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Outlook

Outlook for U.S. Agricultural Trade: February 2023

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U.S. Agricultural Exports in Fiscal Year 2023 Forecast Down \$5.5 Billion to \$184.5 Billion; Imports Unchanged at \$199.0 Billion

U.S. agricultural exports in fiscal year (FY) 2023 are projected at \$184.5 billion, down \$5.5 billion from the November forecast. The export forecasts for all major commodity groups are down, with the largest decreases projected for corn, sorghum, and soybeans. Corn exports are forecast \$1.9 billion lower to \$16.6 billion on lower volumes. Sorghum export projection is halved to \$800 million on sharply lower U.S. production. Overall grain and feed exports are projected at \$43.8 billion, down \$2.4 billion from November. Soybean exports are forecast down \$800 million to \$32.0 billion due to lower U.S. supplies and higher competition from Brazil. Total oilseed and product exports are projected at \$43.4 billion, down \$900 million from the previous forecast; besides the reduction in soybeans, a lower soybean oil export projection is offset by higher expected soybean meal exports. Livestock, poultry, and dairy exports are forecast to decrease by \$900 million to \$40.5 billion, as declines in beef, poultry, and dairy exports more than offset increases in pork exports. Cotton exports are forecast down \$100 million to \$5.9 billion on lower volumes. Horticultural product exports are down \$500 million to \$39.0 billion due to declines in tree nut exports. Ethanol exports are forecast at \$3.6 billion, down \$600 million on lower volumes and reduced demand outlook.

China is forecast to remain the largest market for U.S. agricultural exports at \$34.0 billion, unchanged from the previous forecast. Exports to Mexico are forecast to remain unchanged at \$28.0 billion, while exports to Canada are forecast down \$500 million to \$27.8 billion on lower corn demand.

U.S. agricultural imports in FY 2023 are forecast at \$199.0 billion, unchanged from the November forecast, as increases in livestock, poultry, and dairy, grains and feed, and oilseeds and product imports offset decreases in horticultural and sugar and tropical product imports.

The forecasts in this report are based on policies in effect at the time of the February 8, 2023, *World Agricultural Supply and Demand Estimates (WASDE)* release, and the U.S. production forecasts therein.

Table 1—U.S. agricultural trade, fiscal years 2017–2023 1/

Item	2017	2018	2019	2020	2021	2022	Forecast fiscal year	
							2023	
							November	February
<i>Billion dollars</i>								
Exports	144.8	148.6	140.1	139.7	171.7	196.4	190.0	184.5
Imports	127.2	136.5	141.4	143.4	163.3	194.0	199.0	199.0
Balance	17.6	12.1	-1.3	-3.7	8.4	2.4	-9.0	-14.5

Note: Due to rounding, balance may not agree with import and export data.

1/ Fiscal year is defined as October 1 of previous year through September 30 of current year.

Source: USDA, Economic Research Service and USDA, Foreign Agricultural Service analysis and forecasts using data from U.S. Department of Commerce, Bureau of the Census.

Economic Outlook

Global Economic Growth Projected to Moderate in 2023

The global economic outlook for 2023 has moderately improved since the last forecast in November 2022, as downside risks of recession have lessened. Inflation has begun to ease globally, particularly in the United States, but remains elevated. Economic growth is expected to remain steady but at a slower pace than in recent years. World real gross domestic product (GDP) is projected to increase by 2.8 percent in 2023. Continental Europe's economy has benefitted from a moderate winter, which has helped partially mitigate higher energy prices during most of 2022 due in part to Russia's invasion of Ukraine. China's economic reopening from strict lockdown policies is expected to impact trade and increase global demand for some commodities, including oil. This may affect freight rates for ocean-bound cargo, which have continued to fall from their coronavirus (COVID-19) pandemic highs as supply-chain bottlenecks have eased. The most recent U.S. Department of Labor's Bureau of Labor Statistics data indicate that the uptick in inflation resulting from the COVID-19 pandemic economic disruptions has already peaked. However, inflation rates are still well above the U.S. Federal Reserve's 2-percent target and are expected to remain above-target in the United States as well as in most developed countries throughout 2023 and 2024. Bringing inflation down through the deployment of higher benchmark interest rates will take time and is susceptible to disruption.

Projected growth for the United States' real GDP in 2023 is raised to 1.4 percent from the previous estimate of 1.0 percent. Consumer spending and retail sales trends remain important indicators of economic activity as elevated food and energy costs pose challenges to discretionary spending. The January 2023 Consumer Price Index (CPI) showed prices had increased by 6.4 percent over the past 12 months, down 0.1 percent from the year-over-year mark of 6.5 percent in December. The Federal Reserve has reaffirmed its intention to continue its scheduled interest rate hikes given above-target inflation and the low unemployment rate, last measured at 3.4 percent in January by the Bureau of Labor Statistics.

Real GDP in North America is expected to grow by a projected 1.4 percent in 2023, raised from the previously forecast 1.0 percent. The real GDP forecast for Canada in 2023 is unchanged at 1.5 percent. The forecast for Mexico in 2023 is raised to 1.7 percent from 1.1 percent. Mexico's manufacturing industry is expected to benefit from a positive forecast in 2023 for light vehicle sales, which is expected to help boost the economy.

The Eurozone economic growth projection is 0.6 percent in 2023, lowered from 0.7 percent previously. Elevated food and energy costs have underpinned a cost-of-living crisis for many households. Falling real wages have led to labor strikes and other economic disruptions that threaten to hinder economic activity and growth. Though Eurozone inflation rates fell from November to December, with Producer Price Index (PPI) increasing by nearly 25 percent annually, consumers are feeling less of the price burden thus far, but they are still experiencing a year-over-year CPI increase of 9 percent. Elevated petrol and other energy costs will persist beyond the winter months, even as Europe moves into the more temperate Spring months. This mainly reflects the readjustment costs Europe has had to bear to end its reliance on energy products from Russia.

South America's real GDP is projected to grow by 1.2 percent in 2023, down from the previously projected 1.6 percent. Brazil's is expected to grow 1.3 percent in 2023, raised from 1.0 percent previously. Peru and Colombia face slowing growth in the face of heightened inflation and elevated political uncertainty with a newly formed Government for Peru and change in administration for Colombia. Chile's economy also faces myriad challenges in 2023 including persistent inflation, monetary tightening, and political uncertainty over a planned constitutional revision vote planned for December 2023.

China's real GDP is expected to grow by 5.0 percent in 2023, raised from 4.4 percent previously. The pivot away from restrictive lockdown policies is expected to substantially bolster economic growth and investment activity, although there remains a degree of uncertainty about China's future COVID-19 containment policies and how it will participate in the global economy. Japan's real GDP growth for 2023 is raised to 1.8 percent from 1.6 percent previously. More moderate inflationary pressures and less restrictive monetary policies are expected to be conducive for economic growth, as well as a return of the tourism industry with the border reopening to international visitors. South Korea's real GDP growth in 2023 is lowered to 1.9 percent from 2.0 percent, with economic growth slightly lower on continued tightening monetary conditions.

The exchange rate between the United States and many countries has tightened since the last forecast, and the U.S. dollar's strength against other currencies has declined from highs last October and November. The Nominal Broad U.S. Dollar Index published by the Federal Reserve Bank of St. Louis, which uses a weighted index to track the value of the dollar against other major world currencies, effectively illustrates the larger trend. The index peaked at the end of September 2022 and has been decreasing through the beginning of February. This shift in

value has the potential to impact trade patterns, where an exceptionally strong dollar supported U.S. import purchasing power and constrained U.S. export sales.

Table 2—Macroeconomic variables affecting U.S. agricultural exports for calendar years 2022 and 2023 1/

Region/Country	Exchange rate 2/		Real GDP growth rate			Share of world		Share of U.S. agricultural exports
	2022	2023	2022	2023	2023 Previous forecast	GDP	Population	
	Percent change					2019–21 average		
World 3/	5.6	5.0	3.4	2.8	2.7			
North America	1.8	4.2	2.3	1.4	1.0	26.3	6.3	28.4
United States 4/	--	--	2.1	1.4	1.0	24.3	4.2	--
Canada	3.9	5.4	3.5	1.5	1.5	2.0	0.5	14.9
Mexico	-0.4	2.7	3.1	1.7	1.1	1.4	1.6	13.5
Emerging markets 5/	5.0	6.4	3.9	3.9	3.6	25.6	44.1	19.4
Brazil	-4.8	-3.1	3.1	1.3	1.0	1.8	2.7	0.7
Russia	-7.1	-4.1	-2.2	-2.5	-2.7	1.9	1.9	0.1
India	6.4	5.0	6.8	6.1	6.0	3.2	17.8	1.2
Indonesia	3.9	7.6	5.4	4.8	5.0	1.3	3.5	1.8
China	5.2	6.7	3.0	5.0	4.4	17.4	18.2	15.6
Europe and Central Asia	6.1	10.2	2.3	0.8	1.3	26.1	7.4	7.9
Eurozone	13.5	5.4	3.5	0.6	0.7	15.2	5.7	6.9
Ukraine	18.4	13.2	-38.0	12.5	16.0	0.2	0.6	0.1
Turkey	87.9	46.4	5.0	3.0	3.0	0.9	1.1	0.9
Asia and Oceania	6.4	2.5	2.9	2.7	2.7	39.1	54.3	45.9
Japan	21.1	7.9	1.4	1.8	1.6	5.6	1.6	8.1
South Korea	13.7	4.0	2.6	1.9	2.0	1.9	0.7	5.3
Australia	9.3	10.3	3.6	1.8	1.9	1.6	0.3	1.0
Other Southeast Asia 6/	6.8	3.2	4.2	4.7	4.8	1.8	4.0	6.2
South America	5.0	2.4	3.6	1.2	1.6	3.4	5.6	4.7
Argentina	39.1	73.6	4.6	2.0	2.0	0.5	0.6	0.1
Other South America 7/	4.0	0.9	3.9	1.2	1.5	2.9	5.0	4.6
Middle East and North Africa	7.2	7.0	5.4	3.2	3.6	3.8	6.0	5.4
Sub-Saharan Africa	8.0	13.4	3.8	3.8	3.7	2.0	14.6	1.3

1/ Gross Domestic Product (GDP) is the total value of finished goods and services produced in a country in a given period. 2/ Exchange rate is the nominal annual change in percentage terms. Local currency per U.S. dollar. A negative growth rate indicates a depreciation of the dollar. 3/ World and other bolded regional aggregated exchange rates are nominal U.S. agricultural exports-weighted indexes. 4/ "--" indicates that percentage change or share does not apply. 5/ Countries listed under "emerging markets" are also included under other listed regions. 6/ Includes Malaysia, Philippines, Thailand, and Vietnam. 7/ Includes Chile, Colombia, Peru, Bolivia, Paraguay, and Uruguay.

Source: Calculations and compilation by USDA, Economic Research Service using data and forecasts from the U.S. Department of Commerce, Bureau of Economic Analysis; S&P Global Market Intelligence; the International Monetary Fund; and Oxford Economics.

Export Products

FY 2023 U.S. grain and feed exports are forecast at \$43.8 billion, down \$2.4 billion from the November forecast, as lower corn, sorghum, and rice exports more than offset modestly higher wheat and feeds and fodders exports. Corn exports are forecast at \$16.6 billion, down \$1.9 billion from the previous forecast on lower volumes. Export sales remain at nearly half the level of the same time last year and demand for U.S. corn has been slow amidst competition from other exporters and relatively high world market prices. Sorghum exports are forecast at \$800 million, down \$800 million from the November forecast primarily on sharply lower volumes. Sorghum production is the lowest since 1944. Feeds and fodders exports are forecast at \$10.7 billion, up \$100 million from the November forecast, as higher unit values for distiller's dried grains with solubles (DDGS) and hay more than offset lower volumes. Wheat exports are forecast at \$8.3 billion, up \$200 million from the previous forecast. U.S. wheat export volumes are forecast slightly higher with larger exportable supplies anticipated for the 2023/24 crop year, as winter wheat planted area is up 11 percent from the prior year. Additionally, unit values are forecast higher on strong export values in the first quarter. Rice exports are forecast down \$100 million to \$1.9 billion, with weaker sales to top markets in Central and South America and East Asia.

FY 2023 oilseed and products exports are forecast at \$43.4 billion, a \$900-million decline from the November forecast. The change is driven mostly by lower soybean and soybean oil volumes, partially offset by higher soybean meal unit values. Soybean export value is reduced by \$800 million to \$32.0 billion on lower U.S. supplies and higher competition from Brazil. Soybean meal volume is unchanged, but value is raised \$500 million from the November forecast to \$6.2 billion. Soybean oil export value is slashed by half from the previous forecast to \$500 million as export volumes are reduced to the lowest level in decades. Export volumes are constrained by high premiums compared with South America and strong U.S. domestic demand for use as biofuel feedstock.

FY 2023 cotton exports are forecast down \$100 million from the November forecast to \$5.9 billion on slightly lower volumes. Despite a larger projected crop, sales have been lower-than-expected and mostly owed to slowing global consumption. Moreover, issues with existing contracts are evident in Pakistan as importers struggle to open and execute Letters of Credit.

Livestock, poultry, and dairy exports are lowered \$900 million to \$40.5 billion as gains in pork are offset by lower forecasts for beef, poultry, and dairy. Beef exports are \$300 million lower on

weaker unit values for fresh and frozen beef muscle cuts and softening demand in East Asia. Poultry and products are lowered \$200 million to \$7.0 billion as unit values of broiler meat reflect lower U.S. prices. Dairy exports are decreased by \$100 million to \$8.8 billion as lower prices for nonfat dry milk powder, cheese, and butter in the second through fourth quarters of FY 2023 are expected to offset the strong sales during the first quarter. Hides and skins are lowered \$100 million to \$1.0 billion as a weaker economic outlook will impact leather demand. Pork exports are raised \$100 million based on strengthening shipments to East Asia and Mexico.

FY 2023 U.S. horticultural products are forecast down \$500 million from the November forecast to \$39.0 billion. Whole and processed tree nuts are reduced \$500 million due to falling unit values as well as reduced shipments to top markets including the European Union (EU), China, and India. Processed fruits and vegetables are unchanged at \$7.3 billion on steady shipments to Canada. Fresh fruit and vegetables are unchanged at \$7.1 billion on stable shipments to top markets in Canada and Mexico.

FY 2023 U.S. ethanol exports are forecast at \$3.6 billion, a \$600-million decrease from November and lower than last year's record \$4.1 billion but still the second highest value on record. Historically-high export unit value, supported by persistently elevated corn and gasoline prices, do not offset expected volume decline. Recession risks, inflation-eroded discretionary spending, and elevated fuel prices undercut foreign demand, and U.S. price competitiveness with Brazil is reduced from previous years. Brazil's first quarter ethanol exports rose sharply quarter-to-quarter to select key import markets, namely the EU, South Korea, India, and Nigeria, replacing U.S. sales, which fell sharply. Canada remains the major bright spot with good prospects for fuel use demand. First quarter year-over-year sales volume increased 27 percent with Canada's share of U.S. ethanol exports rising to a record 60 percent. Sales prospects to Brazil, the first or second largest U.S. ethanol export market through 2020, remain dim given the devalued Brazilian real, slow recovery for ethanol-gasoline demand, and reinstatement of a 16-percent duty.

Table 3—U.S. agricultural exports: Value and volume by commodity, fiscal years 2022–2023 1/ 2/

Commodity	October–December		Fiscal year 2022	Forecast Fiscal year 2023	
	FY2022	FY2023		November	February
VALUE					
–Billion dollars–					
Grains and feeds 3/	9.688	8.713	48.029	46.2	43.8
Wheat 4/	1.412	1.575	8.324	8.1	8.3
Rice	0.469	0.345	1.835	2.0	1.9
Corn	3.602	2.743	19.468	18.5	16.6
Sorghum	0.483	0.136	2.506	1.6	0.8
Feeds and fodders	2.445	2.526	10.585	10.6	10.7
Oilseeds and products	18.193	19.246	45.622	44.3	43.4
Soybeans	15.254	16.305	33.341	32.8	32.0
Soybean meal 5/	1.442	1.629	6.005	5.7	6.2
Soybean oil	0.291	0.065	1.245	0.9	0.5
Livestock, poultry, and dairy	10.145	10.231	41.845	41.4	40.5
Livestock products	6.608	6.179	25.829	25.3	24.7
Beef and veal 6/	2.641	2.261	10.818	10.3	10.0
Pork 6/	1.595	1.742	6.257	6.2	6.3
Beef and pork variety meats 6/	0.549	0.587	2.213	2.2	2.2
Hides, skins, and furs	0.287	0.252	1.146	1.1	1.0
Poultry and products	1.646	1.728	6.945	7.2	7.0
Broiler meat 6/ 7/	0.972	1.064	4.182	4.3	4.1
Dairy products	1.890	2.325	9.071	8.9	8.8
Tobacco and products	0.147	0.420	0.781	0.8	0.8
Cotton 8/	0.894	1.110	8.859	6.0	5.9
Seeds	0.533	0.499	1.712	1.7	1.6
Horticultural products 9/	10.304	9.534	39.298	39.5	39.0
Fruits and vegetables, fresh	1.748	1.653	7.010	7.1	7.1
Fruits and vegetables, processed	1.751	1.853	7.328	7.3	7.3
Tree nuts, whole and processed	3.003	2.209	9.761	9.5	9.0
Sugar and tropical products 10/	1.522	1.577	6.215	6.0	6.0
Ethanol 10/	0.982	0.709	4.050	4.2	3.6
Total	52.406	52.038	196.410	190.0	184.5
Major bulk products 12/	22.193	22.273	74.597	69.0	65.5
– Million metric tons –					
VOLUME					
Wheat 2/	3.855	3.780	20.928	21.0	21.1
Rice	0.780	0.474	2.798	2.5	2.3
Corn	13.202	8.196	62.901	57.0	51.0
Sorghum	1.538	0.394	7.328	4.5	2.3
Feeds and fodders	5.625	4.644	21.895	21.5	20.8
Soybeans	29.272	27.743	58.745	55.7	54.2
Soybean meal 4/	3.397	3.202	12.269	12.4	12.4
Soybean oil	0.205	0.037	0.804	0.6	0.3
Beef and veal 5/	0.283	0.281	1.178	1.1	1.1
Pork 5/	0.563	0.569	2.135	2.2	2.2
Beef and pork variety meats 5/	0.180	0.219	0.747	0.7	0.7
Broiler meat 5/ 6/	0.861	0.869	3.293	3.3	3.3
Cotton 7/	0.392	0.438	3.426	2.7	2.6
Major bulk products 11/	49.192	41.117	156.554	143.4	133.5

Note: Totals may not add up due to rounding.

1/ Fiscal year is defined as October 1 of previous year through September 30 of current year. 2/ FY = fiscal year. 3/ Includes barley, oats, rye, corn gluten feed and meal, and processed grain products. 4/ Excludes wheat flour. 5/ Includes soy flours made from protein meals. 6/ Includes chilled, frozen, and processed meats. 7/ Includes only federally inspected products. 8/ Includes linters and waste. 9/ Includes food preparations, essential oils, and wine. 10/ Includes coffee and cocoa. 11/ Non-beverage ethanol. 12/ Includes wheat, rice, coarse grains, soybeans, and cotton.

Source: Compilation, analysis, and forecasts by USDA, Economic Research Service and USDA, Foreign Agricultural Service; U.S. Department of Commerce, Bureau of the Census data.

Regional Exports

Asia

The export forecast for Japan is down \$1.2 billion to \$14.0 billion, as first quarter shipments indicate weakened demand for corn, beef, and tree nuts.

Forecast exports to Hong Kong are \$500 million lower to \$1.0 billion, as sales of tree nuts and beef continue to be weak.

The export forecast for Southeast Asia is down a collective \$100 million, as increases in Vietnam partially offset reductions in Malaysia and Thailand. Forecast exports to Vietnam are up \$300 million, due to stronger-than-expected shipments of soybean meal. Forecast exports to Malaysia and Thailand are down \$200 million for each country mainly resulting from sluggish sales in the first quarter.

Forecast exports to South Asia are down \$700 million, including a \$500-million reduction to India on lower shipments of ethanol and tree nuts. In addition, forecast exports to Pakistan are down \$200 million, mainly a result of the country's ban of genetically modified soybeans.

Western Hemisphere

The export forecast for Canada is down \$500 million to \$27.8 billion, largely driven by reduced corn demand.

The export forecast for Central America is down \$300 million, primarily due to lower corn sales.

Forecast exports to South America are slashed a collective \$1.2 billion based on sales to date. Most notably, the export forecast for Colombia is down \$600 million on account of lower corn and wheat shipments. The export forecast for Brazil is down \$100 million due to the reduced ethanol prospect.

Europe, Africa, the Middle East, and Oceania

Exports to the EU are forecast at \$11.8 billion, down \$200 million from the previous projection, largely due to lower prospects of soybeans, tree nuts, and ethanol.

Exports to the United Kingdom are forecast \$100 million lower to \$1.7 billion on reduced ethanol price competitiveness.

The export forecast for the Former Soviet Union is reduced by \$100 million as geopolitical and economic turmoil continue to cloud the trade outlook.

The export forecast for the Middle East is unchanged at \$6.1 billion. A \$200-million reduction for Turkey's export forecast on account of lower expected soybean and tree nut sales offsets an equal increase to Saudi Arabia, which is largely a result of higher hay exports.

In Africa, exports to Egypt are forecast \$500 million lower to \$2.2 billion, primarily due to reduced soybean and wheat sales. Exports to Nigeria are forecast down \$400 million on lower ethanol and wheat shipments.

Table 4—U.S. agricultural exports: Value by region, fiscal years 2022–2023

Region and country 1/	October–December		Fiscal year	Share of	Forecast	
	2022	2023	2022	2022	Fiscal year 2023	
	–Billion dollars–			total	November	February
	–Billion dollars–			Percent	–Billion dollars–	
VALUE						
Asia	25.683	26.100	87.407	44.5	83.4	80.9
East Asia	21.019	22.020	66.993	34.1	64.4	62.7
Japan	3.446	2.853	15.218	7.7	15.2	14.0
China	13.868	15.648	36.380	18.5	34.0	34.0
Hong Kong	0.570	0.356	1.547	0.8	1.5	1.0
Taiwan	1.086	1.167	4.261	2.2	4.2	4.2
South Korea	2.047	1.992	9.554	4.9	9.5	9.5
Southeast Asia	3.361	3.152	15.271	7.8	14.4	14.3
Indonesia	0.591	0.653	3.221	1.6	2.8	2.8
Philippines	0.760	0.888	3.932	2.0	3.8	3.8
Malaysia	0.296	0.223	1.163	0.6	1.2	1.0
Thailand	0.579	0.374	1.732	0.9	1.7	1.5
Vietnam	0.671	0.722	3.470	1.8	3.1	3.4
South Asia	1.303	0.927	5.143	2.6	4.6	3.9
India	0.621	0.410	2.474	1.3	2.5	2.0
Western Hemisphere	18.726	18.427	78.096	39.8	77.8	75.8
North America	13.566	13.963	56.396	28.7	56.3	55.8
Canada	6.775	6.748	28.362	14.4	28.3	27.8
Mexico	6.791	7.216	28.034	14.3	28.0	28.0
Caribbean	1.185	1.312	5.145	2.6	5.2	5.2
Dominican Republic	0.422	0.506	1.963	1.0	1.9	1.9
Central America 2/	1.690	1.445	7.085	3.6	7.1	6.8
South America	2.285	1.707	9.470	4.8	9.2	8.0
Brazil	0.237	0.197	1.009	0.5	0.9	0.8
Colombia	1.111	0.612	4.216	2.1	4.1	3.5
Peru	0.198	0.204	1.034	0.5	1.0	1.0
Venezuela	0.140	0.203	0.742	0.4	0.7	0.7
Europe/Eurasia	4.300	3.916	15.394	7.8	14.5	14.1
European Union	3.534	3.240	12.643	6.4	12.0	11.8
United Kingdom	0.517	0.475	1.822	0.9	1.8	1.7
FSU-12 3/	0.151	0.112	0.431	0.2	0.4	0.3
Russia	0.066	0.038	0.172	0.1	0.2	0.1
Middle East	1.493	1.737	6.615	3.4	6.1	6.1
Turkey	0.476	0.367	1.998	1.0	1.7	1.5
Saudi Arabia	0.313	0.429	1.449	0.7	1.3	1.5
Africa	1.694	1.307	6.770	3.4	6.2	5.7
North Africa	1.120	0.684	4.182	2.1	3.6	3.1
Egypt	0.853	0.401	2.972	1.5	2.7	2.2
Sub-Saharan Africa	0.574	0.622	2.588	1.3	2.6	2.6
Nigeria	0.176	0.061	0.735	0.4	0.8	0.4
Oceania	0.510	0.552	2.127	1.1	2.1	2.1
Total	52.406	52.038	196.410	100.0	190.0	184.5

Note: Totals may not add up due to rounding. Fiscal year is defined as October 1 of previous year through September 30 of current year.

1/ Projections are based primarily on trend or recent average growth analysis. 2/ Central America includes the Republics of Belize, Costa Rica, El Salvador, Guatemala, Honduras, Nicaragua, and Panama. 3/ The 15 Republics of the Former Soviet Union (FSU), not including the 3 Baltic Republics: Estonia, Latvia, and Lithuania.

Source: USDA, Economic Research Service and USDA, Foreign Agricultural Service analysis and forecasts using data from U.S. Department of Commerce, Bureau of the Census.

Import Products

The agricultural imports forecast for FY 2023 remains unchanged from the previous forecast at \$199.0 billion. This represents an increase of \$5.0 billion above FY 2022 imports of \$194.0 billion. Although the total import value is held constant from the previous estimate, the import flows have changed. Horticultural products as well as sugar and tropical products are revised downward, while livestock, dairy, and poultry, and—to a lesser extent—grains and feed and oilseeds and products are adjusted upward. With steady import volumes for most agricultural products, the combination of both positive and negative changes in import unit values is expected to balance out to an unchanged total agricultural import forecast for FY 2023.

Reductions in overall trade flows and added capacity in ships, containers, and labor have combined to open bottlenecks at ports, freeing up the once-congested supply chains that perpetuated excess import demand since 2021 are now helping to lower prices. Prices of many agricultural commodities have trended lower since the last forecast although that is not true across the board, as many are affected by unique supply and demand conditions. Commodity prices for oilseeds and products, coffee and products, and dairy products are down whereas commodities such as sugar and tropical products, rice, and cocoa have been trending higher. Manufactured agricultural goods, such as processed foods, also tend to be more expensive due to the higher and more persistent costs of capital and labor. However, it is worth noting that for some commodities, lower prices may manifest as depressed trade values compared with the previous estimate, despite steady trade volumes.

The FY 2023 forecast for horticultural product imports—the largest import-product group—is lowered by \$400 million from the November forecast to \$99.9 billion. The downward revision represents a change of less than 1 percent and mainly reflects lower demand of high-value consumer products (e.g., wine, distilled spirits, fresh fruits). Despite this downward revision, horticultural product imports are forecast to increase 3 percent over FY 2022. These increases continue a durable trend whereby consumers seek year-round supply of products produced competitively abroad.

Within the horticultural product group, fresh fruits, wine, and distilled spirits are each reduced by \$200 million from the previous forecast. The 1-percent decrease in expected fresh fruit import value is partly due to lower unit values as well as a decrease in expected import volumes as banana production prospects are lowered for Guatemala and Ecuador. Wine and distilled spirits imports are each projected to decrease by \$200 million from the previous forecast to \$8.0 billion and \$12.1 billion, respectively, resulting from moderating demand for higher priced foreign

wines and spirits. By contrast, U.S. imports of orange and other fruit juices are forecast to increase from the previous forecast as reduced U.S. production and higher global prices raise import values by \$100 million, while volumes of processed fruit and vegetables are also expected to increase.

U.S. imports of sugar and tropical products are adjusted down \$500 million, or 2 percent, from the previous forecast to \$30.2 billion in FY 2023, which is \$1.1 billion above FY 2022.

Sweeteners and products imports are forecast to be valued at \$7.0 billion—\$200 million below the last forecast. U.S. sugar imports are adjusted down from the previous forecasts as U.S. production is estimated to have increased and projected quota programs are set at minimum levels consistent with World Trade Organization and free-trade agreement obligations. Sugar imports from Mexico are unchanged while imports from Brazil are forecast to decline as Brazil shifts sugar production towards ethanol. Global sugar prices have continued to rise to levels well above the average, which helps to lower import demand.

FY 2023 coffee imports are adjusted down \$300 million to \$9.9 billion largely on falling unit values. This lower value remains a \$200-million increase over FY 2022. Global production of coffee appears to be rebounding in FY 2023, although export estimates in primary countries have retreated slightly from the previous forecast. Imports from the United States' main coffee suppliers Brazil and Colombia are decreased from the previous forecast due to downgraded growing conditions.

Cocoa and products are unchanged as the Côte d'Ivoire crop forecast remains fair despite some ongoing drought concerns. Cocoa prices have shown relative strength in recent months adding to import values.

Livestock, poultry, and dairy imports are raised \$600 million to \$26.8 billion on higher estimates for most product groups. Greater shipments of processing beef from Oceania and South America are expected to drive beef imports up \$500 million. Dairy imports are up \$300 million due to higher unit values and volumes of butter, milk proteins, and a number of other products. Live cattle imports are raised \$100 million to at \$2.2 billion as feeder cattle shipments from Mexico are expected to remain elevated given tight domestic U.S. feeder cattle supplies. Poultry and products are unchanged at \$1.4 billion. Pork imports are forecast down \$700 million driven by lower prices and increasing domestic production.

The FY 2023 forecast for grains and feed product imports is adjusted up \$200 million, or 2 percent, from the previous forecast to \$20.6 billion. This is due to reduced yields, high production costs, and tight inventories that have kept pressure on prices across grains and feed

products, both in the United States and globally, despite some easing of prices—such as wheat—in recent months. The rice market remains especially impacted by short exportable supplies. Rice production in the United States, China, India, and Pakistan are all down, and India continues to have a 20-percent export tariff for many categories of rice, leading to global prices rising since the last forecast. As rice import volumes are held steady from the previous forecast, the import value has increased. Tight conditions in the grain market further impact grain products, which include consumer food products, such as baked goods. In addition, the grain products have retained relatively high values and are responsible for much of the expected increase to the grains and feed product forecast.

The FY 2023 forecast for oilseeds and products is raised by \$100 million from last quarter to \$17.6 billion largely on increased imports of vegetable oils. This is due, in part, to the relatively tight domestic oilseed conditions leading to higher prices and expected increases in import volumes, especially canola oil. While canola seed imports are revised down this quarter, this reduction is more than offset by larger canola oil imports.

The FY 2023 forecast for other imports, which contain cotton, tobacco, planting seeds, and ethanol, is unchanged from the November forecast at \$3.9 billion.

Table 5—U.S. agricultural imports: Value and volume by commodity, fiscal years 2022–2023

Commodity	October–December		Fiscal year 2022	Forecast Fiscal year 2023	
	FY 2022	FY 2023		November	February
	VALUE				
<i>–Billion dollars –</i>					
Livestock, dairy, and poultry	6.446	6.476	26.042	26.2	26.8
Livestock and meats	5.077	4.756	20.110	20.5	20.8
Cattle and calves	0.469	0.486	1.701	2.1	2.2
Swine	0.123	0.130	0.567	0.5	0.5
Beef and veal	2.248	1.840	8.819	8.7	9.2
Pork	0.640	0.539	2.600	2.6	1.9
Poultry	0.300	0.308	1.326	1.4	1.4
Dairy products	1.070	1.412	4.605	4.3	4.6
Cheese	0.407	0.442	1.534	1.6	1.6
Grains and feed	4.452	5.498	19.763	20.4	20.6
Grain products	3.177	3.954	13.728	13.7	13.9
Oilseeds and products	3.810	4.917	17.909	17.5	17.6
Vegetable oils	2.435	3.056	10.886	10.2	10.3
Horticulture products	22.604	24.073	97.203	100.3	99.9
Fruits, fresh	4.069	3.946	17.933	18.6	18.4
Fruits, processed	1.831	2.179	8.221	8.2	8.3
Fruit juices	0.645	0.893	2.907	2.7	2.8
Nuts, whole and processed	0.858	0.666	3.018	2.8	2.8
Vegetables, fresh	2.747	3.184	11.090	11.8	11.8
Vegetables, processed	1.747	2.023	7.463	7.8	7.8
Wine	1.976	1.959	7.835	8.2	8.0
Malt beer	1.554	1.546	6.716	7.0	7.0
Distilled spirits	2.741	2.809	12.040	12.3	12.1
Essential oils	1.105	1.339	5.166	5.3	5.3
Cut flowers and nursery stock	0.788	0.770	3.286	3.7	3.7
Sugar and tropical products	6.467	6.948	29.092	30.7	30.2
Sweeteners and products	1.501	1.750	6.757	7.2	7.0
Confections	0.622	0.761	2.701	2.7	2.7
Cocoa and products	1.389	1.441	5.961	6.1	6.1
Coffee and products	1.946	2.424	9.747	10.2	9.9
Other imports 1/	1.088	1.028	3.969	3.9	3.9
Total agricultural imports	44.868	48.939	193.977	199.0	199.0
VOLUME					
<i>–Million metric tons –</i>					
Cattle and calves 2/	0.517	0.475	1.671	1.9	1.9
Swine 2/	1.635	1.565	6.556	6.6	6.5
Beef and veal	0.291	0.255	1.182	1.1	1.2
Pork	0.156	0.129	0.607	0.6	0.5
Fruits, fresh	3.065	3.150	13.422	13.5	13.4
Fruits, processed	0.521	0.540	2.312	2.3	2.4
Fruit juices 3/	1.271	1.540	5.512	5.0	5.1
Vegetables, fresh	2.228	2.385	9.082	9.7	9.6
Vegetables, processed	1.286	1.316	5.190	5.7	5.8
Vegetable oils 3/	1.444	1.680	5.552	5.6	5.7
Wine 3/	0.419	0.422	1.639	1.7	1.7
Malt beer 3/	1.125	1.097	4.781	4.8	4.8
Distilled spirits 4/	0.224	0.245	0.994	1.0	1.0
Cocoa and products	0.336	0.334	1.510	1.6	1.6
Coffee and products	0.391	0.389	1.709	1.7	1.7

Note: Totals may not add due to rounding. Fiscal year is defined as October 1 of previous year through September 30 of current year.

1/Largely unmanufactured tobacco, planting seeds, mineral and aerated waters, and ethanol. 2/ Million head. 3/ Billion liters. 4/ Billion proof gallon equivalent liters.

Source: USDA, Economic Research Service and USDA, Foreign Agricultural Service analysis and forecasts using data from U.S. Department of Commerce, Bureau of the Census.

Regional Imports

Western Hemisphere

Regional imports from the Western Hemisphere are forecast to decrease by \$800 million from the November forecast to \$116.0 billion, a change of less than 1 percent. The change in forecast is largely attributed to Mexico, where imports are adjusted down \$500 million from the previous forecast to \$46.4 billion. Mexico's top exports to the United States are fresh fruits and vegetables followed by beer, distilled spirits, grain and feed, and sugar. Fruit and vegetable imports of fresh winter vegetables including tomatoes, peppers, squash, and green beans are adjusted down as hurricanes impacted growers in Mexico's western and north-central production regions. However, the production and exports of the largest fruit category, avocados, are expected to be stronger than last year. Despite strong trends of Mexican beer import growth and distilled spirits, those imports are adjusted down from previous forecasts on weakening demand. More broadly, trade with Mexico is impacted by a strengthening Peso against the U.S. dollar. Trade with Canada is unchanged from the previous forecast remaining at \$37.3 billion. This is, in part, due to Canada's exchange rate remaining relatively stable against the U.S. dollar since the last forecast.

Imports from South America are adjusted down \$300 million from the previous forecast. Brazil is adjusted up \$100 million largely due to strong beef and ethanol exports to the United States. Chile is expected to decline \$100 million from the previous forecast on reduced crop expectations. Other imports from South America—driven largely by Ecuador—is lowered by \$300 million on lower expectations for fruit exports, especially bananas. This is mainly associated with supply chain issues and high fertilizer costs, limiting new plantations, and reducing production as well as increasing prices.

The forecast for Central America is largely unchanged, despite shifts in where imports are originating. Guatemala is adjusted down \$200 million on reduced fruit exports, especially bananas. However, imports from Costa Rica and other Central America are each adjusted up \$100 million.

Europe

Imports from the EU for FY 2023 are forecast to be \$35.9 billion, down \$100 million from the November forecast. Drought in Europe has negatively impacted many commodities such as

olives and grapes. Olive production in Spain, Italy, and Portugal saw especially steep declines. Further, the tightening of the U.S. dollar-to-Euro exchange rate since the previous forecast has made European imports less competitive. Imports from the United Kingdom (UK) are unchanged from the previous FY 2023 forecast.

Asia

The forecast for imports from Asia is up \$300 million from the previous forecast to \$31 billion in FY 2023. In East Asia, China's reopening after dropping COVID-19 restrictions is expected to have significant impacts on global trade. The lifting of COVID-19 restrictions in China is expected to increase imports by \$300 million from historically depressed levels.

Southeast Asian imports are expected to be unchanged from the previous estimate. However, within Southeast Asia, imports from Indonesia are forecast to decline by \$300 million due to a reduction in expected coffee exports. Coffee exports are projected to decline because of a poorer-than-expected production year and higher domestic consumption of palm oil for biofuel use, which is negatively impacting exports. Other Southeast Asian countries are expected to offset this with increased exports of vegetable oil (palm and coconut), prepared food, and food ingredients totaling \$300 million. Imports from South Asia are unchanged.

Oceania

The forecast for imports from Oceania is raised by \$400 million from the previous forecast to \$7.3 billion in FY 2023. Wine imports from New Zealand are slightly up with good 2022 and predicted 2023 wine grape production. The productive grape growing years, coupled with a relatively weak New Zealand dollar and improving supply chains, continue to suggest strong imports, especially compared with the limitations in the EU's wine industry. Australia is adjusted upwards \$200 million, in part, on expected increases in beef shipments.

Africa and Middle East

Imports from Africa in FY 2023 are unchanged. Imports from the Middle East in FY 2023 are increased from the previous forecast by \$200 million, largely driven by Turkey's relatively strong agricultural production. For example, Turkey had a large olive crop in FY 2022, as well as a comparatively strong fruit production, leading to larger than previously expected exports.

Table 6—U.S. agricultural imports: Value by region, fiscal years 2022–2023

Region and country	October–December		Fiscal year 2022	Forecast Fiscal year 2023	
	FY 2022	FY 2023		November	February
	VALUE				
<i>–Billion dollars –</i>					
Western Hemisphere	25.471	28.088	109.743	116.7	116.0
Canada	8.454	9.848	35.890	37.3	37.3
Mexico	9.782	10.309	42.755	46.9	46.4
Central America	1.527	1.543	7.590	7.9	8.0
Costa Rica	0.389	0.408	1.855	1.7	1.8
Guatemala	0.599	0.607	2.781	3.0	2.8
Other Central America	0.539	0.528	2.955	3.3	3.4
Caribbean	0.441	0.452	1.899	1.8	1.8
South America	5.268	5.937	21.609	22.8	22.5
Argentina	0.482	0.478	1.875	1.7	1.7
Brazil	1.535	1.844	5.964	6.5	6.6
Chile	0.610	0.518	3.524	3.6	3.5
Colombia	0.920	1.082	4.086	4.1	4.1
Peru	1.163	1.314	3.771	4.1	4.1
Other South America	0.557	0.701	2.389	2.8	2.5
Europe and Eurasia	8.889	9.699	37.487	38.2	38.0
European Union-27	8.291	9.007	35.122	36.0	35.9
United Kingdom	0.598	0.692	2.365	2.1	2.1
Asia	6.389	7.031	29.369	30.7	31.0
East Asia	1.797	1.648	8.038	7.9	8.2
China	1.069	0.972	4.831	4.3	4.6
Other East Asia	0.728	0.676	3.207	3.6	3.6
Southeast Asia	3.727	4.496	17.488	18.9	18.9
Indonesia	1.149	1.398	4.858	6.0	5.7
Malaysia	0.261	0.247	1.162	1.1	1.1
Thailand	0.714	0.785	3.475	3.5	3.5
Vietnam	0.599	0.559	2.605	2.5	2.5
Other Southeast Asia	1.004	1.507	5.388	5.8	6.1
South Asia	0.865	0.887	3.844	3.9	3.9
India	0.753	0.787	3.376	3.4	3.4
Oceania	1.920	2.006	7.930	6.9	7.3
Australia	1.076	1.121	4.281	3.5	3.7
New Zealand	0.766	0.799	3.380	3.4	3.6
Africa	0.811	0.839	4.043	4.2	4.2
Sub-Saharan Africa	0.633	0.688	3.129	3.2	3.2
Côte d'Ivoire	0.119	0.111	0.830	1.3	1.3
Middle East	0.560	0.629	2.428	2.3	2.5
Turkey	0.409	0.478	1.736	1.7	1.9
World total	44.868	48.939	193.977	199.0	199.0

Note: Totals may not add due to rounding. Fiscal year is defined as October 1 of previous year through September 30 of current year.

Source: USDA, Economic Research Service and USDA, Foreign Agricultural Service analysis and forecasts using data from U.S. Department of Commerce, Bureau of the Census.

Reliability Tables

Table 7—Reliability of quarterly U.S. export projections, by commodity and quarter 1/

Commodity	Root mean squared error (RMSE) 2/ Fiscal years 2018–2022					Forecast errors Fiscal year 2022				
	Aug.	Nov.	Feb.	May	Aug.	Aug.	Nov.	Feb.	May	Aug.
Export value	<i>RMSE</i>					<i>Percent</i>				
Grains and feeds	6.3	4.8	3.8	1.2	0.4	-13	-14	-11	-3	0
Wheat	1.1	1.1	0.7	0.4	0.3	-15	-15	-6	1	-3
Rice	0.1	0.2	0.2	0.2	0.1	9	4	9	9	9
Corn	4.3	2.9	2.5	0.8	0.3	-12	-13	-13	-2	-1
Sorghum 3/	NA	NA	NA	NA	NA	0	-4	0	4	8
Feeds and fodder	1.2	1.1	0.9	0.6	0.2	-21	-22	-17	-8	-1
Oilseeds and products	4.6	3.3	1.3	1.6	1.4	-5	-15	-4	-3	-1
Soybeans	3.5	2.6	1.2	1.3	1.4	-3	-15	-6	-3	-1
Soybean meal	0.8	0.7	0.5	0.3	0.2	-5	-18	3	0	2
Soybean oil	0.2	0.2	0.3	0.2	0.0	-20	-28	-20	-4	-4
Livestock, poultry, and dairy	3.1	2.6	2.3	1.5	0.5	-12	-8	-6	-3	2
Livestock products	1.8	1.6	1.4	1.0	0.3	-9	-5	-4	-2	1
Beef and veal	1.6	1.2	1.0	0.7	0.2	-23	-16	-12	-6	1
Pork	0.5	0.3	0.1	0.2	0.2	13	5	1	-1	1
Beef and pork variety meats	0.3	0.2	0.2	0.1	0.1	-19	-14	-14	-5	-1
Hides, skins, and furs	0.3	0.3	0.2	0.2	0.1	-13	-4	-4	5	5
Poultry and products	0.6	0.4	0.4	0.3	0.1	-15	-5	-5	-2	1
Broiler meat	0.4	0.2	0.3	0.3	0.1	-19	-4	-4	0	0
Dairy products	0.9	0.8	0.7	0.4	0.2	-17	-15	-14	-7	5
Tobacco, unmanufactured	0.2	0.2	0.3	0.2	0.1	15	15	15	2	2
Cotton 4/	1.5	1.2	0.7	0.3	0.2	-23	-18	-10	2	-1
Planting seeds	0.2	0.2	0.2	0.1	0.1	-7	-7	-7	-7	-1
Horticultural products 4/	1.6	1.8	1.7	1.8	0.4	-4	-4	-2	-2	-1
Fruits and vegetables, fresh	0.3	0.3	0.3	0.3	0.1	4	4	4	4	-2
Fruits & veget., processed	0.4	0.4	0.4	0.4	0.1	-3	-3	-3	-3	-2
Tree nuts, whole/processed	0.4	0.4	0.3	0.3	0.1	-8	-8	-4	-4	0
Sugar and tropical products	0.3	0.3	0.3	0.3	0.2	-5	-5	-5	-5	-5
Ethanol 3/	NA	NA	NA	NA	NA	-41	-28	-28	-6	4
Total agricultural exports 4/	17.1	13.4	9.6	4.5	0.9	-10	-11	-7	-3	0
Major bulk products 4/	10.9	8.0	6.6	3.4	2.7	-10	-15	-11	-1	-2
Export volume										
Wheat	2.4	3.1	2.3	1.3	1.3	15	7	2	-3	-3
Rice	0.6	0.5	0.4	0.4	0.1	29	18	14	11	7
Corn	10.8	9.0	8.1	6.6	2.2	-3	0	-2	1	-1
Sorghum 3/	NA	NA	NA	NA	NA	13	13	9	6	4
Feeds and fodder	0.5	0.6	0.5	0.7	0.4	0	0	0	-2	0
Soybeans	4.2	3.3	2.8	3.0	3.1	-5	-5	-5	-1	0
Soybean meal	1.1	1.1	1.2	1.0	0.4	5	5	7	4	1
Soybean oil	0.3	0.3	0.3	0.1	0.0	-13	-25	-25	-1	-1
Beef and veal	0.1	0.1	0.1	0.0	0.0	-7	-7	-7	-7	2
Pork	0.2	0.1	0.1	0.0	0.1	17	12	3	3	3
Beef and pork variety meats	0.1	0.1	0.1	0.1	0.0	-6	-6	-6	7	-6
Broiler meat	0.1	0.1	0.0	0.1	0.0	3	3	0	3	0
Cotton	0.3	0.2	0.2	0.2	0.1	-4	-1	-4	-4	-1
Major bulk products 4/	11.6	9.5	9.2	5.4	4.1	0	0	-2	0	-1

1/ Fiscal year is defined as October 1 of previous year through September 30 of current year. 2/ Root mean squared error (RMSE) is the squared root of the average squared difference between the forecast and actual values. 3/ "NA" indicates that statistics were not able to be calculated because forecasts were not made for these commodities prior to the March 2021 change to USDA's definition of "Agricultural Products" for the purposes of international trade—the first forecast using this definition was made in August 2021. 4/ Due to the change in agricultural trade product definition adopted by USDA in March of 2021, the RMSEs and percent forecast errors for these categories combine errors of forecasts and actual trade values and volumes using both definitions.

Source: USDA, Economic Research Service and USDA, Foreign Agricultural Service.

Table 8—Reliability of quarterly U.S. export projections, by country and quarter 1/

Region and country	Root mean squared error (RMSE) 2/ Fiscal years 2018–2022					Forecast errors Fiscal year 2022				
	Aug.	Nov.	Feb.	May	Aug.	Aug.	Nov.	Feb.	May	Aug.
Export value	<i>RMSE</i>					<i>Percent</i>				
Asia	5.1	4.5	2.8	1.6	2.2	0	-4	-3	-3	0
East Asia	4.7	4.0	2.2	2.1	2.2	1	-3	-1	-1	0
Japan	1.4	1.2	0.8	0.7	0.4	-13	-11	-3	-1	1
China	6.1	4.9	2.9	3.5	2.8	7	-1	-1	-1	-1
Hong Kong	0.9	0.9	0.6	0.3	0.1	23	23	10	10	3
Taiwan	0.4	0.4	0.4	0.3	0.2	-11	-11	-11	-11	1
South Korea	0.9	0.8	0.8	0.6	0.3	0	0	3	3	3
Southeast Asia	1.6	1.5	1.5	1.1	0.4	-1	-5	-8	-6	-2
Indonesia	0.3	0.3	0.3	0.2	0.2	9	2	-7	-7	-10
Philippines	0.2	0.3	0.3	0.2	0.1	-6	-8	-8	2	2
Malaysia	0.2	0.1	0.1	0.1	0.1	-5	-5	-5	3	3
Thailand	0.4	0.4	0.3	0.2	0.1	10	4	4	4	-2
Vietnam	0.8	0.6	0.6	0.5	0.2	15	10	4	-2	-5
South Asia	0.6	0.6	0.6	0.5	0.1	-16	-14	-14	-14	-3
India	0.4	0.4	0.4	0.3	0.2	-35	-35	-27	-11	9
Western Hemisphere	8.0	7.5	5.4	3.8	1.4	-19	-17	-9	-1	1
North America	5.8	5.3	3.9	3.4	1.3	-18	-16	-6	3	1
Canada	2.5	2.4	1.8	1.2	0.4	-16	-15	-8	0	0
Mexico	3.3	2.9	2.2	2.2	1.0	-20	-16	-4	5	2
Caribbean	0.6	0.5	0.4	0.2	0.2	-22	-18	-14	-3	1
Dominican Republic	0.2	0.2	0.2	0.1	0.0	-13	-13	-8	-3	-3
Central America	0.9	0.9	0.8	0.5	0.2	-25	-25	-21	-8	2
South America	0.8	0.9	0.8	0.8	0.3	-17	-18	-14	-14	-3
Brazil	0.2	0.2	0.1	0.1	0.1	-1	-1	-1	-11	-11
Colombia	0.5	0.5	0.4	0.3	0.1	-24	-26	-17	-15	-3
Peru	0.2	0.2	0.2	0.2	0.1	6	6	-3	-3	-3
Venezuela	0.2	0.2	0.2	0.1	0.0	-19	-19	-19	-19	-6
Europe and Eurasia	1.5	1.5	1.0	0.8	0.4	-9	-10	-7	-6	-1
European Union-27 3/	1.5	1.5	1.0	0.8	0.4	-11	-13	-9	-9	-1
United Kingdom 4/	NA	NA	NA	NA	NA	-1	-1	-1	10	4
FSU-12 5/	0.1	0.1	0.1	0.0	0.0	16	16	16	16	16
Russia	0.1	0.1	0.1	0.0	0.0	75	75	75	17	17
Middle East	0.6	0.6	0.5	0.4	0.2	-17	-15	-12	-9	-3
Turkey	0.5	0.4	0.4	0.3	0.1	-45	-40	-30	-20	0
Saudi Arabia	0.1	0.1	0.1	0.1	0.1	-10	-10	-10	-10	-10
Africa	1.0	1.1	0.9	0.7	0.3	-22	-25	-17	-17	-4
North Africa	0.9	0.9	0.9	0.8	0.3	-21	-26	-21	-23	-7
Egypt	0.7	0.8	0.7	0.7	0.1	-33	-39	-33	-33	1
Sub-Saharan Africa	0.4	0.4	0.3	0.3	0.1	-23	-23	-11	-7	0
Nigeria	0.2	0.2	0.2	0.2	0.1	-32	-32	-5	9	9
Oceania	0.1	0.1	0.1	0.1	0.0	3	3	-1	-1	-1

1/ Fiscal year is defined as October 1 of previous year through September 30 of current year. 2/ Root mean squared error (RMSE) is the squared root of the average squared difference between the forecast and actual values. 3/ The RMSEs and percent forecast errors for these categories combine errors of forecasts and actual trade values for the European Union (EU) before and after the United Kingdom (UK) separated from the union in 2021—the first forecast for the EU without the UK was August 2021. 4/ "NA" indicates that statistics were not able to be calculated because forecasts were not made for these trade partners/groups prior to the UK separating from the EU in 2021—the first forecast using this definition was made in August 2021. 5/ The 15 Republics of the Former Soviet Union (FSU) minus the 3 Baltic Republics: Latvia, Estonia, and Lithuania.

Source: USDA, Economic Research Service and USDA, Foreign Agricultural Service.

Table 9—Reliability of quarterly U.S. import projections, by commodity and quarter 1/

Commodity	Root mean squared error (RMSE) 2/ Fiscal years 2018–2022					Forecast errors Fiscal year 2022				
	Aug.	Nov.	Feb.	May	Aug.	Aug.	Nov.	Feb.	May	Aug.
Import value	<i>RMSE</i>					<i>Percent</i>				
Livestock, dairy, and poultry	3.2	2.8	1.8	1.2	0.8	-23	-20	-9	-2	3
Livestock and meats	2.5	2.1	1.4	1.1	0.6	-21	-17	-7	1	3
Cattle and calves	0.2	0.1	0.1	0.1	0.1	0	6	18	6	6
Swine	0.1	0.1	0.1	0.0	0.0	-29	-29	-12	6	6
Beef and veal	1.0	0.9	0.7	0.7	0.2	-16	-13	-1	8	2
Pork	0.4	0.3	0.2	0.1	0.1	-31	-19	-12	-4	8
Poultry 3/	NA	NA	NA	NA	NA	-32	-32	-32	-10	-2
Dairy products	0.6	0.6	0.3	0.3	0.2	-28	-28	-13	-11	0
Cheese	0.1	0.1	0.1	0.1	0.1	-2	-2	-2	11	4
Grains and feed	2.2	1.9	1.6	1.0	0.4	-22	-18	-16	-10	-3
Grain products	1.5	1.2	1.0	0.7	0.4	-20	-15	-13	-8	-4
Oilseeds and products	3.0	2.6	2.5	2.0	0.4	-31	-26	-25	-19	-2
Vegetable oils	1.9	1.5	1.4	1.0	0.5	-33	-26	-23	-9	-4
Horticulture products 4/	10.3	9.5	8.7	6.8	2.0	-14	-12	-8	-5	-1
Fruits, fresh	1.3	1.2	1.0	0.5	0.2	-14	-12	-9	-2	1
Fruits, preserved	1.0	1.0	0.9	0.4	0.2	-26	-26	-21	-9	-1
Fruit juices	0.5	0.5	0.4	0.2	0.1	-31	-31	-28	-17	-4
Nuts, whole and processed	0.4	0.4	0.3	0.3	0.2	-14	-11	-4	-4	3
Vegetables, fresh	0.9	0.9	0.7	0.8	0.5	-7	-7	-4	-4	0
Vegetables, processed	0.5	0.5	0.4	0.3	0.1	-12	-12	-9	-6	-2
Wine	0.8	0.7	0.7	0.5	0.3	-12	-4	-2	-2	-2
Malt beer	0.4	0.4	0.4	0.3	0.2	-5	-5	-5	-5	-2
Distilled spirits 3/	NA	NA	NA	NA	NA	-24	-17	-14	-11	-4
Essential oils	0.5	0.5	0.5	0.4	0.1	-15	-15	-15	-15	-3
Cut flowers and nursery stock	0.4	0.4	0.4	0.2	0.1	-18	-18	-12	-6	3
Sugar and tropical products 4/	2.2	1.9	1.5	1.2	0.3	-17	-14	-11	-9	-2
Sweeteners and products	0.8	0.8	0.6	0.4	0.2	-25	-22	-19	-13	-4
Confections	0.4	0.4	0.3	0.1	0.1	-26	-26	-19	-7	-4
Cocoa and products	0.6	0.5	0.4	0.3	0.2	-13	-13	-8	-8	-3
Coffee beans and products	1.6	1.4	1.2	0.9	0.4	-36	-30	-25	-18	-8
Other imports	1.0	1.0	1.0	1.1	0.2	-12	-2	-2	-2	-2
Total agricultural imports	20.6	18.2	15.6	11.8	3.2	-18	-15	-11	-7	-1
Import volume										
Cattle and calves	0.2	0.2	0.2	0.1	0.1	20	20	20	8	10
Swine	0.9	0.7	0.5	0.3	0.4	-13	-8	-10	1	1
Beef and veal	0.1	0.1	0.1	0.1	0.0	-7	-7	1	1	2
Pork	0.1	0.1	0.0	0.0	0.0	-34	-18	-1	-1	4
Fruits, fresh	0.5	0.3	0.3	0.1	0.2	-8	-4	-2	-1	0
Fruits, processed	0.1	0.1	0.1	0.1	0.1	-5	-9	-5	-5	-1
Fruit juices	0.9	0.7	0.7	0.4	0.4	-31	-15	-15	-9	-4
Vegetables, fresh	0.3	0.3	0.2	0.2	0.1	-4	2	2	-2	0
Vegetables, processed	0.2	0.2	0.2	0.2	0.1	-8	-6	-4	-4	2
Vegetable oils	0.5	0.3	0.4	0.5	0.3	-14	-6	-3	-3	1
Wine	0.2	0.2	0.2	0.1	0.1	-2	4	4	4	4
Malt beer	0.3	0.3	0.3	0.2	0.2	-8	-6	-6	-2	0
Distilled spirits 3/	NA	NA	NA	NA	NA	2	11	11	1	1
Cocoa and products	0.1	0.1	0.1	0.1	0.1	-1	-1	-1	-7	-1
Coffee and products	0.1	0.1	0.1	0.1	0.1	-6	-1	-1	-6	-1

1/ Fiscal year is defined as October 1 of previous year through September 30 of current year. 2/ Root mean squared error (RMSE) is the squared root of the average squared difference between the forecast and actual value. 3/ "NA" indicates that statistics were not able to be calculated because forecasts were not made for these commodities prior to the March 2021 change to USDA's definition of "Agricultural Products" for the purposes of international trade—the first forecast using this definition was made in August 2021. 4/ Due to the change in agricultural trade product definition adopted by USDA in March of 2021, the RMSEs and percent forecast errors for these categories combine errors of forecasts and actual trade values and volumes using both definitions.

Source: USDA, Economic Research Service and USDA, Foreign Agricultural Service.

Table 10—Reliability of quarterly U.S. import projections, by country and quarter 1/

Region and country	Root mean squared error (RMSE) 2/ Fiscal years 2018–2022					Forecast errors Fiscal year 2022				
	Aug.	Nov.	Feb.	May	Aug.	Aug.	Nov.	Feb.	May	Aug.
Import value	<i>RMSE</i>					<i>Percent</i>				
Western Hemisphere	12.5	10.9	8.6	6.2	2.4	-19	-16	-10	-3	1
Canada	3.9	3.3	2.5	1.9	0.7	-19	-15	-7	-3	2
Mexico	4.8	4.3	3.7	2.6	1.0	-16	-13	-8	0	4
Central America	0.9	0.5	0.4	0.5	0.4	-25	-13	-9	-9	-1
Costa Rica	0.2	0.1	0.1	0.1	0.1	-8	-8	-8	-8	-7
Guatemala	0.3	0.2	0.2	0.1	0.1	-21	-6	-6	-6	1
Other Central America	1.9	1.8	1.8	1.8	1.8	-39	-22	-9	-9	5
Caribbean	0.7	0.6	0.5	0.5	0.4	-53	-32	-5	-5	-3
South America	2.5	2.5	2.0	1.0	0.4	-23	-23	-17	-7	-3
Argentina	0.3	0.3	0.1	0.2	0.1	-31	-31	-15	-15	-9
Brazil	0.9	0.9	0.6	0.4	0.1	-25	-25	-14	1	-1
Chile	0.3	0.3	0.2	0.2	0.1	-18	-18	-9	-4	5
Colombia	0.6	0.6	0.4	0.2	0.1	-27	-27	-14	-7	-5
Peru	0.4	0.4	0.4	0.2	0.1	-20	-20	-20	-5	1
Other South America	0.3	0.3	0.3	0.3	0.2	-20	-20	-20	-29	-16
Europe and Eurasia	3.5	3.4	3.4	2.7	0.9	-7	-4	-7	-6	-1
European Union-27 3/	2.2	1.8	1.6	1.3	0.5	-10	-7	-7	-6	-1
United Kingdom 4/	NA	NA	NA	NA	NA	40	40	-11	-11	-10
Asia	2.7	2.4	2.0	1.5	0.8	-16	-13	-9	-7	4
East Asia	0.8	0.9	0.6	0.6	0.3	-19	-19	-12	-12	-3
China	0.6	0.6	0.6	0.6	0.2	-17	-17	-17	-17	-7
Other East Asia	0.6	0.6	0.5	0.3	0.3	-22	-22	-3	-3	3
Southeast Asia	1.8	1.7	1.4	1.0	0.9	-15	-11	-8	-5	9
Indonesia	0.7	0.6	0.3	0.3	0.5	-28	-22	-3	7	23
Malaysia	0.1	0.1	0.1	0.1	0.1	-14	-14	-14	-14	-10
Thailand	0.4	0.3	0.4	0.3	0.2	-11	-11	-14	-14	-4
Vietnam	0.5	0.4	0.4	0.3	0.2	-23	-12	-12	-12	0
Other Southeast Asia	1.3	1.3	1.3	0.9	0.5	-2	-2	-5	-3	11
South Asia	0.4	0.3	0.3	0.2	0.1	-12	-6	-6	-6	-1
India	0.3	0.3	0.3	0.2	0.1	-14	-8	-8	-8	-2
Oceania	0.8	0.8	0.7	0.8	0.5	-22	-22	-21	-21	-13
Australia	0.5	0.5	0.6	0.5	0.3	-25	-25	-25	-25	-16
New Zealand	0.4	0.4	0.2	0.2	0.2	-26	-26	-8	-8	-2
Africa	0.5	0.5	0.4	0.3	0.3	-18	-18	-8	-8	-4
Sub-Saharan Africa	0.2	0.2	0.2	0.2	0.2	-14	-14	-11	-11	-4
Côte d'Ivoire	0.3	0.3	0.2	0.1	0.1	45	45	20	20	20
Middle East	0.4	0.4	0.3	0.3	0.1	-30	-30	-22	-22	-5
Turkey	0.3	0.3	0.2	0.2	0.1	-42	-42	-25	-25	-2

1/ Fiscal year is defined as October 1 of previous year through September 30 of current year. 2/ Root mean squared error (RMSE) is the squared root of the average squared difference between the forecast and actual value. 3/ The RMSEs and percent forecast errors for these categories combine errors of forecasts and actual trade values for the European Union (EU) before and after the United Kingdom (UK) separated from the union in 2021—the first forecast for the EU without the UK was August 2021. 4/ "NA" indicates that statistics were not able to be calculated because forecasts were not made for these trade partners/groups prior to the UK separating from the EU in 2021—the first forecast using this definition was made in August 2021.

Source: USDA, Economic Research Service and USDA, Foreign Agricultural Service.

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