443	4,476
Total imports	1,000 short tons, raw value	3,584	3,277	3,440	3,267	3,247	3,222	3,197	3,172	3,147	3,123	3,098	3,074
TRQ imports 1/	1,000 short tons, raw value	1,834	1,617	1,658	1,662	1,666	1,670	1,673	1,677	1,681	1,684	1,688	1,692
Imports from Mexico	1,000 short tons, raw value	1,156	1,284	1,357	1,180	1,157	1,127	1,099	1,070	1,042	1,013	985	957
Other imports	1,000 short tons, raw value	594	375	425	425	425	425	425	425	425	425	425	425
Total supply	1,000 short tons, raw value	14,641	14,222	14,463	14,533	14,602	14,665	14,728	14,792	14,856	14,920	14,984	15,049
Use:													
Exports	1,000 short tons, raw value	70	35	35	35	35	35	35	35	35	35	35	35
Domestic deliveries	1,000 short tons, raw value	12,475	12,525	12,603	12,665	12,725	12,781	12,837	12,892	12,949	13,005	13,062	13,119
Total use	1,000 short tons, raw value	12,664	12,665	12,743	12,805	12,865	12,921	12,977	13,032	13,089	13,145	13,202	13,259
Ending stocks	1,000 short tons, raw value	1,977	1,557	1,720	1,729	1,737	1,744	1,752	1,759	1,767	1,775	1,782	1,790
Raw sugar price:													
New York, No. 16 contract 2/	Cents/lb.	40.70	43.55	40.94	37.11	37.26	37.37	37.50	37.64	37.79	37.94	38.10	38.25
Raw sugar loan rate	Cents/lb.	19.75	19.75	19.75	19.75	19.75	19.75	19.75	19.75	19.75	19.75	19.75	19.75
Beet sugar loan rate	Cents/lb.	25.38	25.38	25.38	25.38	25.38	25.38	25.38	25.38	25.38	25.38	25.38	25.38
Grower prices:													
Sugarbeets	Dollars/ton	64.89	58.81	59.00	58.15	57.17	57.56	57.71	58.03	58.33	58.59	58.89	59.18
Sugarcane	Dollars/ton	48.05	47.52	45.37	43.77	44.06	44.33	44.62	44.90	45.20	45.49	45.80	46.10

Note: Data shown is for an October-September year. The projections were completed in October 2023.

1/ TRQ=tariff-rate quota. TRQ imports include sugar imported under the World Trade Organization (WTO) raw sugar TRQ, WTO refined sugar TRQ, and free-trade agreements TRQ

2/ Price for July-September quarter (for example, July-September 2023 for 2022/23)

Source: USDA, Economic Research Service, based on data from USDA, Interagency Agricultural Projections Committee.

Table 17: Fruits, nuts, and vegetables long-term projections to 2033

Item	Unit	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
Production, farm weight													
Fruit and nuts	Mil. lbs.	48,666	48,601	49,333	51,160	50,082	50,237	50,018	50,431	50,141	50,632	50,536	51,086
Citrus	Mil. lbs.	11,184	9,814	9,938	11,794	11,409	11,143	11,016	10,956	10,933	10,949	11,006	11,108
Noncitrus	Mil. lbs.	30,530	31,491	32,119	31,820	31,620	31,736	31,766	31,792	31,743	31,772	31,841	31,855
Tree nuts	Mil. lbs.	6,953	7,297	7,276	7,546	7,053	7,359	7,236	7,683	7,465	7,912	7,689	8,124
Vegetables [1]	Mil. lbs.	117,147	122,773	121,518	121,839	121,249	121,216	121,048	120,824	120,774	120,727	121,411	122,154
Fresh market [2]	Mil. lbs.	37,415	37,528	37,118	37,209	37,245	37,118	37,209	37,245	37,203	37,209	37,245	37,203
Processing [2]	Mil. lbs.	33,766	36,128	36,149	35,966	35,404	35,464	35,102	34,797	34,755	34,519	35,114	35,908
Potatoes	Mil. lbs.	40,205	43,422	42,586	42,735	42,757	42,809	42,869	42,948	43,001	43,186	43,244	43,244
Pulses [3]	Mil. lbs.	5,059	5,027	5,022	5,295	5,213	5,198	5,244	5,214	5,198	5,199	5,198	5,195
Mushrooms	Mil. lbs.	702	667	642	634	630	627	624	621	617	614	611	605
Total fruit, nuts, vegetables	Mil. lbs.	165,764	171,374	170,828	172,972	171,305	171,437	171,051	171,240	170,904	171,350	171,939	173,233
Farm value													
Fruit and nuts	Million dollars	26,616	26,617	27,642	28,727	28,880	29,617	29,819	30,774	31,048	32,071	32,382	33,755
Citrus	Million dollars	2,979	2,579	3,105	3,082	3,101	3,131	3,182	3,258	3,348	3,452	3,571	3,707
Noncitrus	Million dollars	17,153	17,227	17,594	17,975	18,302	18,525	18,884	19,250	19,630	20,015	20,408	20,807
Tree nuts	Million dollars	6,484	6,810	6,943	7,670	7,477	7,961	7,753	8,266	8,070	8,604	8,404	9,241
Vegetables [1]	Million dollars	27,126	22,594	22,711	23,200	23,465	23,775	24,191	24,528	24,927	25,324	25,769	26,242
Fresh market [2]	Million dollars	16,823	12,336	12,447	12,784	13,008	13,207	13,544	13,811	14,108	14,422	14,720	15,036
Processing [2]	Million dollars	2,506	2,702	2,635	2,674	2,706	2,759	2,781	2,813	2,871	2,908	3,005	3,117
Potatoes	Million dollars	5,166	4,956	5,006	5,064	5,094	5,125	5,155	5,186	5,218	5,249	5,281	5,314
Pulses [3]	Million dollars	1,612	1,565	1,616	1,674	1,649	1,671	1,692	1,694	1,702	1,713	1,726	1,737
Mushrooms	Million dollars	1,018	1,035	1,007	1,004	1,009	1,014	1,018	1,023	1,028	1,033	1,038	1,038

[1] Utilized field-grown production, as reported by USDA, National Agricultural Statistics Service (NASS) beginning in 2021, is used for fresh market vegetables, processing vegetables, and potatoes.

[2] Includes melons and sweet potatoes, as reported by USDA, NASS beginning in 2021.

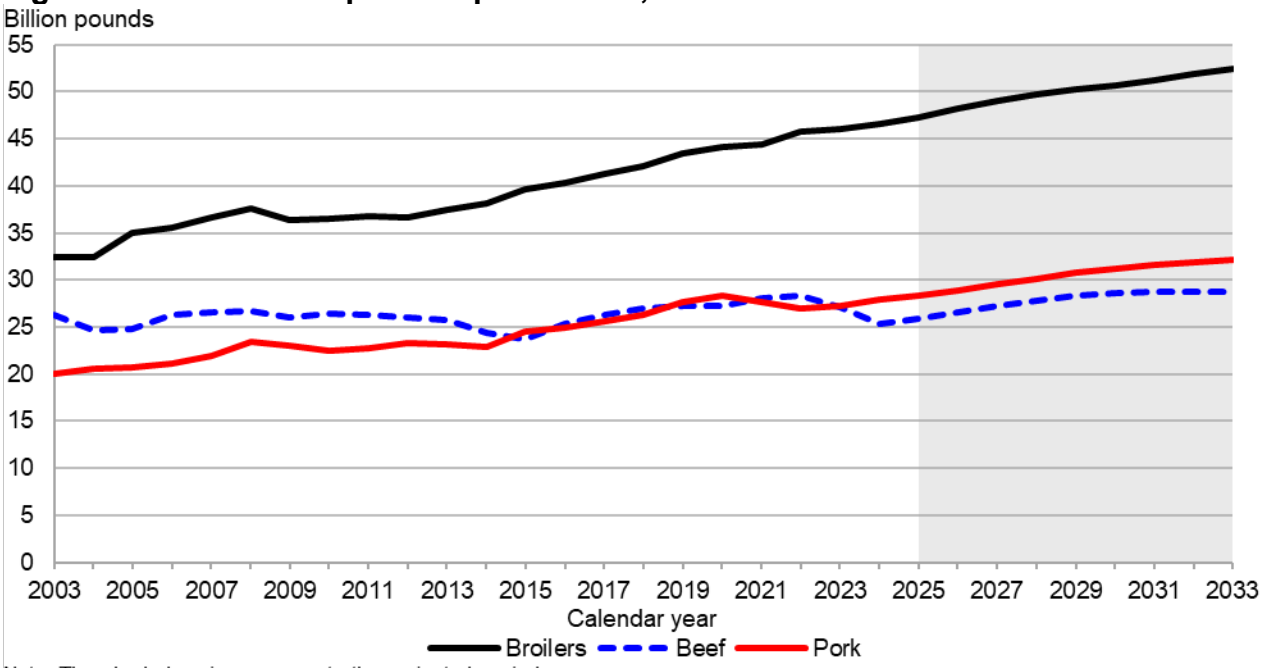
[3] Pulses include edible dry beans, peas, lentils, and chickpeas.

Note: Base year data are USDA, NASS reported estimates. Totals may not add due to rounding. The projections were completed in January 2024.

Source: USDA, Interagency Agricultural Projections Committee.

U.S. Livestock and Dairy

Figure 20: U.S. animal product production, 2003–2033



Note: The shaded region represents the projected period.
Source: USDA, Economic Research Service, based on data from the USDA, Interagency Agricultural Projections Committee.

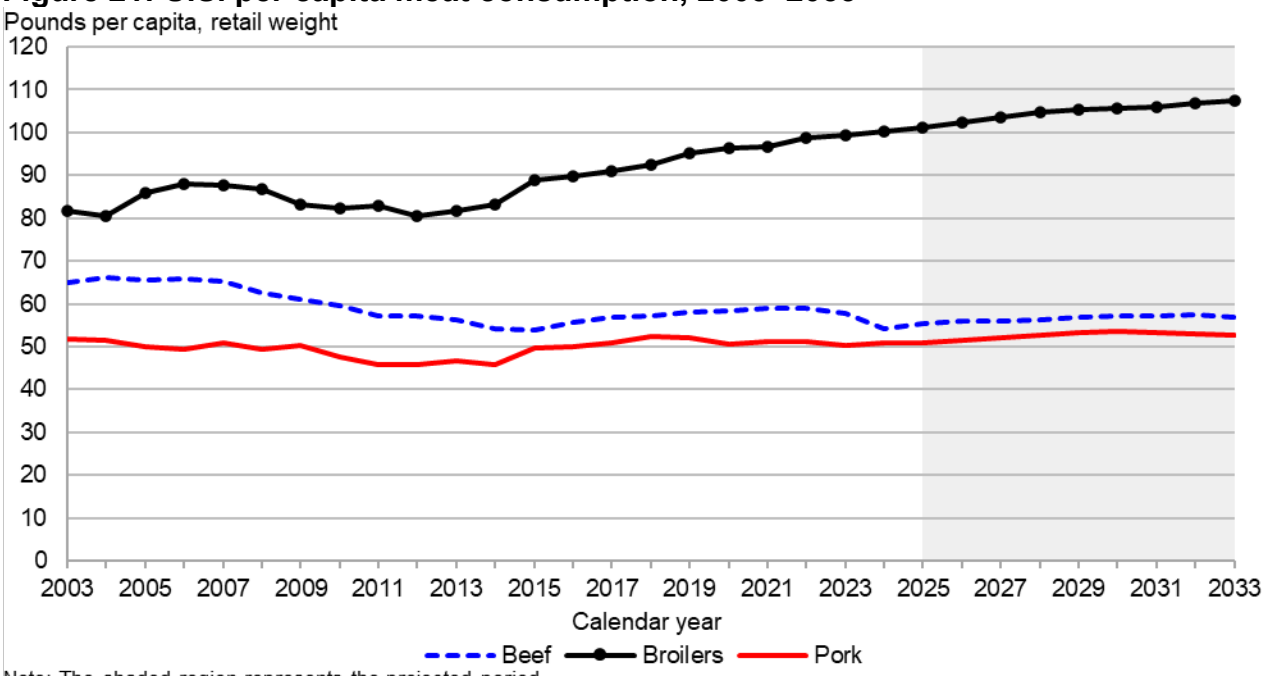
The projection period for livestock, poultry, and animal products begins with calendar year 2025. The projections and data for 2024 and prior years are based on information in the October 2023 publication of the *World Agricultural Supply and Demand Estimates* (*WASDE*).

Key factors that shape the 2024–2033 livestock-poultry Baseline estimates include assumptions for positive but modest rates of real per capita Gross Domestic Product (GDP) growth and Consumer Price Index (CPI) growth rates that will settle lower than recent elevated levels for most of the next decade. These macro factors are assumed to be offset to some degree by moderating prices of feed grains and oilseeds compared with prices in recent years. Beef production is projected to increase during much of the forecast period as assumptions of normal weather and improved pastures, coupled with strong cattle prices, sets the stage for herd rebuilding. Pork production increases moderately through most of the forecast period, slowing in the last third of the period. The production slowdown is reflected in lower per capita disappearance while export volumes accelerate. While broiler production also increases moderately through the period, its rate of growth slows mid-period as broiler-feed price ratios soften through much of the later part of the projection period. With steady growth in exports, variability in broiler meat production is largely reflected in slower growth in per capita disappearance gains. Declines in 2023 and 2024 of per capita disappearance of red meat and poultry shift to gains during the projection period. Per capita disappearance of red meat and poultry in 2024 is projected to be about 224 pounds per person, a decline of about 1 percent from 2023. Disappearance in 2033 disappearance is projected to be 235.4 pounds per capita, more than 11 pounds, or 5 percent greater, than disappearance in the initial year of the forecast period.

Production for all main animal products rise over the projection period, achieving record levels of production at some point during the projections for all products except turkey. Production growth, in terms of absolute change during the projections, are expected to be near or above double digits for all products except turkey.

- Beef production is expected to decline in 2024 reflecting tighter cattle supplies leading into the projection period. However, higher expected cattle prices in 2024 and an expected return to normal pasture conditions will likely incentivize heifer retention, after which modest herd growth is expected through the end of the projection period. Increasing average carcass weights will further support production gains as the herd expands and fewer heifers and cows are in the slaughter mix. Beef production is expected to increase during the projection period, starting in 2025 at year-over-year rates that average almost 0.3 percent.
- U.S. pork production grows moderately over the forecast period. Pork production increases at an average year-over-year rate of almost 1.7 percent. In 2025, pork production is expected to be about 28 billion pounds. In 2033 production is projected to be about 32 billion pounds. The increase reflects a rise in hog supplies as well as continued gains in carcass weights. Underpinning the rising supply of hogs, farrowings are expected to increase moderately, about 5 percent over the forecast period, with about 7 percent pigs per litter growth accounting for a greater share of pig crop increases through the forecast period.
- Broiler production is expected to continue increasing steadily over the forecast period, driven by greater domestic and foreign demand. Production growth will reflect the increasing number of birds slaughtered each year, as well as modest increases in average weights. Turkey production is expected to increase by 4 percent over the full projection period but will not surpass the peak annual production level reached in 2008.
- Milk production is anticipated to rise throughout the projection period, reaching 253.6 billion pounds in 2033. While the U.S. dairy herd is projected to decline from 2024 to 2025, it is expected to grow from 2026 through 2033. As efficiency gains continue to accrue, milk per cow is expected to rise through the projection period.

Figure 21: U.S. per capita meat consumption, 2003–2033

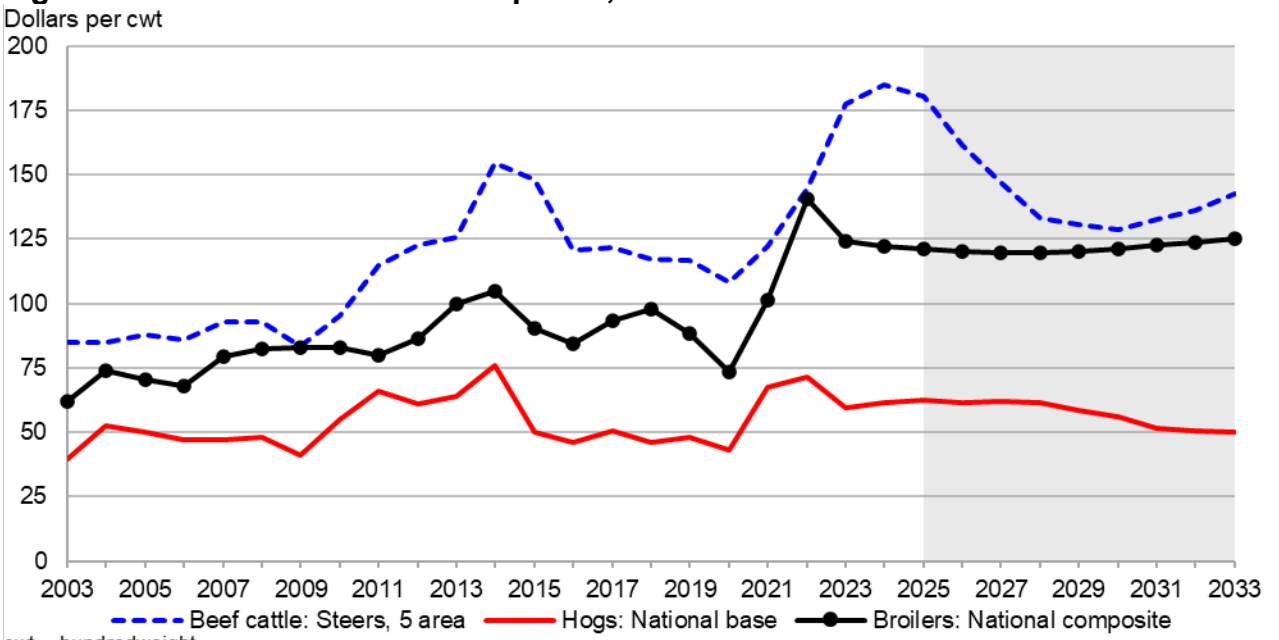


Note: The shaded region represents the projected period.
Source: USDA, Economic Research Service, based on data from the USDA, Interagency Agricultural Projections Committee.

U.S. per capita disappearance of total red meat (beef, veal, pork, lamb, and mutton) and poultry (broilers and turkey) is projected at 226.0 pounds in 2025 and 235.4 pounds in 2033, with poultry meat continuing to account for the majority of the projected growth in disappearance. The following are projected for per capita meat consumption:

- Per capita retail weight beef disappearance is expected to increase slightly in the first year of the projection period on somewhat higher production than forecast for 2024. Beef production is expected to increase for most of the projection period except in the final 2 years, supporting a slow increase in per capita consumption in all but the final year. Beef disappearance is projected at 55.4 pounds per capita in 2025 and is expected to be 56.9 pounds per capita by 2033.
- Expected per capita retail weight pork disappearance over the projection period averages 52.6 pounds. The period begins at 50.9 pounds per person and finishes the period at 52.7 pounds per capita.
- Broiler per capita disappearance is expected to increase steadily, growing from 101.1 pounds in 2025 to 107.5 pounds in 2033. Per capita turkey disappearance is expected to continue bouncing back from the 2022 low of 14.6 pounds to 15.6 pounds in 2025, ending at 15.4 pounds per capita in 2033.

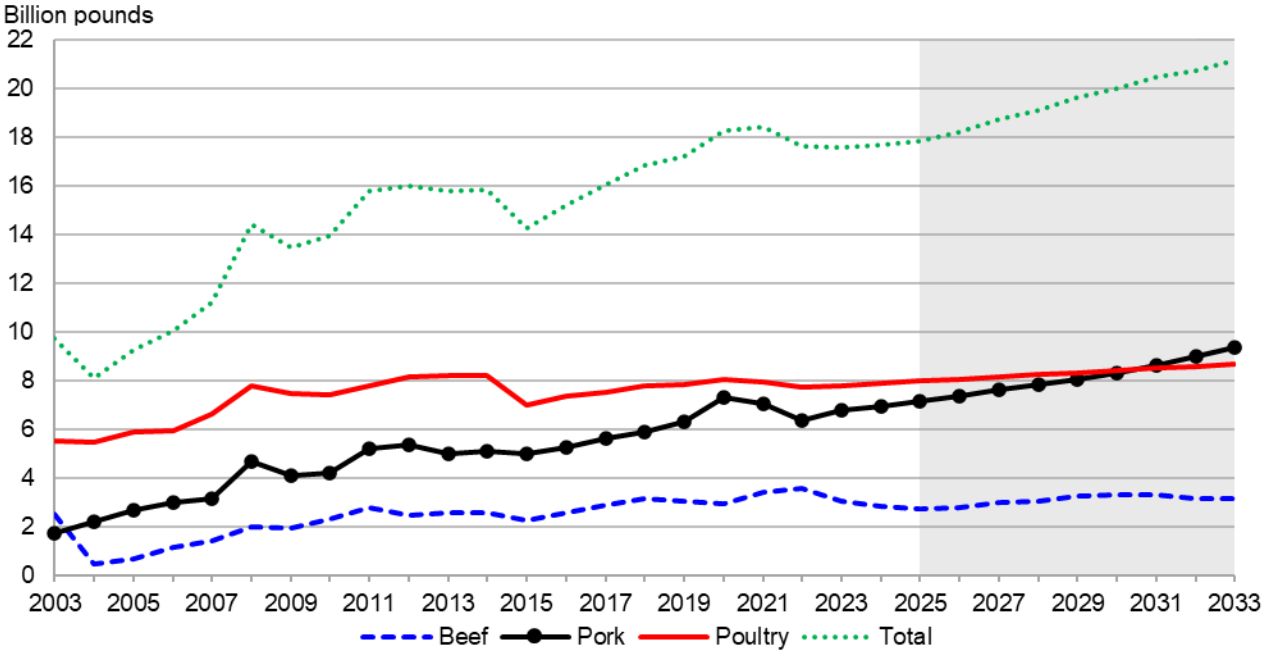
Figure 22: U.S. nominal livestock prices, 2003–2033



cwt = hundredweight.
Notes: The shaded region represents the projected period.
Source: USDA, Economic Research Service, based on data from the USDA, Interagency Agricultural Projections Committee.

- In 2023 and 2024, steer prices in the 5-area marketing region are forecast to rise, reflecting tightening cattle supplies. As producers respond to higher cattle prices, U.S. cattle inventories are expected to expand early in the period, and cattle prices are projected to decline through 2030 to $128.78 per hundredweight (cwt). For the remainder of the period, steer prices are expected to gradually rise to $142.39 per cwt in 2033 reflecting strong global demand for U.S. beef and relatively tight domestic market supplies.
- Pork production grows moderately through 2029, but the rate slows thereafter due to lower hog prices. Hog prices—national base lean prices for live-equivalent 51–52 percent lean hogs—are expected to average $57.10 per cwt, with an average year-over-year decline of more than 2 percent for the projection period. Pork export demand is robust throughout the period—increasing at an average year-over-year change of more than 3 percent. Domestic pork disappearance, however, never attains the level seen during the pandemic-restricted 2021–22 period. Larger pork supplies and increased competition with other supplies of meat exert downward pressure on hog prices throughout the projection period.
- After easing from the high levels experienced in 2022, wholesale broiler prices have stabilized, and are expected to begin the projection period slightly lower, at 121.1 cents per pound as production continues to increase. Prices then decrease before rising slightly to 125.3 cents per pound in 2033. Wholesale turkey prices are expected to fall from a 2022 peak of 154.5 cents per pound to 130.9 cents per pound in 2033.

Figure 23: U.S. meat exports, 2003–2033

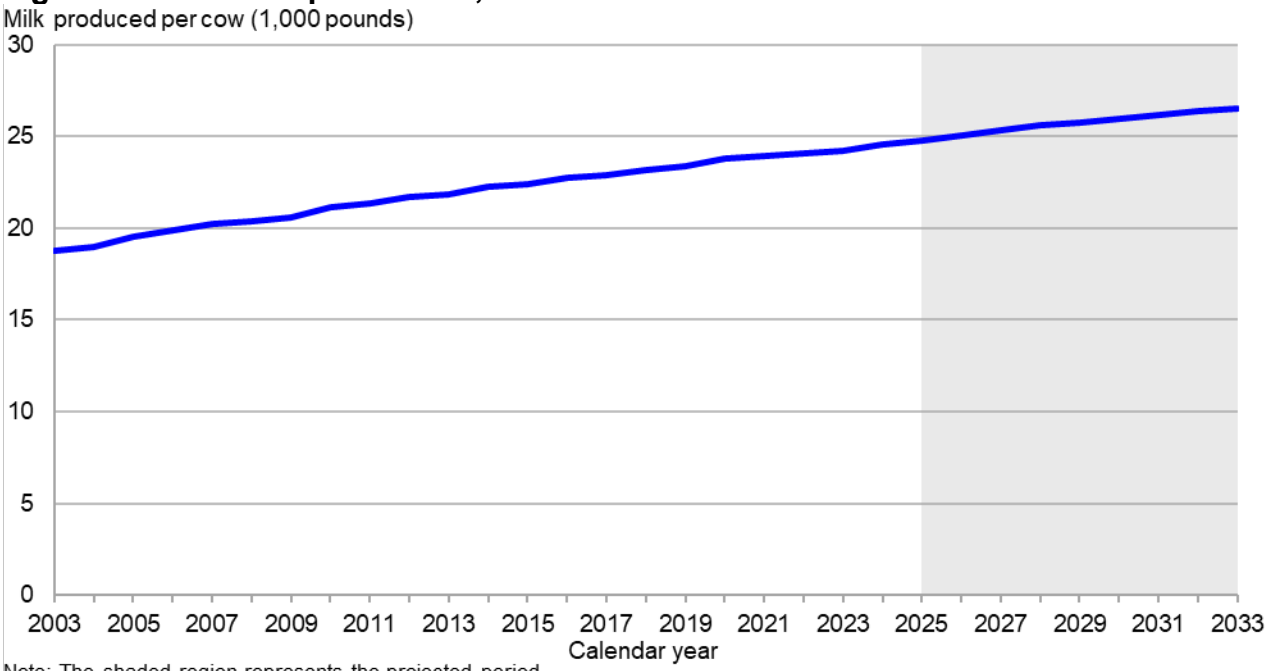


Note: The shaded region represents the projected period.Poultry includes young chicken, turkey, and mature chicken.
Source: USDA, Economic Research Service, based on data from the USDA, Interagency Agricultural Projections Committee.

The real exchange rate of the U.S. dollar is expected to depreciate fractionally against the currencies of agricultural trade partners during 2025–33, although from a relatively high level. This is anticipated to lend some marginal support to U.S. red meat and poultry exports, which are projected to rise through 2033 largely on the basis of increased supplies.

- During the projection period of 2025 to 2033, U.S. beef exports are expected to grow almost 16.6 percent from 2.7 billion pounds to 3.2 billion pounds. Brazil is projected to be the largest global beef exporter, while India remains second, followed by Australia and the United States. Among the major global beef exporters, U.S. market share is expected to decline fractionally, largely due to growth in exports by Brazil and India.
- The United States surpasses the European Union (EU) as the largest pork exporter in 2025, a trend that persists through the projection period. Efficiency gains in U.S. hog production and pork processing continue to enhance the sector's international competitiveness, while environmental policies in the EU slow their export growth. Although the EU remains the second-largest exporter during the projection period, Brazil is expected to surpass Canada as the third-largest exporter. The volume difference between Brazil and Canada expands during the period, with Brazil's exports growing more than 39 percent over the period compared with Canada's 9 percent growth. The United States' exports increase more than 30 percent over the 2025-33 period.
- U.S poultry exports are expected to increase steadily over the next 10 years. Broiler export growth is expected to continue to benefit from gains in production efficiency along with increasing global demand, climbing from 7.45 billion pounds in 2025 to 8.07 billion pounds in 2033. Turkey exports dropped sharply in 2022, reflecting the impacts of highly pathogenic avian influenza (HPAI), but are expected to continue a gradual recovery, totaling 490 million pounds in 2025. After climbing steadily through the projection period, turkey exports will reach 566 million pounds in 2033.

Figure 24: U.S. milk production, 2003–2033



Note: The shaded region represents the projected period.
Source: USDA, Economic Research Service, based on data from the USDA, Interagency Agricultural Projections Committee.

Milk production is projected to rise at a compound annual growth rate (CAGR) of 1.1 percent per year over the projection period, reaching 253.6 billion pounds in 2033. Feed prices are expected to decline from the relatively high values of recent years through the middle of the projection period but increase thereafter at a steady pace. Following the low margins experienced through most of 2023, and their lagged impact on the milking herd, the national dairy herd is projected to decline though 2025 but then start rising in 2026.

As domestic demand for dairy products grows and exports increase, milk prices are expected to rise relative to input prices, supporting dairy herd expansion. Technological and genetic advances will contribute to increasing cow milk yields as well as milk fat and skim-solids (protein, lactose, and minerals) content of the milk. In 2033, annual milk production per cow is projected to average 26,540 pounds. The following developments are projected for the U.S. dairy sector:

- Domestic use on a milk fat, milk-equivalent basis is projected to increase by a CAGR of 1.1 percent over the projection period. On a skim-solids basis, domestic use is projected to increase at a modest CAGR of 0.7 percent for 2025 to 2033.
- Demand for cheese is expected to rise based on increasing consumption of food eaten away from home and rising consumer incomes. Butter demand is also expected to expand. However, the decline in per capita consumption of fluid milk products is expected to continue.
- Global demand for U.S. dairy products is expected to continue to rise over the projection period, especially for products with high skim-solids content such as dry skim milk products (nonfat dry milk and skim milk powder), whey products, and lactose. On a skim-solids basis, dairy exports are expected to grow from 23.0 percent of 2024 milk production to 25.5 percent of 2033 milk production. However, on a milk-fat basis, exports are expected to

decline and remain comparatively low, projected at 3.9 percent of 2033 milk production, down from the 5.2 percent of the projected 2024 milk production.

- The nominal all-milk price is projected to trend upward over the projection period. However, it is not projected to reach the 2022 record high level.

Table 18: Per capita meat consumption, retail weight

Item	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
						Pounds						
Beef	59.1	57.9	54.3	55.4	56.1	56.1	56.4	56.8	57.2	57.3	57.3	56.9
Veal	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Pork	51.1	50.2	51.0	50.9	51.6	52.2	52.8	53.3	53.6	53.4	53.0	52.7
Lamb and mutton	1.3	1.1	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3
Total red meat	111.6	109.4	106.7	107.8	109.0	109.7	110.6	111.6	112.3	112.1	111.7	111.0
Broilers	98.9	99.5	100.2	101.1	102.5	103.7	104.8	105.3	105.5	106.1	106.9	107.5
Other chicken	1.7	1.7	1.6	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Turkeys	14.6	15.3	15.5	15.6	15.6	15.6	15.6	15.6	15.5	15.5	15.4	15.4
Total poultry	115.2	116.5	117.4	118.2	119.6	120.8	121.9	122.4	122.6	123.1	123.8	124.4
Red meat and poultry	226.8	225.8	224.0	226.0	228.6	230.5	232.5	234.0	234.9	235.1	235.5	235.4

Note: Totals may not add due to rounding. The projections were completed in October 2023.
Source: USDA, Economic Research Service, based on data from USDA, Interagency Agricultural Projections Committee.

Table 19: Beef long-term projections

Item	Units	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
Beginning stocks	Million lbs.	676	723	600	650	700	650	650	650	675	675	700	650
Commercial production	Million lbs.	28,291	26,976	25,275	25,784	26,487	27,195	27,664	28,206	28,530	28,732	28,720	28,690
Change from previous year	Percent	1.23	-4.65	-6.30	2.01	2.73	2.68	1.72	1.96	1.15	0.71	-0.04	-0.10
Farm production	Million lbs.	68	68	68	68	68	68	68	68	68	68	68	68
Total production	Million lbs.	28,359	27,044	25,343	25,852	26,555	27,264	27,733	28,275	28,598	28,800	28,789	28,759
Imports	Million lbs.	3,390	3,617	3,650	3,768	3,560	3,310	3,208	3,253	3,293	3,316	3,337	3,327
Total supply	Million lbs.	32,425	31,385	29,593	30,270	30,815	31,224	31,591	32,177	32,566	32,791	32,826	32,736
Exports	Million lbs.	3,544	3,034	2,845	2,707	2,781	2,991	3,043	3,244	3,281	3,304	3,159	3,156
Ending stocks	Million lbs.	723	600	600	650	650	650	650	650	650	650	650	650
Total disappearance	Million lbs.	28,157	27,751	26,148	26,913	27,384	27,582	27,898	28,284	28,635	28,837	29,016	28,930
Per capita, retail weight	Pounds	59.1	57.9	54.3	55.4	56.1	56.1	56.4	56.8	57.2	57.3	57.3	56.9
Change from previous year	Percent	0.66	-1.44	-5.78	2.92	1.75	0.72	1.14	1.38	1.24	0.70	0.62	-0.30
Prices													
Beef cattle, farm	$/cwt 1/	142.25	174.54	182.14	177.80	159.13	144.96	130.90	128.77	126.79	130.79	133.97	140.19
Calves, farm	$/cwt	192.17	260.12	294.61	287.60	257.40	234.49	211.74	208.29	205.09	211.56	216.70	226.76
Steers, 5-area 2/	$/cwt	144.40	177.30	185.00	180.60	161.63	147.24	132.96	130.79	128.78	132.85	136.08	142.39
Feeder steers, Oklahoma City	$/cwt	165.94	224.61	253.75	246.34	214.80	190.85	167.01	163.26	159.78	166.41	171.74	182.08
Feed price ratio													
Beef cattle-corn	Ratio	23.1	21.6	27.1	29.1	27.3	24.8	22.4	22.1	21.7	22.4	22.9	24.0
Cattle inventory	1,000 head	92,077	89,274	87,600	88,100	90,495	91,972	92,794	93,776	94,459	94,838	94,708	94,571
Beef cow inventory	1,000 head	29,983	28,918	28,220	28,820	29,560	30,421	31,138	31,501	31,665	31,679	31,576	31,404
Total cow inventory	1,000 head	39,360	38,320	37,600	38,200	38,940	39,816	40,558	40,946	41,135	41,174	41,096	40,944

1/ Cwt = hundredweight (100 pounds). 2/ Texas/Oklahoma/New Mexico; Kansas; Nebraska; Colorado; Iowa/Minnesota feedlots. The projections were completed in October 2023
Note Totals may not add due to rounding.
Source: USDA, Economic Research Service, based on data from USDA, Interagency Agricultural Projections Committee.

Table 20: Pork long-term projections

Item	Units	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
Beginning stocks	Million lbs.	446	504	480	465	529	542	556	570	584	598	613	629
Commercial production	Million lbs.	26,996	27,289	27,895	28,319	28,889	29,498	30,128	30,717	31,235	31,556	31,826	32,179
Change from previous year	Percent	-2.45	1.09	2.22	1.52	2.01	2.11	2.13	1.96	1.69	1.03	0.86	1.11
Farm production	Million lbs.	15.0	15.0	15.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0
Total production	Million lbs.	27,011	27,304	27,910	28,333	28,903	29,512	30,142	30,731	31,249	31,570	31,840	32,193
Imports	Million lbs.	1,344	1,125	1,175	1,193	1,211	1,229	1,247	1,266	1,285	1,304	1,324	1,343
Total supply	Million lbs.	28,800	28,933	29,565	29,991	30,642	31,283	31,945	32,566	33,118	33,472	33,777	34,165
Exports	Million lbs.	6,345	6,761	6,950	7,159	7,373	7,594	7,822	8,057	8,299	8,631	8,976	9,335
Ending stocks	Million lbs.	504	480	465	529	542	556	570	584	598	613	629	644
Total disappearance	Million lbs.	21,951	21,693	22,150	22,303	22,727	23,133	23,553	23,925	24,221	24,228	24,173	24,185
Per capita, retail weight	Pounds	51.1	50.2	51.0	50.9	51.6	52.2	52.8	53.3	53.6	53.4	53.0	52.7
Change from previous year	Percent	0.38	-1.18	2.11	0.69	1.90	1.79	1.81	1.58	1.23	0.03	-0.23	0.05
Prices													
Hogs, farm	$/cwt 1/	72.97	62.68	64.43	65.62	64.69	65.27	64.54	61.48	58.74	54.17	53.40	52.52
National base, live equivalent	$/cwt	71.21	59.70	61.25	62.38	61.49	62.05	61.36	58.44	55.84	51.50	50.77	49.93
Feed price ratio													
Hog-corn	Ratio	10.8	9.9	11.2	11.9	11.7	11.8	11.7	11.2	10.7	9.8	9.7	9.5
Hog inventory, December 1, previous year	1,000 head	74,446	74,849	73,300	73,100	74,337	75,667	77,041	78,303	79,377	79,944	80,381	80,832

1/ Cwt = hundredweight (100 pounds). The projections were completed in October 2023.
Note: Totals may not add due to rounding.
Source: USDA, Economic Research Service, based on data from USDA, Interagency Agricultural Projections Committee.

Table 21: Young chicken long-term projections

Item	Units	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
Beginning stocks	Million lbs.	705	892	870	890	895	900	905	910	915	920	925	930
Federally inspected slaughter	Million lbs.	46,206	46,494	47,110	47,815	48,700	49,533	50,309	50,856	51,271	51,811	52,461	53,063
Change from previous year	Percent	2.91	0.62	1.33	1.50	1.85	1.71	1.57	1.09	0.82	1.05	1.25	1.15
Production	Million lbs.	45,711	45,996	46,606	47,304	48,179	49,003	49,771	50,312	50,723	51,257	51,900	52,495
Total supply	Million lbs.	46,593	47,006	47,610	48,334	49,218	50,051	50,828	51,378	51,798	52,341	52,993	53,597
Change from previous year	Percent	2.62	0.89	1.28	1.52	1.83	1.69	1.55	1.08	0.82	1.05	1.25	1.14
Exports	Million lbs.	7,290	7,303	7,380	7,454	7,528	7,604	7,680	7,756	7,834	7,912	7,991	8,071
Ending stocks	Million lbs.	892	870	890	895	900	905	910	915	920	925	930	935
Disappearance	Million lbs.	38,411	38,834	39,340	39,985	40,789	41,542	42,238	42,707	43,044	43,504	44,071	44,591
Per capita, retail weight	Pounds	98.9	99.5	100.2	101.1	102.5	103.7	104.8	105.3	105.5	106.1	106.9	107.5
Change from previous year	Percent	2.8	1.1	1.3	1.6	2.0	1.8	1.7	1.1	0.8	1.1	1.3	1.2
Prices:													
Broilers, farm	Cents/lb.	85.0	73.9	72.8	72.1	71.7	71.4	71.1	71.5	72.3	73.2	73.7	74.6
Broilers, National composite	Cents/lb.	140.5	124.0	122.3	121.1	120.4	119.9	119.5	120.1	121.4	122.9	123.8	125.3
Feed price ratio													
Broiler-feed 1/	Ratio	4.9	4.4	5.2	5.8	6.3	6.2	6.1	6.1	6.1	6.1	6.1	7.1

1/ Broiler feed price based on 58 percent corn price and 42 percent soybean price,
as used by USDA, National Agricultural Statistics Service. The projections were completed in October 2023.
Note: Totals may not add due to rounding.
Source: USDA, Economic Research Service, based on data from USDA, Interagency Agricultural Projections Committee.

Table 22: Turkey long-term projections

Item	Units	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
Beginning stocks	Million lbs.	166	190	195	200	203	207	210	213	217	220	220	220
Production	Million lbs.	5,222	5,548	5,640	5,724	5,764	5,812	5,851	5,881	5,900	5,918	5,934	5,956
Total supply	Million lbs.	5,473	5,788	5,914	6,003	6,048	6,100	6,144	6,178	6,200	6,223	6,239	6,262
Change from previous year	Percent	-5.69	5.75	2.18	1.51	0.74	0.87	0.72	0.56	0.37	0.36	0.27	0.37
Exports	Million lbs.	407	455	480	490	499	509	518	528	537	547	556	566
Ending stocks	Million lbs.	190	195	200	203	207	210	213	217	220	220	220	220
Disappearance	Million lbs.	4,877	5,138	5,234	5,311	5,342	5,382	5,413	5,434	5,444	5,456	5,463	5,476
Per capita, retail weight	Pounds	14.6	15.3	15.5	15.6	15.6	15.6	15.6	15.6	15.5	15.5	15.4	15.4
Change from previous year	Percent	-4.20	5.36	1.87	1.46	0.59	0.74	0.57	0.39	0.18	0.23	0.13	0.24
Prices													
Turkey, farm	Cents/lb.	106.8	100.5	95.6	95.9	94.5	93.8	93.6	92.3	92.2	91.7	91.6	90.9
Hen turkeys, National	Cents/lb.	154.5	144.9	137.8	138.2	136.1	135.2	134.9	133.0	132.9	132.1	131.9	130.9
Feed price ratio													
Turkey-feed 1/	Ratio	6.6	6.9	5.8	6.9	7.7	8.3	8.3	8.0	8.0	7.8	7.8	7.6

1/ Turkey feed price based on 51 percent corn price, 28 percent soybean price, and 21 percent wheat price, as used by USDA, National Agricultural Statistics Service
The projections were completed in October 2023.
Note: Totals may not add due to rounding.
Source: USDA, Economic Research Service, based on data from USDA, Interagency Agricultural Projections Committee.

Table 23: Egg long-term projections

Item	Units	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
Beginning stocks	Million dozen	19	19	23	20	22	23	24	25	26	26	27	27
Production	Million dozen	9,074	9,178	9,455	9,644	9,789	9,936	10,085	10,236	10,389	10,519	10,651	10,784
Change from previous year	Percent	-2.41	1.15	3.01	2.00	1.50	1.50	1.50	1.50	1.50	1.25	1.25	1.25
Imports	Million dozen	26	30	28	18	17	17	17	17	17	17	17	17
Total supply	Million dozen	9,119	9,227	9,506	9,682	9,828	9,976	10,126	10,278	10,432	10,563	10,695	10,828
Change from previous year	Percent	-2.37	1.19	3.02	1.85	1.51	1.50	1.50	1.51	1.50	1.25	1.25	1.24
Hatching use	Million dozen	1,116	1,118	1,130	1,147	1,164	1,182	1,199	1,217	1,236	1,254	1,273	1,292
Exports	Million dozen	227	249	245	284	290	301	317	334	351	369	388	395
Ending stocks	Million dozen	19	23	20	22	23	24	25	26	26	27	27	27
Disappearance	Million dozen	7,757	7,837	8,112	8,229	8,350	8,469	8,584	8,701	8,819	8,912	9,007	9,113
Per capita	Number	279.0	280.5	288.7	290.6	293.0	295.3	297.5	299.8	302.1	303.6	305.1	307.1
Change from previous year	Percent	-0.87	1.02	3.51	1.45	1.47	1.42	1.35	1.37	1.36	1.06	1.06	1.18
Prices													
Eggs, farm	Cents/dozen	239.2	161.7	127.9	127.9	130.5	133.2	135.8	138.5	141.1	143.8	146.4	149.1
New York, Grade A large	Cents/dozen	282.4	183.1	145.0	145.0	148.0	151.0	154.0	157.0	160.0	163.0	166.0	169.0
Feed price ratio													
Egg-feed 1/	Ratio	15.3	11.0	7.7	9.3	10.8	11.9	12.1	12.2	12.3	12.4	12.6	12.7

1/ Egg feed price based on 75 percent corn price and 25 percent soybean price, as used by USDA, National Agricultural Statistics Service.
The projections were completed in October 2023.
Note: Totals may not add due to rounding.
Source: USDA, Economic Research Service, based on data from USDA, Interagency Agricultural Projections Committee.

Table 24: Dairy long-term projections

Item	Units	2022	2023	2024 1/	2025	2026	2027	2028 1/	2029	2030	2031	2032 1/	2033
Milk production and marketings													
Number of milk cows	Thousand	9,402	9,405	9,385	9,375	9,385	9,410	9,430	9,455	9,480	9,505	9,530	9,555
Milk per cow	Pounds	24,087	24,200	24,560	24,785	25,050	25,310	25,610	25,755	25,970	26,170	26,360	26,540
Milk production	Billion lbs.	226.5	227.6	230.4	232.4	235.1	238.2	241.5	243.5	246.2	248.7	251.2	253.6
Farm use	Billion lbs.	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Marketings	Billion lbs.	225.5	226.6	229.4	231.4	234.1	237.2	240.5	242.5	245.2	247.7	250.2	252.6
Supply and use, milk-fat basis													
Beginning stocks	Billion lbs.	14.3	14.4	14.5	14.6	15.1	15.3	15.8	16.2	16.5	17.0	17.3	17.7
Marketings	Billion lbs.	225.5	226.6	229.4	231.4	234.1	237.2	240.5	242.5	245.2	247.7	250.2	252.6
Imports	Billion lbs.	7.1	7.4	7.5	7.1	7.0	6.7	6.5	6.4	6.2	6.1	6.0	5.9
Total supply	Billion lbs.	246.9	248.4	251.4	253.1	256.2	259.2	262.8	265.1	267.9	270.8	273.5	276.2
Domestic use	Billion lbs.	219.1	222.9	224.8	225.9	229.1	231.6	234.9	237.3	239.7	242.6	245.4	248.1
Exports	Billion lbs.	13.4	11.0	12.0	12.1	11.8	11.8	11.7	11.3	11.2	10.9	10.4	10.0
Ending stocks	Billion lbs.	14.4	14.5	14.6	15.1	15.3	15.8	16.2	16.5	17.0	17.3	17.7	18.1
Supply and use, skim-solids basis													
Beginning stocks	Billion lbs.	11.1	11.7	11.9	12.0	12.0	12.2	12.7	13.1	13.4	13.7	14.0	14.3
Marketings	Billion lbs.	225.5	226.6	229.4	231.4	234.1	237.2	240.5	242.5	245.2	247.7	250.2	252.6
Imports	Billion lbs.	6.7	6.6	6.7	8.0	9.2	10.2	10.6	10.5	9.9	9.0	8.0	7.1
Total supply	Billion lbs.	243.3	244.8	248.1	251.4	255.3	259.6	263.8	266.1	268.5	270.4	272.2	274.0
Domestic use	Billion lbs.	178.7	183.4	183.1	185.5	187.9	190.3	192.6	193.3	194.0	194.3	194.6	194.8
Exports	Billion lbs.	52.9	49.5	52.9	53.9	55.2	56.6	58.1	59.4	60.8	62.1	63.3	64.6
Ending stocks	Billion lbs.	11.7	11.9	12.0	12.0	12.2	12.7	13.1	13.4	13.7	14.0	14.3	14.6
Price received by dairy farmers													
All milk	$/hundredweight	25.34	20.70	20.55	20.75	21.65	21.60	21.75	22.50	22.90	23.30	24.05	24.80
Wholesale dairy product prices													
Butter	$/lb.	2.87	2.66	2.66	2.55	2.67	2.56	2.52	2.62	2.55	2.58	2.66	2.67
Cheddar cheese	$/lb.	2.11	1.77	1.80	1.85	1.93	1.93	1.94	1.98	2.02	2.07	2.13	2.18
Nonfat dry milk	$/lb.	1.69	1.18	1.13	1.15	1.16	1.11	1.11	1.14	1.16	1.19	1.23	1.25
Dry whey	$/lb.	0.61	0.35	0.32	0.37	0.38	0.38	0.39	0.40	0.41	0.43	0.44	0.46

1/ Leap year. The projections were completed in October 2023. Note: Totals may not add due to rounding.

Source: USDA, Economic Research Service, based on data from USDA, Interagency Agricultural Projections Committee.

Breakout Box: U.S. Agricultural Trade Projections

U.S agricultural trade is projected using data released by the U.S. Department of Commerce, Bureau of the Census on November 7, 2023. It includes values and volumes of U.S. imports and exports through September 30, 2023. This section covers fiscal years (FY) 2023 (October 1 through September 30, 2023) through 2033. Projections begin with FY 2024.

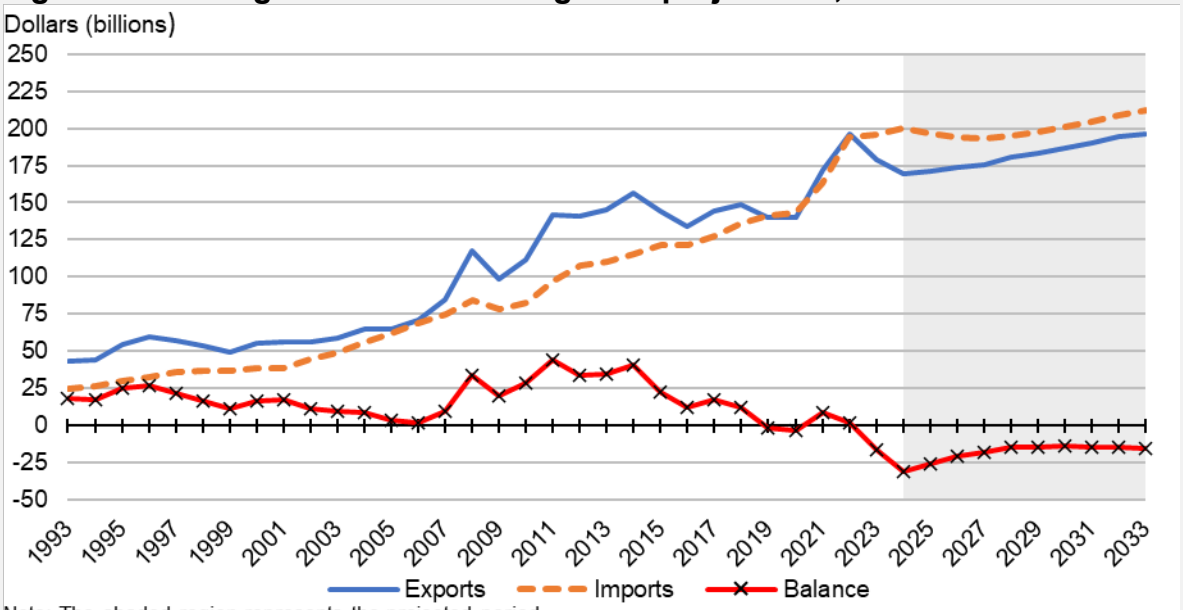
Both the global and domestic economies continue to grow and recover from escalations in the cost of living. Higher prices partially explain the rapid growth in both agricultural import and export values between 2000 and 2022. Tightening monetary policies helped to control inflation but also slowed economic growth, moderating the value of trade in 2023, 2024, and further into the projections. Other factors also contributed to the slow down, such as wars in Ukraine and the Middle East, and slower economic growth projections for China. Despite these factors, anticipation of a severe economic downturn continues to lessen for many countries, including the United States.

The strength of the U.S. economy relative to the rest of the world has led to a strong U.S. dollar, which has acted as a headwind to the export projection but also encourages relatively strong import demand. These macroeconomic conditions are expected to be most acute before 2025, cooling trade values before gradually rebounding. Longer-term strength expected in per-capita incomes, especially in developing countries, will help support the export of some U.S. commodities, such as livestock and meats. Ongoing trends such as growing domestic demand for both high-value agricultural goods and year-round availability of produce, are expected to continue to bolster imports to the United States.

In 2024, U.S. total agricultural exports are projected to decrease by 14 percent to $169.5 billion from a record $196.1 billion in 2022, due to declines in a broad range of commodities. After the steep decline in 2023 and 2024, agricultural exports are projected to steadily increase at an average annual rate of 1.7 percent per year, ending at $196.5 billion in 2033. The largest short-term reductions come from corn, soybeans, and cotton, but also from livestock, dairy, and poultry. Agricultural imports have continued to rise and are forecast to post a record $200.0 billion in 2024 before slowing. This projection is up from the previous record of $195.4 billion in 2023, with recent growth largely driven by strong imports of the combined livestock, dairy, and poultry category, processed grain products, sugar and tropical products and horticultural products (especially fresh fruits and vegetables).

As macroeconomic headwinds slow exports of U.S. products (primarily bulk) and encourage imports, a negative trade balance is expected to widen. Though a measure of interest to many, the agricultural trade balance ignores several important issues. These include increased access to products not adequately produced in the U.S. such as tropical products, and perishable products provided in the off-season. Further, trade allows access to lower cost processed goods and specialty high value goods. The attractiveness of these imports fluctuates around prevailing macroeconomic conditions. Due to the relative strength of the current U.S. economy, the trade deficit is expected to be largest in 2024 at $30.5 billion and then narrow as conditions, such as moderating exchange rates, facilitate the slowing of imports. However, a smaller trade balance persists to 2033. This is, in part, due to strong import demand for processed food products from Canada, Mexico, and Europe from year-round demand for horticultural products, and increased imports of biofuel feedstocks. Conversely, an increasing supply of grains and oilseeds from South America coupled with changing trade patterns could negatively impact U.S. exports, especially in the short term.

Figure 25: U.S. agricultural trade long-term projections, 1993-2033



Note: The shaded region represents the projected period.
Source: USDA, Economic Research Service based on data from U.S. Department of Commerce, Bureau of the Census.

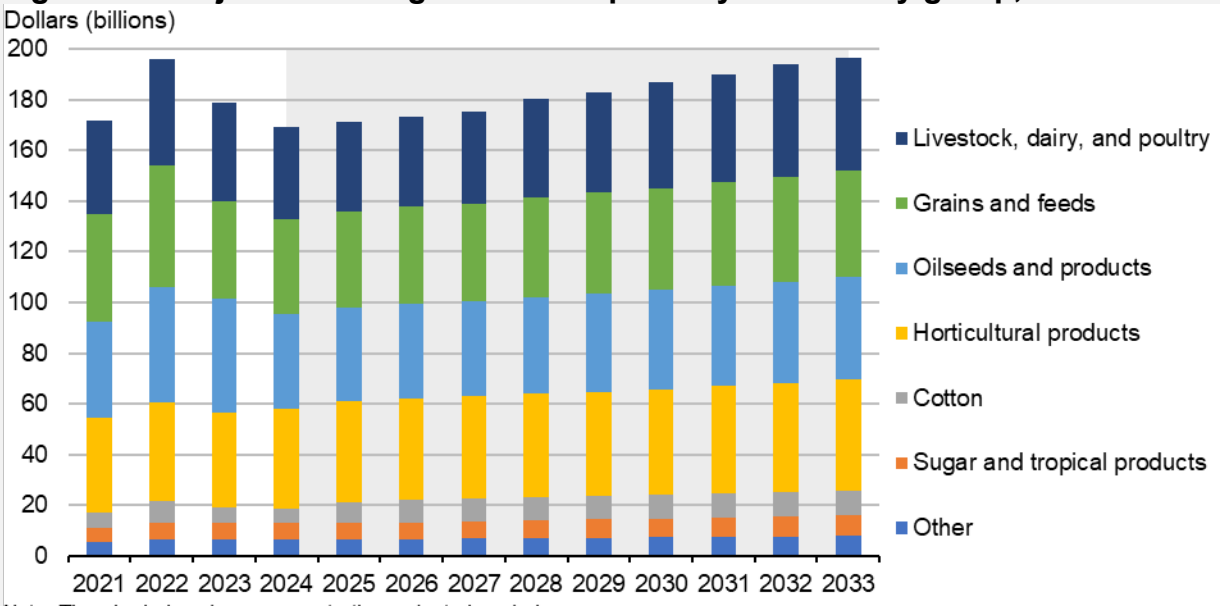
The largest source of the expected export weakness in 2024 is associated with grains and feeds, which are forecast to decline from $48.0 billion in 2022 to a low of $37.5 billion in 2024 before recovering. After 2024, grains and feeds exports are projected to grow at an annual rate of 1.3 percent to $42.1 billion in 2033, led by coarse grains which grow at an annual rate of 2.6 percent.

Similarly, oilseeds and products decline from $45.6 billion in 2022 to a projected low of $37.2 billion in 2024. These declines are due, in part, to the record exports of these product groups to countries such and China and Mexico in 2022. Those high export levels were followed by reduced export volumes and unit values as the strong U.S. dollar provided competing countries with more favorable exchange rates and the opportunity to acquire market share. After the expected low of 2024 and a slow dollar depreciation, exports of oilseeds and products are forecast to rebound with an annual growth rate of 0.9 percent ending at $40.4 billion in 2033. Crop export values are moderated by price stagnation, while volume growth is driven by more favorable exchange rates, increased productivity, and increased global consumption, especially in developing countries.

Livestock, dairy, and poultry was the second-largest export group at $38.8 billion in 2023. After a projected decline to a low of $36.3 billion in 2024, the group is forecast to grow 2.3 percent per year to $44.4 billion in 2033. The fourth-largest export group, valued at $37.4 billion in 2023, was horticultural products. This category includes fruit, vegetables and nuts as well as essential oils and nursery products. Exports for this category are projected at $44.0 billion in 2033. Fruit and vegetable exports are projected to remain flat through the decade.

As bulk commodities exports come off from the recent high in 2022, the export share of high-value products is projected to grow, from a low of 62 percent in 2022 to 66 percent in 2030 and beyond. The gradual growth in high-value product share reflects the relatively stronger growth rates of livestock, dairy, and poultry, relative to bulk grains and oilseeds.

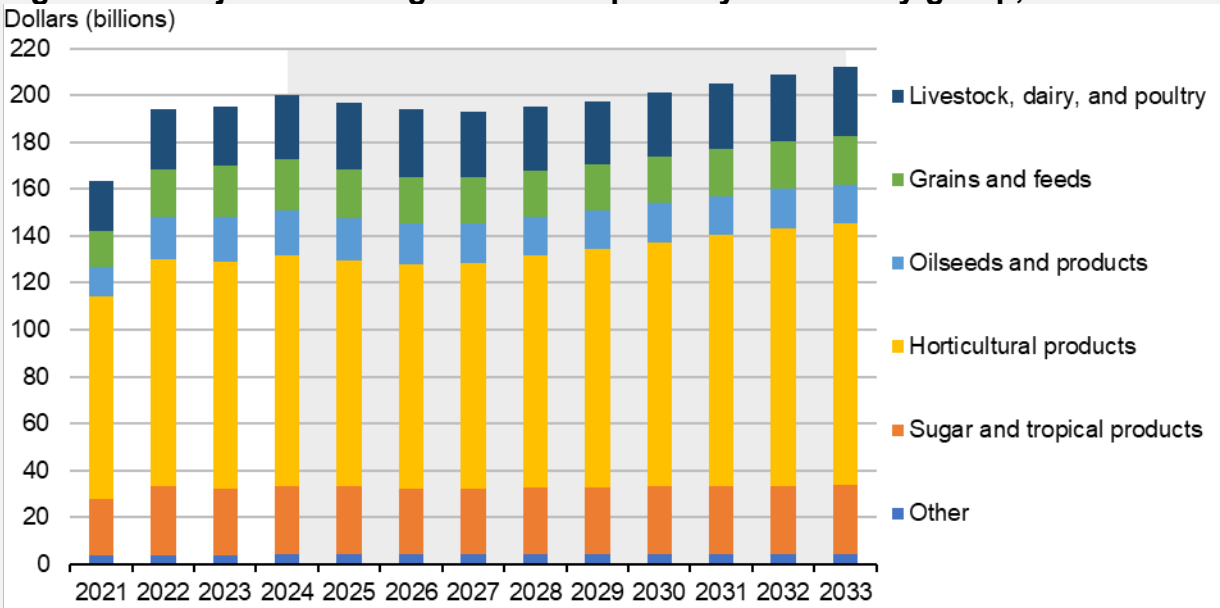
Figure 26: Projected U.S. agricultural exports by commodity group, 2021-2033



Note: The shaded region represents the projected period.
Source: USDA, Economic Research Service based on data from U.S. Department of Commerce, Bureau of the Census.

The value of U.S. agricultural imports is projected to increase by an average annual rate of 0.8 percent from 2024 to 2033. A downturn in imports which lags exports by 2 years, is projected to start in 2025. The downturn is expected to be comparatively mild, falling from the high of $200 billion in 2024 to a low of $193.1 billion in 2027. Following this downturn, moderate growth is expected to resume and imports end at $211.9 billion in 2033. A significant portion of import growth comes from Mexico and Canada to leverage the lower manufacturing costs of high value and processed goods demanded by U.S. consumers.

Figure 27: Projected U.S. agricultural imports by commodity group, 2021–2033



Note: The shaded region represents the projected period.
Source: USDA, Economic Research Service based on data from U.S. Department of Commerce, Bureau of the Census.

The largest source of U.S. imports is horticultural products, comprising roughly half of the total and growing an average of 1.4 percent over the forecast period. Horticultural products are projected to decline moderately from a high of $98.4 billion in 2024, to a low of $95.8 billion in 2026 before rising again to $111.5 billion in 2033. Within the broad horticultural products group, fresh fruits and vegetables imports were at $30.5 billion in 2023 and are forecast to grow at a relatively strong annual rate of 2.1 percent over the decade. This growth is due to slowing domestic fruit and vegetable production growth and increasingly competitive imports. Key import commodities include avocados, berries, and citrus from countries such as Mexico, Chile, and Peru. Other major horticultural products such as wine and beer, while strong through 2023, are expected to slow on declining long-term demand.

Table 25: U.S. agricultural trade long-term projections to 2033, fiscal years

	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
						Dollars (billions)							
Agricultural exports (value)													
Livestock, dairy, and poultry	37.0	41.8	38.8	36.3	35.3	35.4	36.6	38.9	39.8	41.9	42.8	44.4	44.4
Livestock and meats	23.7	25.8	23.7	22.6	22.0	21.3	22.1	24.2	24.9	26.5	27.0	28.0	27.5
Dairy products	7.3	9.1	8.5	7.2	7.0	7.5	7.8	7.9	8.0	8.2	8.5	8.8	9.0
Poultry products	6.0	6.9	6.7	6.6	6.3	6.6	6.7	6.8	6.9	7.1	7.4	7.6	7.9
Grains and feeds	42.6	48.0	38.5	37.5	38.1	38.3	38.5	39.3	39.8	40.4	40.9	41.6	42.1
Coarse grains	19.4	22.0	14.1	14.2	15.5	15.6	15.9	16.3	16.6	16.9	17.2	17.6	17.9
Feeds and fodder	9.1	10.6	10.4	10.1	9.4	9.4	9.4	9.6	9.7	9.9	10.0	10.2	10.3
Oilseeds and products	37.7	45.6	44.7	37.2	37.2	37.6	37.6	38.2	38.6	39.1	39.5	40.0	40.4
Soybeans and products	32.9	40.5	39.9	32.3	32.9	33.2	33.2	33.7	34.1	34.4	34.8	35.2	35.6
Horticultural products 1/	37.5	39.3	37.4	39.5	40.0	40.1	40.3	40.8	41.2	41.7	42.4	43.2	44.0
Fruits and vegetables, fresh	7.1	7.0	6.9	7.1	7.1	7.1	7.0	7.0	7.0	7.0	7.0	7.0	7.1
Fruits and veg., processed	7.0	7.4	7.7	7.7	7.7	7.6	7.6	7.6	7.6	7.5	7.6	7.6	7.7
Tree nuts, whole & processed	8.8	9.8	7.9	9.0	9.1	9.2	9.3	9.3	9.4	9.5	9.6	9.7	9.8
Cotton	6.2	8.7	6.1	5.7	8.0	8.8	9.0	9.1	9.3	9.4	9.4	9.5	9.5
Sugar and tropical products	5.7	6.2	6.5	6.5	6.4	6.6	6.8	7.0	7.2	7.5	7.7	8.0	8.2
Other exports 1/	5.2	6.5	6.7	6.5	6.5	6.6	6.8	6.9	7.1	7.3	7.4	7.6	7.8
Total agricultural exports	171.8	196.1	178.7	169.5	171.4	173.4	175.6	180.2	183.0	187.1	190.2	194.2	196.5
Major bulk commodities 2/	62.4	74.7	62.7	54.8	60.0	60.8	60.9	61.8	62.5	63.3	63.9	64.7	65.4
High-value product exports 3/	109.4	121.4	116.1	114.7	111.4	112.6	114.7	118.4	120.5	123.8	126.3	129.5	131.1
						Percent							
High-value product share	63.7%	61.9%	64.9%	67.7%	65.0%	64.9%	65.3%	65.7%	65.8%	66.2%	66.4%	66.7%	66.7%
						Million metric tons							
Agricultural exports (volume)													
Volume in million metric tons	165.3	156.1	123.6	129.0	138.5	141.7	144.4	146.9	148.8	150.7	152.5	154.7	156.5
						Billion dollars							
Agricultural imports (value)													
Livestock, dairy, and poultry	21.0	26.0	25.6	27.0	28.7	29.2	28.3	27.3	27.0	27.4	27.8	28.7	29.5
Livestock and meats	16.4	20.1	19.2	20.4	21.7	22.1	21.1	20.0	19.5	19.9	20.2	20.9	21.6
Dairy products	3.7	4.6	5.3	5.4	5.5	5.6	5.7	5.7	5.8	5.9	5.9	6.0	6.1
Grains and feeds	15.8	19.8	21.4	21.9	20.6	19.5	19.3	19.4	19.6	19.8	20.0	20.2	20.4
Grain products	11.2	13.8	15.3	15.4	14.2	13.2	13.0	13.0	13.2	13.3	13.4	13.5	13.7
Oilseeds and products	12.6	18.0	19.2	19.2	18.4	17.6	16.8	16.8	16.8	16.7	16.7	16.7	16.6
Vegetable oils	7.7	11.0	11.7	11.8	12.3	11.5	10.7	10.5	10.4	10.2	10.0	9.9	9.7
Horticultural products	86.1	97.3	96.8	98.4	96.2	95.8	96.3	98.9	101.5	104.2	106.9	109.7	111.5
Fruits and vegetables, fresh	26.0	29.0	30.5	31.2	31.3	31.3	31.6	32.6	33.6	34.6	35.7	36.8	37.6
Fruits and vegetables, processed	13.0	15.7	16.6	16.6	16.5	16.3	16.4	16.8	17.2	17.6	18.1	18.5	18.7
Sugar and tropical products	23.9	29.1	28.3	29.4	29.1	28.1	28.3	28.5	28.7	28.9	29.2	29.4	29.7
Sugar and related products	5.4	6.8	7.4	7.6	7.7	6.6	6.6	6.6	6.6	6.5	6.5	6.5	6.5
Cocoa, coffee, and products	12.1	15.7	15.4	17.1	16.0	16.0	16.2	16.3	16.5	16.6	16.8	17.0	17.1
Other imports 4/	3.9	4.0	4.0	4.1	4.0	4.0	4.1	4.1	4.1	4.1	4.1	4.1	4.2
Total agricultural imports	163.3	194.2	195.4	200.0	197.0	194.2	193.1	195.0	197.6	201.1	204.7	208.9	211.9
Net agricultural trade balance	8.5	2.0	-16.6	-30.5	-25.6	-20.8	-17.5	-14.7	-14.6	-14.0	-14.5	-14.7	-15.4

1/ Includes planting seeds, tobacco, and cotton linters and waste.
2/ Includes bulk grains, soybeans, cotton, and tobacco.
3/ The category "high-value product exports" is calculated as total exports less bulk commodities. The category includes semiprocessed and processed grains oilseeds, animals and animal products, horticultural products, and sugar and tropical products.
4/ Includes planting seeds, tobacco, cotton, and non-beverage alcohol.
Notes: U.S. trade value projections were completed in December 2023. For updates of the nearby year forecasts, see USDA's *Outlook for U.S. Agricultural Trade* report, published in February, May, August, and November.
Source: USDA, Economic Research Service based on data from U.S. Department of Commerce, Bureau of the Census

U.S. Farm Income

Net farm income and net cash income are projected to decrease in 2024, following the trend seen in 2023. Net farm income (NFI) is projected to decrease $7.3 billion, or 4.8 percent, from $151.1 billion in 2023 to $143.8 billion in 2024. Net farm income is projected at $123.6 billion in 2033. Net cash farm income (NCFI) is projected to decrease $19 billion (12 percent) from $157.9 billion in 2023 to $138.9 billion in 2024 and is projected to fall to $123.4 billion in 2033. Lower cash receipts, due to lower commodity prices, are the primary contributors to the

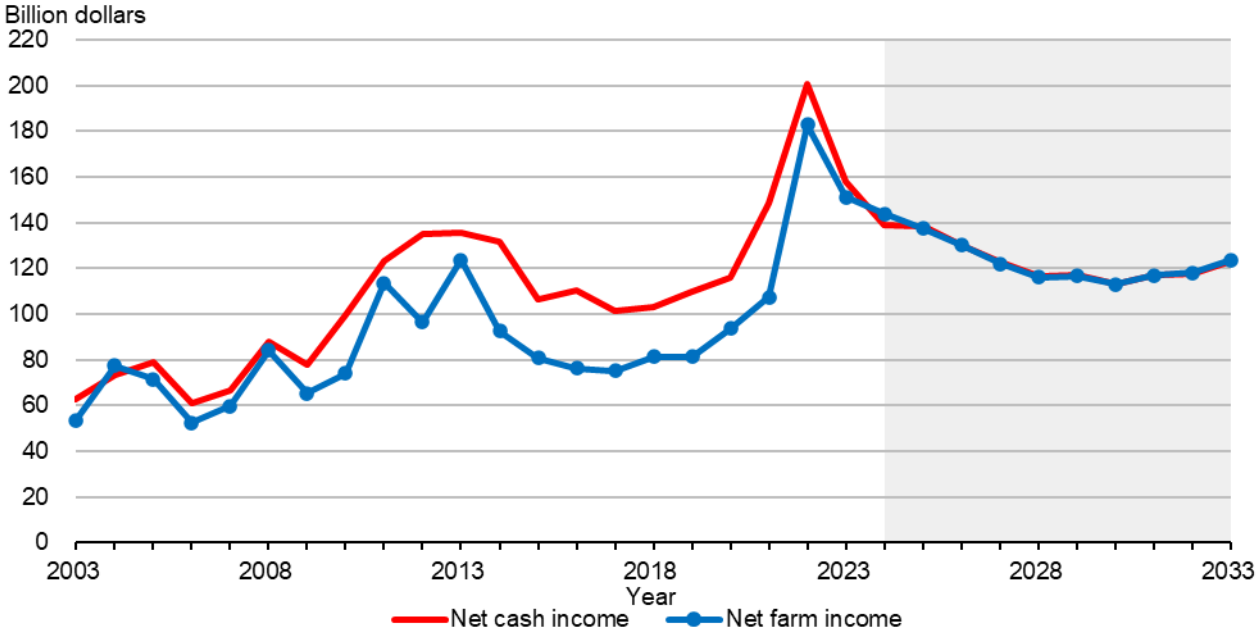
projected decline in net farm income for 2024 relative to 2023. NCFI represents annual income from cash receipts, cash farm-related income, and Government farm program payments minus cash expenses paid during the year. In addition to cash income and expenses, NFI accounts for noncash items including changes in inventories, economic depreciation, and gross imputed rental income of operator dwellings.

- Farmers received an estimated $12.1 billion in direct Government payments in 2023, with more than half of that coming from supplemental and ad hoc disaster assistance mainly from the Emergency Relief Program (ERP). Direct Government payments are forecast to be $12.2 billion in 2024 due to full implementation of the Inflation Reduction Act (IRA). The projections assume additional payments authorized under the IRA. We also assume no further Coronavirus (COVID-19) related program payments after 2024. Conservation payments (including payments from the Conservation Reserve Program (CRP) and USDA, Natural Resources Conservation Service conservation programs) are collectively forecast to account for the largest share of direct Government payments to the agricultural sector over 2023–2033. In contrast, Title I payments are projected to account for a little less than one fifth of total direct payments to the agricultural sector. These projections also assume there will be additional conservation payments of $3.9 billion in 2024, $6.5 billion in 2025, and $6.0 billion in 2026 using the authority under the IRA. Acreage enrolled in the CRP is assumed to be at or slightly less than the legislative maximum of 27 million acres under the Agriculture Improvement Act of 2018, commonly known as the 2018 Farm Bill. CRP payments are projected to stay at $2.0 billion in 2023 and gradually increase to $2.3 billion in 2033, primarily due to marginal increases in acres enrolled to the cap.

- Payments under the Agriculture Risk Coverage (ARC) and Price Loss Coverage (PLC) programs are projected to decrease from about $213.2million in 2023 to $130.4 million in 2024. ARC and PLC payments are projected to increase to $500 million in 2025 and peak at $3.2 billion in 2028 before flattening out around $1 billion for the remainder of the baseline period. For most covered commodities during the 2025-28 period, effective reference prices and ARC benchmark prices rise while market year average prices decline, causing payments to rise. After 2028, effective reference prices and ARC benchmark prices decline and market prices flatten, causing payments to decrease. Note that the formulas for effective reference prices and ARC benchmark prices use an Olympic average of the previous 5 years of prices lagged by one year. For the 2024–33 projection period, producers are assumed to be able to change their base acre election between the ARC and PLC programs annually.

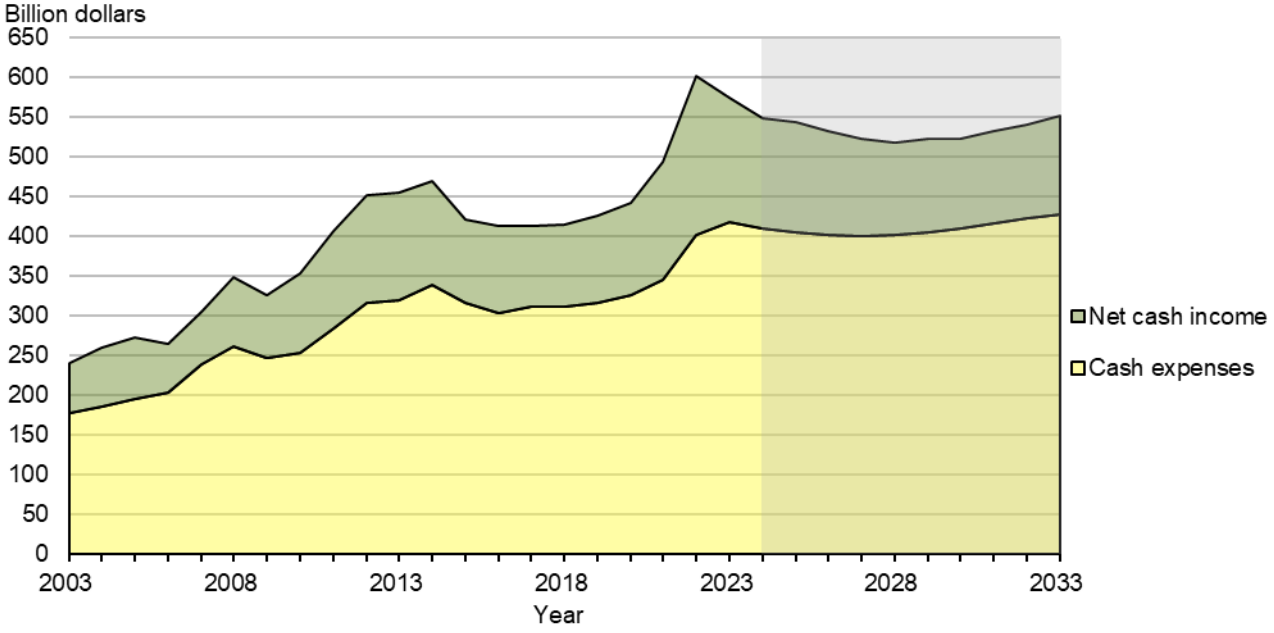
- Total farm production expenses are projected to decrease slightly to $436.3 billion (1.6 percent) in 2024 because of a decrease in farm origin inputs, notably feed and livestock expenses. Fuel and oil, fertilizer, and pesticide expenses are also projected to decrease. Production expenses are then projected to decrease to $428.2 billion by 2027, while they are projected to increases each year thereafter, ending at $457.7 billion.

Figure 28: U.S farm income indicators, 2003–2033



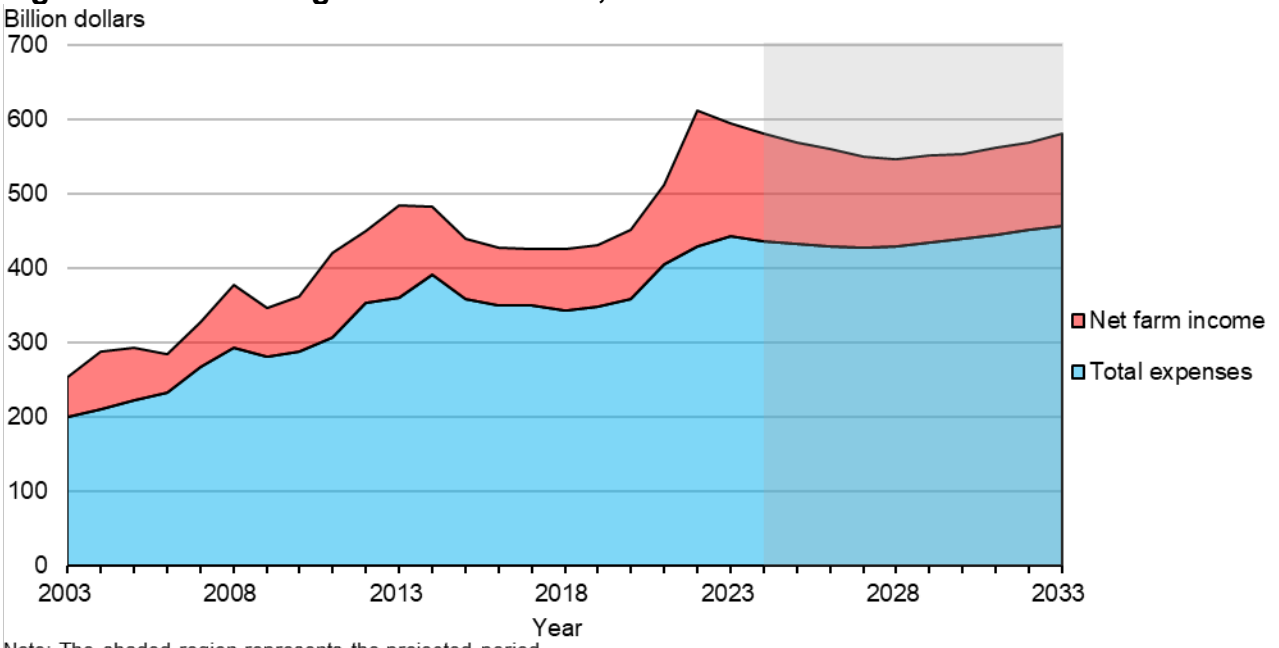
Note: The shaded region represents the projected period.
Source: USDA, Economic Research Service, based on data from the USDA, Interagency Agricultural Projections Committee.

Figure 29: U.S. farm gross cash income, 2003–2033



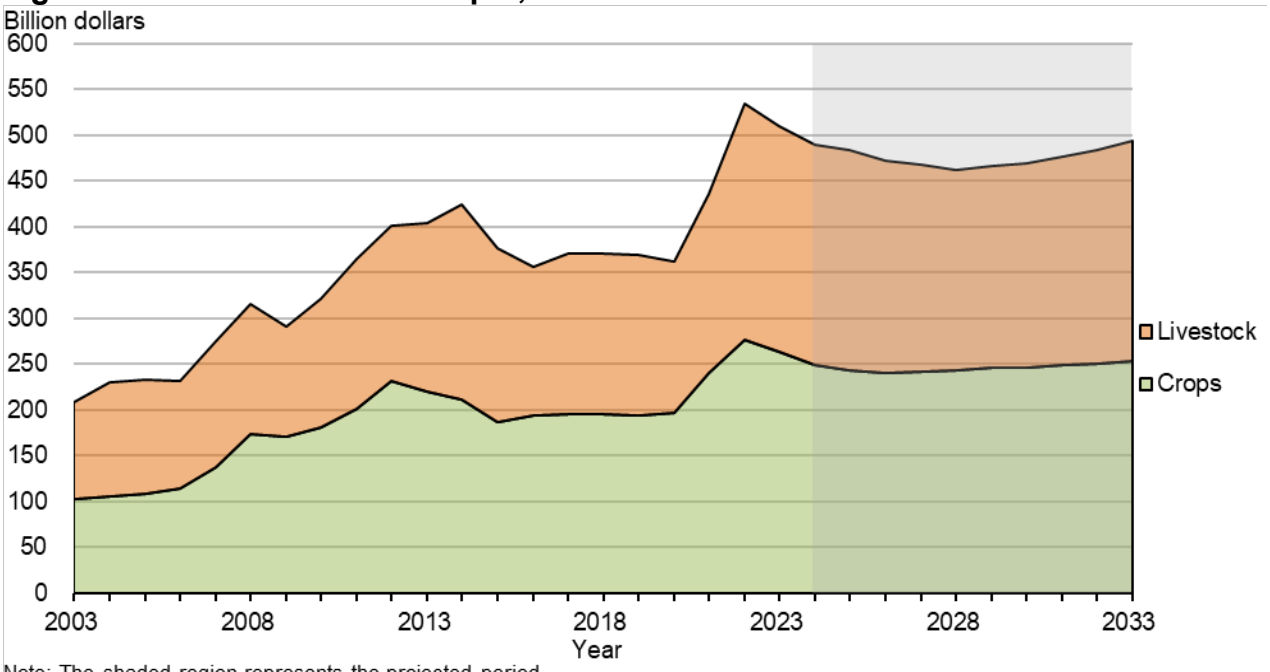
Note: The shaded region represents the projected period.
Source: USDA, Economic Research Service, based on data from the USDA, Interagency Agricultural Projections Committee.

Figure 30: U.S. total gross farm income, 2003–2033



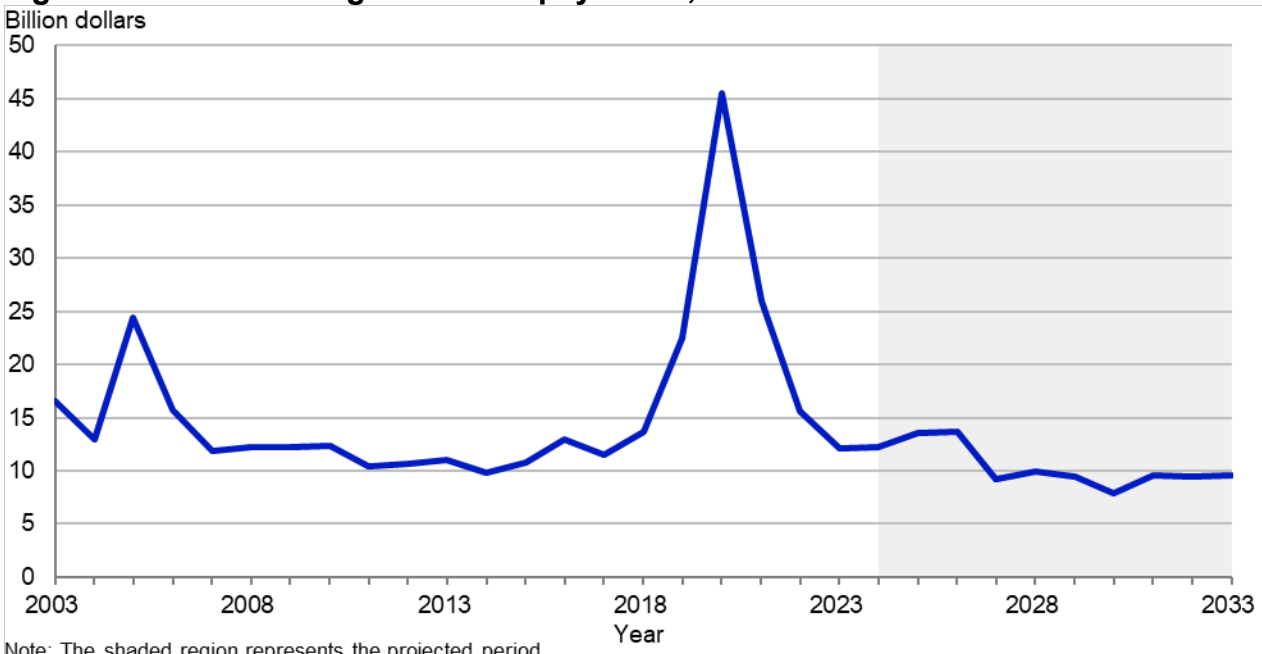
Note: The shaded region represents the projected period.
Source: USDA, Economic Research Service, based on data from the USDA, Interagency Agricultural Projections Committee.

Figure 31: U.S. farm cash receipts, 2003–2033



Note: The shaded region represents the projected period.
Source: USDA, Economic Research Service, based on data from the USDA, Interagency Agricultural Projections Committee.

Figure 32: Total direct government payments, 2003–2033



Note: The shaded region represents the projected period.
Source: USDA, Economic Research Service, based on data from the USDA, Interagency Agricultural Projections Committee.

Table 26: Farm receipts, expenses, and income, long-term projections to 2033

	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
						Billion dollars						
Cash income statement												
Cash receipts	534.8	509.6	490.1	483.5	472.9	467.9	462.2	467.0	469.3	476.9	483.8	494.5
Crops	276.3	264.2	249.8	243.2	239.9	241.5	243.2	245.7	246.8	249.5	251.1	254.2
Livestock	258.5	245.4	240.3	240.3	233.0	226.4	219.1	221.3	222.5	227.4	232.7	240.3
Direct Government payments	15.6	12.1	12.2	13.5	13.6	9.2	10.0	9.5	7.9	9.5	9.5	9.6
Farm-related income	52.3	53.6	46.5	46.6	45.8	45.8	45.9	46.3	46.7	46.9	47.1	47.4
Gross cash income	602.6	575.3	548.8	543.6	532.4	522.9	518.1	522.8	523.8	533.3	540.3	551.4
Cash expenses	402.2	417.5	409.9	405.1	402.2	400.4	401.7	405.6	410.7	416.3	422.6	428.1
Net cash income	200.4	157.9	138.9	138.5	130.2	122.4	116.4	117.2	113.1	117.0	117.8	123.4
Farm income statement												
Gross cash income	602.6	575.3	548.8	543.6	532.4	522.9	518.1	522.8	523.8	533.3	540.3	551.4
Non-money income	23.6	24.1	25.3	25.4	25.7	25.9	26.1	26.5	26.5	26.8	26.8	27.3
Value of inventory change	-14.9	-5.1	5.9	0.4	1.6	1.3	1.7	1.6	2.2	2.2	2.4	2.5
Total gross income	611.3	594.4	580.1	569.5	559.7	550.1	545.9	550.9	552.5	562.3	569.6	581.2
Total expenses	428.5	443.4	436.3	432.1	429.5	428.2	429.9	434.3	439.4	445.4	451.7	457.6
Net farm income	182.8	151.1	143.8	137.4	130.1	121.9	116.0	116.6	113.1	116.9	118.0	123.6

Notes: The projections were completed in December 2023. History for 2022 and short-term forecasts for 2023 are from USDA, Economic Research Service, November 20, 2023. This projection included estimates of Inflation Reduction Act investments that were announced in 2022
Source: USDA, Economic Research Service.

Agricultural Trade

Global demand for agriculture products is projected to continue rising during the 2024 to 2033 Baseline projection period. Global economic growth continued in 2023, even as interest rates increased, and inflation was curbed. During the coming decade, further growth is projected for global income and population. The world's economic growth rate during the projection period is assumed to average 2.77 percent annually—slightly higher than the 2.6 percent annual growth achieved during the previous decade. These macroeconomic projections were developed in August 2023.

For many agricultural commodities, the lower-middle-income and upper-middle-income countries (World Bank country classifications by income level) are the major drivers of import demand. While high-income countries are projected to continue importing large volumes of agricultural commodities, little if any growth is projected for their imports. Compared with the high-income countries, the lower-middle-income countries are assumed to have higher rates of economic and population growth—both factors that contribute to food consumption growth.

Economic growth in the lower-middle income countries provides the foundation for increased agricultural trade during the coming decade. The countries in West Africa, excluding Nigeria, are assumed to have annual economic growth rates averaging 4.75 percent over the projection period, compared with an average of 6.3 percent for Vietnam and 4.8 percent for Indonesia, and an average of 5.7 percent for Bangladesh, Pakistan, and India. Upper-middle-income countries such as China, Mexico, Turkey, and most South American countries are major importers and exporters of agricultural products. For these countries and regions, annual economic growth rates of 4.5 percent, 2.2 percent, 2.56 percent, and 3.03 percent, respectively, are projected.

Population growth is strongest in the low-income and lower-middle-income countries over the projection period, averaging 2.53 percent and 1.12 percent, respectively. Africa is expected to add 322.7 million people over the 10-year time span. This is slightly more than half the world's projected growth of 632 million people by 2033/34. India, a lower-middle-income country, is projected to add almost 98.7 million people by 2033/34.

General International Assumptions

Trade projections to 2033 are based on economic relationships affecting production, consumption, and trade during the projection period. The development and use of technology and changes in consumer preferences are assumed to continue to evolve based on their past performance and the consensus judgment of USDA analysts regarding future developments. The projections also reflect the effects of trade agreements, sanitary and phytosanitary restrictions, and domestic policies in place or fully authorized by October 2023. International macroeconomic assumptions used in the projections were completed in late August 2023.

China, an upper-middle-income country, is expected to grow 0.07 percent over the projection period. The growth from high-income countries averages 0.29 percent over the projection period. The European Union (EU), a high-income region, decreases at -0.02 percent and Japan decreases at -0.48 percent over the projection period.

The regions of Africa, the Middle East, China, Southeast Asia, West Asia, and Latin America are projected to drive global trade via increased food demand. During the projection period, the member countries of the Economic Community of West African States (ECOWAS) are expected to see the greatest increases in rice imports, followed by North Africa, and the Middle East. Most countries in these regions are lower-middle-income. Together, they are projected to account for almost half of world agricultural rice trade in 2033.

The world's largest wheat importers and some of the fastest growing markets for wheat are in the Sub-Saharan Africa region, Egypt, China, Indonesia, the Middle East, North Africa, and Other Former Soviet Union countries. Together, these regions are projected to account for almost 60 percent of global wheat imports in 2033. Countries in these regions are lower-middle-income, except for China and the countries in the Other Former Soviet Union region, which are upper-middle-income.

The largest corn importers include China, Mexico, the EU, Other South America (excluding Brazil and Argentina), Vietnam, Japan, and Egypt. These countries and regions consist mostly of lower-middle-income and upper-middle-income countries, with a few high-income countries. Most of the projected growth in corn imports comes from the lower- and upper-middle-income countries. China, Saudi Arabia, the Middle East, and North Africa are projected to account for 74 percent of global barley imports in 2033.

China is projected to remain the world's leading importer of soybeans, accounting for 62.4 percent of global soybean imports by 2033/34. Other lower- and upper-middle-income countries are projected to account for 56 percent of global soybean meal imports. The EU remains the world's largest importer of soybean meal, although the import volume is projected to decline slightly during the decade.

Among meats, poultry is expected to have the fastest growing import demand with a 19 percent increase through 2033. The Middle East, Sub-Saharan Africa, Mexico, Central America and the Caribbean, and Southeast Asia account for most of the growth in poultry import demand. All countries in these regions are designated as lower-middle-income and upper-middle-income by the World Bank.

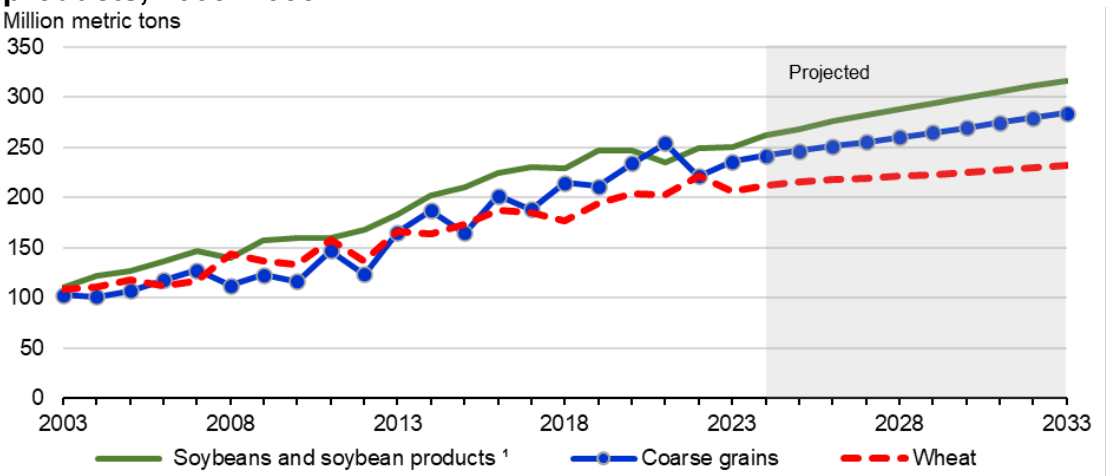
The world's main agricultural exporters consist of a small set of countries with vast areas of land for production and relatively low population densities. For most agricultural commodities, the major exporters are United States, Brazil, the EU, Argentina, Canada, Russia, Ukraine, and Australia. With the exception of Ukraine, the main agricultural exporting countries are either high-income or upper-middle-income. According to this report's projections for 2033, five of these countries will supply a combined 90 percent of the world's corn exports, six will provide 91 percent of the world's barley exports, three will account for almost all (97 percent) of the world's sorghum exports, and six will be the origin of 79 percent of the world's wheat exports. Three countries—Brazil, the United States, and Argentina—supply the majority of global trade in soybeans and soybean products by 2033. These three countries consist of one high-income and two upper-middle-income countries.

Agricultural commodity prices are projected to decline throughout the projection period after reaching historically high levels in recent years. Prices of all major grains are projected to decline over the next 2–3 years and then remain relatively stable. In the meat sector, the price of beef is also projected to decline until the final 3 years (2031–33) of the projection period, when the price increases. The price of pork is projected to decrease gradually throughout the

projection period, while the price of poultry meat is relatively stable. These price trajectories are generally favorable for consumers and result in increased trade of agricultural commodities. Lower food and feed costs support consumption growth that is most pronounced in the low- and middle-income countries.

Global Crop Trade

Figure 33: Global trade: Wheat, coarse grain, soybeans, and soybean products, 2003–2033



1/ Total of soybeans, soybean meal, and soybean oil.
Source: USDA, Economic Research Service based on data from USDA, Interagency Agricultural Projection Committee, October 2023.

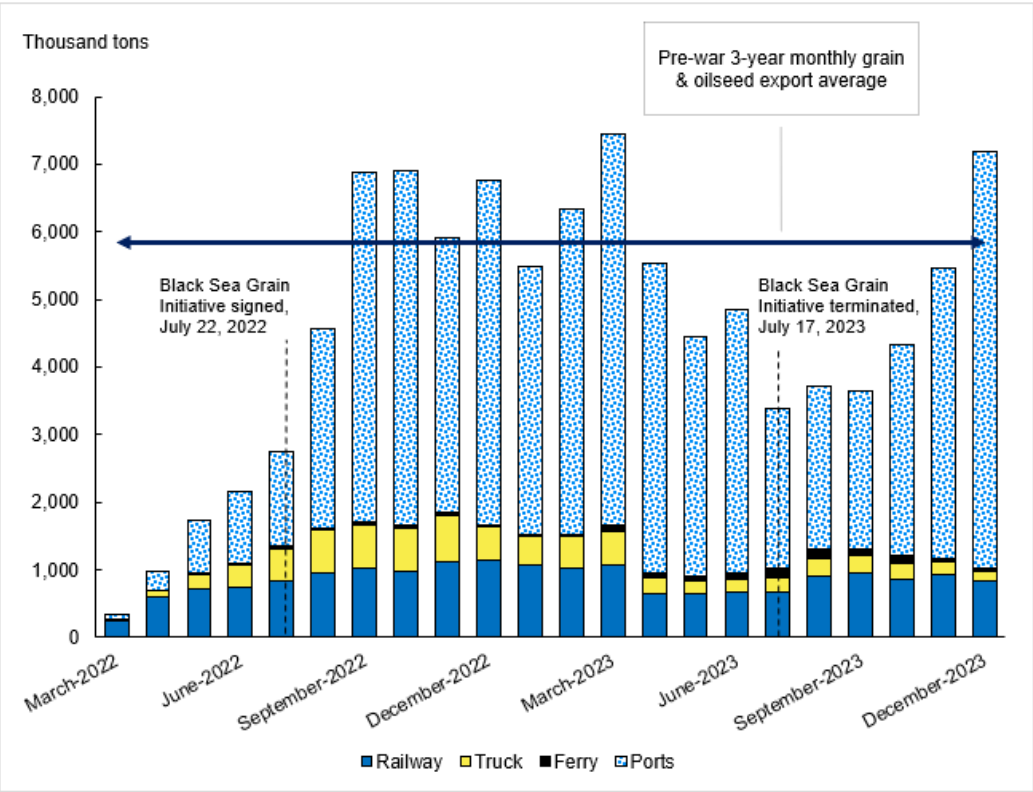
Through to 2033, soybeans and soybean products exhibit the strongest growth in crops-related trade, followed by coarse grains. The growth is driven by changing global food consumption preferences toward a more meat-based diet, especially for poultry and pork, which is most common in upper-middle-income countries and lower-middle-income countries. Soybeans and soybean products increase by 20.7 percent and total coarse grains increase by 17.4 percent over the projection period. Projections of global poultry consumption growth outpace pork and beef consumption by 2033. Countries and regions that exhibit the strongest growth in poultry consumption include Pakistan, India, Vietnam, Morocco, the Philippines, South Korea, Iran, and Mexico. Many lower-middle-income and upper-middle-income countries are moving away from traditional staples such as rice, millet, sorghum, and maize, and are consuming more animal protein, but at much lower levels than high-income countries. Many countries where wheat and rice are staple foods are decreasing consumption of these grains, but in other lower-middle-income countries, where wheat and rice are not traditional staple grains, consumption is expanding. West Africa, in particular, is increasing rice consumption as millet and sorghum per capita consumption decline moderately. These shifting food consumption patterns are projected to continue through 2033/34.

Breakout Box: Ukraine's Agricultural Exports Grow Despite Russia's Efforts

The Ukrainian agricultural sector has faced many production and logistical challenges since Russia's invasion in February 2022. A diplomatic effort, the Black Sea Grain Initiative (BSGI), was undertaken in July 2022 by the United Nations and Turkey to restore Ukrainian port access and mitigate the war's effects on the world's most vulnerable net food-importing countries. The renewed port access under the agreement helped to reestablish some of Ukraine's traditional seaport trading routes, easing market instability from Russia's previous blockade of Ukrainian ports. Following Russia's termination of the BSGI in July 2023, and a resulting drop in exports as Ukraine's ports were blocked and targeted by attacks, Ukraine then independently restored Black Sea port access via a new corridor.

The new Ukrainian corridor, like the BSGI, restored port access to three critical deep seaports in Ukraine: Odessa, Pivdennyi, and Chornomorsk. Port accessibility helped facilitate the movement of substantially more grain and oilseed exports than all previously available modes of transportation, bringing some stability to the global grain market. After the full-scale Russian invasion and before the BSGI, Ukraine was exporting approximately 1–2 million tons of agricultural products monthly. That volume was about 66–83 percent below the 3-year, pre-war monthly average of 5.8 million tons. With the BSGI, Ukraine's average monthly exports from August to December 2022 jumped to 6.3 million tons. However, despite the significant increase during that period, the export volume was still 11 percent below the pre-war, 3-year average during the same period.

Figure 34: Ukrainian grain and oilseed monthly exports by mode of transportation, since the February 2022 Russian invasion



Source: USDA, Economic Research Service calculations based on Ministry of Agrarian Policy and Food of Ukraine, 2023, and Trade Data Monitor, 2023.

The BSGI was critical in lowering the inflation of global food prices, allowing for the movement of 32.9 million tons of agricultural products. Russia's unilateral withdrawal and dissolution of the BSGI once again created sea trade disruptions and uncertainty for Ukrainian agricultural exports. Ukraine has sought to develop and expand alternative means of transshipments for agricultural products. Exports previously designated for seaports were switched to Danube River ports such as Reni and Izmail. Russian drone and missile attacks on Black Sea and river port facilities and infrastructure have made sea and river exports high risk, resulting in higher shipping and insurance costs. The government of Ukraine (GOU) reported that since July 2023, Russia has attacked civilian ships loaded with exports along with 160 port and grain facilities along the Black Sea, Dnipro River, and Danube River, destroying 300,000 tons of grain. In addition to port attacks, winter weather in the region can create adverse conditions, making it complex to navigate river ports. According to the Ukrainian Agrarian Council, one sea vessel has the export capacity of five river vessels. Thus, river ports can handle only a fraction of what Ukraine's deep Black Sea ports can handle. Therefore, deep seaport access is essential in mitigating war-related export constraints. Around 15 percent of Ukraine's exports are via overland routes by rail and road to Europe, transiting neighboring countries that put bans on Ukrainian agriculture products, though this is not a major export channel. Protests at European Union (EU) borders to block Ukraine's exports further reduced exports by road transport in December 2023. However, the rationale behind the EU protests and bans is largely political, as neighboring countries are not major markets for Ukraine's ag exports.

Ukraine's Black Sea exports ramped up beginning October 2023 under their new Ukrainian corridor as a direct response to Russia's refusal to renew the BSGI. As of January 2024, the GOU reported that 10 million tons of agricultural products were exported through the corridor with the goal of reaching at least 6 million tons a month. Officially, Russia has stated that it will view any ship and its flag country approaching Ukrainian ports as a potential military vessel and as combatants siding with Ukraine. Despite the threat, the export volume under this new route skyrocketed, and as of December 2023 is surpassing the peak volume reached during BSGI (4 MMT in September 2022). Freight costs have dropped as the new use of the new corridor normalizes despite the risks, supported by lower insurance costs and specialized insurance schemes developed to reduce the cost of war risk insurance.

Attacks by Russia continue to affect Ukraine's agricultural logistical network adversely. Trade disruptions initiated by Russia have consequences for global food security in vulnerable net food-importing nations, particularly low-income countries. Ukraine is now exporting large volumes of Ukrainian agricultural commodities from Black Sea ports, but domestic and international market uncertainty will linger as long as Russia tries to find ways to restrict Ukraine's exports.

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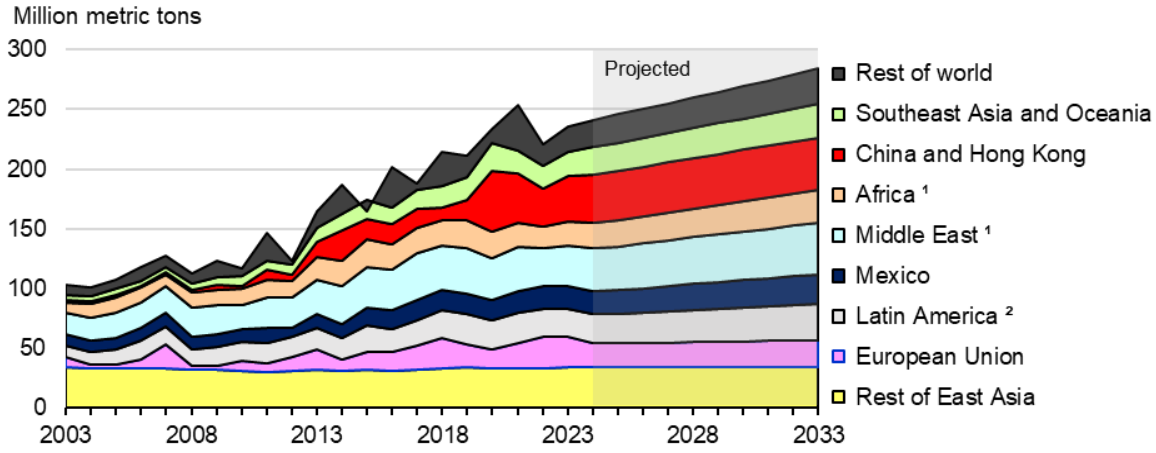
Figure 35: Global coarse grain imports, 2003–2033

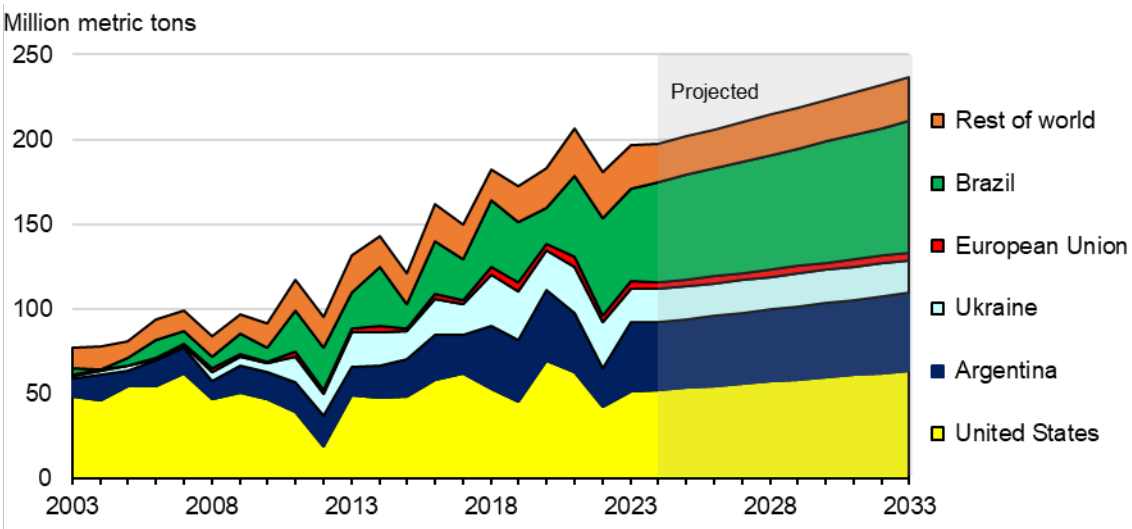


1/ Egypt is included in Africa and not the Middle East.
2/ Excludes Mexico.
Source: USDA, Economic Research Service based on data from USDA, Interagency Agricultural Projection Committee, October 2023.

Growth in livestock production—and the accompanying expansion of global demand for coarse grain imports by both developed and emerging economies—will continue to drive increases in coarse grain trade over the coming decade. Corn is expected to account for 83.2 percent of the world's coarse grain trade through 2033/34, while barley's share is expected to decrease slightly to 11.7 percent. In 2033/34, the world's largest coarse grain importers are projected to be, in descending order, China, Mexico, the European Union, Vietnam, Japan, Iran, Egypt, South Korea, and Saudi Arabia—accounting for 62 percent of the world's total coarse grain imports.

- China's annual coarse grain imports are projected to reach 44.2 million tons by 2033/34, an increase of 3.4 million tons but well below the historic high of 50.5 million tons reached in 2020/21. In 2033/34, China, the world's largest importer, is projected to import 26.0 million tons of corn, with almost no growth in imports. Growth in China's feed demand is projected to outpace expansion of domestic corn production. To meet feed demand, China's sorghum and barley imports are expected to see strong growth—reaching 9.1 million tons and 8.6 million tons, respectively, by 2033/34.
- Together, Africa and the Middle East account for 30.5 percent (13.0 million tons) of the additional growth in world coarse grain imports through 2033/34. Population growth and rising incomes foster strong demand growth for livestock products. By 2033/34, these regions are projected to account for 24.8 percent of world coarse grains imports, with three countries—Iran, Egypt, and Saudi Arabia—accounting for 13.2 percent of world coarse grain imports. Iran is the leading importer, while Egypt is projected to be the fastest growing.
- Mexico is the second largest importer, accounting for 13 percent of the total increase in global coarse grain trade by 2033/34, as rising demand for meats support higher commercial feeding. Corn imports are projected to grow from 18.5 million tons in 2024/25 to 23.9 million tons in 2033/34. Sorghum imports are projected to be flat at 250,000 tons while barley imports increase by 222,000 tons to 620,000 tons by 2033/24.
- Coarse grain imports to South Asia, Southeast Asia, and Oceania rise about 27.0 percent to 31.8 million tons by 2033/34 as relatively high rates of income growth drive continuing increases in meat demand, livestock production, and feed demand. These three regions account for about 14.3 percent of expected growth in world corn imports. Vietnam corn imports are projection to be among the fastest growing in this region. Thailand and Bangladesh emerge as corn importers in order to supply their respective feeding industries.

Figure 36: Global corn exports, 2003–2033

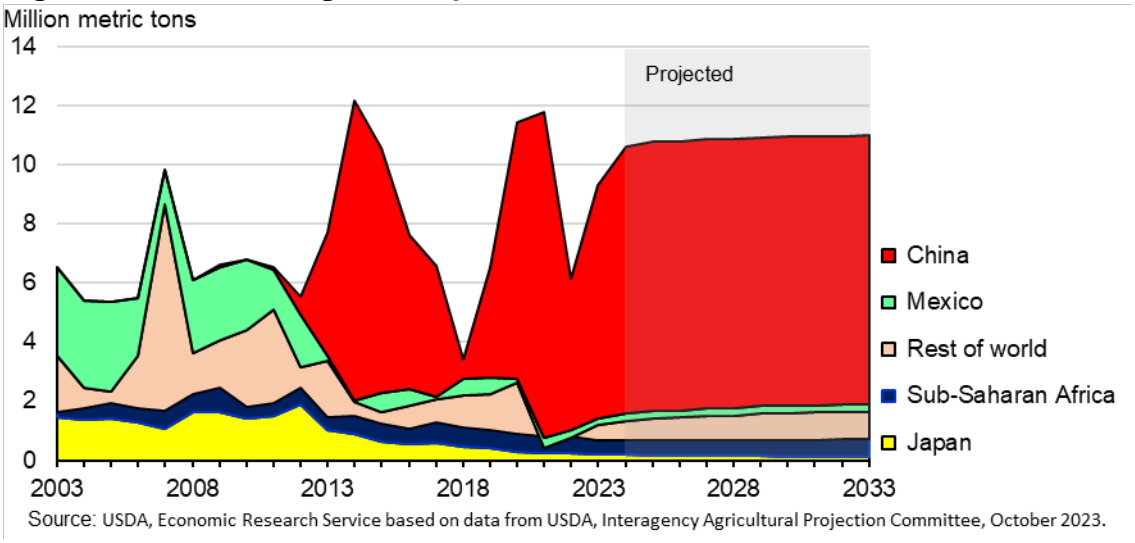


Source: USDA, Economic Research Service based on data from USDA, Interagency Agricultural Projection Committee, October 2023.

The world's four largest corn exporters—the United States, Brazil, Argentina, and Ukraine—account for more than 87 percent of the global market by 2033/34. U.S. corn exports are expected to increase by 11.4 million tons to 63.5 million tons by 2033/34. The U.S. share of world corn exports increases slightly from 26.4 percent to 26.9 percent by 2033/34. Brazil is projected to increase market share by 2033/34, from 30.1 percent to 32.8 percent.

- Over the past 5 years, Brazil's corn exports increased by 11.9 percent annually, a 19.9 million tons increase. Corn exports from Brazil are expected to rise 30.3 percent by 2033/34, reaching 77.5 million tons. Export growth continues to be associated with expanding new cropland in the Center-West region of the country. The most important corn crop for Brazil is the second crop, which is less input intensive and lower cost since it follows soybean production. Yields have steadily improved for second crop corn production and the timing of the second crop harvest boosts exports, giving Brazil a competitive advantage over Northern Hemisphere countries. Infrastructure and transportation constraints make it less costly to move corn from the Center-West to ports rather than to the southern livestock sector.
- Annual corn exports by the Former Soviet Union region (including Ukraine) are expected to rise 7.7 percent and reach 26 million tons in 2033/34. Due to the ongoing Russian war against Ukraine, Ukraine corn exports are projected to not grow and remain stable at 19.5 million tons over the projection period. Ukraine exports decreased from 27.0 million tons in 2022/23 to 19.5 million tons in 2023/24, because of the ongoing war. By 2033/34, other Former Soviet Union countries, excluding Russia and Ukraine, are expected to increase corn exports by 260,000 tons.
- Argentina is projected to be the world's third-largest exporter of corn during the projection period. Modest area growth and increasing yields are expected to continue to boost corn production, and exports are projected to increase 14.4 percent to 45.7 million tons by 2033/34.
- European Union exports are expected to grow from 4 million tons to 4.5 million tons over the projection period, while corn exports from the non-EU regions—primarily Serbian exports to the EU—are flat through 2033/34.
- South Africa has projected growth of 18.6 percent in corn exports, which reach 4.1 million tons by 2033/34, while the rest of Sub-Saharan Africa corn exports are at 642,000 tons by 2033/34.

Figure 37: Global sorghum imports, 2003–2033

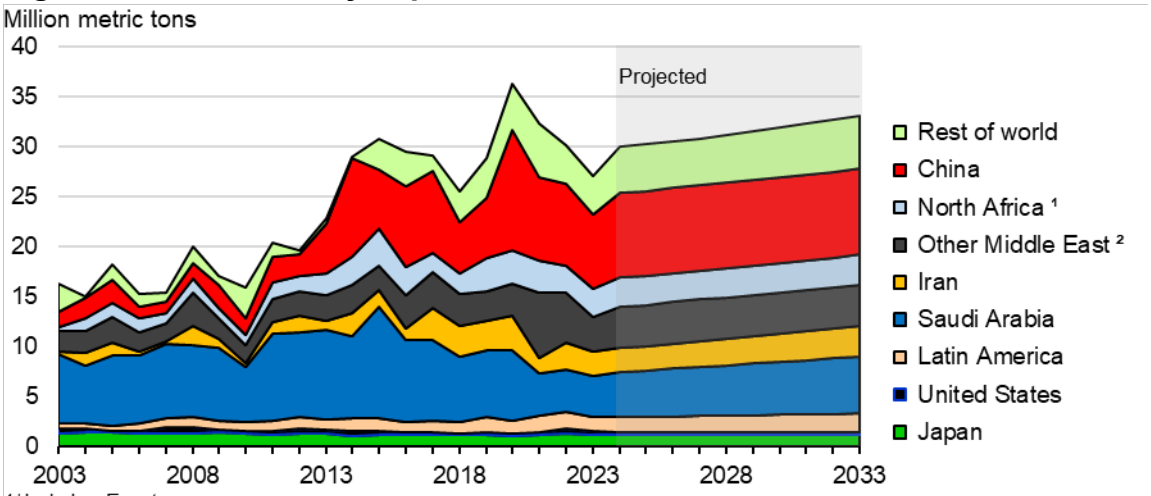


Source: USDA, Economic Research Service based on data from USDA, Interagency Agricultural Projection Committee, October 2023.

World sorghum trade is expected to increase by 3.8 percent to 11.0 million tons from 2024/25 to 2033/34. China accounts for most projected sorghum imports. China's demand for sorghum is expected to support a sorghum price premium relative to corn, curtailing demand by other countries (mainly Japan and Mexico). Sorghum exports originate largely from the United States, though Argentina is projected to remain a significant exporter.

- China will remain the leading sorghum importer, accounting for about 83 percent of global sorghum trade, with imports steady at 9.1 million tons through 2033/34. While corn imports in China can be subject to a quota, no quotas exist on imports of sorghum or barley. China's imports for sorghum and barley supplement corn imports to meet growing animal feed demand.
- U.S. sorghum exports are estimated to be steady at 7.2 million tons, accounting for about 65.8 percent of global sorghum exports by the end of the projection period.
- Argentina is projected to be the second-largest sorghum exporter in 2024/25 at 1.6 million tons, displacing Australia. Argentina's exports increase by 34.7 percent from 2024/25, reaching 2.1 million tons by 2033/34. China has become the main destination of Argentine sorghum exports. Australia's sorghum exports are expected to decrease to 1.3 million tons, with most primarily destined for China.
- Mexico's sorghum imports are expected to remain flat at 250,000 tons over the projection period. Mexico's sorghum imports declined sharply in 2013/14 as China became a substantial importer when relative prices made alternative feed grains, primarily corn, a more affordable feed option for the livestock sector in Mexico.
- Japan is expected to remain the world's third-largest sorghum importer, though imports are projected to decrease from 177,600 tons to 113,000 tons over the next decade.
- Imports by Sub-Saharan Africa are expected to increase from 527,000 tons to 612,000 tons over the projection period, a growth of 16.2 percent. Sorghum in this region is a major staple along with millet and maize and is principally used for human consumption.

Figure 38: Global barley imports, 2003–2033

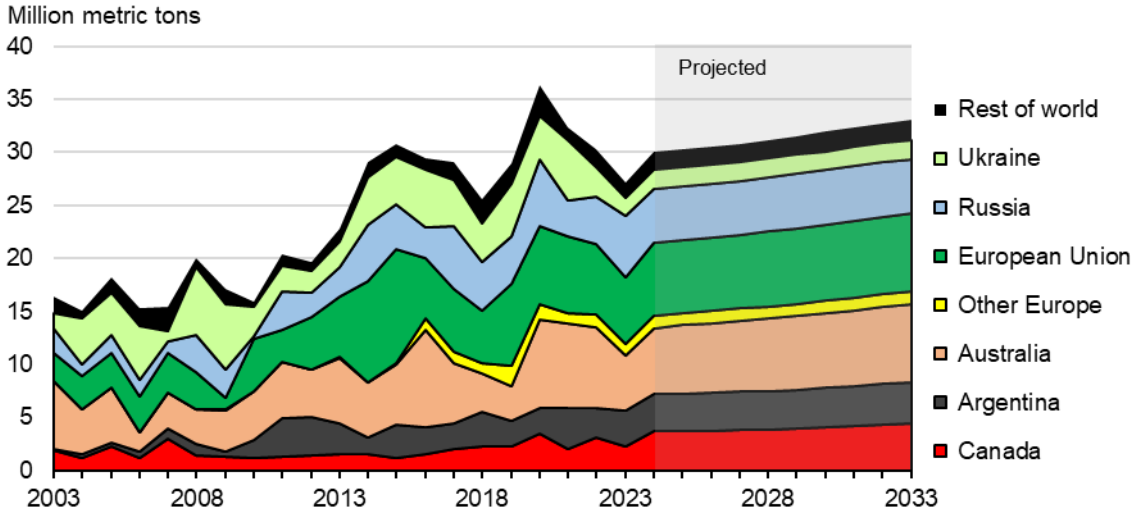


1/ Includes Egypt.
2/ Excludes Iran and Saudi Arabia.
Source: USDA, Economic Research Service based on data from USDA, Interagency Agricultural Projection Committee, October 2023.

Strong demand for feed barley—led by China, Saudi Arabia, Iran, Latin America, the European Union, and Other Middle East—is projected to drive growth in world barley trade to 33.1 million tons by 2033/34, an increase of 10.3 percent over the projection period.

- China is expected to remain the world's largest barley importer from 8.5 million tons to 8.6 million tons per year from 2024/25 through 2033/34. This is less than the peak of 12.0 million tons, reached in 2020/21. Feed demand is a major driver of barley imports during the projection period, but China is also a large importer of malting barley, mainly for beer production. China's 28.3 percent share of global barley imports in 2024/25 declines to 25.9 percent by 2033/34.
- Saudi Arabia is the world's second-largest importer of barley. Saudi Arabia imports are projected to increase nearly 24.8 percent to 5.7 million tons by 2033/34, accounting for about 17.2 percent of global barley import demand by 2033/34. Saudi Arabia's barley imports are used primarily as feed for sheep, goats, and camels.
- Iran's barley imports are projected to expand by more than 28.4 percent, reaching 3.1 million tons by 2033/34. Iran imports barley mainly from Kazakhstan, though also from the European Union and Ukraine. Turkey imports are stable at 1.2 million tons over the projection period. In the Other Middle East region, which excludes Iran, Saudi Arabia, and Turkey, barley imports are expected to be steady at 2.9 million tons through 2033/34.
- Japan's barley imports are projected to remain flat at 1.2 million tons over the coming decade and Europe is projected to have slightly increasing demand with imports rising to 1.6 million tons, an increase of 246,400 tons. In addition to imports of feed barley, Japan imports large quantities of malting barley for beer brewing. Feed accounts for about 70 percent of Japan's barley use. Barley for human consumption is used in a variety of foods and beverages. In the European Union, 75 percent of barley is used for feed purposes, with imports mostly from the United Kingdom. Barley imports for the Other Asia and Oceania region are projected to decrease 4.2 percent by 2033/34, reaching 0.8 million tons, and are used mainly for feed purpose.

Figure 39: Global barley exports, 2003–2033

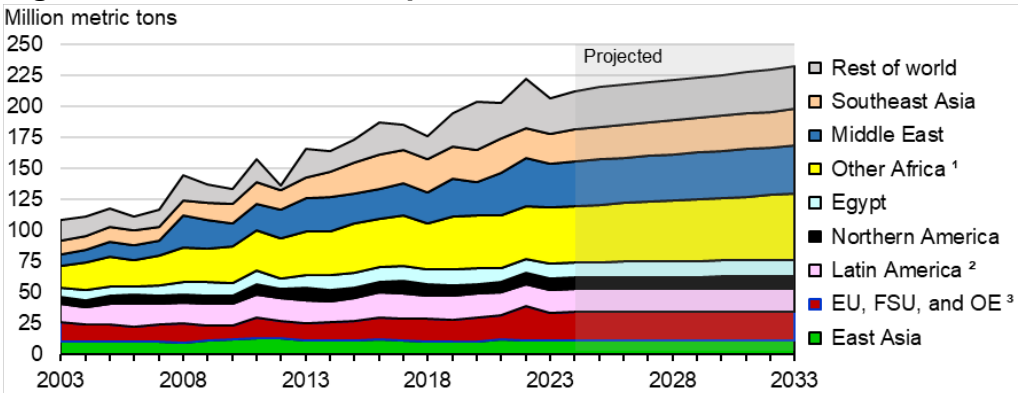


Source: USDA, Economic Research Service based on data from USDA, Interagency Agricultural Projection Committee, October 2023.

The European Union, Australia, and Russia are the three largest barley exporters, followed by Canada, Argentina, and Ukraine. Global barley exports are projected to expand 10.3 percent to 33.1 million tons between 2024/25 and 2033/34. Barley exports by all major exporters are projected to increase. Canada and Australia are expected to increase their market share, primarily at the expense of Russia and Ukraine.

- Australia's barley exports are projected to increase during the coming decade from 6.3 million tons in 2024/25 to 7.4 million tons by 2033/34. Australia's global export market share is estimated to increase by 1.5 percent to 22.4 percent over the period. Australia has shifted barley exports away from China (due to its prohibitive import tariff) to Saudi Arabia (feed barley) and to Vietnam and South America (malting barley).
- Barley exports by countries in the Former Soviet Union region are projected to increase from 8.1 million tons in 2024/25 to 8.4 million tons in 2033/34. Ukraine's exports are projected to be flat at 1.8 million tons. Russia's exports increase by 50,000 tons to 5.2 million tons by 2033/34. Exports from other Former Soviet Union countries are projected to increase by 268,400 tons to 1.5 million tons by 2033/34, mainly on account of Kazakhstan, which is expected to raise its barley production and exports, primarily to Iran.
- The European Union's barley exports are projected to increase from 6.8 million tons in 2024/25 to 7.3 million tons by 2033/34, and its share of global barley exports is projected to decrease from 22.7 percent to 22.1 percent.
- Argentina's barley exports are projected to increase 8.2 percent to 3.8 million tons by 2033/34. China by far is its major market, receiving about 90 percent of Argentine exports of feed barley.
- Canada is projected to increase barley exports by 22.4 percent, reaching 4.5 million tons for the duration of the projection, with exports of both feed and malting barley going primarily to China.

Figure 40: **Global wheat imports, 2003–2033**

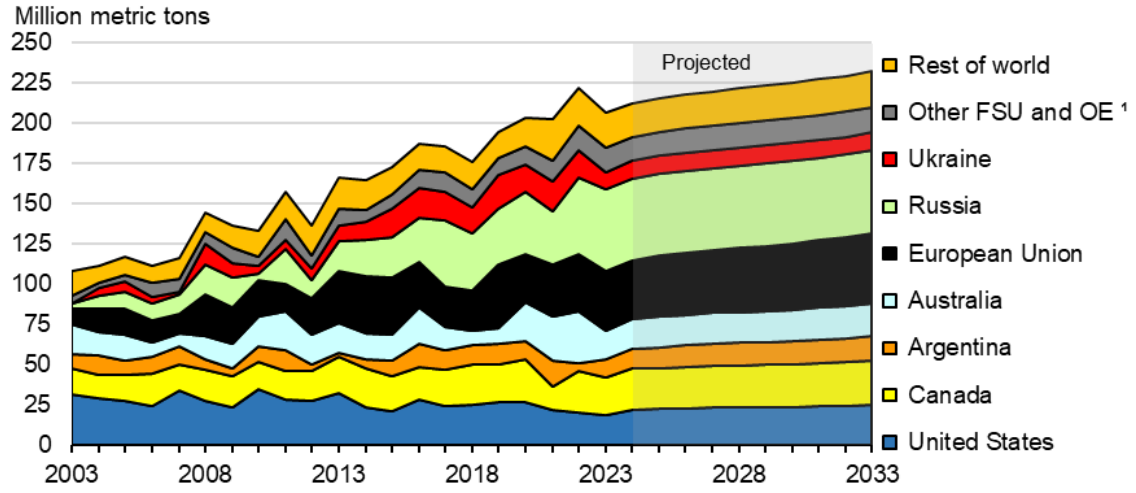


1/ Africa excluding Egypt.
2/ Excludes Mexico which is included in Northern America.
3/ European Union, Former Soviet Union, and Other Europe.
Source: USDA, Economic Research Service based on data from USDA, Interagency Agricultural Projection Committee, October 2023.

World wheat trade (including flour) is projected to expand by almost 20 million tons (9.4 percent), reaching 232.2 million tons by 2033/34. Growth in wheat imports is concentrated in developing countries where income growth, urbanization, Westernization of diets, and population gains support higher demand. While demand grows, many countries are unable to economically produce wheat and turn to imports to supplement domestic production. Sub-Saharan Africa, Southeast Asia, the Middle East, and Egypt combined account for 78.3 percent of the projected increase in global wheat imports.

- Wheat imports for the four East Asian countries are collectively expected to decline by 5.2 percent to 21.2 million tons by 2033/34, accounting for 9.1 percent of world imports. China's imports are projected to fall gradually from 10.7 million tons to 9.7 million tons by 2033/34 as authorities prioritize food grain output and draw from large reserves. Imports by Japan decrease slightly to 5.3 million tons by 2033/34 due to a declining and aging population, while imports by South Korea are steady at 4.3 million tons. Taiwan wheat imports are projected to grow modestly over the 10-year projection period to 1.5 million tons.
- Egypt, Turkey, and Indonesia are projected to remain among the world's leading wheat importers, with their annual imports rising to 13.3 million tons,11.9 million tons, and 11.6 million tons, respectively, by 2033/34. Egyptian imports are projected to grow steadily through the next decade mainly due to population growth. China, Nigeria, Bangladesh, and the Philippines are the fourth-, fifth-, sixth-, and seventh-largest wheat-importing countries, increasing to 9.7 million, 7.0 million, 6.9 million, and 6.9 million tons by 2033/34, respectively.
- Africa and the Middle East are projected to increase wheat imports by 8.5 million tons and 3.5 million tons, respectively, accounting for 60 percent of the total increase in world wheat trade. North Africa and Sub-Saharan Africa imports increase by 0.9 million tons and 7.5 million tons to 31.8 million tons and 34.6 million tons by 2033/34, respectively. The Middle East increases imports by 3.5 million tons, reaching 38.9 million tons by 2033/34.
- Southeast Asia wheat imports are projected to increase by 13.5 percent, reaching 29.2 million tons, accounting for almost 3.5 million tons of additional global imports by 2033/34. Rising incomes in Indonesia, Vietnam, and other Asian countries raise demand for many wheat-based products, including noodles, bakery goods, and fast food.

Figure 41: **Global wheat exports, 2003–2033**

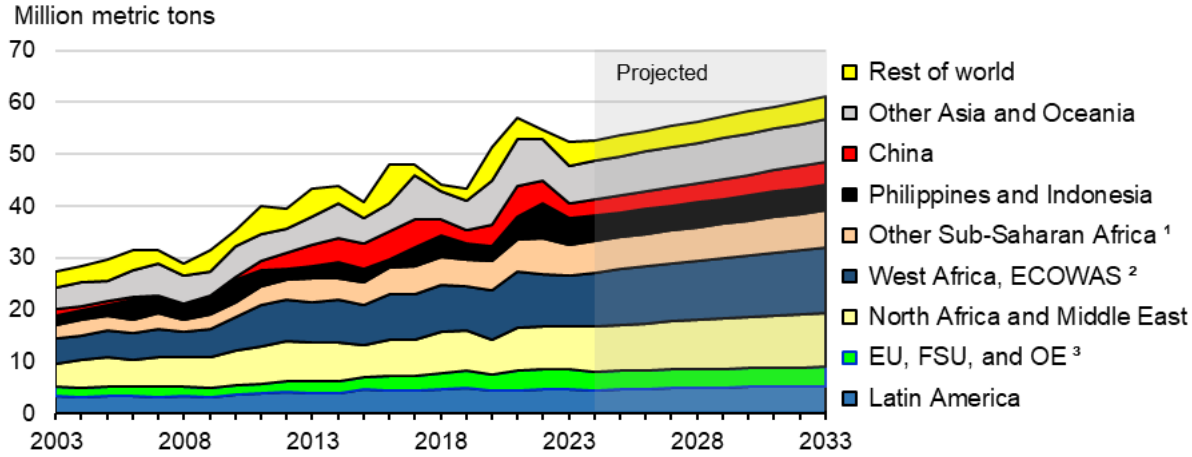


1/ Other Former Soviet Union and Other Europe.
Source: USDA, Economic Research Service based on data from USDA, Interagency Agricultural Projection Committee, October 2023.

The eight largest wheat exporters—Russia, the European Union (EU), Canada, the United States, Australia, Argentina, Ukraine, and Kazakhstan—are projected to account for 89.3 percent of the world trade in 2033/34. Argentina, the EU, the United States, Australia, and Turkey exhibit increases in total export share by 2033/34, from 45 percent to 48 percent. U.S. wheat exports are projected to increase 14.4 percent to 24.9 million tons by 2033/34, with world export share increases from 10.3 percent in 2024/25 to 10.7 percent by 2033/34.

- Russia's wheat exports are expected to increase by 1.2 million tons to 51.7 million tons in 2033/34. Russia accounts for about 6 percent of the projected increase in global wheat exports. Ample domestic production will generate growth in domestic surpluses available for export. Due to the uncertainty of Russia's war against Ukraine, Ukraine's exports are projected to continue a stable pattern at lower levels than those before the war, decreasing only slightly from 11.4 million tons in 2024/25 to 11.2 million tons in 2033/34.
- The EU is projected as the second-largest exporter after Russia. By 2033/34 the EU is expected to export 43.0 million tons of wheat, with projected exports growing 1.8 percent annually. Rising EU exports are supported by increased production with greater area and yields. The EU accounts for 32 percent of the projected increase in global wheat exports.
- Canada's wheat exports are projected to increase from 25.6 million tons in 2024/25 to 27.8 million tons in 2033/34. Higher domestic production contributes to greater exportable supplies. Production gains are attributable to yield growth, even with a slightly lower wheat area. Wheat area expansion is constrained due to more profitable cropping alternatives.
- Australia's wheat crop is expected to rebound in 2024/25 based on a return to normal weather, with small increases in yield projected until 2033/34. Australia's wheat exports are projected to increase by 11.1 percent to 20.5 million tons from 2024/25 to 2033/34. Australia is a major exporter to Southeast Asia and the Middle East, both of which exhibit strong growth in wheat demand and imports.
- Argentina's wheat exports are expected to rise from 12.1 million tons in 2024/25 to 15.0 million tons in 2033/34. Brazil usually absorbs about half of the wheat exported by Argentina; its imports are projected to be steady given an expansion in wheat production. Most of the increase in Argentina's exports is expected to go to Southeast Asia and Africa.

Figure 42: Global rice imports, 2003–2033

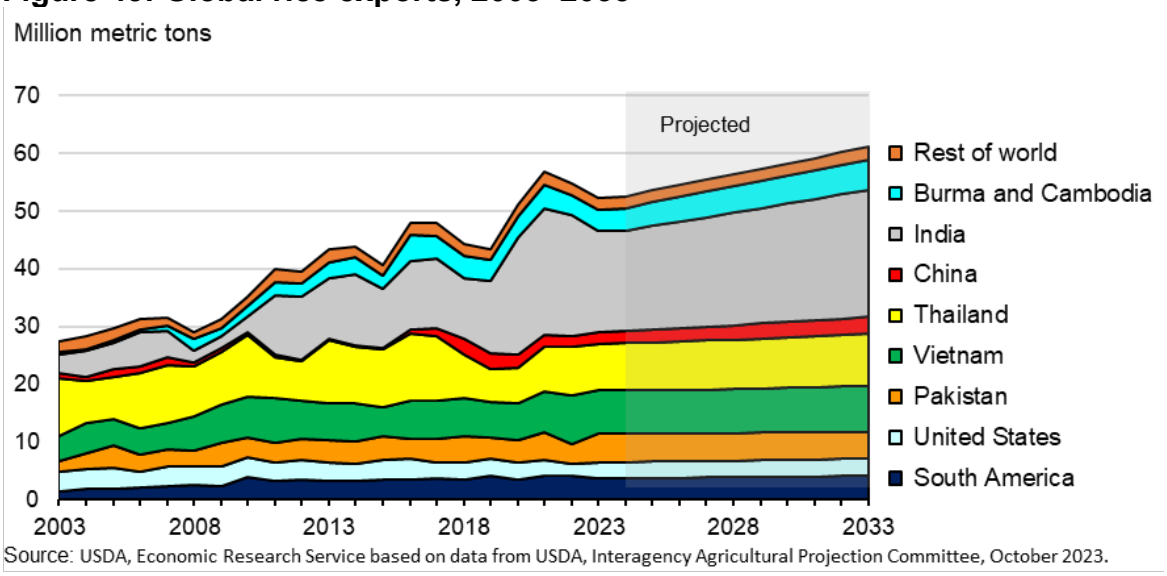


1/ Excludes ECOWAS.
2/ ECOWAS is 15 member countries in Economic Community of West African States.
3/ European Union, Former Soviet Union, and Other Europe.
Source: USDA, Economic Research Service based on data from USDA, Interagency Agricultural Projection Committee, October 2023.

Global rice trade is projected to increase 1.7 percent per year over the projection period, reaching a record 61.1 million tons in 2033/34. Projected trade growth is driven by steady expansion in demand, largely due to population and income growth in Sub-Saharan Africa. Import growth in other regions, due mostly to population growth, is more modest.

- China, the Philippines, Nigeria, the European Union, and Iraq are projected to be the largest rice importing markets. The Philippines is projected to remain the largest rice importer through 2031/32, when number-two importer China is expected to overtake it. Despite rising production, Philippine consumption is projected to grow at a relatively higher rate, driving imports to a record 4.3 million tons by 2033/34. China's imports will grow to 4.4 million tons by 2033/34. Higher prices in China to cover rising production costs drive the growth in imports of lower priced long-grain rice.
- Sub-Saharan Africa is projected to remain the largest and fastest growing rice-importing region, with imports rising 20 percent to 19.8 million tons by 2033/34, accounting for 39 percent of global import expansion. The strong growth is due to an increasing population, rising per capita rice consumption, and urbanization. Nigeria's imports are expected to rise 25 percent to 2.9 million tons by 2033/34.
- The EU is projected to be the fourth-largest rice importer, with imports rising 0.8 percent to 2.3 million tons by 2033/34, still below record. Asian aromatic varieties account for the bulk of the imports, partly fueled by immigration from Asia and preferential access provided through trade agreements, Africa, and the Middle East, and preferential access provided through agreements with Southeast Asian countries.
- Rice imports to the Middle East region are projected to expand 18.5 percent over the next decade to 9.5 million tons, due primarily to population growth. The major importing countries are Saudi Arabia, Iraq, and Iran, with imports ranging from 1.4 million to 2.2 million tons by 2033/34.
- Indonesia—once the top rice importer—is projected to reduce imports 36 percent to 700,000 tons by 2033/34, due to weak consumption growth and government policies to become more self-sufficient in rice production.

Figure 43: Global rice exports, 2003–2033

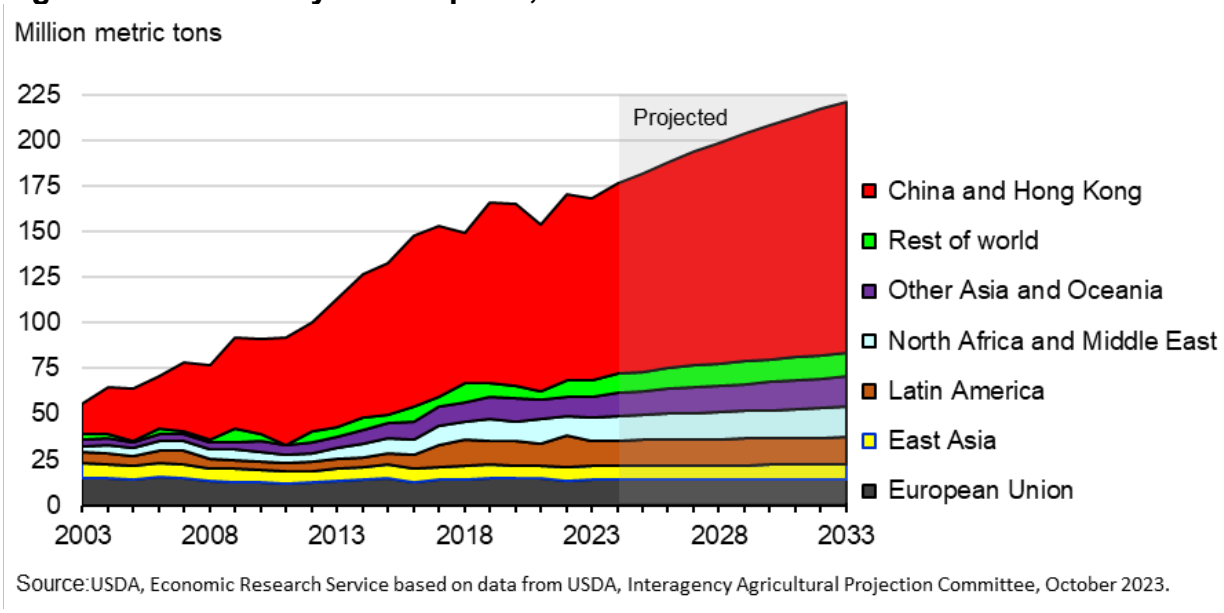


Source: USDA, Economic Research Service based on data from USDA, Interagency Agricultural Projection Committee, October 2023.

Asia continues to supply most of the world's rice exports throughout the projection period. India remains the world's largest rice-exporting country, accounting for 36 percent of world rice exports, followed by Thailand at 15 percent and Vietnam at 13 percent by 2033/34.

- India is expected to remain the largest rice exporter with exports increasing by almost 28 percent over the projection period, reaching a near-record 22.0 million tons by 2033/34. India's exports are projected to continue to decline in 2024/25 due to its export bans continuing. Trade is expected to begin increasing in 2025/26. India exports mostly non-aromatic milled rice as well as smaller quantities of premium basmati rice.
- Thailand's rising yields and near-steady consumption provide an 11-percent increase in rice exports to 9.1 million tons by 2033/34, still below the 2016/17 record of 11.6 million tons.
- Vietnam's exports are projected to expand 4.6 percent to a record 7.9 million tons by 2033/34. Exports are limited by a gradual shift in rice area to less water-intensive crops and by increasing salinization and reduced river flows for irrigation.
- Pakistan, the fourth-largest exporter, decreases rice shipments 6.0 percent to 4.7 million tons by 2033/34. Rising demand and small production growth slowly reduce exports.
- The United States is the world's fifth-largest rice exporter throughout the projection, with exports expanding 6.2 percent to 3.0 million tons by 2033/34. Rising domestic use and continued export competition from South America in the Western Hemisphere constrain exports as projected U.S. prices do not support expansion of rice area. The U.S. world rice export market share decrease from 5.4 percent in 2024/25 to 4.9 percent in 2033/34.
- China's exports are expected to increase 39 percent over the next decade, reaching a near-record 3 million tons by 2033/34, representing disposal of aging reserves and sales of premium medium grain rice.
- Burma is projected to expand exports almost 43 percent by 2033/34, reaching nearly 2.9 million tons. Burma is expected to continue to supply exports to China and the European Union. Cambodia's rice exports increase an estimated 22 percent to a record 2.4 million tons by 2033/34.
- Exports from South America are projected to expand, reaching 4 million tons by 2033/34.

Figure 44: Global soybean imports, 2003–2033

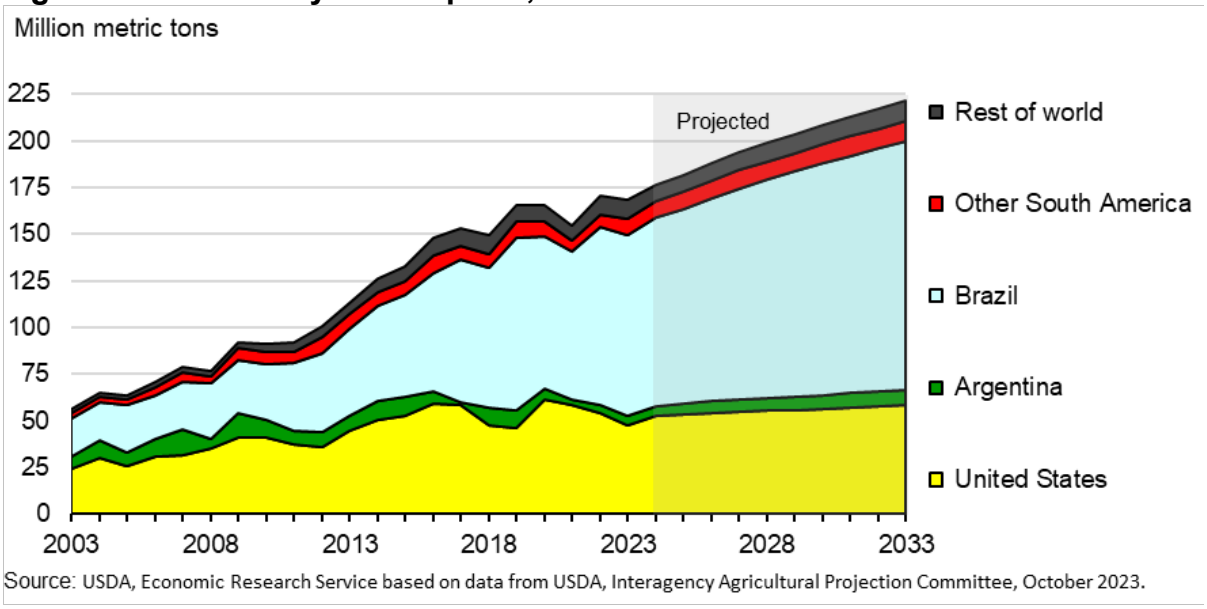


Source: USDA, Economic Research Service based on data from USDA, Interagency Agricultural Projection Committee, October 2023.

Demand from China will drive continued growth in soybean trade during the next 10 years, as world soybean imports climb 44.8 million tons (25.3 percent) to 221.6 million tons.

- China's soybean imports are expected to grow from 104.1 million tons to 138.3 million tons during 2024/25 to 2033/34. Projected expansion of hog and poultry sectors is expected to increase demand for soybean meal.
- Soybean imports for other countries in East Asia (Japan, South Korea, and Taiwan) are expected to increase by about 7.2 percent, reaching 8.2 million tons by 2033/34. The region is projected to see a modest growth in livestock production that is expected to support expanded soymeal use.
- European Union soybean imports are projected to increase from 13.9 million tons to 14.3 million tons by 2033/34 due to more grain use, rising consumption of alternative protein sources, and steady livestock numbers.
- Mexico's soybean imports are projected to increase by 13.3 percent to 7.5 million tons by 2033/34, driven by growth in poultry and pork production, and rising demand for soybean oil.
- Soybean imports for Indonesia are projected to increase by 17.7 percent to 3.3 million tons by 2033/34, with imports almost exclusively used for food consumption. Indonesia imports all of its soybean meal feed. Thailand crushers are expected to expand soybean imports by about 14.9 percent to 4.5 million tons by 2033/34 to meet rising feed demand. Vietnam is expanding its crushing capacity, which is expected to boost soybean imports by 34.5 percent to 3.5 million tons by 2033/34, to meet growing demand for feed. Vietnam is also projected to increase imports of soybean meal. Pakistan is projected to almost double its soybean imports, reaching 3.8 million tons by 2033/34 to support rising demand for poultry feed.
- Many countries in North Africa and the Middle East region have minimal soybean production and are expected to meet growing feed demand by bolstering imports. For these regions soybean imports are expected to increase more than 25.2 percent to more than 16.7 million tons by 2033/34. Egypt is projected to grow soybean imports by 1.4 million tons to 5.4 million tons by 2033/34 to crush for feed due to expanding poultry production.

Figure 45: Global soybean exports, 2003–2033

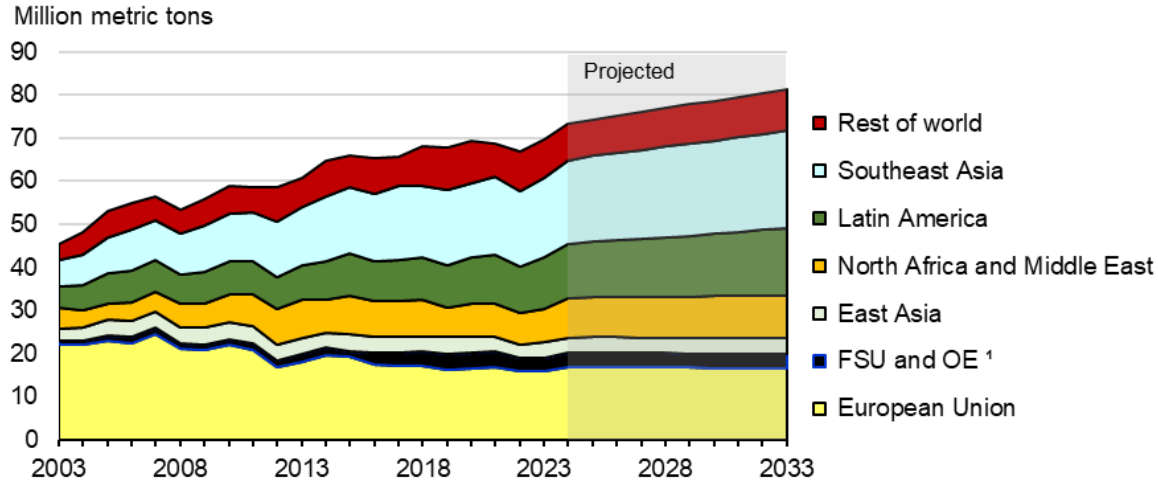


Source: USDA, Economic Research Service based on data from USDA, Interagency Agricultural Projection Committee, October 2023.

The three leading soybean exporters—Brazil, the United States, and Argentina—are projected to account for 90 percent of world soybean trade by 2033/34.

- Brazil's soybean exports are projected to rise 32.0 million tons (31.7 percent) to 133.2 million tons by 2033/34. This will strengthen Brazil's position as the world's leading soybean exporter, accounting for 71.6 percent of global trade over the projection period. Soybeans remain more profitable to produce than other crops in most areas of Brazil. With increasing plantings in the Cerrado region and production extending into the Amazônia Legal region, the growth rate in area planted to soybeans is expected to grow steadily during the coming decade.
- Argentina's current policy of a higher export tax rate for soybeans than for soybean products incentivizes domestic crushing of soybeans and exports of soybean products. This policy has been in place on and off since the 1990s. Argentina's soybean exports are projected to increase about 55.1 percent to 8.5 million tons by 2033/34, mostly exported to China. Most soybean production continues to be processed domestically. As a result, Argentina remains a distant third to Brazil and the United States as a soybean exporter.
- Other South American countries—principally Uruguay, Paraguay, and Bolivia—are projected to expand their area planted to soybeans. Exports by these countries increase about 19.3 percent to 10.8 million tons by 2033/34, adding 1.7 million tons to world soybean exports.
- The U.S. share of global soybean exports is expected to decline from 29.6 percent in 2024/25 to 26.2 percent by 2033/34. The U.S. soybean exports volume is projected to reach 58.1 million tons by 2033/34, increasing by 10.9 percent.
- Canada is projected to increase soybean exports from 4.7 million tons in 2024/25 to 5.9 million tons in 2033/34. Canada's soybean area has expanded beyond the traditional producing region of Southern Ontario to the prairies of northeastern Manitoba. Improved varieties of soybeans with better yields have contributed to area expansion.
- Ukraine's soybean exports are projected to be stable at 2.0 million to 2.2 million tons through 2033/34. Production, consumption, and trade are held steady at the 2023/24 levels.

Figure 46: Global soybean meal imports, 2003–2033

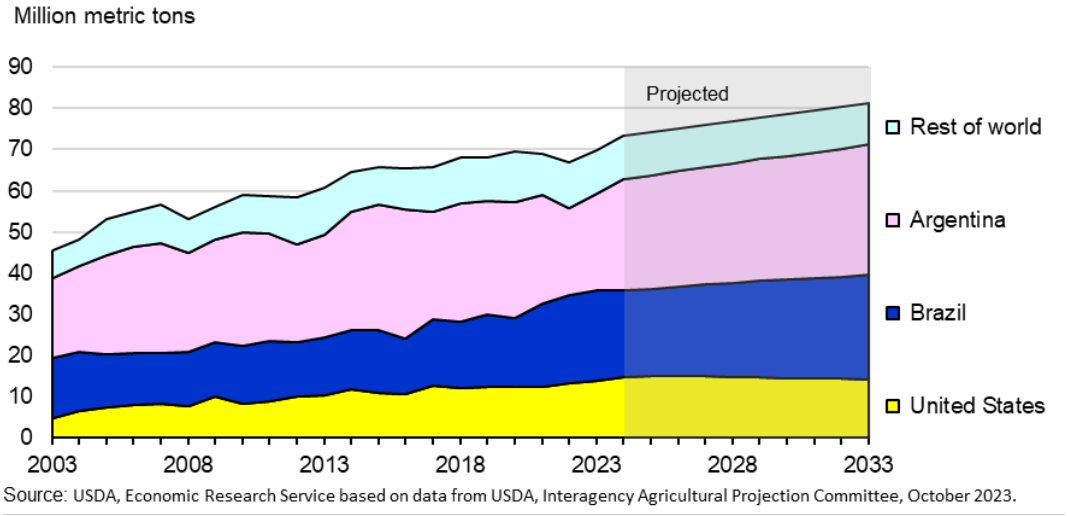


1/ Former Soviet Union and Other Europe.
Source: USDA, Economic Research Service based on data from USDA, Interagency Agricultural Projection Committee, October 2023.

World soybean meal trade is projected to climb almost 10.7 percent to 81.3 million tons by 2033/34, supported by growth in demand from expanding commercial livestock, poultry production, and adoption of modern feed rations in many regions of the world.

- The European Union (EU) remains the world's largest soybean meal importer throughout the projection period, with imports declining by 1.8 percent to 16.5 million tons by 2033/34. An abundant supply of low-cost rapeseed meal is expected to be available, a result of expanding biodiesel production in the EU. In addition, sunflower seed meal supply is on the rise. Nutritional properties limit expanding the use of rapeseed meal and sunflower seed meal in livestock rations, supporting the continued use of soybean meal.
- Southeast Asia, Latin America, North Africa, and the Middle East are projected to become larger importers of soybean meal due to the increasing demand for livestock feed, together with limited capacity to expand domestic oilseed production. Increasing poultry consumption and production is a major driving force, along with limited soybean crushing capacity.
- Indonesia, Vietnam, and the Philippines together contribute the largest gain in world soybean meal imports, expanding 18.2 percent from 14.8 million tons in 2024/25 to 17.5 million tons by 2033/34, accounting for 34 percent of increasing global imports. Thailand and Malaysia increase imports by 391,000 tons to 5 million tons by 2033/34. Southeast Asia accounts for 39.2 percent of the projected increase in world soybean meal trade.
- Imports by countries in North Africa and the Middle East are expected to rise by 787,000 tons, accounting for 10 percent of the increase in world trade by 2033/34. Iran, Egypt, Turkey, and Saudi Arabia are the largest importers in these two regions, accounting for about 53 percent of soybean meal imports by 2033/34 in these regions.
- South American soybean meal imports increase by 30 percent over the projection period from 7.7 million tons to 10.1 million tons by 2033/34. Colombia, Ecuador, Peru, and Chile are among the largest importers as feed demand rises due to increasing domestic meat consumption. Mexico's growing demand for protein feed boosts its annual soybean meal imports from 2.1 million tons to 2.5 million tons by 2033/34. Central America and the Caribbean region increase imports from 2.7 million tons to 3.2 million tons by 2033/34 as projected protein feed demand increases.

Figure 47: Global soybean meal exports, 2003–2033



Source: USDA, Economic Research Service based on data from USDA, Interagency Agricultural Projection Committee, October 2023.

Argentina, Brazil, and the United States are projected to remain the world's three largest exporters of soybean meal, with a combined share of world exports of about 88 percent in 2033/34. By 2033/34, Argentina and Brazil account for about 39 percent and 31 percent of the world market, respectively, while the estimated U.S. market share slips marginally to about 18 percent.

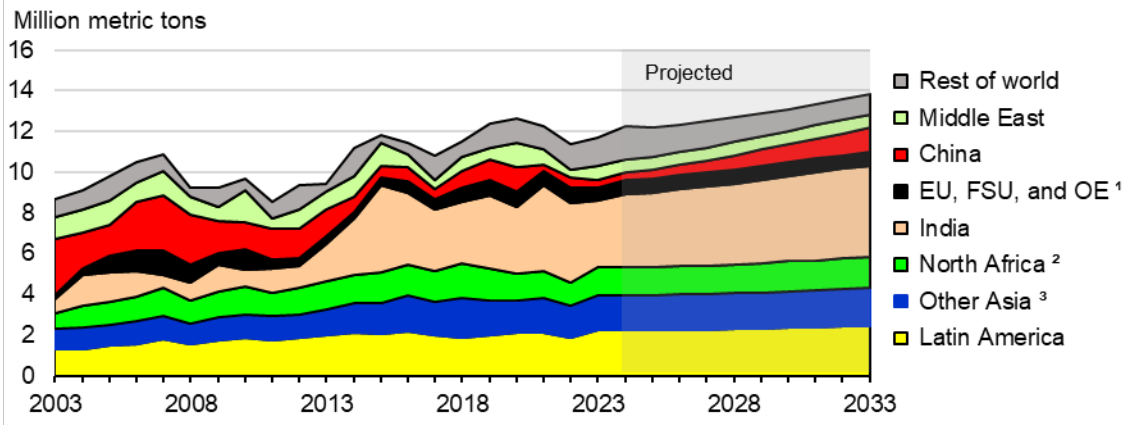
- In 2019, Argentina briefly eliminated export tax measures that incentivized exports of soybean products rather than soybeans, which had encouraged the development of a large oilseed-crushing industry. The differential export tax was reintroduced in mid-2020 with a 33 percent export tax on soybeans and 31 percent on soybean meal and soybean oil. Argentina's low soybean production costs and its competitive processing and shipping infrastructure are expected to sustain growth in soybean meal exports. Soybean meal exports are projected to grow by 4.8 million tons over the next decade, reaching 31.5 million tons by 2033/34. Policy on Argentina was maintained as of October 2023.

- In Brazil, the expansion of poultry and pork production is expected to boost domestic soybean meal demand and limit growth in soybean meal exports due to interim competition from Argentina and robust soybean demand from China. Brazil's projected soybean meal exports increase about 19 percent to 25.4 million tons by 2033/34, and Brazil's share of the world soybean meal market increases marginally from about 29 percent in 2024/25 to about 31.2 percent by 2033/34.

- U.S. soybean meal exports are projected to rise from 14.7 million tons in 2024/25 to 15.0 million tons in 2026/27, driven by increasing U.S. crush capacity, higher domestic demand for soybean oil, and lower global soybean meal prices. As demand growth slows for biofuel feedstocks and crush capacity expansion levels off after 2026/27, U.S. soybean meal exports decline to 14.3 million tons by 2033/34 and the U.S. share of world exports falls to 17.6 percent from about 20 percent in 2024/25.

- India's projected soybean meal exports are stable at 1 million tons to 2033/34 as expanding domestic feed use for poultry, egg, and milk production continues to constrain exportable supplies of soybean meal. Annual European Union soybean meal export projections hold steady at 700,000 tons through 2033/34.

Figure 48: Global soybean oil imports, 2003–2033

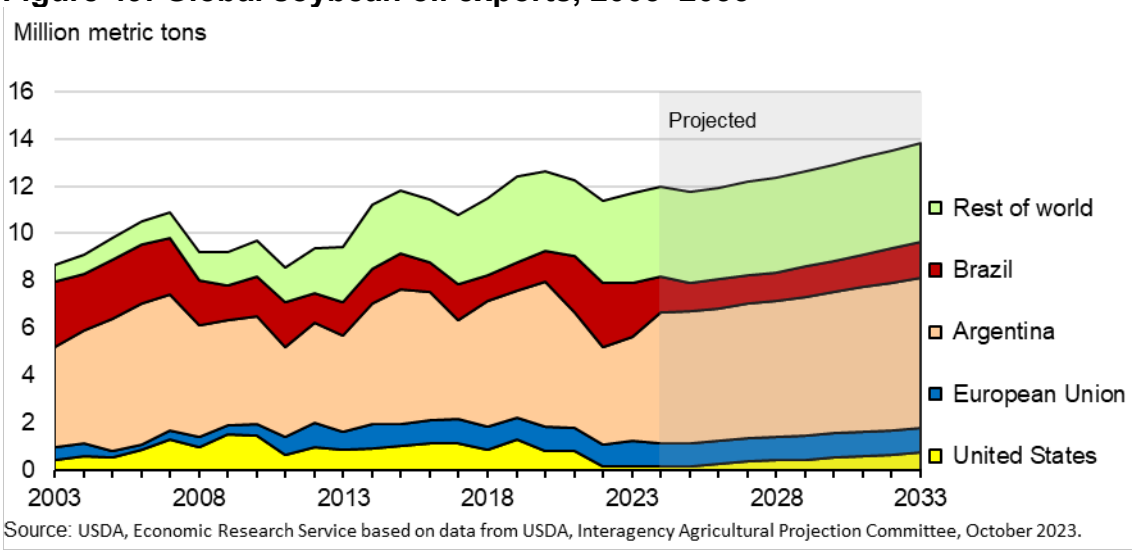


1/ European Union, Former Soviet Union, and Other Europe.
2/ Includes Egypt.
3/ Other Asia excluding China and India.
Source: USDA, Economic Research Service based on data from USDA, Interagency Agricultural Projection Committee, October 2023.

World soybean oil imports are projected to climb about 15 percent over the projection period, reaching 13.8 million tons by 2033/34, supported by rising food and industrial use. Growth in world soybean oil trade, however, is expected to continue to be constrained by competition with palm oil, the leading vegetable oil traded internationally.

- Palm oil accounts for the largest share of India's vegetable oil imports. India is also the world's largest importer of soybean oil, accounting for over 32 percent of total trade by 2033/34. India's soybean oil imports are projected to grow about 25.2 percent to 4.5 million tons in 2033/34. Anticipated growth in per capita income is expected to continue to drive up demand for edible oils, while low yields and limited area expansion potential limit growth in oilseed production. Continuous substitution of oil seeds crops for higher-value crops like cotton is expected to support increasing imports of soybean and other vegetable oils.
- Bangladesh soybean oil imports are projected to expand over the projection period to a combined total of 762,000 tons by 2033/34, despite gains in domestic production. Pakistan imports are steady at 100,000 tons through the projection period.
- China's soybean oil imports are projected to increase from 360,000 tons to 1.2 million tons through the projection period. South Korea increases soybean oil imports by 82,000 tons, reaching 495,000 tons by 2033/34. The Southeast Asia region is projected to increase imports by 34,000 tons, reaching 300,000 tons by 2033/34.
- Income and population growth in North Africa, the Middle East, and Latin America contribute to gains in soybean oil demand and imports. The combined imports of Egypt and Iran are projected to be steady near 500,000 tons, while imports by the Other North Africa region are projected to increase about 6.6 percent to 1.4 million tons by 2033/34.
- South American soybean oil imports are projected to increase 6.1 percent to 1.6 million tons, with Peru, Colombia, and Venezuela being the largest importers. Imports to the Central America and Caribbean region are projected to be steady near 560,000 tons. Mexico's imports increase from 200,000 tons in 2024/25 to 295,000 tons by 2033/34, as domestic crushers of primarily imported soybeans account for most consumption gains.

Figure 49: Global soybean oil exports, 2003–2033

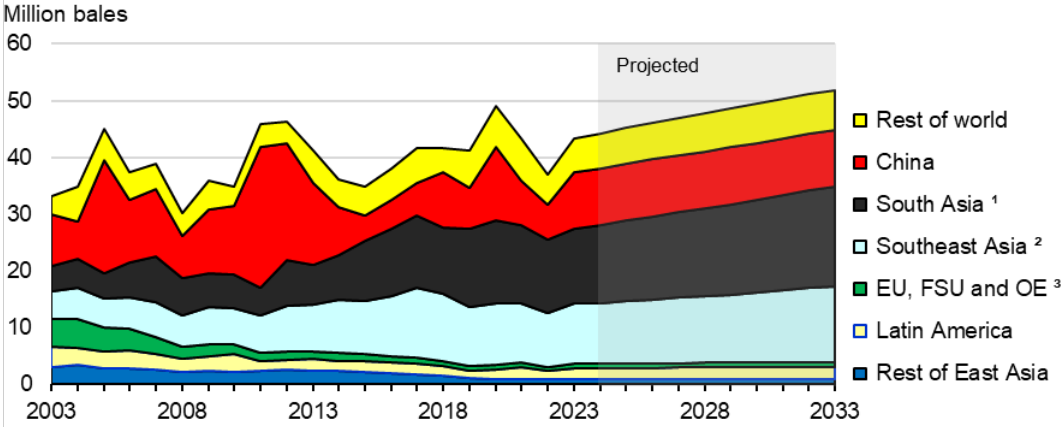


Source: USDA, Economic Research Service based on data from USDA, Interagency Agricultural Projection Committee, October 2023.

Argentina, Brazil, the European Union, and the United States are the world's four leading soybean oil exporters. Their combined shipments are projected to account for about 70 percent of world soybean oil exports by 2033/34. Argentina is projected to account for 46 percent world soybean oil exports, while Brazil, the European Union, and the United States are near 11 percent, 8 percent, and 5.4 percent by 2033/34, respectively.

- Soybean oil exports from Argentina are projected to climb to 6.3 million tons by 2033/34, a 14.5-percent increase from 2024/25. Argentina's strength as a soybean oil exporter reflects its large crushing capacity and its small domestic market for soybean oil. Although Argentina's soybean oil exports rise, growth is tempered as soybean oil is increasingly used domestically to produce biodiesel.
- Due to the expansion of soybean oil in biofuels, U.S. soybean oil exports are lower in the near term and then rise over the projection period to 750,000 tons in 2033/34. Brazil's soybean oil exports in 2024/25 are 1.5 million tons and decrease to 1.2 million tons by 2025/26 and increase in 2029/30 to 1.5 by 2033/34. Over the coming decade, the United States and Brazil are expected to use more soybean oil for domestic biofuel production.
- European Union soybean oil exports are steady at 1 million tons over the projection period. The Former Soviet Union region is projected for steady soybean oil exports at 1.2 million tons over the projection period.
- Soybean oil exports by South American countries other than Argentina and Brazil are projected to increase by 12.5 percent to 1.2 million tons over the projection period.

Figure 50: Global cotton imports, 2003–2033

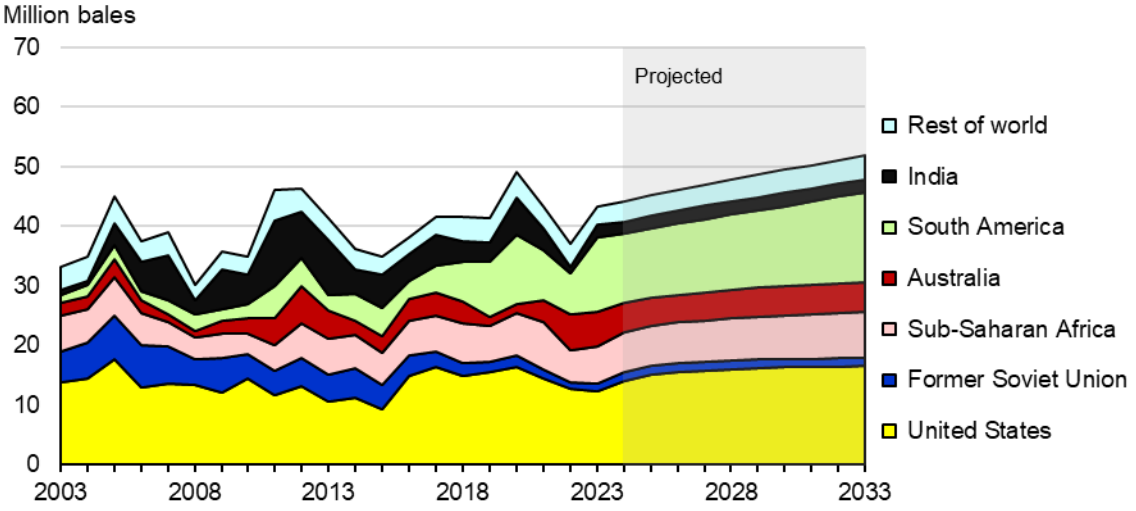


1/ Bangladesh, India, and Pakistan.
2/ Malaysia, Indonesia, Philippines, Thailand, and Vietnam.
3/ European Union, Former Soviet Union, and Other Europe.
Source: USDA, Economic Research Service based on data from USDA, Interagency Agricultural Projection Committee, October 2023.

Projected world cotton trade is expected to surpass the 49-million bale record set in 2020/21 by 2030/31, reaching 51.9 million bales in 2033/34. Imports by countries in South Asia and Southeast Asia contribute most of the growth. By 2033/34, five countries are expected to account for almost 80 percent of global cotton imports—Bangladesh, China, Vietnam, Turkey, and Pakistan.

- China's cotton imports are stable at 10 billion bales through 2033/34 as China's cotton area stabilizes and cotton textile processing growth slows.
- Bangladesh is projected to surpass China for the first time since 2017/18, becoming the largest global cotton importer again in 2032/33, with imports rising by 34.1 percent to 10.6 million bales by 2033/34. Bangladesh, a low-cost producer of cotton yarn, fabric, and garments, will account for 20.4 percent of global imports by 2033/34 and 35 percent of the projected total increase over the projection period.
- Southeast Asia cotton imports are projected to increase nearly 26.8 percent to 12.8 million bales by 2033/34. Vietnam is expected to remain the world's third-largest global importer as its textile industry expands by nearly one-third over the projection period; its imports are expected to reach 9.4 million bales by 2033/34. Vietnam's cotton imports have been relatively stable the past 7 years, but are projected to account for 29.7 percent of the projected increase in world imports during the projection period. Indonesia is projected to be the sixth-largest cotton importer in 2033/34, with imports rising 18.3 percent to 2.7 million bales in 2033/34.
- Turkey and Pakistan are expected to be the fourth- and fifth-largest cotton importers by 2033/34. Turkey is projected to increase its imports by 14.2 percent, reaching 5.5 million bales by 2033/34. Pakistan's imports are projected to increase by 16.9 percent, reaching 5.2 million bales by 2033/34.
- India's cotton imports are projected to increase 30.5 percent to 1.8 million bales by 2033/34. India's rising cotton imports are driven by increasing mill consumption, which is greater than India's production growth. Mexico's imports are stable near 800,000 bales. Imports to Thailand, the Former Soviet Union region, and South Korea are steady, with projected combined imports of 1.5 million bales annually through 2033/34.

Figure 51: Global cotton exports, 2003–2033



Source: USDA, Economic Research Service based on data from USDA, Interagency Agricultural Projection Committee, October 2023.

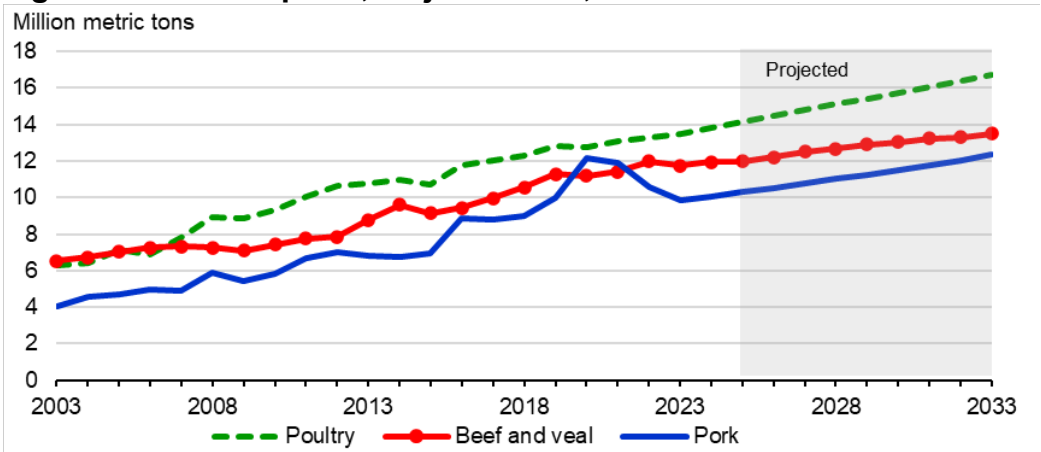
Cotton production is projected to expand in countries with favorable resources and production technologies. Growth is expected from traditional producers with large amounts of land suitable for cotton production, including Brazil, Sub-Saharan Africa, and India. The United States, Brazil, Australia, West Africa, and India remain the largest exporters.

- The U.S. share of world cotton production averaged 14 percent during the previous decade and is projected to be similar over the next decade. The United States remains the world's leading cotton exporter, with exports rising from 14 million bales to 16.5 million bales (upland and extra-long staple (ELS) cotton) during the 2024/25 to 2033/34 projection period. However, the U.S. share of world cotton trade is expected to fall after 2026/27, decreasing to 32 percent by 2033/34. During 2014/15-2023/23 the U.S. share averaged 34 percent.
- Area planted to cotton in Brazil is expected to increase and combines with continuing yield growth to boost production. Brazil's annual cotton exports are projected to increase 3.4 million bales by 2033/34, corresponding to a 3.1 percent annual growth rate. Brazil became the world's second-ranking cotton exporter in 2018/19, surpassing India, and remains second through 2033/34, when Brazil's exports are projected to reach a record 14.2 million bales.
- India's cotton area and yields are expected to trend higher over the projection period, increasing exportable supplies even as yields and harvested area have been hampered by bollworm resistance and weather issues in recent years. India's cotton exports are projected to increase by 4.2 percent, reaching 2.2 million bales in 2033/34, making India the world's fourth-largest cotton exporting country throughout the projection period.
- Cotton exports from the 15 countries of the Economic Community of West African States (ECOWAS) are projected to increase 20.6 percent by 2033/34, reaching 5.4 million bales. Infrastructure improvements will boost production and exports. Sub-Saharan Africa exports are expected to be relatively stable at 2.2 million bales, accounting for 15 percent of world trade by 2033/34.

- Major cotton-producing countries in Central Asia continue to promote investment in textile industries, exporting textile products rather than raw cotton. Former Soviet Union exports, entirely from Central Asia, are projected to decrease 0.2 percent annually, with only 1.4 million bales exported by 2033/34, far below the recent peak of 7.3 million bales in 2005/06.

Global Livestock Trade

Figure 52: Meat exports, major traders,[1] 2003–2033



1/ Major exporters, not world total (see beef, pork and poultry trade tables).
Source: USDA, Economic Research Service based on data from USDA, Interagency Agricultural Projection Committee, October 2023.

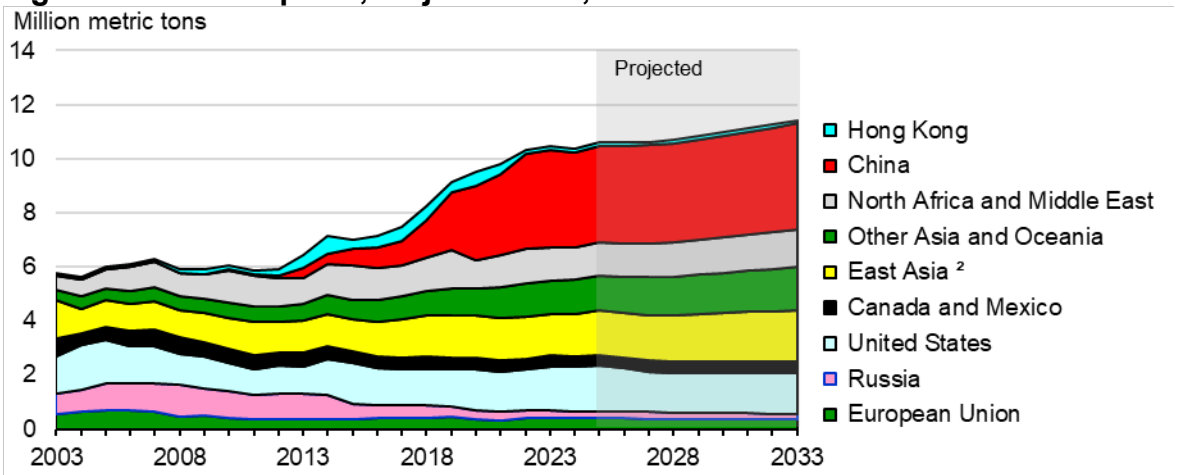
The projected global meat trade volumes for 2025–33 is led by poultry, followed by beef and pork. Major pork and poultry exporters are expected to expand volumes traded by over 19 and 18 percent, respectively, supported by strong consumer demand in developing and emerging countries. Beef exports are projected to increase almost 13 percent, mostly led by strong demand in Asian countries.

- Brazil is the largest exporter of poultry meat, followed by the United States, the European Union (EU), and Thailand. Brazil is projected to account for nearly 63 percent of global export growth, with exports rising 31 percent to 6.8 million tons by 2033. U.S. exports are expected to increase almost 9 percent to 3.9 million tons over the projection period, while EU exports decrease 1 percent to 1.7 million tons. Thailand's projected poultry exports are expected to climb 27 percent to almost 1.5 million tons by 2033.
- Enhanced biosecurity measures have reduced outbreaks of African swine fever (ASF) in China and several other Asian countries, but ASF remains a source of production risk and market disruption. The Philippines also continues to struggle with ASF.
- U.S. pork exports are projected to expand 30 percent to 4.2 million tons by 2033, becoming the largest exporter. Projected EU pork exports rise 1 percent to 3.3 million tons by 2033. Exports from Brazil are expected to grow 39 percent to 2.3 million tons. Canada's pork shipments grow 9 percent to 1.4 million tons by 2033. The U.S. share among major exporters is projected to increase from 31.5 percent in 2025 to 34.3 percent in 2033.
- Brazil, the world's largest beef exporter, is projected to account for 54 percent of the projected growth in sales by major exporters, with shipments rising 27.5 percent to over 3.8 million tons between 2025 and 2033. Growth in Brazil's beef exports is driven by expanding global demand, particularly markets in Asia. Projected beef exports by India through 2033

increase by 10 percent to 1.6 million tons, and are aided by rising demand from developing countries for India's lower-priced carabeef, from water buffalos.

- After drought led to contraction, Australia has been gradually rebuilding its cattle herds and growing exportable supplies. Growth of Australian beef production is expected to diminish in the projection period, causing beef exports to slowly decline in 2028 to near 1.7 million tons by 2033, remaining the second-largest exporter. As the U.S. beef herd expands through the projection period, beef production and exportable supplies are expected to increase. U.S. beef exports are projected to rise almost 17 percent to 1.4 million tons by 2033.

Figure 53: Beef imports, major traders,[1] 2003–2033



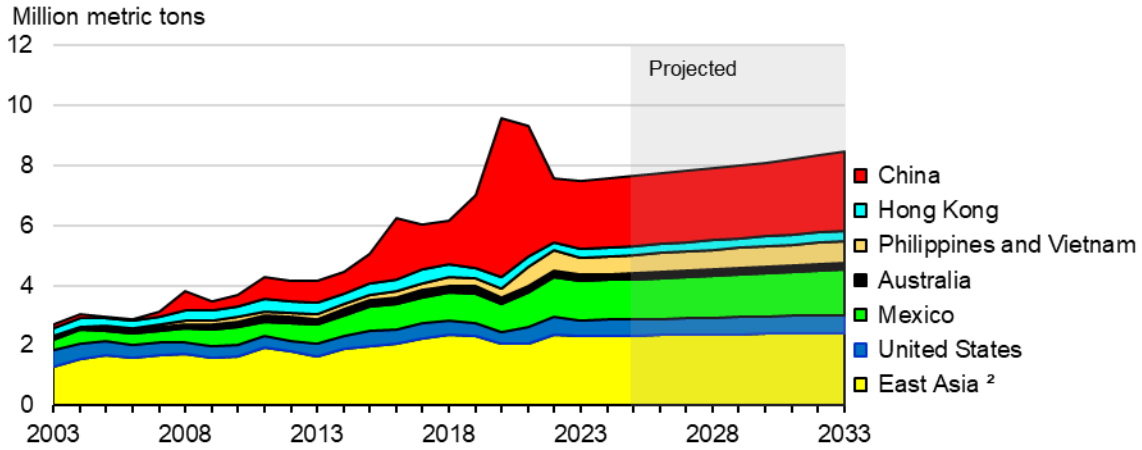
1/ Selected importers, not world total.
2/ Japan, South Korea, and Taiwan.
Source: USDA, Economic Research Service based on data from USDA, Interagency Agricultural Projection Committee, October 2023.

Between 2025 and 2033, major beef-importing countries are projected to increase annual imports by almost 1.0 million tons, reaching nearly 13.0 million tons in 2033. Demand by markets in Asia will fuel much of the increase.

- Beef imports by China account for the largest share of world trade in 2033 at 30.3 percent. Imports by China are projected to increase 10 percent to 3.9 million tons between 2025 and 2033, as demand outpaces domestic production growth.
- U.S. beef imports are expected to jump sharply in 2025 on low domestic production. The U.S. beef cattle herd then begins a period of expansion, while imports gradually decline throughout the balance of the projection period. The United States remains the world's second-largest beef importer, even as imports are expected to decrease about 12 percent to 1.5 million tons in 2033.
- At the end of 2033, South Korea and Japan are the world's third- and fourth-largest beef importers. South Korea is projected to be among the world's fastest growing markets, with imports rising 29 percent to 824,000 tons by 2033. Japan's beef imports are expected to increase by about 49,000 tons by 2033 to 818,000 tons.
- The Middle East and North Africa region (including Egypt) is projected to increase beef imports from 1.2 million tons in 2025 to almost 1.4 million tons by 2033, driven by population and income growth.

- Mexico exhibits stable beef imports of about 176,000 tons over the projection period, primarily of higher-valued, grain-fed beef from the United States. Growing domestic demand is met by expanding domestic production.
- Indonesia, Malaysia, and the Philippines are jointly projected to increase beef imports by 20 percent to just over 1.0 million tons by 2033, as strong growth in per capita income continues to strengthen demand. Other Asia and Oceania countries (excluding Southeast and East Asia) increase imports by 30 percent to 562,000 tons by 2033.
- Beef imports by Russia are projected to decline almost 20 percent to 202,000 tons by 2033 due to weak demand and policies supporting domestic beef production.

Figure 54: Pork imports, major traders,[1] 2003–2033



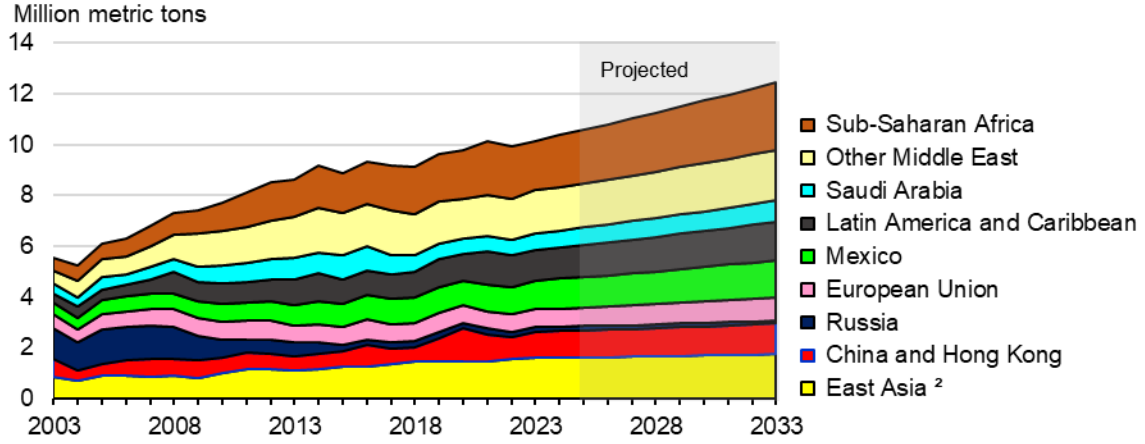
1/ Selected importers, not world total.
2/ Japan, South Korea, and Taiwan.
Source: USDA, Economic Research Service based on data from USDA, Interagency Agricultural Projection Committee, October 2023.

Imports by major pork-importing countries are projected to rise 12 percent from 2025, increasing by almost 1.1 million tons over the projection period to about 10.1 million tons in 2033. China, Hong Kong, Mexico, Vietnam, the Philippines, and South Korea exhibit the largest increases in import demand over the projection period, accounting for a little over 68 percent of the total projected increase in world pork imports by 2033.

- Pork imports to China and Hong Kong increase to about 3 million tons by 2033, a 13-percent increase from 2025, and account for almost 33 percent of world's growth in pork imports by 2033. China remains the largest pork importer over the projection period despite recovery of its swine herd from an African swine fever (ASF) epidemic. Consumption is likely to outpace production as incomes increase and farms contend with high feed costs and increased expenses for biosecurity and waste treatment.
- Mexico is projected to be the world's second-largest pork importer by 2033. Projected imports increase by over 15 percent to about 1.5 million tons by 2033, driven primarily by lower prices relative to beef, growth in income, urbanization, and population. Over the projection period Mexico accounts for 19.4 percent of the increase in world pork imports among the major importers.
- Japan is projected to become the third-largest pork importer, with imports expected to increase less than 1 percent over the projection period and reach 1.5 million tons by 2033.

- In the past year, pork imports by Vietnam and the Philippines rose as herds sizes shrunk due to ASF. Imports by Vietnam are projected to increase over 47 percent, reaching 170,000 tons over the projection period. For the Philippines, projected growth of slightly over 10 percent pushes pork imports to 545,000 tons by 2033. Imports by South Korea are supported by demand for selected pork cuts, with imports rising almost 10 percent to 785,000 tons over the projection period.
- Russia's pork imports declined sharply in 2020, in part due to policies focused on raising domestic production and reducing import dependence. Russia's pork imports are projected to be flat at 12,000 tons over the projection period. Increasing incomes in Central America and the Caribbean drive demand for imported pork, with projected imports rising a little over 23 percent from 2025 to 2033, reaching 400,000 tons in 2033.

Figure 55: Poultry imports, major traders,[1] 2003–2033



1/ Selected importers, not world total.
2/ Japan, South Korea, and Taiwan.
Source: USDA, Economic Research Service based on data from USDA, Interagency Agricultural Projection Committee, October 2023.

Poultry meat imports by the major importing countries are projected to increase by 2.4 million tons (19 percent), reaching 15.2 million tons by 2033. Broad-based growth is expected across emerging markets in Asia, Latin America, North Africa, Sub-Saharan Africa, and the Middle East. Declining imports are projected for Russia and Ukraine.

- Poultry meat imports in Africa and the Middle East are projected to grow by almost 25 percent and 18 percent, respectively, from 2025 through 2033. By 2033, these regions combine to increase poultry meat imports by 981,000 tons, reaching 5.8 million tons. Projected gains are the result of urbanization and income-driven diet diversification, lower prices for poultry relative to other meats, and production limitations in a number of importing countries.
- Expectations for rising incomes and expanding urbanization support increased poultry import demand in Mexico, Central America, and the Caribbean, where imported poultry products remain less expensive than beef or pork. Mexico's poultry production is projected to grow during the projection period, but at a slower rate than consumption. As a result, Mexico's poultry meat imports are set to rise over 22 percent between 2025 and 2033 to 1.46 million tons. Poultry imports by the Central American and Caribbean regions are expected to increase by almost 19 percent to 1 million tons by 2033.
- Russia's poultry imports are expected to decrease by 21 percent to 124,000 tons over the projection period, as policies continue to support domestic production and limit imports.

- China and Hong Kong are projected to see expanded net poultry imports as consumption outpaces growth in domestic production. China and Hong Kong's poultry imports are collectively projected to increase almost 13 percent, reaching 1.2 million tons by 2033. China's poultry exports are projected to increase by 3 percent to 558,000 tons by 2033.
- Higher valued, fully cooked poultry products tend to be imported by higher income countries in Asia and Europe. Fully cooked products are projected to account for the greatest share of poultry exports from Thailand. Thailand's poultry meat exports to the European Union, Japan, and South Korea are also expected to rise as these markets have reopened to competitively priced uncooked chicken from Thailand. Thai poultry exports are projected to increase by just over 27 percent from 2025 to 2033, reaching 1.47 million tons.

Table 27. Coarse grains trade long-term projections to 2033.

	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	2031/32	2032/33	2033/34
						Imports, million metric tons						
Importers												
Former Soviet Union[1]	1.2	0.9	0.8	0.8	0.8	0.9	0.9	0.9	0.9	1.0	1.0	1.0
Other Europe	3.1	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.4	3.4	3.4
European Union[2]	26.3	26.0	20.4	20.1	20.4	20.8	21.1	21.5	21.8	22.1	22.4	22.6
Egypt	6.0	7.5	9.0	9.4	9.8	10.2	10.6	11.0	11.4	11.8	12.1	12.5
Iran	9.8	11.2	10.9	11.1	11.4	11.7	11.9	12.2	12.5	12.8	13.0	13.3
Saudi Arabia	7.9	8.8	9.6	9.8	10.1	10.3	10.5	10.7	10.9	11.2	11.4	11.6
Turkey	4.9	2.3	3.6	3.6	3.7	3.8	3.8	3.8	3.8	3.9	3.9	3.9
Other Middle East	7.3	8.5	8.8	9.0	9.1	9.3	9.4	9.5	9.6	9.8	9.9	10.1
Morocco	2.3	3.5	3.4	3.4	3.5	3.6	3.7	3.8	3.8	3.9	4.0	4.0
Other North Africa	7.5	7.9	8.1	8.3	8.5	8.7	8.9	9.1	9.3	9.6	9.8	10.1
West Africa (ECOWAS)[3]	0.6	0.7	0.8	0.8	0.9	0.9	1.0	1.0	1.1	1.1	1.2	1.2
Sub-Saharan Africa[4]	2.9	3.2	3.3	3.3	3.4	3.4	3.4	3.5	3.5	3.6	3.6	3.6
South Africa	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Japan	16.6	17.0	17.0	17.0	17.0	17.0	17.0	16.9	16.9	16.9	16.9	16.9
South Korea	11.7	11.9	11.9	11.9	11.9	11.9	11.9	12.0	12.0	12.0	12.1	12.1
Taiwan	4.4	4.7	4.7	4.7	4.8	4.8	4.9	4.9	5.0	5.0	5.1	5.2
China	32.3	38.7	40.8	41.2	41.7	42.0	42.4	42.7	43.1	43.4	43.8	44.2
Indonesia	0.9	1.0	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
Malaysia	3.7	3.9	3.8	3.9	3.9	4.0	4.0	4.1	4.1	4.2	4.2	4.3
Philippines	1.3	1.0	1.2	1.2	1.2	1.2	1.3	1.3	1.3	1.3	1.4	1.4
Thailand	1.4	1.8	2.0	2.0	2.1	2.1	2.2	2.2	2.3	2.3	2.4	2.4
Vietnam	9.8	10.5	12.7	13.2	13.7	14.1	14.6	15.1	15.6	16.0	16.5	17.0
Bangladesh	2.0	2.0	2.4	2.5	2.6	2.8	2.9	3.0	3.1	3.2	3.3	3.5
India	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Other Asia and Oceania	2.4	1.7	1.7	1.7	1.8	1.8	1.8	1.8	1.8	1.9	1.9	1.9
Canada	2.3	2.2	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.1
Mexico	19.0	18.7	19.3	19.9	20.6	21.4	22.1	22.6	23.2	23.8	24.4	24.9
Central America and Caribbean	7.5	7.7	8.0	8.1	8.4	8.6	8.8	8.9	9.1	9.3	9.5	9.6
Brazil	2.3	1.7	1.5	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.7	1.7
Other South America	14.1	14.4	14.7	15.0	15.3	15.8	16.3	16.9	17.4	17.9	18.4	18.9
Other foreign[5]	5.5	9.9	11.8	13.0	13.2	13.2	13.6	14.2	14.8	15.3	15.8	16.5
United States	3.3	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7
Total imports	220.9	235.7	241.4	246.0	250.6	255.2	259.9	264.7	269.5	274.3	279.1	284.0
						Exports, million metric tons						
Exporters												
European Union[2]	10.9	10.6	11.1	11.2	11.3	11.4	11.6	11.7	11.8	11.9	12.0	12.1
Other Europe	2.4	3.8	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.5
Russia	10.6	10.2	9.6	9.7	9.9	10.1	10.3	10.5	10.7	10.9	11.1	11.3
Ukraine	29.8	21.4	21.4	21.4	21.4	21.4	21.4	21.4	21.4	21.4	21.4	21.4
Other Former Soviet Union[6]	1.8	1.3	1.7	1.7	1.8	1.8	1.9	1.9	2.0	2.1	2.1	2.2
Canada	8.0	5.9	7.2	7.3	7.3	7.4	7.4	7.5	7.7	7.8	8.0	8.1
Argentina	26.6	45.7	45.0	45.8	46.5	47.2	47.9	48.6	49.4	50.1	50.8	51.6
Brazil	57.0	55.0	59.5	61.5	63.5	65.5	67.5	69.5	71.5	73.5	75.5	77.5
Other South America	3.5	3.4	3.4	3.4	3.5	3.5	3.5	3.5	3.5	3.6	3.6	3.6
Australia	10.5	7.2	8.4	8.6	8.6	8.7	8.9	8.9	9.1	9.2	9.3	9.4
Other Asia and Oceania	7.8	7.5	4.7	4.8	4.8	4.9	5.0	5.1	5.1	5.2	5.3	5.3
South Africa	3.8	3.4	3.5	3.5	3.6	3.6	3.7	3.8	3.9	4.0	4.0	4.1
Other Africa[7]	2.0	1.3	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
Other foreign	1.2	1.3	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
United States	45.0	57.8	59.5	60.8	62.1	63.3	64.6	65.9	67.1	68.4	69.7	71.0
Total exports	220.9	235.7	241.4	246.0	250.6	255.2	259.9	264.7	269.5	274.3	279.1	284.0
							Percent					
U.S. trade share	20.4	24.5	24.7	24.7	24.8	24.8	24.9	24.9	24.9	24.9	25.0	25.0

1/ Former Soviet Union-12, includes intra-Former Soviet Union trade.
2/ Excludes intra-European Union trade.
3/ Economic Community of Western African States, 15 member countries (ECOWAS).
4/ Excludes ECOWAS and South Africa.
5/ Includes unaccounted, which can be negative.
6/ Former Soviet Union-12 except for Russia and Ukraine. Includes intra-Former Soviet Union trade.
7/ Includes all African countries, including Egypt, except South Africa.
Source: USDA, Interagency Agricultural Projections Committee, October 2023.

Table 28. Corn trade long-term projections to 2033

	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	2031/32	2032/33	2033/34
						Imports, million metric tons						
Importers												
European Union[1]	24.0	24.0	19.0	18.8	19.2	19.5	19.8	20.1	20.4	20.7	21.0	21.1
Former Soviet Union[2]	0.5	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.4
Egypt	6.0	7.5	9.0	9.4	9.8	10.2	10.6	10.9	11.3	11.7	12.1	12.5
Morocco	2.0	2.8	2.6	2.7	2.8	2.9	2.9	3.0	3.1	3.1	3.2	3.3
Other North Africa	5.2	5.9	5.9	6.1	6.3	6.5	6.7	6.9	7.1	7.4	7.6	7.9
Iran	7.2	8.7	8.5	8.7	8.9	9.1	9.3	9.4	9.6	9.8	10.0	10.2
Saudi Arabia	3.6	4.7	5.0	5.2	5.3	5.4	5.5	5.6	5.6	5.7	5.8	5.9
Turkey	2.8	1.8	2.4	2.4	2.5	2.6	2.6	2.6	2.6	2.6	2.7	2.7
Other Middle East	4.4	5.5	5.8	6.0	6.2	6.3	6.4	6.6	6.7	6.9	7.0	7.1
Japan	15.0	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5
South Korea	11.6	11.8	11.8	11.8	11.8	11.8	11.8	11.9	11.9	11.9	11.9	12.0
Taiwan	4.3	4.6	4.6	4.7	4.7	4.8	4.8	4.9	4.9	5.0	5.0	5.1
China	18.5	23.0	23.0	23.3	23.7	24.0	24.3	24.7	25.0	25.3	25.7	26.0
Indonesia	0.9	1.0	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
Malaysia	3.7	3.9	3.8	3.9	3.9	4.0	4.0	4.1	4.1	4.2	4.2	4.3
Philippines	1.0	0.8	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Thailand	1.4	1.8	2.0	2.0	2.1	2.1	2.2	2.2	2.3	2.3	2.4	2.4
Vietnam	9.8	10.5	12.7	13.2	13.7	14.1	14.6	15.1	15.6	16.0	16.5	17.0
Other Asia and Oceania	0.9	1.1	1.1	1.2	1.2	1.2	1.2	1.2	1.3	1.3	1.3	1.3
Canada	2.2	2.2	1.9	1.9	1.9	1.9	1.9	2.0	2.0	2.0	2.0	2.0
Mexico	18.0	18.0	18.5	19.1	19.8	20.5	21.2	21.7	22.3	22.8	23.3	23.9
Central America and Caribbean	7.5	7.7	8.0	8.1	8.4	8.6	8.8	8.9	9.1	9.3	9.5	9.6
Brazil	1.7	1.2	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Other South America	13.4	13.8	14.0	14.3	14.6	15.1	15.6	16.2	16.7	17.2	17.7	18.2
South Africa	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
West Africa (ECOWAS)[3]	0.6	0.7	0.7	0.8	0.8	0.9	1.0	1.0	1.1	1.1	1.2	1.2
Sub-Saharan Africa[4]	2.3	2.7	2.7	2.8	2.8	2.8	2.8	2.9	2.9	2.9	3.0	3.0
Other foreign[5]	11.6	14.3	14.8	15.8	16.2	16.4	16.9	17.5	18.1	18.7	19.2	20.0
United States	1.0	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
Total imports	181.0	196.3	197.5	201.7	205.9	210.2	214.5	218.9	223.2	227.6	231.9	236.4
						Exports, million metric tons						
Exporters												
European Union[1]	4.0	4.1	4.0	4.1	4.1	4.2	4.2	4.3	4.3	4.4	4.4	4.5
Argentina	23.0	41.0	39.9	40.5	41.1	41.7	42.3	43.0	43.7	44.3	45.0	45.7
Brazil	57.0	55.0	59.5	61.5	63.5	65.5	67.5	69.5	71.5	73.5	75.5	77.5
Other South America	3.3	3.3	3.2	3.2	3.3	3.3	3.3	3.3	3.3	3.4	3.4	3.4
South Africa	3.8	3.4	3.5	3.5	3.6	3.6	3.7	3.8	3.9	3.9	4.0	4.1
Other Africa	1.8	1.1	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
Other Europe	0.9	2.6	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1
Ukraine	27.0	19.5	19.5	19.5	19.5	19.5	19.5	19.5	19.5	19.5	19.5	19.5
Former Soviet Union[2]	6.4	4.6	4.7	4.9	5.1	5.3	5.5	5.7	5.9	6.1	6.3	6.5
Asia and Oceania	7.7	7.5	4.7	4.7	4.8	4.8	4.9	5.0	5.0	5.1	5.2	5.2
Other foreign	3.7	6.0	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.6	2.6
United States	42.2	51.4	52.1	53.3	54.6	55.9	57.2	58.4	59.7	61.0	62.2	63.5
Total exports	181.0	196.3	197.5	201.7	205.9	210.2	214.5	218.9	223.2	227.6	231.9	236.4
							Percent					
U.S. trade share	23.3	26.2	26.4	26.4	26.5	26.6	26.6	26.7	26.7	26.8	26.8	26.9

1/ Excludes intra-European Union trade.
2/ Covers Former Soviet Union-12, except for Ukraine. Includes intra-Former Soviet Union trade.
3/ Economic Community of Western African States, 15 member countries (ECOWAS).
4/ Excludes South Africa and ECOWAS.
5/ Includes unaccounted, which can be negative.
Source: USDA, Interagency Agricultural Projections Committee, October 2023.

Table 29. Sorghum trade long-term projections to 2033.

	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	2031/32	2032/33	2033/34
						Imports, million metric tons						
Importers												
Japan	0.3	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Mexico	0.3	0.2	0.3	0.2	0.2	0.2	0.3	0.3	0.2	0.2	0.2	0.2
South America	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sub-Saharan Africa[1]	0.6	0.5	0.5	0.5	0.5	0.6	0.6	0.6	0.6	0.6	0.6	0.6
China	5.1	7.9	9.0	9.1	9.1	9.1	9.1	9.1	9.1	9.1	9.1	9.1
Other[2]	-0.1	0.5	0.6	0.7	0.7	0.8	0.8	0.8	0.9	0.9	0.9	0.9
Total imports	6.1	9.3	10.6	10.8	10.8	10.8	10.8	10.9	10.9	11.0	11.0	11.0
						Exports, million metric tons						
Exporters												
Argentina	0.8	1.3	1.6	1.7	1.8	1.9	1.9	2.0	2.0	2.1	2.1	2.1
Australia	2.3	1.5	1.5	1.5	1.4	1.4	1.4	1.4	1.4	1.4	1.3	1.3
Africa	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2
Other foreign	0.2	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1
United States	2.8	6.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2
Total exports	6.1	9.3	10.6	10.8	10.8	10.8	10.8	10.9	10.9	11.0	11.0	11.0
							Percent					
U.S. trade share	45.1	66.8	68.3	67.3	67.2	66.7	66.7	66.4	66.2	66.1	66.0	65.8

1/ Includes South Africa.

2/ Includes unaccounted, which maybe negative.

Source: USDA, Interagency Agricultural Projections Committee, October 2023.

Table 30. Barley trade long-term projections to 2033.

	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	2031/32	2032/33	2033/34
						Imports, million metric tons						
Importers												
Former Soviet Union[1]	0.7	0.6	0.4	0.5	0.5	0.5	0.5	0.5	0.6	0.6	0.6	0.6
Europe	2.2	1.8	1.3	1.3	1.4	1.4	1.4	1.4	1.5	1.5	1.5	1.6
Japan	1.3	1.3	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
China	8.2	7.5	8.5	8.5	8.5	8.6	8.5	8.5	8.5	8.6	8.6	8.6
Other Asia and Oceania	1.8	0.9	0.9	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
Brazil	0.6	0.5	0.5	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.7	0.7
Latin America[2]	1.1	0.9	0.9	0.9	1.0	1.0	1.0	1.1	1.1	1.1	1.2	1.2
Saudi Arabia	4.3	4.1	4.6	4.6	4.8	4.9	5.0	5.2	5.3	5.4	5.5	5.7
Iran	2.6	2.5	2.4	2.5	2.5	2.6	2.7	2.8	2.9	2.9	3.0	3.1
Turkey	2.1	0.5	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
Other Middle East	2.9	3.0	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9
Morocco	0.3	0.7	0.7	0.7	0.7	0.7	0.7	0.8	0.8	0.8	0.8	0.8
Other North Africa[3]	2.4	2.0	2.1	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2
Other foreign[4]	-0.8	0.6	2.0	2.1	2.0	1.9	2.0	2.0	2.1	2.2	2.3	2.3
United States	0.5	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
Total imports	30.2	27.2	30.0	30.3	30.6	30.8	31.2	31.5	31.9	32.4	32.7	33.1
						Exports, million metric tons						
Exporters												
European Union[5]	6.7	6.2	6.8	6.9	6.9	7.0	7.0	7.1	7.1	7.2	7.3	7.3
Argentina	2.8	3.4	3.5	3.5	3.6	3.6	3.6	3.7	3.7	3.7	3.8	3.8
Australia	7.5	5.2	6.3	6.5	6.6	6.7	6.8	6.9	7.0	7.2	7.3	7.4
Canada	3.2	2.3	3.7	3.7	3.8	3.8	3.9	4.0	4.1	4.2	4.4	4.5
Russia	4.5	5.8	5.1	5.1	5.1	5.1	5.1	5.1	5.2	5.2	5.2	5.2
Ukraine	2.7	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8
Other Former Soviet Union[6]	1.2	0.9	1.2	1.2	1.2	1.3	1.3	1.3	1.4	1.4	1.4	1.5
Other Europe	1.2	1.1	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
Other foreign	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
United States	0.0	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Total exports	30.2	27.2	30.0	30.3	30.6	30.8	31.2	31.5	31.9	32.4	32.7	33.1
							Percent					
U.S. trade share	0.2	0.2	0.6	0.6	0.6	0.6	0.6	0.6	0.5	0.5	0.5	0.5

1/ Covers Former Soviet Union-12. Includes intra-Former Soviet Union trade.
2/ Includes Mexico.
3/ Excludes Morocco.
4/ Includes unaccounted, which can be negative.
5/ Excludes intra-European Union trade.
6/ Former Soviet Union-12 except for Russia and Ukraine. Includes intra-Former Soviet Union trade.
Source: USDA, Interagency Agricultural Projections Committee, October 2023.

Table 31. Wheat trade long-term projections to 2033

	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	2031/32	2032/33	2033/34
						Imports, million metric tons						
Importers												
Iran	4.5	4.0	4.3	4.4	4.4	4.4	4.5	4.6	4.6	4.7	4.7	4.8
Iraq	4.0	3.0	3.0	3.0	3.1	3.1	3.2	3.2	3.3	3.3	3.4	3.4
Turkey	12.1	10.0	10.8	11.0	11.1	11.2	11.3	11.4	11.5	11.7	11.8	11.9
Saudi Arabia	5.3	4.9	4.3	4.4	4.4	4.5	4.6	4.7	4.7	4.8	4.9	4.9
Other Middle East	13.0	13.3	13.0	13.2	13.3	13.4	13.4	13.5	13.6	13.7	13.8	13.9
Morocco	6.2	6.5	6.4	6.2	6.0	6.0	6.0	6.0	5.9	5.9	5.9	5.9
Egypt	11.2	12.0	12.2	12.4	12.6	12.7	12.8	12.8	12.9	13.1	13.2	13.3
Other North Africa	11.7	12.6	12.3	12.2	12.3	12.3	12.4	12.4	12.5	12.5	12.6	12.6
Nigeria	4.7	4.8	5.4	5.6	5.8	6.0	6.1	6.3	6.5	6.7	6.8	7.0
Other West Africa (ECOWAS)[1]	4.5	4.7	5.0	5.2	5.4	5.5	5.7	5.8	6.0	6.2	6.4	6.6
South Africa	1.6	1.9	1.8	1.9	1.9	1.9	1.9	2.0	2.0	2.1	2.1	2.1
Other Sub-Saharan Africa[2]	13.6	14.6	14.9	15.5	15.9	16.3	16.8	17.2	17.6	18.0	18.4	18.9
Mexico	5.4	5.4	5.5	5.6	5.7	5.8	5.9	5.9	6.0	6.1	6.1	6.2
Central America and Caribbean	3.9	4.2	4.2	4.2	4.3	4.3	4.3	4.4	4.4	4.4	4.5	4.5
Brazil	5.0	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6
Other South America	8.0	8.3	8.4	8.5	8.5	8.5	8.6	8.6	8.6	8.6	8.7	8.7
European Union[3]	12.1	7.5	7.4	7.4	7.4	7.4	7.4	7.4	7.4	7.4	7.4	7.5
Other Europe	3.6	3.6	4.2	4.2	4.1	4.0	4.1	4.0	4.0	3.9	3.9	3.8
Former Soviet Union[4]	12.6	11.2	11.7	11.8	12.0	12.1	12.1	12.1	12.2	12.2	12.2	12.2
China	13.3	11.0	10.7	10.5	10.3	9.9	9.7	9.6	9.6	9.6	9.7	9.7
Hong Kong	0.4	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Japan	5.5	5.5	5.5	5.4	5.4	5.4	5.3	5.3	5.3	5.3	5.3	5.3
South Korea	4.5	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3
Taiwan	1.3	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.5	1.5	1.5	1.5
India	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Pakistan	2.6	2.0	2.5	2.7	2.8	2.8	2.9	2.9	2.9	2.9	2.9	2.9
Bangladesh	5.1	5.8	5.9	6.0	6.2	6.3	6.4	6.5	6.6	6.7	6.8	6.9
Philippines	5.7	6.1	6.2	6.3	6.4	6.5	6.5	6.6	6.7	6.7	6.8	6.9
Indonesia	9.5	10.0	10.4	10.6	10.8	10.9	11.1	11.2	11.3	11.4	11.5	11.6
Malaysia	1.9	1.9	2.0	2.1	2.1	2.1	2.2	2.2	2.2	2.2	2.3	2.3
Thailand	3.2	2.3	2.5	2.6	2.6	2.6	2.7	2.7	2.7	2.8	2.8	2.8
Vietnam	4.3	4.3	4.5	4.6	4.8	4.9	5.0	5.1	5.2	5.3	5.4	5.5
Other Asia and Oceania	7.4	7.1	7.3	7.5	7.7	7.9	8.0	8.2	8.3	8.5	8.6	8.8
Other foreign[5]	10.7	2.2	4.8	5.7	5.4	5.7	5.9	5.7	5.7	5.8	5.7	6.4
United States	3.3	3.7	3.3	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Total imports	221.6	206.3	212.2	215.5	217.5	219.6	221.6	223.1	225.1	227.3	229.3	232.2
						Exports, million metric tons						
Exporters												
European Union[3]	35.1	37.5	36.5	37.8	38.3	38.9	39.7	40.4	41.1	41.8	42.3	43.0
Canada	25.7	23.0	25.6	25.6	25.7	25.7	25.8	26.1	26.3	26.8	27.3	27.8
Australia	32.5	17.5	18.4	18.8	18.9	18.9	19.1	19.3	19.6	19.9	20.2	20.5
Argentina	4.5	11.5	12.1	12.9	13.4	13.6	13.8	14.1	14.3	14.5	14.8	15.0
Russia	47.5	50.0	50.5	50.9	50.9	51.2	51.5	51.3	51.6	51.3	51.5	51.7
Ukraine	17.1	11.0	11.4	11.3	11.3	11.3	11.3	11.3	11.3	11.2	11.2	11.2
Other Former Soviet Union[6]	12.1	12.0	12.2	12.1	12.1	12.3	12.4	12.6	12.7	12.9	13.0	13.1
Other Europe	2.9	3.5	2.8	2.7	2.7	2.7	2.7	2.6	2.6	2.6	2.6	2.5
India	5.4	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
China	0.9	0.9	0.9	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
Turkey	6.9	8.5	7.6	7.6	7.7	7.8	7.9	8.0	8.1	8.2	8.3	8.3
Other foreign	10.3	10.8	11.3	11.5	11.5	11.6	11.7	11.8	12.0	12.0	12.1	12.2
United States	20.6	19.1	21.8	22.5	23.1	23.8	23.8	23.8	23.8	24.2	24.2	24.9
Total exports	221.6	206.3	212.2	215.5	217.5	219.6	221.6	223.1	225.1	227.3	229.3	232.2
							Percent					
U.S. trade share	9.3	9.2	10.3	10.4	10.6	10.8	10.7	10.7	10.6	10.7	10.6	10.7

1/ Economic Community of Western African States (ECOWAS) except Nigeria, 14 remaining member countries.
2/ Excludes South Africa, Nigeria, and other West Africa.
3/ Excludes intra-European Union trade.
4/ Former Soviet Union-12. Includes intra-Former Soviet Union trade.
5/ Includes unaccounted, which can be negative.
6/ Former Soviet Union-12 except for Russia and Ukraine. Includes intra-Former Soviet Union trade.
Source: USDA, Interagency Agricultural Projections Committee, October 2023.

Table 32. Rice trade long-term projections to 2033

	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	2031/32	2032/33	2033/34
						Imports, million metric tons						
Importers												
Canada	0.65	0.65	0.48	0.49	0.51	0.52	0.53	0.54	0.54	0.56	0.56	0.57
Mexico	0.80	0.85	0.83	0.84	0.86	0.88	0.89	0.90	0.91	0.93	0.93	0.94
Central America and Caribbean	1.94	1.82	1.79	1.83	1.87	1.89	1.90	1.91	1.93	1.95	1.99	2.01
Brazil	0.90	0.95	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Other South America	1.00	1.08	1.01	1.08	1.14	1.21	1.25	1.29	1.32	1.34	1.37	1.40
European Union[1]	2.40	2.40	2.28	2.24	2.25	2.26	2.26	2.27	2.28	2.28	2.29	2.30
Former Soviet Union[2]	0.63	0.57	0.56	0.56	0.56	0.56	0.56	0.56	0.56	0.56	0.56	0.56
Other Europe	0.75	0.78	0.76	0.78	0.78	0.79	0.80	0.80	0.81	0.81	0.82	0.82
Bangladesh	1.28	0.90	1.00	1.01	1.02	1.03	1.04	1.05	1.06	1.07	1.08	1.09
China	4.38	3.00	3.10	3.30	3.40	3.50	3.60	3.74	3.91	4.08	4.25	4.41
Japan	0.69	0.69	0.68	0.68	0.68	0.68	0.69	0.68	0.68	0.68	0.68	0.68
South Korea	0.30	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42
Indonesia	2.80	1.40	1.10	0.95	0.90	0.85	0.80	0.75	0.72	0.70	0.70	0.70
Malaysia	1.15	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20
Philippines	3.75	3.80	3.85	3.90	3.95	4.00	4.05	4.10	4.15	4.20	4.25	4.30
Vietnam	1.80	1.40	1.42	1.44	1.46	1.47	1.49	1.51	1.52	1.54	1.56	1.58
Other Asia and Oceania	2.76	2.60	2.69	2.76	2.84	2.90	2.97	3.02	3.06	3.09	3.15	3.20
Iraq	2.10	2.00	1.89	1.92	1.96	2.00	2.03	2.07	2.10	2.15	2.17	2.22
Iran	0.95	1.15	1.24	1.25	1.30	1.32	1.35	1.38	1.40	1.43	1.45	1.47
Saudi Arabia	1.30	1.35	1.38	1.40	1.42	1.45	1.47	1.50	1.52	1.55	1.58	1.60
Other Middle East	3.26	3.28	3.49	3.56	3.64	3.71	3.79	3.87	3.95	4.03	4.11	4.18
Egypt	0.45	0.35	0.36	0.37	0.38	0.39	0.41	0.41	0.43	0.44	0.45	0.46
North Africa	0.26	0.30	0.30	0.32	0.33	0.35	0.37	0.38	0.40	0.42	0.43	0.45
Nigeria	2.10	2.00	2.31	2.40	2.47	2.52	2.60	2.67	2.73	2.79	2.84	2.89
Other West Africa (ECOWAS)[3]	8.11	7.73	8.10	8.30	8.40	8.60	8.80	9.00	9.20	9.40	9.60	9.80
Other Sub-Saharan Africa[4]	5.81	4.70	4.90	5.05	5.15	5.25	5.35	5.45	5.55	5.65	5.76	5.85
South Africa	1.09	1.10	1.12	1.14	1.15	1.16	1.17	1.18	1.19	1.21	1.21	1.23
Other foreign[5]	0.04	2.65	2.10	2.13	2.17	2.20	2.23	2.26	2.28	2.25	2.29	2.29
United States	1.27	1.24	1.27	1.31	1.34	1.38	1.41	1.45	1.48	1.52	1.55	1.59
Total imports	54.70	52.33	52.52	53.55	54.45	55.39	56.32	57.26	58.20	59.17	60.16	61.12
						Exports, million metric tons						
Exporters												
Australia	0.28	0.28	0.29	0.29	0.29	0.30	0.31	0.31	0.31	0.32	0.32	0.33
Argentina	0.40	0.36	0.38	0.38	0.39	0.40	0.40	0.40	0.41	0.41	0.42	0.43
Other South America	3.63	3.36	3.29	3.34	3.36	3.39	3.43	3.47	3.51	3.54	3.59	3.62
European Union[1]	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40
China	1.74	2.00	2.13	2.20	2.30	2.40	2.49	2.57	2.66	2.76	2.86	2.96
India	21.00	17.50	17.20	18.00	18.50	19.00	19.50	20.00	20.50	21.00	21.50	22.00
Pakistan	3.60	5.00	4.95	4.87	4.82	4.78	4.76	4.75	4.71	4.70	4.68	4.66
Thailand	8.50	8.00	8.15	8.25	8.35	8.45	8.55	8.65	8.75	8.85	8.95	9.05
Vietnam	8.40	7.60	7.60	7.50	7.55	7.60	7.65	7.70	7.80	7.85	7.90	7.95
Burma	1.40	1.80	2.00	2.10	2.20	2.30	2.40	2.47	2.55	2.65	2.75	2.85
Cambodia	1.90	1.95	1.97	2.00	2.05	2.09	2.14	2.17	2.22	2.28	2.34	2.39
Egypt	0.01	0.01	0.01	0.01	0.01	0.00	0.01	0.01	0.01	0.01	0.01	0.01
Other foreign	1.41	1.35	1.34	1.35	1.37	1.38	1.40	1.41	1.43	1.45	1.46	1.48
United States	2.04	2.73	2.83	2.86	2.86	2.89	2.89	2.94	2.94	2.95	2.98	3.00
Total exports	54.70	52.33	52.52	53.55	54.45	55.39	56.32	57.26	58.20	59.17	60.16	61.12
							Percent					
U.S. trade share	3.7	5.2	5.4	5.3	5.2	5.2	5.1	5.1	5.0	5.0	5.0	4.9

1/ Excludes intra-European Union trade.
2/ Former Soviet Union-12. Includes intra-Former Soviet Union trade.
3/ Economic Community of Western African States (ECOWAS) except Nigeria, 14 remaining member countries.
4/ Excludes South Africa, Nigeria, and other West Africa.
5/ Includes unaccounted.
Source: USDA, Interagency Agricultural Projections Committee, October 2023.

Table 33. Soybean trade long-term projections to 2033

	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	2031/32	2032/33	2033/34
						Imports, million metric tons						
Importers												
European Union[1]	13.5	13.8	13.9	14.0	14.0	14.0	14.0	14.0	14.1	14.2	14.2	14.3
Former Soviet Union [2]	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.1	2.1	2.2	2.2
Mexico	6.4	6.4	6.6	6.7	6.8	6.9	7.0	7.1	7.1	7.2	7.4	7.5
Argentina	9.2	5.7	5.5	5.5	5.6	5.6	5.5	5.6	5.5	5.6	5.5	5.6
Other South America[3]	1.2	1.6	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.8	1.8	1.8
Central America, Caribbean	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
Egypt	2.0	2.8	4.0	4.1	4.3	4.4	4.6	4.8	4.9	5.1	5.3	5.4
Iran	2.7	2.8	2.3	2.4	2.4	2.5	2.5	2.6	2.7	2.7	2.8	2.8
Saudi Arabia	0.6	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
Turkey	2.9	3.1	3.1	3.2	3.3	3.4	3.4	3.5	3.6	3.7	3.8	3.8
Other Middle East	0.5	0.6	0.6	0.6	0.6	0.7	0.7	0.7	0.7	0.7	0.7	0.8
Africa	2.3	2.5	2.5	2.6	2.6	2.7	2.7	2.8	2.9	2.9	3.0	3.1
Pakistan	0.5	0.5	2.0	2.2	2.4	2.6	2.8	3.0	3.2	3.4	3.6	3.8
China	102.0	100.0	104.3	108.9	113.0	117.2	121.0	124.9	128.4	131.8	135.0	138.3
Japan	3.5	3.5	3.5	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4
South Korea	1.5	1.4	1.4	1.4	1.4	1.4	1.5	1.5	1.5	1.5	1.5	1.6
Taiwan	2.7	2.8	2.7	2.8	2.8	2.9	2.9	3.0	3.0	3.1	3.1	3.2
Malaysia	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
Indonesia	2.4	2.6	2.8	2.9	3.0	3.0	3.1	3.1	3.2	3.2	3.3	3.3
Vietnam	2.1	2.6	2.6	2.7	2.8	2.9	3.0	3.1	3.2	3.3	3.4	3.5
Thailand	3.5	3.8	3.9	4.0	4.1	4.1	4.2	4.3	4.3	4.4	4.5	4.5
Other	8.5	7.9	9.3	8.7	9.9	10.3	10.5	10.5	10.8	10.7	10.7	10.8
Total imports	170.9	168.2	176.8	181.8	188.2	193.8	198.8	203.7	208.5	213.0	217.2	221.6
						Exports, million metric tons						
Exporters												
Argentina	4.1	4.6	5.5	5.8	6.2	6.5	6.8	7.1	7.4	7.8	8.1	8.5
Brazil	95.5	97.5	101.1	104.1	109.1	113.2	117.0	120.6	124.3	127.4	130.4	133.2
Other South America[4]	6.9	8.5	9.0	9.4	9.6	9.8	9.9	10.1	10.2	10.4	10.6	10.8
Ukraine	3.1	2.7	1.9	2.0	2.1	2.2	2.2	2.2	2.1	2.2	2.1	2.2
Canada	4.2	4.6	4.7	4.8	4.9	5.1	5.3	5.4	5.5	5.6	5.8	5.9
Other foreign	2.8	2.6	2.1	2.2	2.3	2.4	2.4	2.5	2.6	2.7	2.8	2.9
United States	54.2	47.8	52.4	53.5	54.2	54.7	55.2	55.8	56.3	56.9	57.4	58.1
Total exports	170.9	168.2	176.8	181.8	188.2	193.8	198.8	203.7	208.5	213.0	217.2	221.6
							Percent					
U.S. trade share	31.7	28.4	29.6	29.4	28.8	28.2	27.8	27.4	27.0	26.7	26.4	26.2

1/ Excludes intra-European Union trade.
2/ Former Soviet Union-12. Includes intra-Former Soviet Union trade.
3/ South America, excludes Argentina.
4/ South America, excludes Argentina and Brazil.
Source: USDA, Interagency Agricultural Projections Committee, October 2023.

Table 34. Soybean meal trade long-term projections to 2033

	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	2031/32	2032/33	2033/34
						Imports, million metric tons						
Importers												
European Union[1]	15.9	15.8	16.8	16.8	16.8	16.8	16.8	16.7	16.7	16.6	16.6	16.5
Russia	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Other Former Soviet Union[2]	0.6	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
Other Europe	2.2	2.5	2.6	2.6	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
Canada	1.2	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.2
Japan	1.6	1.6	1.6	1.7	1.7	1.7	1.7	1.7	1.8	1.8	1.8	1.8
South Korea	1.7	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.9
Indonesia	5.4	5.7	6.0	6.2	6.3	6.4	6.6	6.7	6.8	6.9	7.1	7.2
Malaysia	1.3	1.4	1.4	1.4	1.4	1.4	1.4	1.5	1.5	1.5	1.5	1.5
Philippines	2.6	2.9	3.0	3.1	3.2	3.2	3.3	3.4	3.4	3.5	3.5	3.6
Thailand	3.3	3.2	3.3	3.3	3.4	3.4	3.4	3.4	3.4	3.4	3.5	3.5
Vietnam	4.9	5.2	5.8	6.0	6.1	6.2	6.3	6.4	6.5	6.5	6.6	6.7
Australia	0.8	0.9	0.9	0.9	0.9	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Other Asia and Oceania	1.6	1.8	1.9	1.9	1.9	1.9	2.0	2.0	2.0	2.0	2.1	2.1
Mexico	1.9	2.0	2.1	2.1	2.2	2.3	2.3	2.4	2.4	2.5	2.5	2.5
Central America, Caribbean	2.3	2.6	2.7	2.8	2.9	2.9	3.0	3.0	3.1	3.1	3.2	3.2
South America	6.6	7.3	7.7	7.9	8.2	8.4	8.6	8.8	9.2	9.4	9.7	10.1
Egypt	0.9	0.9	0.9	1.0	0.9	1.0	0.9	1.0	0.9	1.0	0.9	0.9
Iran	0.5	0.9	1.6	1.6	1.6	1.7	1.7	1.7	1.7	1.7	1.8	1.8
Saudi Arabia	0.9	1.0	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
Turkey	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4
Other Middle East[3]	2.2	2.6	2.8	2.8	2.8	2.9	2.9	2.9	2.9	3.0	3.0	3.0
South Africa	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.4	0.4	0.4	0.4
Other North Africa[4]	1.5	1.2	1.3	1.4	1.4	1.4	1.5	1.5	1.5	1.6	1.6	1.6
Other	5.3	4.9	4.4	3.8	3.9	4.3	4.4	4.6	4.6	4.7	4.8	4.9
Total imports	66.8	69.7	73.4	74.1	75.1	76.0	77.0	77.8	78.7	79.5	80.3	81.3
						Exports, million metric tons						
Exporters												
Argentina	21.0	23.4	26.7	27.6	28.1	28.6	29.1	29.6	30.1	30.6	31.0	31.5
Brazil	21.5	22.0	21.3	21.3	21.7	22.2	22.8	23.3	23.9	24.3	24.8	25.4
Other South America	3.5	3.7	3.7	3.6	3.6	3.5	3.5	3.5	3.5	3.5	3.4	3.4
China	1.0	1.0	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
India	1.8	0.6	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Other Asia and Oceania	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
Former Soviet Union[5]	1.6	2.0	1.9	1.6	1.5	1.5	1.5	1.5	1.5	1.4	1.4	1.4
European Union[1]	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
Canada	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
Other foreign	1.8	1.8	1.8	1.7	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8
United States	13.2	13.9	14.7	14.9	15.0	15.0	14.9	14.7	14.6	14.5	14.4	14.3
Total exports	66.8	69.7	73.4	74.1	75.1	76.0	77.0	77.8	78.7	79.5	80.3	81.3
							Percent					
U.S. trade share	19.8	19.9	20.0	20.1	20.0	19.7	19.3	18.9	18.5	18.2	17.9	17.6

1/ Excludes intra-European Union trade.

2/ Covers Former Soviet Union-12 minus Russia. Includes intra-Former Soviet Union trade.

3/ Middle East excluding Saudi Arabia, Iran, and Turkey.

4/ North Africa excluding Egypt.

5/ Covers Former Soviet Union-12. Includes intra-Former Soviet Union trade.

Source: USDA, Interagency Agricultural Projections Committee, October 2023.

Table 35. Soybean oil trade long-term projections to 2033

	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	2031/32	2032/33	2033/34
Importers						*Imports, million metric tons*						
China	0.5	0.4	0.4	0.4	0.5	0.6	0.7	0.8	0.9	1.0	1.1	1.2
India	3.9	3.3	3.6	3.7	3.8	3.9	4.0	4.1	4.2	4.3	4.4	4.5
Bangladesh	0.7	0.7	0.8	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.8	0.8
Pakistan	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
South East Asia	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
Other Asia and Oceania	0.5	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.7	0.7	0.7	0.7
Mexico	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3
Central America, Caribbean	0.5	0.6	0.6	0.5	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
South America	1.3	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.6	1.6
Iran	0.1	0.3	0.3	0.3	0.3	0.2	0.3	0.2	0.3	0.2	0.3	0.3
Egypt	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3
Other North Africa[1]	1.0	1.2	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.4
European Union[2]	0.6	0.4	0.5	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
Other	1.6	1.9	1.9	1.5	1.5	1.5	1.4	1.4	1.4	1.5	1.5	1.6
Total imports	11.4	11.7	12.0	11.8	11.9	12.2	12.3	12.6	12.9	13.2	13.5	13.8
						Exports, million metric tons						
Exporters												
Argentina	4.1	4.4	5.5	5.6	5.6	5.7	5.8	5.9	6.0	6.1	6.2	6.3
Brazil	2.7	2.3	1.5	1.2	1.2	1.2	1.2	1.3	1.3	1.4	1.4	1.5
Other South America	1.0	1.0	1.1	1.1	1.1	1.1	1.2	1.2	1.2	1.2	1.2	1.2
European Union[2]	0.9	1.1	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.1
Former Soviet Union -12	1.0	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
Other foreign	1.4	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.7	1.7	1.7	1.7
United States	0.2	0.2	0.2	0.2	0.3	0.4	0.4	0.5	0.5	0.6	0.7	0.7
Total exports	11.4	11.7	12.0	11.8	11.9	12.2	12.3	12.6	12.9	13.2	13.5	13.8
							Percent					
U.S. trade share	1.5	1.4	1.3	1.5	2.3	3.0	3.3	3.6	4.2	4.6	4.9	5.4

1/ Excludes Egypt.

2/ Excludes intra-European Union trade.

Source: USDA, Interagency Agricultural Projections Committee, October 2023.

Table 36. All Cotton trade baseline projections to 2033—bales

	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	2031/32	2032/33	2033/34
						Imports, million bales						
Importers												
European Union[1]	0.5	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
Former Soviet Union[2]	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Mexico	0.7	0.9	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
Japan	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
South Korea	0.4	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
China	6.2	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Indonesia	1.7	2.3	2.3	2.3	2.4	2.4	2.5	2.5	2.5	2.6	2.6	2.7
Vietnam	6.5	6.9	7.1	7.5	7.6	7.8	8.0	8.3	8.5	8.8	9.1	9.4
Thailand	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
Pakistan	4.5	4.2	4.5	4.6	4.7	4.8	4.9	5.0	5.0	5.1	5.2	5.2
India	1.7	1.3	1.4	1.4	1.4	1.5	1.5	1.6	1.6	1.7	1.7	1.8
Bangladesh	6.6	7.7	7.9	8.2	8.5	8.8	9.1	9.4	9.7	10.0	10.3	10.6
Taiwan	0.2	0.3	0.3	0.2	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.2
Other Asia and Oceania	0.8	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.7
Turkey	4.2	4.4	4.8	5.0	5.1	5.2	5.3	5.3	5.4	5.4	5.5	5.5
Other	2.0	2.5	2.5	2.5	2.6	2.6	2.6	2.7	2.7	2.8	2.8	2.8
Total imports	37.0	43.2	44.2	45.3	46.2	47.0	47.8	48.6	49.4	50.2	51.1	51.9
						Exports, million bales						
Exporters												
Former Soviet Union[2]	1.1	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4
Australia	6.2	5.7	5.1	4.8	4.6	4.7	4.7	4.8	4.8	4.9	4.9	5.0
Argentina	0.2	0.7	0.7	0.7	0.7	0.7	0.7	0.8	0.8	0.8	0.8	0.9
Brazil	6.7	11.8	10.8	10.9	11.3	11.6	11.9	12.2	12.7	13.2	13.8	14.2
Other Latin America	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.2
Pakistan	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
India	1.1	2.0	2.1	2.1	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2
Egypt	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
West Africa (ECOWAS)[3]	3.2	4.0	4.5	4.6	4.7	4.8	4.9	5.0	5.1	5.2	5.3	5.4
Other Sub-Saharan Africa[4]	2.0	2.3	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.3
Other foreign	2.9	2.4	2.8	2.8	2.9	3.0	3.1	3.2	3.2	3.3	3.4	3.4
United States	12.8	12.2	14.0	15.1	15.5	15.7	15.9	16.1	16.3	16.3	16.4	16.5
Total exports	37.0	43.2	44.2	45.3	46.2	47.0	47.8	48.6	49.4	50.2	51.1	51.9
							Percent					
U.S. trade share	34.5	28.2	31.7	33.4	33.6	33.5	33.3	33.2	32.9	32.5	32.1	31.9

1/ Excludes intra-European Union trade.

2/ Covers Former Soviet Union-12. Includes intra-Former Soviet Union trade.

3/ Economic Community of West African States, 15 countries (ECOWAS)

4/ Includes South Africa.

Source: USDA, Interagency Agricultural Projections Committee, October 2023.

Table 37. Beef trade long-term projections to 2033

	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
						Imports, thousand metric tons, carcass weight						
Importers												
Japan	777	750	750	769	780	786	792	798	803	808	814	818
South Korea	595	600	610	639	660	686	708	730	758	782	801	824
Taiwan	194	200	205	211	217	223	229	234	239	245	252	257
Indonesia	308	329	350	370	380	395	405	415	426	436	450	465
Malaysia	281	280	285	292	298	304	310	314	320	325	330	335
Philippines	255	200	205	213	215	220	225	230	234	239	244	250
China	3,502	3,600	3,500	3,561	3,598	3,646	3,671	3,714	3,755	3,810	3,856	3,920
Hong Kong	126	115	120	128	127	129	129	130	131	132	134	136
Other Asia and Oceania	398	395	412	431	446	462	481	496	511	527	545	562
European Union[1]	399	390	390	386	383	380	376	373	369	366	363	360
Other Europe	519	510	504	507	507	510	512	514	516	518	520	522
Russia	284	280	250	252	246	243	237	229	221	214	208	202
Saudi Arabia	176	190	200	203	208	211	214	218	220	222	224	226
Other Middle East[2]	794	803	841	862	876	899	922	945	967	990	1,017	1,040
Egypt	270	245	160	139	125	114	108	103	99	98	97	96
Other Africa[3]	175	182	187	193	197	205	210	215	220	226	232	236
Other Latin America[4]	720	710	706	704	712	722	734	745	757	769	781	793
Mexico	166	185	175	176	176	174	174	174	174	174	175	176
Canada	214	225	230	230	230	230	230	230	230	230	230	230
United States	1,538	1,641	1,656	1,709	1,615	1,501	1,455	1,475	1,494	1,504	1,514	1,509
Major importers	11,691	11,830	11,736	11,977	11,998	12,039	12,122	12,282	12,444	12,616	12,785	12,955
						Exports, thousand metric tons, carcass weight						
Exporters												
Australia	1,238	1,530	1,600	1,673	1,705	1,713	1,709	1,707	1,705	1,701	1,690	1,687
New Zealand	643	675	670	677	681	681	687	691	697	701	706	712
Former Soviet Union[5]	262	250	237	235	238	239	241	242	244	246	246	247
India	1,442	1,420	1,460	1,450	1,480	1,510	1,523	1,535	1,555	1,580	1,592	1,600
Other Asia	195	210	219	227	233	240	246	254	260	268	276	283
European Union[1]	623	590	570	557	545	531	517	504	490	476	463	451
Argentina	823	840	900	850	853	856	859	862	865	868	871	873
Brazil	2,898	2,750	2,850	3,001	3,110	3,222	3,317	3,393	3,467	3,562	3,678	3,826
Other Latin America[6]	1,281	1,183	1,209	1,237	1,263	1,283	1,300	1,320	1,340	1,359	1,376	1,393
Mexico	398	370	405	375	387	399	411	424	436	449	462	476
Canada	583	560	525	475	470	472	479	491	501	511	522	533
United States	1,608	1,376	1,290	1,228	1,261	1,357	1,380	1,471	1,488	1,499	1,433	1,431
Major exporters	11,994	11,754	11,935	11,985	12,225	12,503	12,670	12,893	13,049	13,220	13,316	13,511

1/ Excludes intra-European Union trade.
2/ Excludes Saudi Arabia trade.
3/ Excludes Egypt trade.
4/ Excludes Mexico trade.
5/ Former Soviet Union-12. Includes intra-Former Soviet Union trade.
6/ Excludes Argentina and Brazil trade.
Source: USDA, Interagency Agricultural Projections Committee, October 2023.

Table 38. Pork trade long-term projections to 2033

	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
						Imports, thousand metric tons, carcass weight						
Importers												
Japan	1,523	1,490	1,510	1,510	1,510	1,511	1,513	1,514	1,516	1,518	1,520	1,521
China	2,125	2,275	2,300	2,330	2,340	2,360	2,400	2,425	2,460	2,515	2,565	2,625
Hong Kong	251	270	300	305	310	315	320	325	335	340	350	355
South Korea	713	700	705	715	725	735	750	755	765	770	775	785
Philippines	561	480	480	495	510	515	520	525	530	535	540	545
Vietnam	114	107	112	115	120	125	135	140	145	155	165	170
Australia	241	210	210	210	210	210	210	210	211	212	212	212
Other Asia and Oceania	341	379	373	373	372	377	381	383	388	393	395	401
Russia	18	15	12	12	12	12	12	12	12	12	12	12
Other Former Soviet Union[1]	139	100	97	99	100	100	101	102	102	103	104	105
Other South America[2]	359	374	377	390	405	420	435	450	470	485	500	515
Mexico	1,299	1,310	1,310	1,325	1,350	1,375	1,400	1,425	1,445	1,470	1,500	1,530
Central America, Caribbean	287	305	313	325	330	340	350	360	370	380	390	400
Canada	234	255	250	264	266	268	269	271	273	274	276	278
United States	610	510	533	541	549	557	566	574	583	592	600	609
Major importers	8,815	8,780	8,882	9,008	9,111	9,221	9,362	9,470	9,604	9,752	9,905	10,063
						Exports, thousand metric tons, carcass weight						
Exporters												
Brazil	1,319	1,450	1,530	1,620	1,678	1,774	1,868	1,953	2,022	2,102	2,178	2,253
Other South America[2]	231	265	273	276	283	291	297	307	315	323	333	343
Canada	1,415	1,310	1,305	1,302	1,317	1,331	1,346	1,360	1,374	1,389	1,404	1,418
Mexico	285	260	265	270	275	280	285	291	295	299	304	308
European Union[3]	4,173	3,200	3,200	3,235	3,250	3,242	3,247	3,253	3,263	3,270	3,271	3,273
Former Soviet Union[4]	179	220	231	252	279	299	317	331	345	360	376	392
China	101	92	110	116	117	118	120	121	123	124	125	126
United States	2,878	3,067	3,152	3,247	3,344	3,445	3,548	3,655	3,764	3,915	4,071	4,234
Major exporters	10,581	9,864	10,066	10,320	10,543	10,779	11,027	11,268	11,501	11,782	12,062	12,347

1/ Former Soviet Union excluding Russia. Includes intra-Former Soviet Union trade.
2/ Excludes Argentina and Brazil.
3/ Excludes intra-European Union trade.
4/ Former Soviet Union-12. Includes intra-Former Soviet Union trade.
Source: USDA, Interagency Agricultural Projections Committee, October 2023.

Table 39. Poultry trade long-term projections to 2033

	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
						Imports, thousand metric tons, ready to cook						
Importers												
Russia	206	162	157	156	152	152	149	145	141	135	128	124
Ukraine	81	78	87	87	87	87	87	87	87	87	87	87
Other Former Soviet Union[2]	401	388	389	398	404	411	416	422	427	433	438	443
European Union[3]	704	720	735	745	757	779	799	820	840	860	881	901
Canada	189	202	212	216	219	222	225	228	231	234	238	241
Mexico	1,063	1,122	1,172	1,197	1,223	1,264	1,290	1,333	1,364	1,396	1,428	1,466
Central America, Caribbean	846	845	848	870	893	913	930	950	968	989	1,011	1,032
South America	420	362	381	392	404	416	427	438	449	460	472	486
Japan	1,102	1,091	1,096	1,101	1,107	1,113	1,115	1,120	1,123	1,128	1,131	1,135
South Korea	217	255	240	253	264	272	281	288	295	303	312	320
Taiwan	218	250	245	252	257	260	264	267	270	274	277	282
Hong Kong	229	228	237	244	248	252	255	259	263	266	269	272
China	646	812	836	835	836	841	853	871	886	903	924	942
Vietnam	158	168	178	193	208	221	235	249	261	274	287	302
Philippines	500	452	476	499	524	550	576	600	626	650	676	703
Other Asia and Oceania	588	644	662	683	708	729	749	769	789	808	829	851
Saudi Arabia	604	648	672	687	709	729	746	763	783	801	820	840
Iraq	486	536	501	512	522	531	541	550	559	568	577	586
Other Middle East	1,094	1,093	1,138	1,163	1,190	1,215	1,241	1,263	1,283	1,308	1,333	1,360
Egypt	50	75	60	50	50	50	50	50	50	50	50	50
Other North Africa	108	116	125	128	130	133	136	138	141	143	146	149
West Africa (ECOWAS)[4]	603	615	657	700	725	745	773	798	828	858	883	909
South Africa	347	396	411	426	441	446	456	466	476	488	501	511
Other Sub-Saharan Africa	1,090	937	981	1,005	1,029	1,056	1,087	1,120	1,148	1,180	1,208	1,245
Major importers	11,950	12,195	12,496	12,791	13,084	13,386	13,681	13,995	14,288	14,596	14,907	15,236
						Exports, thousand metric tons, ready to cook						
Exporters												
European Union[3]	1,725	1,725	1,725	1,725	1,722	1,719	1,716	1,714	1,711	1,708	1,705	1,703
Russia	251	232	232	234	238	242	247	251	255	259	263	268
Ukraine	419	440	450	446	447	447	447	447	447	447	446	446
Other Former Soviet Union[2]	187	180	196	197	198	198	199	199	199	199	199	199
Brazil	4,492	4,887	5,063	5,209	5,410	5,612	5,811	6,010	6,210	6,411	6,611	6,811
Argentina	194	130	140	171	181	190	199	204	213	222	231	240
Other South America	187	119	146	158	169	178	188	200	212	223	233	244
Canada	136	140	145	143	142	141	139	138	137	136	135	134
China	532	525	530	540	542	543	545	548	550	553	555	558
Thailand	1,024	1,094	1,124	1,154	1,190	1,235	1,278	1,323	1,364	1,397	1,436	1,472
Turkey	656	461	502	538	562	585	601	616	634	652	666	682
United States	3,500	3,530	3,576	3,619	3,657	3,696	3,735	3,774	3,813	3,853	3,893	3,934
Major exporters	13,303	13,463	13,829	14,136	14,458	14,785	15,105	15,423	15,746	16,060	16,375	16,691

1/ Chickens and turkeys.

2/ Other Former Soviet Union -12 excluding Russia and Ukraine. Includes intra-Former Soviet Union trade.

3/ Excludes intra-European Union trade.

4/ Economic Community of West African States, 15 member countries (ECOWAS).

Source: USDA, Interagency Agricultural Projections Committee, October 2023.