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Outlook

Outlook for U.S. Agricultural Trade: May 2022

Bart Kenner, coordinator

Hui Jiang, coordinator

Dylan Russell, contributor

U.S. Agricultural Exports in Fiscal Year 2022 Forecast Up \$7.5 Billion to a Record \$191.0 Billion; Imports at \$180.5 Billion

U.S. agricultural exports in fiscal year (FY) 2022 are forecast at a record \$191.0 billion, up \$7.5 billion from the February forecast, led by increases in corn, cotton, and soybeans. Corn exports are forecast \$2.2 billion higher to \$19.1 billion due to record volumes and higher unit values.

Overall grain and feed exports are projected \$3.8 billion higher at \$46.7 billion, with gains across all commodities except rice. Cotton exports are forecast at a record \$9.0 billion, up \$1.0 billion from the previous forecast, driven by higher unit values. Soybean exports are projected up \$1.0 billion to a record \$32.3 billion as higher volumes more than offset lower unit values.

Total oilseed and product exports are forecast \$700 million higher to a record \$44.3 billion.

Overall livestock, poultry, and dairy exports are projected to increase by \$1.2 billion to \$40.4 billion, with gains across all major commodities except pork. Beef and veal exports are projected to increase by \$700 million on higher unit values as demand in East Asia is expected to remain firm. The projection for ethanol exports is forecast at a record \$3.8 billion, up \$900 million from the previous forecast due mainly to higher unit values. Horticultural exports are unchanged at \$38.5 billion.

The forecast for China is unchanged at \$36.0 billion from February, and a record if realized. Exports to the Western Hemisphere are projected \$6.5 billion higher, with Mexico and Canada forecast up \$2.5 billion each. China is forecast to remain the largest U.S. agricultural market in FY 2022, followed by Mexico and Canada.

U.S. agricultural imports in FY 2022 are projected at \$180.5 billion, up \$8.0 billion from the February forecast. This increase is primarily driven by rising unit values.

The forecasts in this report are based on policies in effect at the time of the May 12, 2022, *World Agricultural Supply and Demand Estimates (WASDE)* release, and the U.S. production forecasts thereof. Additionally, Russia's recent military invasion of Ukraine significantly increased the uncertainty of agricultural supply and demand conditions in that region and globally. The forecasts in this report represent an ongoing assessment of the short-term impacts resulting from this action.

Table 1—U.S. agricultural trade, fiscal years 2016–22 1/

Item	2016	2017	2018	2019	2020	2021	Forecast fiscal year 2/	
							February	May
<i>Billion dollars</i>								
Exports	133.7	144.8	148.6	140.1	139.7	172.2	183.5	191.0
Imports	121.1	127.2	136.5	141.4	143.4	163.3	172.5	180.5
Balance	12.6	17.6	12.1	-1.3	-3.7	8.9	11.0	10.5

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. 2/ Reflects forecasts in the May 12, 2022, *World Agricultural Supply and Demand Estimates* report.

Sources: 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

Growth Challenges and Setbacks

The global economic outlook for 2022 remains positive, but previous growth projections are moderated due to trade disruptions, rising energy costs, rising inflation rates, and commenced tightening of monetary policy. World real Gross Domestic Product (GDP) is projected to increase by 3.6 percent in 2022, a downward revision from the prior forecast of 4.4 percent. The Russian invasion of Ukraine has presented new challenges to global economic growth. The conflict and resulting response have further elevated energy prices, most immediately impacting the European market. Continued supply chain constraints and complications remain a significant global growth headwind. Central banks are expected to respond to rising inflation rates by implementing contractionary monetary policy. The tightening of monetary policy typically presents challenges to economic growth in the short term.

Projected growth for the United States' real GDP in 2022 is lowered to 3.7 percent from the previous estimate of 3.8 percent. The May 2022 Consumer Price Index (CPI) showed prices had increased by 8.3 percent over the past 12 months. The Federal Reserve has reaffirmed its intention to continue a series of interest rate hikes given persistent inflation and continued declines in the unemployment rate. The Federal Reserve is also poised to start the process of unwinding its balance sheet of assets accumulated from Coronavirus (COVID-19) pandemic purchasing programs, further tightening monetary conditions to combat inflation.

Real GDP in North America is expected to grow by a projected 3.6 percent in 2022. The real GDP forecast for Canada in 2022 is revised downward from 4.1 to 3.9 percent. Pandemic-related disruptions presented growth setbacks in the first quarter but have since dissipated. The real GDP forecast for Mexico is lowered to 2.0 percent from 2.8 percent. The lowered growth expectations are due primarily to tightening monetary conditions and supply chain disruptions.

The Eurozone economic growth projection is lowered from 3.9 to 2.8 percent for 2022. The slowdown in growth is due to rising energy prices, supply chain challenges, and fading household discretionary consumption. In addition to higher household energy costs, the energy cost shock has resulted in substantial producer price index increases in the Eurozone.

Collectively, South America's real GDP is projected to grow by 2.3 percent in 2022, raised from the previous forecast of 1.7 percent. Brazil is expected to grow 0.8 percent in 2022, raised from 0.7 percent previously. High inflation, elevated energy prices, and sharply tightening monetary

policy continue to pose barriers to Brazilian growth. Argentina is expected to grow by 4.0 percent in 2022, raised from previous estimates of 2.5 percent. Argentina is poised to benefit from rising agricultural commodity export prices, but policy uncertainties, a depreciating currency, and serious inflation still pose risks to growth.

China's 2021 real GDP is expected to grow by 4.4 percent in 2022, lowered from 4.8 percent previously. Strict pandemic shutdown policies and COVID-19 outbreaks continue to pose significant obstacles for China's economic growth. Japan's real GDP growth for 2022 is revised down to 2.4 percent from 3.3 percent previously. Though Japan's inflation rate remains well below global trend levels, the emergence of inflation presents a new challenge for policymakers. Over the past decade, Japan has faced a largely deflationary environment. South Korea's real GDP growth in 2022 is lowered to 2.5 percent from 3.0 percent.

Energy price increases continue to be a major source of inflation. The St. Louis Federal Reserve's global price of energy index in April is up 24 percent since January. The Russian invasion of Ukraine has also added additional volatility to crude oil prices, as the Chicago Board Options Exchange crude oil volatility index (OVX), started in 2007, reached an all-time high of 190 in March. Shortfalls in supply, occurring together with the return of demand post-pandemic, have provided steady upward price pressure. Natural gas prices were also directly impacted by the conflict in Ukraine. The Henry Hub natural gas spot price average for April was up 34 percent from March, and up 147 percent from April 2021. U.S. exports of liquefied natural gas to Europe have become increasingly vital due to geopolitical tensions. Nitrogen fertilizer prices continue to rise because natural gas spot prices remain elevated. Natural gas is a vital production input in the manufacturing of nitrogen fertilizer.

Table 2—Macroeconomic variables affecting U.S. agricultural exports 1/

Region/Country	Exchange rate 2/		Real GDP per capita growth rate			Share of world		Share of U.S.
	2021	2022	2021	2022	2022 Previous forecast	GDP	Population	agricultural exports
	Percent change					2018–20 average		
World 3/	-1.8	3.5	6.1	3.6	4.4			
North America	-6.1	1.0	5.5	3.6	3.7	27.5	7.8	28.3
United States	--	--	5.7	3.7	3.8	24.1	4.2	--
Canada	-6.5	-1.0	4.6	3.9	4.1	2.0	0.5	15.2
Mexico	-5.7	3.3	4.8	2.0	2.8	1.4	1.6	13.1
Emerging markets 4/	-5.2	0.7	6.8	3.8	4.8	24.1	43.3	15.7
Brazil	-3.5	0.9	4.6	0.8	0.7	2.5	2.7	0.8
Russia	2.0	57.5	4.7	-8.5	2.8	1.9	1.8	0.2
India	-0.2	3.6	8.9	8.2	8.8	3.3	17.5	1.3
Indonesia	-2.0	5.2	3.7	5.4	5.6	1.3	3.4	2.0
China	-6.6	-1.5	8.1	4.4	4.8	15.1	17.9	11.4
Europe and Central Asia	-0.2	13.6	5.9	1.9	3.9	26.9	10.8	10.2
Eurozone	-3.7	8.3	5.3	2.8	3.9	15.3	4.5	7.7
Ukraine	1.2	13.8	3.4	-35.0	3.2	0.1	0.5	0.1
Turkey	26.3	81.9	11.0	2.7	3.3	1.1	1.1	0.9
Asia and Oceania	0.0	3.2	2.8	3.5	4.0	39.3	59.1	43.6
Japan	2.8	7.9	1.6	2.4	3.3	6.0	1.6	8.5
South Korea	-3.1	7.1	4.0	2.5	3.0	1.9	0.7	5.5
Australia	-8.4	12.0	4.7	4.2	4.0	1.6	0.3	1.1
Other Southeast Asia 5/	0.0	3.0	3.1	5.1	5.3	1.6	7.6	6.7
South America	1.2	1.7	7.2	2.3	1.7	4.9	8.3	10.7
Argentina	34.6	45.5	10.2	4.0	2.5	0.8	0.6	0.3
Other South America 6/	1.0	0.8	10.8	3.4	2.9	1.2	1.6	4.9
Middle East and North Africa	10.4	2.2	5.0	4.8	4.4	4.2	6.5	5.9
Sub-Saharan Africa	5.0	6.0	4.5	3.8	3.7	2.0	16.9	1.2

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 real exchange rate is a U.S. agricultural exports-weighted index. 4/ Countries listed under "emerging markets" are also included under other listed regions. 5/ Includes Malaysia, Philippines, Thailand, and Vietnam. 6/ Includes Chile, Colombia, Peru, Bolivia, Paraguay, and Uruguay.

Sources: Calculations and compilation by USDA, Economic Research Service using data and forecasts from Reuters; IHS Markit; the International Monetary Fund; and Oxford Economics.

Export Products

FY 2022 U.S. grain and feed exports are forecast at \$46.7 billion, up \$3.8 billion from the February forecast on higher unit values. Corn exports are forecast at \$19.1 billion, up \$2.2 billion from the February forecast, on both higher volumes and unit values. Sales and shipments of U.S. corn have accelerated as Russia's invasion has constrained exports from Ukraine, which has also kept prices elevated. South America is expected to have strong volumes in the coming months from record production, also helping to fill the gap left by lower Ukrainian exports. Sorghum exports are forecast at \$2.6 billion, up \$100 million from the February forecast, as higher unit values more than offset lower volumes. U.S. sorghum continues to compete with exports from Argentina and Australia, limiting growth in volumes. Feed and fodder exports are forecast at \$9.7 billion, up \$900 million from the February forecast, on higher unit values for distiller's dried grains with solubles (DDGS), hay, and dog and cat food. Wheat exports are forecast at \$8.4 billion, up \$600 million from the previous forecast, on higher unit values which more than offset lower volumes. Global wheat prices have spiked following Russia's invasion of Ukraine and the resultant disruptions to trade. Additionally, drought impacting the U.S. winter wheat crop has kept unit values elevated at multi-year highs, though it has reduced U.S. export competitiveness. Rice exports are forecast at \$2.0 billion, unchanged from the previous forecast, with higher unit values more than offsetting lower volumes to markets in Asia and the Middle East. Unit values are forecast higher due to tighter supplies.

FY 2022 oilseeds and products are forecast \$700 million higher to a record \$44.3 billion. Higher soybean exports lead the way as higher volumes more than offset lower unit values. Soybean exports are projected to reach a record \$32.3 billion, \$1.0 billion higher than the February forecast. U.S. export sales continue to run at a near-record pace as drought reduced South American supplies. Soybean oil climbs \$200 million to \$1.2 billion on both higher unit values and volumes. Tight global vegetable oil supplies continue to underpin soybean oil unit values and strong export volumes. Soybean meal exports are expected to fall \$200 million to \$6.0 billion due to strong domestic demand.

FY 2022 cotton exports are forecast up \$1.0 billion from the February forecast to a record \$9.0 billion on higher unit values. Global prices continue to surge to 11-year highs and are expected to significantly support strong export unit values for the remainder of the fiscal year.

Livestock, poultry, and dairy exports are raised \$1.2 billion to \$40.4 billion as gains in beef and dairy offset lower estimates for pork. Beef is up \$700 million to \$10.2 billion on higher unit values thanks to firm East Asia demand. Dairy exports are up \$600 million to \$8.4 billion due to

higher forecast exports of cheese and butter coupled with higher unit values for a range of dairy products. Poultry and poultry product exports are up \$200 million to \$6.8 billion on higher prices. Hides, skins, and furs are up \$100 million as global economic recovery supports leather consumption. Pork exports are forecast at \$6.2 billion, down \$100 million on continued weakness in demand from China and increased competition in other Asian markets, which more than offsets higher unit values.

FY 2022 horticultural product exports are unchanged from the February forecast at \$38.5 billion. Whole and processed tree nuts are unchanged at \$9.4 billion, with most shipments destined for Europe and Asia. Fresh and processed fruit and vegetables are unchanged at \$7.3 billion and \$7.1 billion, respectively, on stable shipments to top markets Canada and Mexico.

FY 2022 U.S. ethanol exports forecast at a record \$3.8 billion, up \$900 million from February and \$1 billion above the 2012 record. Higher unit values drive most of the change although higher sales volume is expected and, if realized, would remain 260 million gallons below the 1.6-billion-gallon record set in 2018. Persistently high corn and gasoline prices raise ethanol export unit value 40 percent above the previous year's average. Volume growth remains constrained given the absence of sales to China and modest sales recovery to Brazil. Despite duty elimination, sales to Brazil remain modest due to headwinds created by a weak Brazilian real, demand erosion from inflation, and prioritization of ethanol production over sugar. Higher fuel prices impact price-sensitive countries such as Philippines and Colombia. Volume is higher mainly on strong fuel ethanol sales to Canada and the United Kingdom and non-fuel sales to Mexico. Insufficient global gasoline refining capacity and Russian oil and gas market disruption fears pressure gasoline prices higher and threaten fuel demand in key U.S. fuel ethanol markets.

Table 3—U.S. agricultural exports: Value and volume by commodity, fiscal years 2021–22

Commodity	October–March		Fiscal year 2021	Forecast Fiscal year 2022	
	FY2021	FY2022		February	May
VALUE					
<i>–Billion dollars–</i>					
Grains and feeds 1/	19.530	22.598	42.656	42.9	46.7
Wheat 2/	3.099	3.492	7.231	7.8	8.4
Rice	1.034	0.948	2.040	2.0	2.0
Corn	7.686	9.308	17.473	16.9	19.1
Sorghum	1.135	1.420	1.980	2.5	2.6
Feeds and fodders	4.176	4.966	9.076	8.8	9.7
Oilseeds and products 3/	28.105	29.231	37.797	43.6	44.3
Soybeans	21.920	22.875	26.476	31.3	32.3
Soybean meal 4/	3.239	3.026	5.659	6.2	6.0
Soybean oil	0.589	0.852	0.837	1.0	1.2
Livestock, poultry, and dairy	17.023	20.299	37.009	39.2	40.4
Livestock products 3/	10.998	12.953	23.698	24.9	25.3
Beef and veal 5/	3.759	5.376	8.672	9.5	10.2
Pork 5/	3.530	3.025	7.018	6.3	6.2
Beef and pork variety meats 5/	0.865	1.061	1.926	1.9	2.1
Hides, skins, and furs	0.426	0.588	1.079	1.1	1.2
Poultry and products	2.733	3.320	6.002	6.6	6.8
Broiler meat 5/ 6/	1.618	1.959	3.578	4.0	4.2
Dairy products	3.291	4.026	7.310	7.8	8.4
Tobacco and products 3/	0.513	0.374	1.065	0.9	0.8
Cotton 3/ 7/	3.226	3.636	6.232	8.0	9.0
Seeds	1.066	1.136	1.659	1.6	1.6
Horticultural products 3/ 8/	18.798	19.574	37.644	38.5	38.5
Fruits and vegetables, fresh	3.280	3.284	7.143	7.3	7.3
Fruits and vegetables, processed	3.446	3.503	7.032	7.1	7.1
Tree nuts, whole and processed	5.077	5.252	8.831	9.4	9.4
Sugar and tropical products 9/	2.753	2.933	5.662	5.9	5.9
Ethanol 10/	1.310	2.020	2.399	2.9	3.8
Total	92.323	101.800	172.123	183.5	191.0
Major bulk products 11/	38.668	42.092	62.640	66.9	74.2
<i>– Million metric tons –</i>					
VOLUME					
Wheat 2/	11.513	9.276	25.494	21.3	20.3
Rice	1.955	1.578	3.748	3.2	3.1
Corn	33.708	33.390	68.491	61.5	63.5
Sorghum	4.295	4.360	7.032	8.0	7.8
Feeds and fodders	10.548	10.979	21.919	21.8	21.5
Soybeans	48.499	42.685	56.499	55.8	58.2
Soybean meal 4/	7.171	6.637	12.490	13.1	12.7
Soybean oil	0.606	0.581	0.782	0.6	0.8
Beef and veal 5/	0.533	0.568	1.122	1.1	1.1
Pork 5/	1.298	1.085	2.475	2.2	2.2
Beef and pork variety meats 5/	0.353	0.343	0.760	0.7	0.8
Broiler meat 5/ 6/	1.729	1.705	3.372	3.3	3.4
Cotton 7/	1.931	1.500	3.492	3.3	3.3
Major bulk products 11/	102.341	93.057	165.677	153.1	156.2

Note: Totals may not add up due to rounding.

1/ Includes barley, oats, rye, corn gluten feed and meal, and processed grain products. 2/ Excludes wheat flour. 3/ Includes products added with the change in definition of "Agricultural Products." 4/ Includes soy flours made from protein meals. 5/ Includes chilled, frozen, and processed meats. 6/ Includes only federally inspected products. 7/ Includes linters and waste. 8/ Includes food preparations, essential oils, and wine. 9/ Includes coffee and cocoa. 10/ Non-beverage ethanol. 11/ Includes wheat, rice, coarse grains, soybeans, and cotton. 9/ FY = fiscal year

Sources: Compiled by 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 Exports

Outlook for Fiscal Year 2022 Exports

Agricultural exports in FY 2022 are forecast at \$191.0 billion, up \$7.5 billion from the February projection. Mexico, Canada, and Central America account for the largest increases.

Asia

Forecast exports to Japan are up \$200 million to \$15.0 billion, largely due to higher beef and corn exports. The forecast for China is unchanged at \$36.0 billion.

The export forecast for Southeast Asia is up a collective \$300 million. Higher soybean meal, dairy, and wheat sales to the Philippines, as well as increased dairy and food prep exports to Malaysia, more than offset lower corn, soybean meal, and soybean demand in Vietnam.

Forecast exports to India are raised \$400 million on strong demand for soybean oil, cotton, and ethanol. The total export forecast for South Asia is unchanged, however, as lower exports to Bangladesh offset the increase to India.

Western Hemisphere

The export forecast for Canada climbs \$2.5 billion to \$28.5 billion, largely driven by the strong performance of corn and ethanol. The export forecast for Mexico surges \$2.5 billion to \$29.5 billion, reflecting robust exports of corn, soybeans, dairy, and wheat to date. Mexico is forecast as the second largest U.S. agricultural market.

The export forecast for the Caribbean is \$600 million higher on account of strong beef, poultry, and food prep exports.

Forecast exports to Central America are up \$900 million, driven by robust exports of corn and wheat.

In South America, forecast exports to Colombia are up \$100 million on corn and wheat exports to date. The export forecast for Brazil is down \$100 million due to lower-than-expected shipments to date.

Europe, Africa, the Middle East, and Oceania

Exports to the United Kingdom are forecast at \$2.0 billion, up \$200 million from the previous projection, largely due to higher demand of ethanol and soybeans. The forecast for the EU-27 is unchanged at \$11.5 billion.

Exports to Russia are forecast down \$100 million, as shipments slowed drastically since its invasion of Ukraine.

The export forecast for the Middle East is increased by \$200 million due to strong soybean and cotton sales to Turkey.

The export forecast for North Africa is down \$100 million due to lower corn and tree nut exports to Morocco.

Forecast exports to Sub-Saharan Africa are up \$100 million because of increased wheat shipments to Nigeria.

Table 4—U.S. agricultural exports: Value by region, fiscal years 2021–22

Region and country 1/	October–March		Fiscal year	Share of	Forecast	
	2021	2022	2021	2021	Fiscal year 2022	
	–Billion dollars–			total	February	May
				Percent	–Billion dollars–	
VALUE						
Asia	46.498	48.712	80.520	46.8	84.5	85.0
East Asia	36.222	38.462	61.738	35.9	66.1	66.3
Japan	6.462	7.527	13.598	7.9	14.8	15.0
China	22.163	23.211	33.406	19.4	36.0	36.0
Hong Kong	0.999	0.880	1.773	1.0	1.7	1.7
Taiwan	2.084	2.108	3.788	2.2	3.8	3.8
South Korea	4.510	4.732	9.161	5.3	9.8	9.8
Southeast Asia	7.633	7.493	14.579	8.5	14.0	14.3
Indonesia	1.680	1.397	3.092	1.8	3.0	3.0
Philippines	1.634	1.879	3.569	2.1	3.6	4.0
Malaysia	0.591	0.617	1.161	0.7	1.1	1.2
Thailand	1.033	0.991	1.696	1.0	1.8	1.8
Vietnam	1.979	1.615	3.584	2.1	3.6	3.4
South Asia	2.643	2.757	4.203	2.4	4.4	4.4
India	0.915	1.388	1.646	1.0	1.8	2.2
Western Hemisphere	31.421	37.645	65.515	38.1	71.1	77.6
North America	22.192	26.953	47.931	27.8	53.0	58.0
Canada	11.341	13.506	24.055	14.0	26.0	28.5
Mexico	10.851	13.446	23.877	13.9	27.0	29.5
Caribbean	2.094	2.547	4.254	2.5	4.4	5.0
Dominican Republic	0.919	0.992	1.746	1.0	1.8	1.9
Central America	2.722	3.557	5.602	3.3	5.6	6.5
South America	4.414	4.588	7.728	4.5	8.1	8.1
Brazil	0.441	0.473	0.744	0.4	1.0	0.9
Colombia	1.782	2.215	3.041	1.8	3.5	3.6
Peru	0.663	0.461	1.019	0.6	1.0	1.0
Venezuela	0.317	0.304	0.655	0.4	0.6	0.6
Europe/Eurasia	7.466	8.112	13.298	7.7	14.3	14.5
European Union-27	6.085	6.624	10.536	6.1	11.5	11.5
United Kingdom	0.845	0.977	1.719	1.0	1.8	2.0
FSU-12 2/	0.254	0.278	0.497	0.3	0.5	0.5
Russia	0.123	0.115	0.236	0.1	0.3	0.2
Middle East	2.826	3.041	5.513	3.2	5.8	6.0
Turkey	0.560	0.891	1.203	0.7	1.4	1.6
Saudi Arabia	0.750	0.710	1.332	0.8	1.3	1.3
Africa	3.024	3.277	5.126	3.0	5.6	5.6
North Africa	2.109	2.169	2.892	1.7	3.3	3.2
Egypt	1.421	1.594	1.829	1.1	2.0	2.0
Sub-Saharan Africa	0.915	1.107	2.233	1.3	2.3	2.4
Nigeria	0.265	0.341	0.627	0.4	0.7	0.8
Oceania	1.088	1.015	2.150	1.2	2.1	2.1
Total	92.323	101.800	172.123	100.0	183.5	191.0

Notes: Totals may not add up due to rounding.

1/ Projections are based primarily on trend or recent average growth analysis. 2/ The 15 Republics of the Former Soviet Union (FSU), not including the 3 Baltic Republics: Estonia, Latvia, and Lithuania.

Sources: 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

U.S. agricultural imports in FY 2022 are forecast to increase to a record \$180.5 billion, raised \$8.0 billion from the February forecast. Import values are up more than 20 percent for the first half of FY 2022 compared to the previous year resulting from increases in imports of every commodity category.

The FY 2022 forecast for horticultural product imports is expected to increase to \$92.2 billion, \$3.2 billion above the previous forecast in February. Fresh and processed fruit imports are expected to rise by \$1.2 billion and \$1.0 billion, respectively, as import quantities of these products continue their long-running upward trend and unit values continue to increase. Imports of processed vegetables and distilled spirits are expected to increase \$200 million and \$300 million, respectively, from the previous forecast. This is due to a price increase as the volume of processed vegetable imports remains unchanged and the forecast for volume of distilled spirits is decreased slightly. The forecast for cut flowers and nursery stock is increased \$200 million as volumes continue to outpace last year's imports.

U.S. imports of sugar and tropical products are forecast to reach \$26.5 billion in FY 2022, a \$600 million upward adjustment from the previous forecast. Sweeteners and product imports are expected to be worth \$5.9 billion, rising \$400 million from the February forecast as demand for confections outpaces increased domestic production. Imports of coffee and products are forecast to be \$700 million more than the February forecast at \$8.0 billion. Import volumes remain constant against large increases to unit values resulting from tight global supplies after a season with drought and late freezes in Brazil and adversely large amounts of rain in Colombia.

Livestock, poultry, and dairy imports are raised \$2.0 billion to \$25.6 billion on higher estimates for most product groups. Higher volumes and unit values drive beef import estimates \$800 million higher on greater beef trimmings imports from Brazil. Cattle imports are down by \$200 million on lower volumes from Mexico. Poultry and poultry product imports are raised \$300 million to \$1.2 billion as strong prices are pulling in greater volumes. Pork imports are forecast \$200 million higher on tighter domestic supplies and stronger prices. Dairy imports are up \$100 million due to higher unit values and volumes of cheese and milk proteins.

The forecast for total oilseeds and oilseed product imports is up \$1.1 billion from the February forecast to \$14.5 billion. The increase is largely due to rising prices for vegetable oil imports given low global supplies reflecting recent droughts in South America and Canada as well as trade restrictions on Indonesian palm oil exports.

The forecast for grains and feed product imports is up by \$1.2 billion from the February projection at \$17.8 billion for FY 2022. Grain product imports, such as baked goods, pastas, and other food preparation products, are forecast to increase \$600 million as values increase against steady import volumes. The remaining \$600 million increase in the forecast results from increased values of imports for grains such as rice, rye, and barley. Other imports are unchanged from the previous forecast at \$3.9 billion.

Table 5--U.S. agricultural imports: Value and volume by commodity, fiscal years 2021--22

Commodity	October–March		Fiscal year 2021	Forecast Fiscal year 2022	
	FY 2021	FY 2022		February	May
VALUE					
<i>–Billion dollars –</i>					
Livestock, dairy, and poultry	9.211	13.049	20.972	23.6	25.6
Livestock and meats	7.132	10.313	16.354	18.7	20.3
Cattle and calves	0.856	0.942	1.557	2.0	1.8
Swine	0.213	0.268	0.531	0.5	0.6
Beef and veal	2.980	4.678	7.423	8.7	9.5
Pork	0.865	1.292	1.968	2.3	2.5
Poultry	0.396	0.609	0.893	0.9	1.2
Dairy products	1.684	2.126	3.724	4.0	4.1
Cheese	0.659	0.744	1.430	1.6	1.7
Grains and feed	7.486	9.013	15.752	16.6	17.8
Grain products	5.367	6.376	11.195	12.0	12.6
Oilseeds and products	5.280	7.911	12.600	13.5	14.5
Vegetable oils	3.032	4.929	7.610	8.8	9.9
Horticulture products	41.658	47.452	86.147	89.0	92.2
Fruits, fresh	8.188	9.711	15.513	16.3	17.5
Fruits, processed	3.069	3.877	6.451	6.5	7.5
Fruit juices	1.055	1.389	2.142	2.1	2.4
Nuts, whole and processed	1.341	1.613	2.856	2.9	2.9
Vegetables, fresh	5.683	5.861	10.513	10.7	10.7
Vegetables, processed	3.136	3.582	6.513	6.8	7.0
Wine	3.198	3.594	7.485	7.7	7.7
Malt beer	2.944	3.106	6.377	6.4	6.4
Distilled spirits	4.314	5.360	9.804	10.4	10.7
Essential oils	2.092	2.203	4.413	4.4	4.4
Cut flowers and nursery stock	1.371	1.693	2.825	2.9	3.1
Sugar and tropical products	11.211	13.401	23.918	25.9	26.5
Sweeteners and products	2.418	3.076	5.365	5.5	5.9
Confections	0.997	1.269	2.214	2.2	2.5
Cocoa and products	2.674	2.747	5.353	5.5	5.5
Coffee and products	2.933	4.280	6.733	7.3	8.0
Other imports 1/	2.009	2.004	3.902	3.9	3.9
Total agricultural imports	76.855	92.829	163.291	172.5	180.5
VOLUME					
<i>–Million metric tons–</i>					
Cattle and calves 2/	0.566	0.518	1.824	2.0	1.8
Swine 2/	1.487	1.635	6.518	5.9	6.6
Beef and veal	0.234	0.292	1.073	1.2	1.2
Pork	0.108	0.156	0.457	0.6	0.6
Fruits, fresh	6.312	6.679	12.928	13.1	13.3
Fruits, processed	0.997	1.098	2.062	2.2	2.2
Fruit juices 3/	2.255	2.763	4.456	4.7	5.0
Vegetables, fresh	4.916	4.915	8.910	9.3	8.9
Vegetables, processed	2.306	2.582	4.755	5.0	5.0
Vegetable oils 3/	2.309	2.777	5.189	5.4	5.4
Wine 3/	0.793	0.785	1.727	1.7	1.7
Malt beer 3/	2.176	2.239	4.658	4.5	4.7
Distilled spirits 4/	0.454	0.476	0.931	1.1	1.0
Cocoa and products	0.755	0.694	1.490	1.5	1.4
Coffee and products	0.761	0.813	1.632	1.7	1.6

Notes: Totals may not add due to rounding.

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

Sources: 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

Outlook for Fiscal Year 2022 Imports

Western Hemisphere

Regional imports from the Western Hemisphere are forecast to increase by \$7.2 billion from the previous forecast of \$98.9 billion to \$106.1 billion. Mexico is expected to remain the largest foreign supplier of agricultural goods to the United States, with Canada being second, and the EU just behind as the third largest. Mexico's sales are forecast to be \$42.9 billion, increasing \$3.5 billion from the February forecast due to forecast increases in fresh and processed fruit, processed vegetables, and distilled spirits among other products. The forecast value of U.S. agricultural imports from Canada is increased by \$1.5 billion to \$34.8 billion from the February projection, based on upward adjustments to imports of baked goods, cereal products, and oilseed products.

Imports from South America in FY 2022 are projected to rise \$2.2 billion from the February forecast to \$20.1 billion. Imports from Brazil are expected to increase \$900 million from the previous forecast due to greater expected sales values of coffee and beef products, while Chile (up \$200 million), Colombia (up \$300 million), and Peru (up \$600 million) are expected to supply more agricultural products than were forecast in February. These increases are attributed to expected increases in imports of poultry, cut flowers and nursery stock, coffee, and fresh fruit from those countries.

Europe

Imports from the EU for FY 2022 are forecast to be \$33.0 billion, a \$200 million increase from the February forecast due to expected increases in import values of confections and dairy products.

Asia

Imports from Asia in FY 2022 are expected to be \$600 million higher than the previous forecast, totaling \$27.4 billion as the price of vegetable oil products from Indonesia and other Southeast Asian countries continue to rise as a result of tight global supplies due to continued growth in global demand.

Oceania, Africa, and the Middle East

Imports from Oceania (\$6.3 billion), Africa (\$3.7 billion), and the Middle East (\$1.9 billion) are expected to remain unchanged from the February forecast.

Table 6—U.S. agricultural imports: Value by region, fiscal years 2021–22

Region and country	October–March		Fiscal year 2021	Forecast	
	FY 2021	FY 2022		Fiscal year 2022	
			February	May	
VALUE					
			---Billion dollars---		
Western Hemisphere	44.027	53.738	91.487	98.9	106.1
Canada	13.375	16.828	29.489	33.3	34.8
Mexico	18.056	21.453	36.463	39.4	42.9
Central America	2.824	3.399	6.493	6.9	6.9
Costa Rica	0.797	0.838	1.707	1.7	1.7
Guatemala	1.075	1.277	2.353	2.6	2.6
Other Central America	0.953	1.284	2.433	2.7	2.7
Caribbean	0.877	0.895	1.879	1.8	1.8
South America	8.895	11.162	17.163	17.9	20.1
Argentina	0.635	0.852	1.531	1.6	1.6
Brazil	2.243	3.031	4.520	5.1	6.0
Chile	1.560	1.840	2.962	3.2	3.4
Colombia	1.549	2.020	3.142	3.5	3.8
Peru	1.835	2.252	2.923	3.0	3.6
Other South America	1.073	1.167	2.085	1.5	1.7
Europe and Eurasia	15.086	17.044	33.180	34.9	35.1
European Union-27	14.128	15.982	31.159	32.8	33.0
United Kingdom	0.959	1.063	2.021	2.1	2.1
Asia	11.168	13.720	24.380	26.8	27.4
East Asia	3.330	3.897	6.946	7.1	7.1
China	1.955	2.369	3.949	4.0	4.0
Other East Asia	1.374	1.529	2.997	3.1	3.1
Southeast Asia	6.149	8.087	13.981	16.1	16.7
Indonesia	1.173	2.268	3.050	4.7	5.2
Malaysia	0.454	0.480	0.949	1.0	1.0
Thailand	1.286	1.563	2.746	3.0	3.0
Vietnam	1.004	1.207	2.349	2.3	2.3
Other Southeast Asia	2.232	2.569	4.886	5.1	5.2
South Asia	1.689	1.736	3.453	3.6	3.6
India	1.484	1.511	3.045	3.1	3.1
Oceania	2.738	3.712	6.329	6.3	6.3
Australia	1.452	1.957	3.286	3.2	3.2
New Zealand	1.156	1.612	2.804	3.1	3.1
Africa	1.760	1.779	3.598	3.7	3.7
Sub-Saharan Africa	1.403	1.355	2.862	2.8	2.8
Côte d'Ivoire	0.589	0.363	1.037	1.0	1.0
Middle East	0.942	1.211	1.871	1.9	1.9
Turkey	0.591	0.857	1.211	1.3	1.3
World total	76.855	92.829	163.291	172.5	180.5

Notes: Totals may not add due to rounding.

Sources: 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

Commodity	Root mean squared error (RMSE) 1/ Fiscal year 2017–2021					Forecast errors Fiscal year 2021				
	Aug.	Nov.	Feb.	May	Aug.	Aug.	Nov.	Feb.	May	Aug.
Export value	<i>RMSE</i>					<i>Percent</i>				
Grains and feeds	5.6	3.8	3.1	1.2	0.4	-27	-17	-11	-3	1
Wheat	1.0	1.0	0.7	0.4	0.3	-17	-14	-5	-5	-2
Rice	0.1	0.2	0.2	0.1	0.0	-7	-7	-2	-2	-2
Corn	4.2	2.6	2.2	0.8	0.3	-48	-24	-20	-2	4
Sorghum 2/	NA	NA	NA	NA	NA	NA	NA	NA	21	11
Feeds and fodder	0.6	0.5	0.7	0.6	0.2	-11	-11	-11	-11	-4
Oilseeds and products	4.6	1.6	1.1	1.6	1.4	-23	-4	1	7	6
Soybeans	3.7	1.7	1.0	1.4	1.4	-23	-1	3	9	9
Soybean meal	0.9	0.6	0.5	0.3	0.1	-28	-12	1	6	4
Soybean oil	0.2	0.2	0.2	0.2	0.0	8	20	43	43	-4
Livestock, poultry, and dairy	2.6	2.4	2.1	1.3	0.4	-13	-13	-12	-8	-2
Livestock products	1.8	1.8	1.4	1.0	0.3	-13	-13	-12	-8	-2
Beef and veal	1.2	1.0	0.8	0.6	0.2	-20	-18	-15	-12	-3
Pork	0.4	0.3	0.2	0.2	0.2	0	-3	-3	3	3
Beef and pork variety meats	0.2	0.2	0.2	0.1	0.1	-13	-17	-17	-7	-7
Hides, skins, and furs	0.3	0.3	0.2	0.2	0.1	-7	-17	-17	-26	-17
Poultry and products	0.4	0.4	0.4	0.3	0.1	-15	-13	-12	-8	-3
Broiler meat	0.3	0.2	0.3	0.3	0.1	-13	-11	-11	-11	-5
Dairy products	0.6	0.5	0.4	0.2	0.1	-10	-10	-11	-4	0
Tobacco, unmanufactured	0.2	0.2	0.2	0.2	0.1	-34	-34	-44	-34	-15
Cotton 3/	1.4	1.1	0.7	0.4	0.2	-19	-15	-5	-2	1
Planting seeds	0.2	0.2	0.2	0.1	0.1	2	2	2	-4	-4
Horticultural products 3/	1.1	1.2	1.2	1.4	0.5	-4	-6	-6	-7	-1
Fruits and vegetables, fresh	0.3	0.3	0.3	0.3	0.2	-3	-3	-3	-3	1
Fruits & veget., processed	0.4	0.4	0.4	0.4	0.1	-8	-8	-8	-8	0
Tree nuts, whole/processed	0.5	0.5	0.5	0.3	0.2	2	2	2	-3	-3
Sugar and tropical products	0.3	0.3	0.3	0.3	0.2	1	1	1	1	1
Ethanol 2/	NA	NA	NA	NA	NA	NA	NA	NA	NA	-8
Total agricultural exports 3/	13.2	8.2	6.2	2.3	0.9	-16	-9	-6	-2	1
Major bulk products 3/	10.7	6.6	5.6	3.6	2.6	-29	-12	-6	3	3
Export volume										
Wheat	2.4	3.2	2.3	1.3	1.3	2	3	3	0	-2
Rice	0.5	0.4	0.4	0.3	0.1	-4	-4	-4	-4	-1
Corn	10.8	9.0	8.1	6.6	2.1	-18	-4	-5	14	6
Sorghum 2/	NA	NA	NA	NA	NA	NA	NA	NA	NA	7
Feeds and fodder	0.5	0.6	0.7	0.7	0.7	-1	-1	-1	-6	-3
Soybeans	5.3	3.6	3.1	3.6	3.2	2	6	8	10	9
Soybean meal	1.1	1.1	1.1	1.0	0.4	-2	-2	3	3	2
Soybean oil	0.3	0.3	0.3	0.1	0.0	53	53	53	28	2
Beef and veal	0.1	0.1	0.1	0.0	0.0	-11	-11	-11	-2	-2
Pork	0.1	0.1	0.1	0.1	0.0	5	1	1	1	1
Beef and pork variety meats	0.1	0.1	0.1	0.1	0.0	-8	-8	-8	-8	-8
Broiler meat	0.1	0.1	0.1	0.0	0.0	-7	-4	-1	-1	-1
Cotton	0.4	0.4	0.3	0.2	0.1	-3	-8	-3	0	0
Major bulk products 3/	12.1	10.0	9.6	6.8	5.6	-5	2	3	7	5

1/ Root mean squared error (RMSE) is the squared root of the average squared difference between the forecast and actual values. 2/ "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. 3/ 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

Region and country	Root mean squared error (RMSE) 1/ Fiscal year 2017–2021					Forecast errors Fiscal year 2021				
	Aug.	Nov.	Feb.	May	Aug.	Aug.	Nov.	Feb.	May	Aug.
Export value	<i>RMSE</i>					<i>Percent</i>				
Asia	5.7	4.9	2.9	1.6	2.2	-11	-11	-5	0	4
East Asia	4.8	4.1	2.2	2.1	2.2	-13	-13	-6	0	6
Japan	1.1	1.1	0.9	0.7	0.4	-9	-9	-9	-9	-2
China	6.0	4.9	2.9	3.5	2.8	-19	-19	-6	5	11
Hong Kong	0.9	0.9	0.6	0.3	0.2	41	41	24	24	7
Taiwan	0.4	0.3	0.3	0.3	0.2	-2	-2	-2	0	0
South Korea	0.9	0.9	0.8	0.6	0.3	-10	-10	-10	-7	0
Southeast Asia	1.7	1.6	1.4	1.0	0.4	-6	-6	-6	-3	0
Indonesia	0.4	0.4	0.3	0.2	0.1	-3	-3	-3	0	7
Philippines	0.2	0.2	0.2	0.2	0.1	-8	-8	-8	-5	4
Malaysia	0.2	0.1	0.1	0.1	0.1	-5	-5	-5	-5	-5
Thailand	0.4	0.4	0.3	0.2	0.1	12	12	12	12	6
Vietnam	0.8	0.6	0.6	0.5	0.2	-2	-2	-2	6	6
South Asia	0.7	0.7	0.7	0.5	0.1	5	5	5	0	0
India	0.2	0.2	0.2	0.3	0.2	-9	-9	-9	-21	-3
Western Hemisphere	4.5	4.5	4.4	3.8	1.4	-15	-15	-15	-12	-4
North America	3.6	3.6	3.6	3.3	1.3	-16	-16	-16	-14	-5
Canada	1.5	1.5	1.5	1.2	0.5	-13	-13	-13	-10	-2
Mexico	2.1	2.1	2.1	2.1	1.0	-18	-18	-18	-18	-8
Caribbean	0.3	0.3	0.3	0.2	0.2	-13	-13	-13	-11	-6
Dominican Republic	0.2	0.2	0.2	0.1	0.0	-20	-20	-20	-14	-3
Central America	0.5	0.5	0.5	0.4	0.2	-18	-18	-18	-13	-5
South America	0.5	0.5	0.5	0.5	0.3	-11	-11	-8	-2	0
Brazil	0.2	0.2	0.1	0.1	0.1	-6	-6	-6	7	7
Colombia	0.2	0.2	0.2	0.2	0.1	2	2	2	2	5
Peru	0.2	0.2	0.2	0.2	0.1	-2	-2	-2	18	8
Venezuela	0.2	0.2	0.1	0.1	0.0	-54	-54	-39	-8	-8
Europe and Eurasia	1.4	1.3	0.9	0.6	0.4	-7	-7	-7	-6	1
European Union-27 2/	1.2	1.1	0.7	0.5	0.4	1	1	1	1	3
United Kingdom 3/	NA	NA	NA	NA	NA	NA	NA	NA	NA	-1
FSU-12 4/	0.1	0.1	0.1	0.0	0.0	1	1	1	1	1
Russia	0.1	0.1	0.1	0.1	0.0	-15	-15	-15	-15	27
Middle East	0.5	0.5	0.5	0.3	0.1	3	3	3	0	0
Turkey	0.2	0.2	0.2	0.2	0.2	8	8	8	-9	-9
Saudi Arabia	0.2	0.2	0.2	0.1	0.1	-2	-2	-2	-2	-2
Africa	0.8	0.8	0.7	0.6	0.2	-14	-14	-10	9	3
North Africa	0.8	0.8	0.8	0.7	0.3	-7	-7	0	31	14
Egypt	0.5	0.6	0.6	0.6	0.1	-2	-2	9	37	9
Sub-Saharan Africa	0.3	0.3	0.3	0.3	0.1	-24	-24	-24	-19	-10
Nigeria	0.2	0.2	0.2	0.2	0.1	-36	-36	-36	-36	-20
Oceania	0.1	0.1	0.1	0.1	0.0	-2	-2	-2	-2	2

1/ Root mean squared error (RMSE) is the squared root of the average squared difference between the forecast and actual values. 2/ 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. 3/ "NA" indicates that statistics were not able to be calculated because forecasts were not made for these trade partners/groups prior to the United Kingdom separating from the European Union in 2021—the first forecast using this definition was made in August 2021. 4/ 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

Commodity	Root mean squared error (RMSE) 1/ Fiscal year 2017–2021					Forecast errors Fiscal year 2021				
	Aug.	Nov.	Feb.	May	Aug.	Aug.	Nov.	Feb.	May	Aug.
Import value	<i>RMSE</i>					<i>Percent</i>				
Livestock, dairy, and poultry	1.8	1.6	1.4	1.2	0.8	-16	-15	-13	-11	-8
Livestock and meats	1.7	1.5	1.3	1.2	0.6	-19	-17	-16	-14	-7
Cattle and calves	0.2	0.1	0.0	0.1	0.1	3	9	3	9	3
Swine	0.1	0.1	0.1	0.0	0.0	-43	-43	-43	-6	-6
Beef and veal	0.8	0.8	0.7	0.7	0.2	-15	-14	-14	-14	-3
Pork	0.2	0.2	0.2	0.2	0.1	-24	-19	-19	-14	-9
Poultry 2/	NA	NA	NA	NA	NA	NA	NA	NA	NA	1
Dairy products	0.2	0.2	0.2	0.2	0.2	-3	-3	-1	-1	-11
Cheese	0.2	0.2	0.1	0.1	0.1	-9	-16	-9	-9	-2
Grains and feed	1.2	1.0	0.8	0.6	0.4	-7	-7	-7	-3	-3
Grain products	1.0	0.8	0.7	0.5	0.3	-11	-11	-11	-4	-4
Oilseeds and products	1.8	1.6	1.5	1.4	0.4	-28	-25	-25	-23	-6
Vegetable oils	1.1	1.0	0.9	0.9	0.4	-22	-21	-21	-22	-11
Horticulture products 3/	5.0	4.7	4.2	3.1	2.2	-7	-7	-7	-3	-3
Fruits, fresh	0.9	0.9	0.8	0.6	0.4	-5	-3	-3	-3	-2
Fruits, preserved	0.4	0.4	0.4	0.3	0.2	-9	-10	-10	-5	-5
Fruit juices	0.3	0.3	0.2	0.1	0.1	-11	-16	-16	-7	-7
Nuts, whole and processed	0.4	0.4	0.3	0.3	0.2	9	9	2	-2	-9
Vegetables, fresh	0.8	0.8	0.7	0.8	0.5	-7	-5	-3	-3	-2
Vegetables, processed	0.3	0.3	0.3	0.2	0.1	-8	-8	-5	-5	-2
Wine	0.7	0.7	0.7	0.5	0.3	-19	-19	-19	-13	-9
Malt beer	0.4	0.4	0.4	0.3	0.2	-11	-11	-11	-6	-1
Distilled spirits 2/	NA	NA	NA	NA	NA	NA	NA	NA	NA	-6
Essential oils	0.4	0.4	0.3	0.2	0.1	-7	-7	-7	0	0
Cut flowers and nursery stock	0.3	0.3	0.3	0.2	0.1	-26	-26	-26	-15	-4
Sugar and tropical products 3/	1.2	1.2	1.2	0.9	0.2	-10	-9	-9	-7	1
Sweeteners and products	0.4	0.4	0.3	0.2	0.2	-12	-12	-9	-7	-5
Confections	0.2	0.2	0.2	0.1	0.1	-14	-14	-14	-10	-10
Cocoa and products	0.5	0.4	0.3	0.2	0.1	-12	-10	-10	-7	-3
Coffee beans and products	0.4	0.4	0.4	0.4	0.3	-9	-9	-9	-9	-8
Other imports	0.2	0.2	0.1	0.1	0.2	13	13	7	-7	-10
Total agricultural imports	9.4	8.6	7.7	5.6	3.4	-10	-9	-9	-6	-4
Import volume										
Cattle and calves	0.1	0.1	0.1	0.1	0.1	10	15	15	10	10
Swine	0.8	0.7	0.4	0.3	0.4	-26	-22	-13	-8	-13
Beef and veal	0.1	0.1	0.1	0.1	0.0	-7	2	-7	-7	2
Pork	0.1	0.0	0.0	0.0	0.0	-13	-13	-13	-13	-13
Fruits, fresh	0.2	0.4	0.3	0.2	0.3	0	0	0	-1	-4
Fruits, processed	0.1	0.1	0.1	0.1	0.1	-3	-8	-8	-3	7
Fruit juices	0.6	0.6	0.6	0.3	0.3	5	1	1	-4	-16
Vegetables, fresh	0.3	0.3	0.2	0.2	0.1	-5	-3	-3	-2	-2
Vegetables, processed	0.2	0.2	0.2	0.1	0.1	-5	-5	-5	-3	1
Vegetable oils	0.7	0.6	0.6	0.6	0.5	-7	-6	-6	-11	-7
Wine	0.2	0.2	0.2	0.1	0.1	-25	-25	-25	-13	-7
Malt beer	0.3	0.3	0.2	0.2	0.2	-10	-10	-10	-6	-6
Distilled spirits 2/	NA	NA	NA	NA	NA	NA	NA	NA	NA	9
Cocoa and products	0.1	0.1	0.1	0.1	0.1	-6	-6	-6	-4	1
Coffee and products	0.1	0.1	0.1	0.1	0.1	4	4	4	-1	-2

1/ Root mean squared error (RMSE) is the squared root of the average squared difference between the forecast and actual value. 2/ "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. 3/ 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

Region and country	Root mean squared error (RMSE) 1/ Fiscal year 2017–2021					Forecast errors Fiscal year 2021				
	Aug.	Nov.	Feb.	May	Aug.	Aug.	Nov.	Feb.	May	Aug.
Import value	<i>RMSE</i>					<i>Percent</i>				
Western Hemisphere	8.1	7.6	7.2	6.0	2.4	-18	-17	-17	-14	-5
Canada	2.5	2.3	2.2	1.9	0.7	-18	-17	-16	-14	-4
Mexico	3.8	3.6	3.5	2.7	0.9	-20	-19	-19	-14	-3
Central America	0.3	0.3	0.3	0.4	0.4	-8	-8	-8	-12	-12
Costa Rica	0.1	0.1	0.1	0.1	0.1	-12	-12	-12	0	0
Guatemala	0.2	0.2	0.2	0.1	0.1	15	15	15	-7	-7
Other Central America	1.8	1.8	1.8	1.8	1.8	-26	-26	-26	-26	-26
Caribbean	0.5	0.5	0.5	0.5	0.4	-63	-63	-63	-63	-52
South America	1.2	1.1	1.0	0.8	0.4	-15	-14	-13	-10	-3
Argentina	0.1	0.1	0.1	0.1	0.1	-9	-9	-9	-15	-15
Brazil	0.6	0.6	0.5	0.4	0.1	-27	-29	-25	-20	0
Chile	0.1	0.2	0.2	0.2	0.1	-2	1	1	-5	-2
Colombia	0.3	0.3	0.3	0.2	0.1	-17	-17	-17	-8	-5
Peru	0.3	0.3	0.2	0.2	0.1	-8	-1	-1	3	3
Other South America	0.2	0.2	0.2	0.1	0.1	-18	-18	-18	-4	-9
Europe and Eurasia	3.3	3.4	3.2	2.5	0.9	-20	-21	-20	-16	5
European Union-27 2/	1.9	2.0	1.8	1.1	0.5	-12	-12	-12	-6	1
United Kingdom 3/	NA	NA	NA	NA	NA	NA	NA	NA	NA	63
Asia	2.1	2.1	1.9	1.5	0.7	-1	-1	-1	-2	0
East Asia	0.5	0.6	0.5	0.4	0.3	-12	-12	-11	-9	-8
China	0.5	0.5	0.5	0.4	0.2	4	4	6	-4	-1
Other East Asia	0.5	0.5	0.5	0.3	0.3	-33	-33	-33	-17	-17
Southeast Asia	1.6	1.6	1.4	1.0	0.6	7	8	7	3	5
Indonesia	0.6	0.5	0.5	0.4	0.2	8	11	8	-5	8
Malaysia	0.1	0.1	0.1	0.0	0.0	5	5	5	5	5
Thailand	0.4	0.3	0.3	0.2	0.2	17	17	17	13	13
Vietnam	0.5	0.4	0.4	0.2	0.2	32	32	32	-11	-15
Other Southeast Asia	1.3	1.3	1.3	0.9	0.4	-10	-10	-10	8	8
South Asia	0.4	0.4	0.4	0.3	0.1	-13	-13	-13	-2	-2
India	0.4	0.4	0.4	0.3	0.1	-11	-11	-11	-5	-5
Oceania	0.6	0.4	0.3	0.2	0.2	0	1	3	-7	-5
Australia	0.5	0.4	0.4	0.1	0.1	13	16	19	-3	-3
New Zealand	0.2	0.2	0.2	0.1	0.2	-7	-7	-7	-11	-11
Africa	0.4	0.4	0.4	0.3	0.3	-19	-17	-17	-3	3
Sub-Saharan Africa	0.3	0.3	0.3	0.3	0.2	-9	-9	-9	-6	1
Côte d'Ivoire	0.3	0.2	0.1	0.1	0.1	-23	-13	-13	-4	16
Middle East	0.1	0.1	0.1	0.1	0.1	-14	-14	-14	-14	-14
Turkey	0.1	0.1	0.1	0.1	0.1	-17	-17	-17	-17	-17

1/ Root mean squared error (RMSE) is the squared root of the average squared difference between the forecast and actual value. 2/ 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. 3/ "NA" indicates that statistics were not able to be calculated because forecasts were not made for these trade partners/groups prior to the United Kingdom separating from the European Union 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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Economic Research Service: Bart Kenner (816-412-4159), Dylan Russell, Wendy Zeng, Kayode Ajewole, Grant Wall.

Foreign Agricultural Service: Hui Jiang (202-720-2231), Saquib Ahsan, Ernest Carter, Kevin Min, Rachel Trego, Jeffrey Dwyer, Amy Gaito, Adolfo Escoto, Erica Summe, Bill George, Tani Lee, Tim O'Neil, Graham Soley, Claire Mezoughem, Jacob Vuillemin, Paul Kiendl, Jack Brower, Tony Halstead, Elaine Protzman, Reed Blauer, Alex Beckman.

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