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Outlook for U.S. Agricultural Trade: February 2022

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U.S. Agricultural Exports in Fiscal Year 2022 Forecast Up $8.0 Billion to a Record $183.5 Billion; Imports at a Record $172.5 Billion

U.S. agricultural exports in fiscal year (FY) 2022 are projected at a record $183.5 billion, up $8.0 billion from the November 2021 forecast. Increases are expected in most commodity groups, with oilseeds and products leading the surge. Soybean exports are forecast $2.9 billion higher to $31.3 billion on higher prices and lower global supplies. Soybean meal exports are forecast up $1.3 billion on higher unit values. Total oilseed and product exports are forecast $4.7 billion higher. Overall grain and feed exports are projected to increase by $1.4 billion to $42.9 billion, led by higher wheat as well as feed and fodder forecasts. Horticultural product exports are forecast up $800 million to a record $38.5 billion, partly driven by a record tree nut export projection. Cotton exports are forecast up $700 million to their second-highest level at $8.0 billion on higher unit values. Livestock, poultry, and dairy exports are forecast at a record $39.2 billion, $500 million higher than the previous forecast, with gains in beef and dairy more than offsetting declines in pork. The projection for ethanol exports is unchanged at $2.9 billion, although still a record if realized.

Approved by USDA's World Agricultural Outlook Board

Mexico is forecast to overtake Canada as the second largest U.S. agricultural market with a projection of $27.0 billion, up $3.5 billion from November. Exports to Canada are forecast at $26.0 billion, $2.0 billion higher than the previous projection. The forecast for exports to China is unchanged at $36.0 billion. China is expected to remain the largest U.S. agricultural market.

U.S. imports for FY 2022 are forecast at $172.5 billion, raised $7.5 billion over the November forecast. First quarter FY 2022 import values are up 19 percent over the same period in FY 2021 resulting from increases in each category except beer imports, which decreased by one percent. Import unit value growth in 2021 was the highest in 10 years, leading to increased import values despite largely stagnant import volume growth. Positive growth of unit values is expected to continue into FY 2022, though at a reduced pace.

The forecasts in this report are based on policies in effect at the time of the February 9, 2022, *World Agricultural Supply and Demand Estimates* (*WASDE*) release, and the U.S. production forecasts thereof.

A special article of the impact of agricultural exports on job creation and economic activity is presented on page 22 of this report.

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

Item	2016	2017	2018	2019	2020	2021	Forecast fiscal year 2/ 2022	
							November	February
				Billion dollars				
Exports	133.7	144.8	148.6	140.1	139.7	172.2	175.5	183.5
Imports	121.1	127.2	136.5	141.4	143.4	163.3	165.0	172.5
Balance	12.6	17.6	12.1	-1.3	-3.7	8.9	10.5	11.0

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 February 9, 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

Economic Growth and Disruption Risks in 2022

The global economic recovery from the pandemic contraction remains positive, but still faces a myriad of substantial headwinds and disruption risks. World real gross domestic product (GDP) is projected to increase by 4.4 percent in 2022, a slight downward revision from the prior forecast. Supply chain constraints, energy prices, monetary policy, and labor market tightness continue to put upward pressure on prices. Central banks are expected to respond to higher prices by raising interest rates, culminating asset purchases, and ending pandemic-related stimulus programs. Although recent COVID-19 variants such as Omicron and Delta have caused a reduction in expected growth, the size of the reduction was far more modest due to the resilience and adaptability of vaccines. Inflation, rising energy prices, and potential changes in the pandemic all continue to pose significant risks to recovery disruption. The tightening of monetary policy too quickly also presents risk in choking off a recovery if inflation has been supply-shock driven, as opposed to an outward shift of demand. Access to vaccines and other COVID-19 therapeutics will continue to be an important factor supporting public health infrastructure as well as boosting economic activity and consumer confidence.

Projected growth for the United States' real GDP in 2022 is lowered to 3.8 percent from the previous estimate of 5.2 percent. Decreased growth expectations return the projection close to prior levels of summer 2021 before increased momentum boosted expectations in fall 2021. The January 2022 Consumer Price Index (CPI) showed prices had increased by 7.5 percent over the past 12 months. Combined with continued declines in the unemployment rate, the Federal Reserve has reaffirmed its intention to start interest rate hikes and finalize its asset purchasing program in March.

Real GDP in North America is expected to grow by a projected 3.7 percent in 2022. Real GDP forecast for Canada in 2022 is revised to 4.1 from 4.9 percent. Omicron-related disruptions and worker absenteeism in the first quarter of 2022 is expected to moderate previous expectations of growth. The real GDP forecast for Mexico is lowered to 2.8 percent from 4.0 percent. The lowered growth expectations are due primarily to omicron-related market disruptions.

The Eurozone economic growth projection is lowered from 4.3 to 3.9 percent for 2022. The slowdown in growth is due to omicron disruptions, supply chain challenges, and fading household consumption after the initial boost. Germany, the largest economy within the Eurozone, contracted during the last quarter of 2021. Collectively, South America's real GDP is

projected to grow by 1.7 percent in 2022, down from the previously forecast 2.3 percent. Brazil is expected to grow 0.7 percent in 2022, lowered from 1.5 percent previously. High inflation and sharp monetary tightening—which is causing a dramatic appreciation of the Brazilian real—presents substantial challenges to growth. Argentina is expected to grow by 2.5 percent in 2022, facing increasing growth challenges from inflation and a depreciating currency.

China's 2021 real GDP is expected to grow by 4.8 percent in 2022, lowered from 5.6 percent previously. Continued disruptions posed by variant outbreaks, housing market instability, crackdowns on technology companies, and strict pandemic shutdown policies continue to pose significant obstacles for China's economic growth. Japan's real GDP growth for 2022 is revised upwards to 3.3 percent from 3.2 percent previously—a deviation from the many downward adjustments in this forecast as Japan has seen less inflation than most other reported countries. South Korea's real GDP growth in 2022 is lowered to 3.0 percent from 3.3 percent.

Various commodities markets are still experiencing upward pricing pressure due to low inventories. Crude oil prices continue to appreciate, and renewable energy expansion is struggling to keep pace with the divestment from fossil fuel extraction. Production of oil in the United States remains below 2019 levels, and global demand for oil continues to gain traction as travel demand returns from depressed levels due to pandemic constraints. Natural gas prices remain elevated this winter and inventories remain low. U.S. exports of natural gas have remained high, amidst geopolitical tensions and ongoing price disparities, especially in Europe and Asia.

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

	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
Region/Country	Percent change					2018–20 average		
World 3/	**-2.9**	**0.8**	**5.9**	**4.4**	**4.9**			
North America	**-6.4**	**0.1**	**5.5**	**3.7**	**5.0**	**27.5**	**7.8**	**28.3**
United States	--	--	5.6	3.8	5.2	24.1	4.2	--
Canada	-6.8	0.0	4.7	4.1	4.9	2.0	0.5	15.2
Mexico	-6.0	0.2	5.3	2.8	4.0	1.4	1.6	13.1
Emerging markets 4/	**-5.2**	**-0.7**	**6.5**	**4.8**	**5.1**	**24.1**	**43.3**	**15.7**
Brazil	-3.5	0.9	4.7	0.7	1.5	2.5	2.7	0.8
Russia	1.5	-3.9	4.5	2.8	2.9	1.9	1.8	0.2
India	-0.2	3.7	9.0	8.8	8.5	3.3	17.5	1.3
Indonesia	-2.0	0.8	3.3	5.6	5.9	1.3	3.4	2.0
China	-6.5	-1.6	8.0	4.8	5.6	15.1	17.9	11.4
Europe & Central Asia	**-0.4**	**4.6**	**5.7**	**3.9**	**4.1**	**26.9**	**10.8**	**10.2**
Eurozone	-4.0	2.9	5.2	3.9	4.3	15.3	4.5	7.7
Ukraine	1.1	-3.5	3.0	3.2	3.6	0.1	0.5	0.1
Turkey	21.0	28.0	10.3	3.3	3.3	1.1	1.1	0.9
Asia & Oceania	**-0.1**	**1.2**	**2.7**	**4.0**	**4.1**	**39.3**	**59.1**	**43.6**
Japan	2.8	3.1	1.6	3.3	3.2	6.0	1.6	8.5
South Korea	-3.1	2.2	4.0	3.0	3.3	1.9	0.7	5.5
Australia	-8.8	2.8	4.2	4.0	4.1	1.6	0.3	1.1
Other Southeast Asia 5/	0.0	1.3	2.8	5.3	5.7	1.6	7.6	6.7
South America	**1.3**	**1.5**	**7.2**	**1.7**	**2.3**	**4.9**	**8.3**	**10.7**
Argentina	39.4	50.6	10.0	2.5	2.5	0.8	0.6	0.3
Other South America 6/	1.0	0.0	10.1	2.9	3.6	1.2	1.6	4.9
Middle East & North Africa	**10.3**	**1.6**	**4.1**	**4.4**	**4.1**	**4.2**	**6.5**	**5.9**
Sub-Saharan Africa	**5.4**	**4.3**	**4.0**	**3.7**	**3.8**	**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 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 $42.9 billion, up $1.4 billion from the November 2021 forecast on higher export values. Corn exports are forecast at $16.9 billion, a $100-million decrease from the November forecast, as lower volumes more than offset higher unit values. Despite competition from late-season, old crop exports out of South America, global demand for U.S. corn remains strong in the face of high prices. Sorghum exports are forecast at $2.5 billion, up $100 million from the November forecast, as higher unit values more than offset lower volumes. U.S. sorghum is expected to compete with greater exportable supplies from Australia. Feed and fodder exports are forecast at $8.8 billion, up $500 million from the November forecast, on higher unit values for distillers' dry grains with solubles (DDGS) and hay. Wheat exports are forecast at $7.8 billion, up $700 million from the November forecast as higher unit values more than offset lower volumes. U.S. wheat export prices have continued to rise amid tight supplies, making the United States less competitive globally. Rice exports are forecast up $100 million to $2.0 billion, with higher unit values more than offsetting lower volumes to Middle Eastern and Asian markets. Unit values are forecast higher due to tighter supplies.

Oilseed and products exports are forecast at a record $43.6 billion, a $4.7 billion-increase from the November forecast. Values are up mostly on higher soybean and soybean meal export unit values, which are 10 percent and 25 percent higher, respectively, than the previous forecast. Soybean export value increases $2.9 billion from the November forecast to $31.3 billion while soybean meal rises $1.3 billion to $6.2 billion. Adverse weather in South America is reducing global soybean supplies and supporting prices, more than enough to offset lower import demand from major buyers such as China. Soybean oil export values are raised $100 million to $1.0 billion on higher export volumes and unit values. Soybean oil export unit values remain near record highs, but high premiums compared with South America will continue to limit U.S. export volumes.

Cotton exports are forecast up $700 million from the November projection to their second-highest level at $8.0 billion on stronger unit values. Global and domestic prices have surged to 11-year highs and are expected to raise export unit values significantly in the coming months. Volume is forecast down due to lower production and logistical problems related to transportation.

FY 2022 Livestock, poultry, and dairy exports are raised $500 million to a record $39.2 billion as gains in beef and dairy offset lower estimates for pork. Beef is up $400 million to $9.5 billion on

higher unit values. Dairy exports are up $100 million to $7.8 billion as lower volumes are offset by higher prices particularly for skimmed milk powder. Pork exports are forecast at $6.3 billion, down $300 million on lower volumes to China and increased competition in other Asian markets, which more than offset higher unit values. Poultry and poultry product exports are unchanged at $6.6 billion.

Horticultural products are forecast up $800 million from the November forecast to a record $38.5 billion. Whole and processed tree nuts are up $400 million to a record $9.4 billion due to rising unit values as well as strong pistachio demand in China. "Other" horticultural products are up $400 million to a record $14.7 billion on higher miscellaneous product shipments to Canada, Mexico, and the European Union (EU). Fresh as well as processed fruit and vegetables remain unchanged at $7.3 billion and $7.1 billion, respectively, on stable shipments to top markets in Canada and Mexico.

FY 2022 U.S. ethanol exports are forecast at a record $2.9 billion, unchanged from the November forecast. Export unit value peaked at $3.70 per gallon in November 2021 and has since retreated but remains elevated compared to historical levels. Compared with the previous year, elevated U.S corn and crude oil prices support higher ethanol unit values, driving export value higher. Export volume is expected to rise modestly surpassing the previous year’s low but remain well shy of the 2018 peak largely due to sharply lower sales to Brazil and absence of trade with China. Higher fuel prices constrain demand in the Philippines and Colombia, both price-sensitive markets. On the upside, larger year-over-year gains to Brazil are expected due to shortfalls and persistently high prices in Brazil, but elevated U.S. prices, a strong dollar, and the duty moderate the increase. Sales to Canada are expected to post another record on strong fuel ethanol sales, and sales to the United Kingdom are rising following the introduction of 10-percent ethanol blending in gasoline.

Table 3–U.S. agricultural exports: Value and volume by commodity, fiscal years 2021–2022

Commodity	October–December		Fiscal year	Forecast Fiscal year 2022	
	FY2021	FY2022	2021	November	February
VALUE					
			–Billion dollars–		
Grains and feeds 1/	**8.147**	**9.765**	**42.656**	**41.5**	**42.9**
Wheat 2/	1.454	1.470	7.231	7.1	7.8
Rice	0.577	0.469	2.040	1.9	2.0
Corn	2.348	3.596	17.473	17.0	16.9
Sorghum	0.495	0.519	1.980	2.4	2.5
Feeds and fodders	2.043	2.451	9.076	8.3	8.8
Oilseeds and products 3/	**17.150**	**18.215**	**37.797**	**38.9**	**43.6**
Soybeans	14.318	15.216	26.476	28.4	31.3
Soybean meal 4/	1.448	1.476	5.659	4.9	6.2
Soybean oil	0.245	0.317	0.837	0.9	1.0
Livestock, poultry, and dairy	**8.377**	**10.196**	**37.009**	**38.7**	**39.2**
Livestock products 3/	5.479	6.647	23.698	24.5	24.9
Beef and veal 5/	1.859	2.676	8.672	9.1	9.5
Pork 5/	1.741	1.595	7.018	6.6	6.3
Beef and pork variety meats 5/	0.439	0.548	1.926	1.9	1.9
Hides, skins, and furs	0.190	0.287	1.079	1.1	1.1
Poultry and products	1.341	1.644	6.002	6.6	6.6
Broiler meat 5/ 6/	0.776	0.972	3.578	4.0	4.0
Dairy products	1.556	1.905	7.310	7.7	7.8
Tobacco and products 3/	**0.182**	**0.147**	**1.065**	**0.9**	**0.9**
Cotton 3/ 7/	**1.383**	**0.919**	**6.232**	**7.3**	**8.0**
Seeds	**0.514**	**0.536**	**1.659**	**1.6**	**1.6**
Horticultural products 3/ 8/	**9.923**	**10.334**	**37.644**	**37.7**	**38.5**
Fruits and vegetables, fresh	1.718	1.750	7.143	7.3	7.3
Fruits and vegetables, processed	1.745	1.754	7.032	7.1	7.1
Tree nuts, whole and processed	2.973	3.018	8.831	9.0	9.4
Sugar and tropical products 9/	**1.393**	**1.506**	**5.662**	**5.9**	**5.9**
Ethanol 10/	**0.633**	**1.002**	**2.399**	**2.9**	**2.9**
Total	**47.703**	**52.620**	**172.123**	**175.5**	**183.5**
Major bulk products 11/	**20.788**	**22.370**	**62.640**	**64.1**	**66.9**
			– Million metric tons –		
VOLUME					
Wheat 2/	5.563	3.984	25.494	22.3	21.3
Rice	1.145	0.786	3.748	3.3	3.2
Corn	12.125	13.425	68.491	63.0	61.5
Sorghum	2.050	1.642	7.032	8.3	8.0
Feeds and fodders	5.371	5.650	21.919	21.8	21.8
Soybeans	32.949	29.251	56.499	55.8	55.8
Soybean meal 4/	3.476	3.458	12.490	12.9	13.1
Soybean oil	0.271	0.224	0.782	0.6	0.6
Beef and veal 5/	0.270	0.287	1.122	1.1	1.1
Pork 5/	0.639	0.563	2.475	2.4	2.2
Beef and pork variety meats 5/	0.177	0.176	0.760	0.7	0.7
Broiler meat 5/ 6/	0.888	0.858	3.372	3.4	3.3
Cotton 7/	0.869	0.403	3.492	3.4	3.3
Major bulk products 11/	54.902	49.654	165.677	156.1	153.1

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.
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 $183.5 billion, up $8.0 billion from the November projection. Mexico, Canada, and Japan account for the largest increases.

Asia

The export forecast for China is unchanged at $36.0 billion. Higher soybean export unit values offset softening demand, while greater beef sales help counter declining pork shipments. China is forecast to remain the largest U.S. agricultural market.

Forecast exports to Japan are up $1.2 billion to $14.8 billion, largely due to higher corn and beef exports.

The export forecast for Hong Kong is down $200 million on account of lower-than-expected beef shipments during the first quarter in 2022. In contrast, higher beef sales to South Korea help raise the export forecast there by $200 million.

The export forecast for Southeast Asia is down a collective $500 million, as a result of lower soybean demand in Indonesia and Vietnam.

Forecast exports to India are raised $200 million on strong demand for ethanol and soybean oil.

Western Hemisphere

The export forecast for Canada jumps $2.0 billion to $26.0 billion, largely driven by strong first-quarter performance of corn and ethanol. The export forecast for Mexico surges $3.5 billion to $27.0 billion, reflecting surging exports of corn, soybeans, dairy, and pork products to date. Mexico is forecast to overtake Canada as the second largest U.S. agricultural market.

The export forecast for the Caribbean is $200 million higher on account of strong broiler meat exports to Cuba, as well as higher sales of soybean meal and pork to the Dominican Republic.

U.S. exports to Central America is forecast up $300 million, driven by robust exports of corn and soybean meal.

In South America, forecast exports to Colombia surges $400 million on corn and wheat exports to date. The export forecast for Peru is down $100 million due to lower demand for corn and soybeans.

Europe, Africa, the Middle East, and Oceania

Exports to the EU are forecast at $11.5 billion, up $500 million from the November 2021 projection, largely due to higher demand of soybeans.

The export forecast for the Middle East is increased by $200 million on account of strong soybean sales to Turkey.

The export forecast for North Africa is up $200 million due to higher soybean exports to Egypt.

Forecast exports to sub-Saharan Africa are up $300 million mainly because of increased wheat shipments to Nigeria.

Forecast exports to Oceania are down $100 million as a result of lower pork sales.

Table 4–U.S. agricultural exports: Value by region, fiscal years 2021–2022

Region and country 1/	October–December		Fiscal year	Share of 2021	Forecast Fiscal year 2022	
	2021	2022	2021	total	November	February
	–Billion dollars–			*Percent*	*–Billion dollars–*	
VALUE						
Asia	**25.530**	**25.857**	**80.520**	**46.8**	**83.8**	**84.5**
East Asia	20.661	21.136	61.738	35.9	64.9	66.1
Japan	2.760	3.406	13.598	7.9	13.6	14.8
China	14.436	14.006	33.406	19.4	36.0	36.0
Hong Kong	0.613	0.572	1.773	1.0	1.9	1.7
Taiwan	0.976	1.055	3.788	2.2	3.8	3.8
South Korea	1.874	2.095	9.161	5.3	9.6	9.8
Southeast Asia	3.574	3.376	14.579	8.5	14.5	14.0
Indonesia	0.753	0.596	3.092	1.8	3.3	3.0
Philippines	0.786	0.766	3.569	2.1	3.6	3.6
Malaysia	0.270	0.299	1.161	0.7	1.1	1.1
Thailand	0.595	0.582	1.696	1.0	1.8	1.8
Vietnam	0.780	0.676	3.584	2.1	3.8	3.6
South Asia	1.295	1.344	4.203	2.4	4.4	4.4
India	0.499	0.656	1.646	1.0	1.6	1.8
Western Hemisphere	**15.172**	**18.754**	**65.515**	**38.1**	**64.8**	**71.1**
North America	10.912	13.548	47.931	27.8	47.5	53.0
Canada	5.721	6.715	24.055	14.0	24.0	26.0
Mexico	5.191	6.833	23.877	13.9	23.5	27.0
Caribbean	1.018	1.179	4.254	2.5	4.2	4.4
Dominican Republic	0.397	0.422	1.746	1.0	1.7	1.8
Central America	1.287	1.697	5.602	3.3	5.3	5.6
South America	1.954	2.331	7.728	4.5	7.8	8.1
Brazil	0.249	0.249	0.744	0.4	1.0	1.0
Colombia	0.756	1.127	3.041	1.8	3.1	3.5
Peru	0.227	0.207	1.019	0.6	1.1	1.0
Venezuela	0.167	0.143	0.655	0.4	0.6	0.6
Europe/Eurasia	**3.833**	**4.342**	**13.298**	**7.7**	**13.8**	**14.3**
European Union-27	3.139	3.564	10.536	6.1	11.0	11.5
United Kingdom	0.436	0.514	1.719	1.0	1.8	1.8
FSU-12 2/	0.132	0.166	0.497	0.3	0.5	0.5
Russia	0.061	0.066	0.236	0.1	0.3	0.3
Middle East	**1.294**	**1.490**	**5.513**	**3.2**	**5.6**	**5.8**
Turkey	0.275	0.476	1.203	0.7	1.2	1.4
Saudi Arabia	0.324	0.315	1.332	0.8	1.3	1.3
Africa	**1.320**	**1.670**	**5.126**	**3.0**	**5.1**	**5.6**
North Africa	0.852	1.097	2.892	1.7	3.1	3.3
Egypt	0.603	0.831	1.829	1.1	1.8	2.0
Sub-Saharan Africa	0.469	0.572	2.233	1.3	2.0	2.3
Nigeria	0.111	0.164	0.627	0.4	0.5	0.7
Oceania	**0.554**	**0.507**	**2.150**	**1.2**	**2.2**	**2.1**
Total	47.703	52.620	172.123	100.0	175.5	183.5

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

The forecast for FY 2022 imports is raised $7.5 billion over the November forecast to $172.5 billion. First quarter FY 2022 import values are up 19 percent over the same period in FY 2021 resulting from increases in each category except beer imports, which decreased by 1 percent. Import unit value growth in 2021 was the highest in 10 years, leading to increased import values despite largely stagnant import volume growth. Import unit values increased across nearly all major agricultural product groups, with planting seeds—categorized within “Other imports” in table 5—being the only exception. Growth of unit values is expected to continue into FY 2022, though at a reduced pace.

The forecast for FY 2022 horticultural product imports is adjusted upward by $3.2 billion to $89.0 billion—a new record, if realized. Adjustments within the horticultural products group are fresh and processed fruits are raised by $500 million and $400 million, respectively, followed closely by their frequent counterparts—fresh and processed vegetables—increased by $400 million and $200 million, respectively. This continues a decades-long trend of increasing volumes of produce imports, magnified by increasing unit values. The fast-growing distilled spirits group is also increased by $400 million. Wine, cut flowers and nursery stock, as well as nuts, whole and processed, are each increased by $200 million over the previous forecast.

U.S. imports of sugar and tropical products are forecast to reach $25.9 billion in FY 2022, a $900-million upward adjustment from the previous forecast and $2.0 billion above FY 2021. At $2.2 billion, sweeteners and products imports are expected to be worth $200 million more than previously forecast. Cocoa and products as well as coffee and products imports are increased by $300 million and $500 million, respectively, as a result of rising unit values.

Livestock, poultry, and dairy imports are raised $2.7 billion to $23.6 billion on higher estimates for most product groups. Dairy imports are up $700 million due to higher expected unit values and volumes of cheese, butter, and milk proteins. Higher volumes and unit values drove beef import estimates $1.0 billion higher as domestic supplies tighten. Pork imports are forecast $200 million higher on tighter domestic supplies. Higher unit values caused cattle import estimates to be raised $200 million. Poultry and product exports are unchanged at $900 million.

The forecast for grains and feed product imports is increased $400 million to $16.6 billion as ongoing strong global demand and low stocks keep pressure on prices and U.S. domestic consumption of processed grain products such as baked goods and snack foods continues a steady upward trend. The forecast for total oilseeds and oilseed product imports are adjusted

upward by $300 million resulting from strong demand coupled with increased unit values due to tightening global supplies of vegetable oils. The forecast for other imports, which contain cotton, tobacco, planting seeds, and ethanol, is unchanged.

Table 5–U.S. agricultural imports: Value and volume by commodity, fiscal years 2021–2022

Commodity	October–December		Fiscal year	Forecast Fiscal year 2022	
	FY 2021	FY 2022	2021	November	February
VALUE					
			–Billion dollars –		
Livestock, dairy, and poultry	**4.666**	**6.448**	**20.972**	**20.9**	**23.6**
Livestock and meats	3.616	5.078	16.354	16.7	18.7
Cattle and calves	0.460	0.469	1.557	1.8	2.0
Swine	0.085	0.123	0.531	0.4	0.5
Beef and veal	1.482	2.249	7.423	7.7	8.7
Pork	0.437	0.641	1.968	2.1	2.3
Poultry	0.189	0.300	0.893	0.9	0.9
Dairy products	0.861	1.070	3.724	3.3	4.0
Cheese	0.356	0.407	1.430	1.5	1.6
Grains and feed	**3.905**	**4.445**	**15.752**	**16.2**	**16.6**
Grain products	2.814	3.178	11.195	11.7	12.0
Oilseeds and products	**2.502**	**3.806**	**12.600**	**13.2**	**13.5**
Vegetable oils	1.438	2.432	7.610	8.1	8.4
Horticulture products	**19.973**	**22.624**	**86.147**	**85.8**	**89.0**
Fruits, fresh	3.394	4.070	15.513	15.8	16.3
Fruits, processed	1.448	1.831	6.451	6.1	6.5
Fruit juices	0.496	0.645	2.142	2.0	2.1
Nuts, whole and processed	0.692	0.857	2.856	2.7	2.9
Vegetables, fresh	2.589	2.748	10.513	10.3	10.7
Vegetables, processed	1.586	1.747	6.513	6.6	6.8
Wine	1.660	1.977	7.485	7.5	7.7
Malt beer	1.564	1.555	6.377	6.4	6.4
Distilled spirits	2.357	2.746	9.804	10.0	10.4
Essential oils	1.079	1.113	4.413	4.4	4.4
Cut flowers and nursery stock	0.596	0.789	2.825	2.7	2.9
Sugar and tropical products	**5.491**	**6.454**	**23.918**	**25.0**	**25.9**
Sweeteners and products	1.229	1.487	5.365	5.3	5.5
Confections	0.534	0.623	2.214	2.0	2.2
Cocoa and products	1.176	1.388	5.353	5.2	5.5
Coffee and products	1.438	1.946	6.733	6.8	7.3
Other imports 1/	**1.067**	**1.089**	**3.902**	**3.9**	**3.9**
Total agricultural imports	**37.604**	**44.866**	**163.291**	**165.0**	**172.5**
VOLUME					
			–Million metric tons–		
Cattle and calves 2/	0.566	0.518	1.824	2.0	2.0
Swine 2/	1.487	1.635	6.518	6.0	5.9
Beef and veal	0.234	0.292	1.073	1.1	1.2
Pork	0.108	0.156	0.457	0.5	0.6
Fruits, fresh	2.898	3.065	12.928	12.9	13.1
Fruits, processed	0.474	0.522	2.062	2.1	2.2
Fruit juices 3/	1.036	1.271	4.456	4.7	4.7
Vegetables, fresh	2.208	2.229	8.910	9.3	9.3
Vegetables, processed	1.159	1.286	4.755	4.9	5.0
Vegetable oils 3/	1.171	1.444	5.189	5.2	5.4
Wine 3/	0.405	0.420	1.727	1.7	1.7
Malt beer 3/	1.159	1.126	4.658	4.5	4.5
Distilled spirits 4/	0.234	0.224	0.931	1.1	1.1
Cocoa and products	0.305	0.336	1.490	1.5	1.5
Coffee and products	0.379	0.391	1.632	1.7	1.7

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 $6.8 billion from the previous forecast to $98.9 billion. Mexico is expected to remain the largest foreign supplier of agricultural goods to the United States, with Canada expected to remain the second largest supplier just ahead of the EU. Mexico's sales are forecast to be $39.4 billion—$2.4 billion above the November 2021 forecast—due to increases in expected imports of produce and distilled spirits. The forecast value of Canadian agricultural products sold to the United States is increased $2.7 billion to $33.3 billion on upward adjustments to U.S. imports of meat products, processed grains, and vegetable oil.

Central American imports in FY 2022 are forecast $300 million higher than the November forecast at $6.9 billion. This forecast is largely due to increased value and volume of fresh fruit imports. Imports from South America in FY 2022 are increased $1.3 billion as upward adjustments are made for Brazil, $500 million, Colombia, $400 million, and Argentina and Chile, each at $200 million.

Europe

The imports forecast for the EU for FY 2022 is unchanged at $32.8 billion, while imports from the United Kingdom are expected to be $1.2 billion less than was forecast in November due to a modest dip in the otherwise robust imports of distilled spirits.

Asia

The forecast for imports from Asia is raised by $1.2 billion from the previous forecast to $26.8 billion in FY 2022 on expected increases in oilseed products from Indonesia, $900 million, and honey, tea, and other beverages from East Asian countries such as South Korea and Taiwan, $600 million. Imports of intermediate products for food preparation from Thailand and other Southeast Asian countries are not as strong as previously expected, resulting in a $300-million decrease to the forecast for the region.

Oceania, Africa, and the Middle East

The forecast for imports from Oceania in FY 2022 is raised $100 million to $6.3 billion on increased prices in meat products. Imports from Africa are expected to be $400 million higher

than the November forecast at $3.7 billion, and the Middle East is expected to provide $200 million more in imports than forecast previously at $1.9 billion.

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

Region and country	October–December		Fiscal year	Forecast Fiscal year 2022	
	FY 2021	FY 2022	2021	November	February
VALUE					
			---Billion dollars---		
Western Hemisphere	**21.121**	**25.462**	**91.487**	**92.1**	**98.9**
Canada	6.771	8.444	29.489	30.6	33.3
Mexico	8.296	9.784	36.463	37.0	39.4
Central America	1.251	1.525	6.493	6.6	6.9
Costa Rica	0.372	0.389	1.707	1.7	1.7
Guatemala	0.460	0.597	2.353	2.6	2.6
Other Central America	0.420	0.539	2.433	2.3	2.7
Caribbean	0.424	0.441	1.879	1.3	1.8
South America	4.378	5.268	17.163	16.6	17.9
Argentina	0.356	0.481	1.531	1.3	1.5
Brazil	1.320	1.536	4.520	4.5	5.0
Chile	0.440	0.610	2.962	2.9	3.1
Colombia	0.708	0.920	3.142	3.0	3.4
Peru	1.032	1.164	2.923	3.0	3.0
Other South America	0.523	0.557	2.085	1.9	1.9
Europe and Eurasia	**7.951**	**8.901**	**33.180**	**36.1**	**34.9**
European Union-27	7.396	8.302	31.159	32.8	32.8
United Kingdom	0.555	0.599	2.021	3.3	2.1
Asia	**5.410**	**6.393**	**24.380**	**25.6**	**26.8**
East Asia	1.688	1.795	6.946	6.5	7.1
China	0.978	1.067	3.949	4.0	4.0
Other East Asia	0.710	0.728	2.997	2.5	3.1
Southeast Asia	2.865	3.733	13.981	15.5	16.1
Indonesia	0.555	1.151	3.050	3.8	4.7
Malaysia	0.242	0.261	0.949	1.0	1.0
Thailand	0.617	0.714	2.746	3.1	3.0
Vietnam	0.524	0.598	2.349	2.3	2.3
Other Southeast Asia	0.927	1.009	4.886	5.3	5.1
South Asia	0.857	0.866	3.453	3.6	3.6
India	0.752	0.754	3.045	3.1	3.1
Oceania	**1.408**	**1.910**	**6.329**	**6.2**	**6.3**
Australia	0.817	1.065	3.286	3.2	3.2
New Zealand	0.516	0.767	2.804	2.5	3.1
Africa	**0.695**	**0.812**	**3.598**	**3.3**	**3.7**
Sub-Saharan Africa	0.528	0.634	2.862	2.7	2.8
Côte d'Ivoire	0.121	0.119	1.037	1.2	1.0
Middle East	**0.445**	**0.561**	**1.871**	**1.7**	**1.9**
Turkey	0.283	0.409	1.211	1.0	1.3
World total	37.604	44.866	163.291	165.0	172.5

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

	Root mean squared error (RMSE) 1/ Fiscal year 2017–2021					Forecast errors Fiscal year 2021				
Commodity	Aug.	Nov.	Feb.	May	Aug.	Aug.	Nov.	Feb.	May	Aug.
			RMSE					*Percent*		
Export value										
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	*RMSE*					*Percent*				
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			*RMSE*					*Percent*		
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

	Root mean squared error (RMSE) 1/ Fiscal year 2017–2021					Forecast errors Fiscal year 2021				
Region and country	Aug.	Nov.	Feb.	May	Aug.	Aug.	Nov.	Feb.	May	Aug.
Import value			*RMSE*					*Percent*		
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.

Special Article

U.S. Agricultural Exports in 2020 Supported 1,133,200 Jobs and Generated $154.3 Billion in Additional Economic Activity[1]

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The Agricultural Trade Multiplier (ATM) model prepared by USDA, Economic Research Service (ERS) provides estimates of the economic activity and jobs supported by U.S. agricultural trade, with details for 124 product groups. This special article focuses on the model analysis of U.S. agricultural exports in calendar year (CY) 2020. These exports supported economic activity on both the farms and the food processing plants producing such exports. In addition to crops and livestock products, U.S. agricultural exports required output and labor from the firms processing, transporting, and marketing agricultural output that is exported, as well as from the firms manufacturing, transporting, and marketing the inputs used to produce the output. More information can be found on the Agricultural Trade Multipliers Data Product page on the USDA, ERS website.

USDA, ERS's ATM model relies upon the definition of "agricultural products" used by USDA, which is consistent with the definition used by the World Trade Organization (WTO), except the

[1]The authors thank colleagues at USDA, Foreign Agricultural Service, and USDA, Office of the Chief Economist, as well as Douglas Meade (Inforum Economics), for their feedback and suggestions.

model also treats biodiesel as an agricultural product.[2] This definition differs from the definition used in the prior forecast sections of the report. In the USDA/WTO definition, “agricultural products” are those products listed in Chapters 1–24 of the Harmonized Commodity Description and Coding System (HS), excluding fish and fish products, while including a handful of products in other chapters, such as cotton, essential oils, and hides and skins. Using the USDA/WTO definition, U.S. agricultural exports totaled $149.7 billion in 2020.[3] In the ATM model, biodiesel is included as an agricultural product—given the use of soybean oil and other agricultural products as feedstocks for U.S. biodiesel production—even though biodiesel is not classified by USDA or WTO as an agricultural product. The inclusion of biodiesel adds about $388 million to U.S. agricultural exports in 2020, raising the total value of U.S. agricultural exports in the ATM model to $150.1 billion.

[2]USDA adopted the WTO's definition of agricultural products as its standard definition to report agricultural trade at the start of calendar year 2021. For details, see USDA, Foreign Agricultural Service (2021).
[3]The trade values in this article are drawn from official data collected by U.S. Department of Commerce, Bureau of the Census.

A Diversity of Export Products, Concentrated in Certain Product Groups

The United States exports a variety of agricultural goods, but this trade is concentrated in a small number of product groups. In 2020, 10 product groups in the ATM model accounted for nearly half (49.8 percent) of total U.S. agricultural exports—including biodiesel—in terms of value: (1) soybeans; (2) corn; (3) bovine meat; (4) swine meat; (5) wheat; (6) cotton; (7) soybean meal; (8) almonds, fresh or dried, shelled; (9) chicken cuts and edible offal; and (10) distillers' dried grains with solubles (DDGS) (see table, "U.S. agricultural exports and jobs and economic activity supported by those exports, by selected product groups, 2020"). Both the labor required to produce, process, market, and transport agricultural exports and the additional economic activity generated by these exports vary by product group. For instance, each $1 billion of soybean exports in 2020 supported about 5,275 jobs and $720 million in additional economic activity (output), while each $1 billion of bovine meat exports supported about 11,329 jobs and $1.63 billion in additional output.

Table 1: U.S. agricultural exports and jobs and economic activity supported by those exports, by selected product groups, 2020

Product group	Exports	Jobs multiplier	Jobs supported	Output multiplier	Output supported (including the exports themselves)	Additional output supported (not counting the exports)
	Billion U.S. dollars	*Jobs per billion U.S. dollars of exports*	*Thousands of full-time equivalents*	*U.S. dollars of output per U.S. dollar of exports*	*Billion U.S. dollars*	*Billion U.S. dollars*
Soybeans	25.6	5,275	135	1.72	44.0	18.4
Corn	9.6	6,827	65	2.08	19.9	10.3
Bovine meat	6.8	11,329	77	2.63	17.8	11.0
Swine meat	6.7	11,329	76	2.63	17.6	10.9
Wheat	6.3	5,319	34	2.08	13.1	6.8
Cotton	6.0	7,611	45	1.87	11.2	5.2
Soybean meal	4.7	5,852	27	2.08	9.8	5.1
Almonds, fresh or dried, shelled	3.4	7,770	27	2.25	7.7	4.3
Chicken cuts and edible offal	3.4	8,587	29	2.95	10.0	6.6
Distiller's dried grains with solubles	2.3	5,493	13	2.98	6.9	4.6
Total agricultural exports (including biodiesel)	150.1	7,550	1,133	2.03	304.4	154.3

Source: USDA, Economic Research Service using Agricultural Trade Multiplier Model estimates, as well as trade data from U.S. Department of Commerce, Bureau of the Census.

Impacts of Agricultural Trade in 2020

The table “U.S. economic activity supported by agricultural trade, 2020” conveys the results of the ATM model for CY 2020.[4] In that year, the $150.1 billion of U.S. agricultural exports (line 6) produced an additional $154.3 billion (line 9) in economic activity for a total of $304.4 billion of economic output (line 1). The $150.1 billion in exports is freight on board (f.o.b.), meaning the total export value includes trade and transport margins added to the production or farm cost to bring the product to the export port for shipping.

On average, each dollar of U.S. agricultural exports supported $2.03 of business activity, including the exports themselves (line 15). This output multiplier equals the ratio of the total economic output supported by U.S. agricultural exports ($304.4 billion) to the total value of these exports ($150.1 billion). By subtracting one from the output multiplier, we can calculate the additional economic activity supported by each dollar of U.S. agricultural exports—i.e., $1.03 (line 16). This new value also equals the ratio of the additional economic activity supported by U.S. agricultural exports ($154.3 million) to the total value of these exports ($150.1 billion).

Agricultural exports in 2020 supported 1,133,200 full-time civilian jobs—439,500 jobs in the farm sector and 693,700 jobs in the nonfarm sector—although the latter two numbers do not sum precisely to the total due to rounding (lines 17–19). [5] In the farm sector, these jobs included labor provided by farm operators, their family members, hired farmworkers, and contract workers. In the nonfarm sector, farmers' purchases of fuel, fertilizer, and other inputs to produce commodities for export spurred economic activity in manufacturing, trade, and transportation.

[4]Due to rounding, figures in the text may not necessarily match those in the table, and individual numbers in the table may not necessarily sum to the totals shown.
[5]Throughout this special article, “jobs” refers to full-time civilian jobs, as measured in full-time equivalents (FTEs). An FTE is a conversion of the number of hours worked to an equivalent number of full-time positions; for its ATM model, USDA, ERS uses a ratio of 2,080 hours per year, per FTE.

Table 2: U.S. economic activity supported by agricultural trade, 2020

Line	Item	Total	Bulk	Nonbulk
		−Billion U.S. dollars−		
1	**Economic activity generated by agricultural exports**	**304.4**	**99.8**	**204.6**
2	Farm	82.5	46.3	36.2
3	Food processing	68.7	1.4	67.3
4	Other manufacturing	45.0	15.9	29.1
5	Services, trade, and transportation	108.2	36.2	72.0
6	**Agricultural exports (including biodiesel)**	**150.1**	**53.3**	**96.9**
7	**Agricultural imports**	**146.8**	**11.7**	**135.2**
8	**Competitive agricultural imports (agricultural imports less noncompetitive agricultural imports)**	**134.9**	**6.3**	**128.5**
9	**Supporting activities**	**154.3**	**46.5**	**107.7**
10	Farm	32.2	4.6	27.5
11	Food processing	13.4	0.3	13.0
12	Other manufacturing	40.7	15.9	24.8
13	Services, trade, and transportation	68.0	25.7	42.4
		−Percent−		
14	**Nonfarm share of supporting activity**	**79.1**	**90.1**	**74.5**
		−U.S. dollars−		
15	**Output multiplier (total business activity, including exports, generated by $1 of exports)**	**2.03**	**1.87**	**2.11**
16	**Output multiplier minus 1 (additional business activity generated by $1 of exports)**	**1.03**	**0.87**	**1.11**
		−Jobs−		
17	**Employment generated by agricultural exports**	**1,133.2**	**338.5**	**794.9**
18	Farm	439.5	157.8	281.8
19	Nonfarm	693.7	180.7	513.1
20	Food processing	162.1	3.2	158.9
21	Other manufacturing	107.7	37.9	69.9
22	Services, trade and transportation	423.9	139.6	284.3
23	**Jobs multiplier (jobs per billion dollars of agricultural exports)**	**7,550**	**6,351**	**8,203**
		−Billion U.S. dollars−		
24	**Domestic equivalent of economic activity generated by agricultural imports**	**288.7**	**20.2**	**268.5**
25	Farm	73.8	9.8	64.0
26	Food processing	118.7	4.0	114.7
27	Other manufacturing	52.2	2.8	49.4
28	Services, trade and transportation	44.0	3.6	40.4
29	**Net domestic equivalent of total output gain or loss to agricultural imports**	**15.7**	**79.6**	**-63.9**
30	Farm	8.7	36.5	-27.8
31	Food processing	-50.0	-2.6	-47.4
32	Other manufacturing	-7.2	13.1	-20.3
33	Services, trade, and transportation	64.2	32.6	31.6
	Nonfarm, nonfood processing sectors:			
34	Net direct benefit from exports	37.9	10.3	27.4
35	Net increased output from exports	57.0	45.7	11.3
		−Percent−		
36	Farm share of total income from exports	23.6	46.4	17.7
37	Service, trade, and transportation's share of total income from exports	48.5	36.3	35.2

Source: USDA, Economic Research Service, Agricultural Trade Multipliers, February 2022.

The $154.3 billion of supporting or indirect activity generated by agricultural exports in 2020 includes activities both in the farm sector—i.e., crop and livestock production—and in nonfarm sectors related to production agriculture—such as food processing, other manufacturing sectors, and activities required to move exports to their final destinations. Examples of these nonfarm activities include computer and financial services, warehousing and distribution, packaging, and additional processing. The results emphasize the importance of agricultural exports to the services, transportation, and trade sectors, which account for $68.0 billion (line 13) of the total $154.3 billion in indirect activity. Supporting activity in the farm sector is estimated to be $32.2 billion (line 10). The farm sector's $82.5 billion of output associated with agricultural exports (line 2) is the sum of exported raw agricultural products ($50.3 billion; not shown in the table) and the value of supporting activity in the farm sector ($32.2 billion). Overall, the farm sector’s share of the income supported by agricultural exports is 23.6 percent (line 36) whereas the share corresponding to the services, trade, and transportation sectors is 48.5 percent (line 37).

Reference

U.S. Department of Agriculture, Foreign Agricultural Service. 2021. “Updated ‘Agricultural Products’ Definition for Trade Reporting.” Online (accessed November 23, 2021).

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