GLOBAL TRADE AND U.S. AGRICULTURE

A 2021 analysis of the international trade market and its significance for the future of American agriculture.
SUMMARY

International agricultural trade makes an important contribution to farm income, agribusiness market activity, and the economy as a whole—but on what level? AgAmerica’s Chief Economist, Dr. John Penson, sheds some light on the interdependent relationship of U.S. agriculture and international trade. This report provides an in-depth analysis of the six main factors that impact global ag trade, along with a crash course on the important role of foreign exchange rates in global markets and their historic influence on the U.S. agricultural trade outlook. Readers will gain a deeper understanding of the “why” behind the 2022 U.S. ag trade forecast and learn how farmers can prepare their operations in the face of global economic uncertainty.
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The basis for international trade is efficiency and affordability. Nations use their available resources to produce goods and services efficiently and, in turn, trade with other countries that can produce different goods more efficiently. Consumers in both nations reap the benefits with access to goods and services at a lower cost. As the world’s population continues to grow and economies become more developed, global agricultural trade has expanded and led to a decline in food insecurity over the last few decades.
A more recent UN report reflecting the effects of the pandemic puts the percentage of world population that is undernourished at 9.9 percent in 2020—roughly one out of every ten people and the first rise in global poverty since 1998. Agriculture plays an essential role in preventing the reversal of progress in world poverty. In the U.S., expanded trade supports the viability of American agriculture which, for many years, has been one of the world’s most efficient producers of raw agricultural inputs. However, as other nations adopt our technology and efficient production practices, American farmers must continue to seek ways to maintain our competitive edge in the global agricultural marketplace.

**PERCENTAGE OF UNDERNOURISHED PEOPLE**

(2018-2020, share of individuals who have a habitual energy intake lower than their requirements)

50-60%
40-50%
30-40%
20-30%
10-20%
5-10%
2.5-5%
<2.5%
NO DATA

Source: UN FAO; Undernourishment defined as having food energy intake which is lower than an individual’s requirements, taking into account their age, gender, height, weight, and activity levels.
AT-A-GLANCE

U.S. AGRICULTURAL TRADE

TOP U.S. AGRICULTURAL EXPORT DESTINATIONS
(by billion dollars)

- China
- Canada
- Mexico
- Japan
- European Union

TOP EXPORT COMMODITIES
(in 2020)

<table>
<thead>
<tr>
<th>Commodity</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Soybeans</td>
<td>$25.6B</td>
</tr>
<tr>
<td>Corn</td>
<td>$9.2B</td>
</tr>
<tr>
<td>Tree Nuts</td>
<td>$8.4B</td>
</tr>
<tr>
<td>Pork</td>
<td>$7.7B</td>
</tr>
<tr>
<td>Beef</td>
<td>$7.6B</td>
</tr>
<tr>
<td>Wheat</td>
<td>$6.3B</td>
</tr>
<tr>
<td>Dairy Products</td>
<td>$6.5B</td>
</tr>
<tr>
<td>Prepared Food</td>
<td>$6.7B</td>
</tr>
<tr>
<td>Cotton</td>
<td>$6.0B</td>
</tr>
</tbody>
</table>

200 COUNTRIES
Estimated number of foreign countries who buy U.S. agricultural products.

70 COUNTRIES
Estimated number of foreign countries that export ag-related products to the U.S.

8-10 PERCENT
Percentage of total U.S. exports that are agricultural goods.

20 PERCENT
Percentage of annual U.S. ag production sold in international markets.

55 PERCENT
Percentage of jobs related to ag exports that are outside of the farm gate.

TWO-THIRDS
Portion of U.S. ag imports that consist of horticultural and tropical products.

Sources: USDA, ERS and FAS Agricultural Data Products and Trade Multipliers; Economic Factors Affecting U.S. Agricultural Trade publication by University of Kentucky; *European Union includes United Kingdom.
NATIONAL ECONOMIC IMPACT

The U.S. exports agricultural commodities and related value-added products to foreign buyers in over 200 countries around the world. Agriculture strengthens the nation’s overall balance of trade as U.S. ag exports have historically exceeded imports. Agricultural exports normally represent 8-10 percent of total annual U.S. exports. According to the USDA, 20 percent of annual U.S. agricultural production is sold to foreign buyers in international markets. This expansion of trade has contributed to the multiplier effect of the U.S. agricultural community.

The USDA’s average agricultural trade multiplier of 1.14 suggests that projected agricultural exports this year of $173.5 billion will result in $197.8 billion in additional economic activity.

WHAT IS THE MULTIPLIER EFFECT?

Agricultural exports have a significant multiplier effect on economic activity beyond the farm gate (the activity in the supply chain once production leaves the farm) as production moves through the supply chain to overseas buyers, creating economic activity and employment all along the chain. In fact, approximately 55 percent of the jobs related to agricultural exports are beyond the farm gate.

IMPORTANT TO NOTE

The multiplier effect on economic activity differs by commodity. For example, the multiplier effect on economic activity for beef products is two times greater than for soybeans.
**INTERNATIONAL SOCIETAL IMPACT**

While the U.S. is a leading supplier of agricultural goods, we also contribute to foreign economies through purchases of ag imports. The U.S. imports ag-related products from foreign sellers in more than 70 countries. A majority of these products are either not widely grown in the U.S., such as coffee and bananas, or have unique characteristics, such as wine and cheeses from Europe. While this **comparative advantage** supplies us with diverse, year-long products, it also creates increased **competition** for American farmers in both global and domestic markets.

**COMPARATIVE ADVANTAGE**

Imports of fruit and vegetables are often seasonal or can be grown at a lower cost elsewhere. In some cases, imported agricultural products are partially processed in foreign countries before entering the U.S., where further value is added. Countries choose to specialize and trade, focusing on products they can produce most efficiently while importing other goods and services. Comparative advantage reflects the relative economic efficiency among nations given their resources, including factors like land, labor, capital, climate, and geographical location. Specialization and trade together stimulate total global production and lower prices from what they might be otherwise. The agricultural trade flow between the U.S., Canada, and Mexico is a prime example of trade between nations based upon differences in climate, resource efficiency, and geographical location.

**COMPETITIVENESS**

Comparative advantage can diminish over time as competitor nations adopt the technologies and practices that increase their competitiveness in the global marketplace. For example, Brazil has achieved economies of size in bulk commodities like soybeans and corn over the last 30 years. Brazilian soybean yields in 1990 were 30 percent below U.S. yields. Today, they are at or above U.S. yields. Over two-thirds of U.S. imports of fresh and frozen vegetables come from Mexico, with Canada also having a significant market share. Almost half of U.S. imports of fresh and frozen fruits come from Mexico, with Chile, Peru, and Guatemala also having significant market shares. Major differences between the cost of labor in fruit and vegetable production in the U.S. versus these exporting countries give them a comparative advantage in specific markets.

**BOTTOM LINE**

International agricultural trade has a positive societal impact in reducing global food insecurity through affordable and efficient food production. However, it also places additional pressure on American farmers to produce food, fuel, and fiber at more competitive rates than their foreign counterparts.
Global agricultural trade increases diversity in agricultural products and economic opportunities. As the global demand for more affordable goods and services grows, so does the required productivity and efficiency of American farmers.

THE BALANCE OF IMPORTS AND EXPORTS

As the below graph depicts, U.S. agricultural exports and imports have generally trended upward over the last two decades. In fact, the value of total agricultural exports has increased 225 percent since 2000, while the value of imports increased 262 percent.

Source: USDA Economic Research Service
The **trade balance** is the spread between exports and imports, which results in either a deficit or surplus. The last time the U.S. had a total trade surplus in goods and services was in 1980. According to the U.S. Bureau of Economic Analysis, the U.S. trade deficit of goods and services is well on its way to -$1 trillion. However, that doesn’t quite tell the whole story. Increased imports of goods, such as fertilizer, provide American farmers with inputs needed to increase crop yields and boost productivity that, in turn, is put back into export trade and stimulates the nation’s gross domestic product (GDP).

Unlike the trade balance of total U.S. goods and services, U.S. agriculture has recorded a trade surplus since 1959. This surplus in agricultural trade grew following the 2007-2009 Great Recession. From 2015 to 2020, the surplus began to shrink, coming close to zero in 2020 when the COVID-19 pandemic reached American soil.

However, U.S. agricultural exports in 2021 rebounded in the first half of the year, driven largely by a strong demand for grains and pork products by China. In fact, the USDA recently projected agricultural exports for fiscal year 2021 to exceed the record level achieved back in 2014 at $173.5 billion and as much as $177.5 billion in fiscal year 2022.
BULK AND HIGH-VALUE EXPORTS

It’s important to understand that U.S. ag export trade plays a larger role for some commodities more than others. For example, **U.S. cotton exports represented nearly 88 percent of total cotton disappearance in 2020**. This high percentage underscores the dependence U.S. cotton farmers have on a viable export trade environment. Soybeans and wheat also reflected a high dependency on export trade last year, at 50 percent and just over 53 percent, respectively. Corn, on the other hand, is less dependent on foreign trade at only 19 percent. In the livestock sector, the WASDE reports show pork is the most dependent on export demand at nearly 35 percent, followed by broilers at nearly 30 percent, and then beef at just over 12 percent.

While bulk grain exports account for the largest share of U.S. agricultural exports measured by volume, **high-value product exports** (HVPs)—such as fruits and vegetables, nuts, dairy products, manufactured feed, and processed food products—account for roughly two-thirds of the value of U.S. agricultural exports.

![PERCENTAGE OF TOTAL U.S. PRODUCTION THAT IS EXPORTED](chart.png)

Source: USDA Economic Research Service

<table>
<thead>
<tr>
<th>Percentage</th>
<th>Commodity</th>
</tr>
</thead>
<tbody>
<tr>
<td>12.1%</td>
<td>BEEF</td>
</tr>
<tr>
<td>19.9%</td>
<td>BROILER</td>
</tr>
<tr>
<td>34.8%</td>
<td>PORK</td>
</tr>
<tr>
<td>87.7%</td>
<td>COTTON</td>
</tr>
<tr>
<td>19.0%</td>
<td>SOYBEANS</td>
</tr>
<tr>
<td>15.0%</td>
<td>CORN</td>
</tr>
<tr>
<td>53.3%</td>
<td>WHEAT</td>
</tr>
</tbody>
</table>
CUSTOMERS AND COMPETITORS

Strong Chinese demand has supported export sales for American farmers this year with bulk purchases of commodities like soybeans and corn. In fact, U.S. corn exports account for nearly 40 percent of total global corn exports. Soybean exports topped the list of U.S. agricultural products exported in 2020, accounting for almost 18 percent of total U.S. agricultural exports and 37 percent of total global soybean crop production. It should come as no surprise that the bulk of these soybean exports were purchased by China. U.S. wheat, on the other hand, accounts for approximately 14 percent of total global wheat trade. These market shares are down from shares back in the 1980s and 1990s when the U.S. faced less competition from Brazil and other South American countries.

Source: USDA Economic Research Service
The majority of agricultural competition for American farmers comes from South American countries. Argentina accounts for 19 percent of global trade in corn followed by Brazil at 15 percent and Ukraine at 13 percent. While China is still one of U.S. agriculture’s largest clients, Brazil now exports more soybeans to China than the U.S., accounting for 50 percent of global soybean exports followed by the U.S. at 37 percent.
PART THREE

WHAT FACTORS INFLUENCE THE GLOBAL TRADE MARKET?

Understanding the ‘what and how’ behind fluctuations in international agricultural trade.

POPULATION

The global population in 2000 was 6.14 billion. By 2020 this figure rose to 7.80 billion, a 27 percent increase. Approximately 60 percent of the global population is in Asia, 17 percent in Africa, 10 percent in Europe, and 8 percent in Latin America and the Caribbean. North America accounts for only 5 percent of the world’s population.

CURRENT IMPACT

Global population is projected to grow 14 percent by 2030. Population growth has more of a long-term impact on international agricultural trade, as it adds pressure to produce more food, more efficiently, and with less agricultural land.
PRICE

The price of a commodity in international markets reflects the farm-level price adjusted for basis in the exporting country. Tight pipeline supplies generally mean higher commodity prices, while surplus supplies mean lower prices. The price to the importer will also reflect transaction costs at the point of delivery as well as the exchange rate between the two countries and any tariffs placed on the product by the importing country.

CURRENT IMPACT

Shipping shortages and logistical bottlenecks are driving up the price of delivery, raising costs for American farmers and, in turn, making it harder for them to compete with foreign market prices. The proposed infrastructure bill in its current form would include substantial funding to improve roads, bridges, railways, ports, and inland waterways. If put into action, this would create short-term headaches for operations and logistics while roads are under construction. However, over time, it would improve the efficiency of our current ag transportation system and make our farmers more competitive once complete. The bill also calls for extending rural broadband services to underserved areas, which could also make farmers more profitable through increased efficiency.

NATURAL PHENOMENON

Trade flows and market shares can also be disrupted by a myriad of other factors, from infectious diseases to severe weather events, which slow global economic growth and disrupt the international food supply chain. One example is the impact that African swine fever had on China’s pork industry the last two years and is currently having on Germany’s pork industry in 2021.

CURRENT IMPACT

The ongoing global impact of COVID-19 is wreaking havoc on shipping ports and global trade flow, along with the increasing rate of severe weather events. Most recently for U.S. ag trade, damage to the Southeast Louisiana Port facility from Hurricane Ida is creating trade flow disruption, as that facility handles approximately 60 percent of the nation’s bulk exports of grain. The Cargill grain elevator in Reserve, Louisiana was also damaged, which handles about 9 percent of U.S. bulk exports.
GOVERNMENT INTERVENTION

Government intervention comes in a variety of shapes and sizes; namely trade policy, farm policy, and regulations that establish the trade-weighted dollar for international trade. Tariffs are a common form of government intervention used to protect specific industries and domestic jobs. However, they also can distort trade between nations by making imported products more expensive and less attractive to consumers, in turn, lowering sales for the exporting country and often leading to retaliatory tariffs. Governments also place tariff-rate quotas or embargos on specific imports that limit the quantity of the product that can be imported. Trade agreements between nations or groups of nations have expanded agricultural trade as they often lead to reduced or tariff-free trade between nations.

CURRENT IMPACT

Prior to 2018, soybeans had been nearly 60 percent of total U.S. agricultural exports. It was one of the first products China hit with an additional 25 percent retaliatory tariff in response to the tariffs the U.S. placed on Chinese imports like steel, aluminum, and more. While full obligations have not been met, the Phase One trade agreement between the U.S. and China has increased Chinese purchases of bulk U.S. exports to record levels. Even so, the average Chinese tariffs on U.S. exports average 20.7 percent while U.S. tariffs on Chinese imports average 19.3 percent, indicating the trade war is far from resolved. Another impact of recent government intervention was the USMCA trade agreement that replaced the NAFTA trade agreement in 2020 which includes specific covenants dealing with agricultural trade, such as raising quotas on Canadian imports of U.S. dairy products.

TERMS TO KNOW

EMBARGO:
Represents a 100% tariff-rate quota.

TARIFFS:
A tax on imported goods, making them less attractive to buyers than domestic products which protect specific industries and domestic jobs.

TARIFF-RATE QUOTA:
Allows a certain quantity of specific imports at a lower tariff with any quantity above that quota is subject to a higher tariff.

TRADE-WEIGHTED DOLLAR:
A measurement of the foreign exchange value of the U.S. dollar compared against certain foreign currencies based on the volume of trade between these countries.
ECONOMIC CONDITIONS

Demand for imported agricultural products is affected by the economic conditions in the importing country and the income elasticity of demand for these products. Growth in economic conditions increases the demand for food and hence the need for agricultural products. In-country inflation, which affects the purchasing power of income, also affects demand.

CURRENT IMPACT

Global economic growth is expected to reach six percent, according to the International Monetary Fund, driven largely by the strength of the economic recovery in China and the U.S. Most geographic regions are expected to register economic expansion with the rates of growth reflecting the effects of the coronavirus pandemic and its containment.

FOREIGN EXCHANGE RATES

Exchange rates are often said to be the single most important price for any economy with significant trade. Trade-weighted foreign exchange rates have historically accounted for 25 percent of the change in U.S. agricultural export values. Movements in exchange rates between both trading partners and competitors are leading economic indicators of movements in export demand. While long-term growth of U.S. agricultural exports is mainly driven by foreign economic conditions, agricultural exports in the near term are largely influenced by changes in exchange rates. These exchange rates are influenced by interest rates and the value of national currencies. For example, a weak U.S. dollar makes American agricultural products less expensive to foreign buyers, but it also reduces the purchasing power of U.S. buyers in international markets. Therefore, if the real trade-weighted exchange rate increases (decreases), U.S. farmers receive less (more) revenue for a particular agricultural commodity in general because the purchasing power of the dollar has increased (decreased).

CURRENT IMPACT

At the start of 2021, the U.S. dollar (USD) dipped to its lowest level since 2018. A weak dollar combined with a low-interest-rate environment is contributing to a decline in the trade-weighted foreign exchange rate, in turn, making U.S. agricultural trade more profitable for American farmers. This decline in trade-weighted exchange rates will likely continue well into 2022. However, it is important for U.S. export suppliers to monitor if and when interest rates rise, as it will be a leading indicator of a coming shift in the trade-weighted exchange rate that could reduce export demand for U.S. agricultural commodities.

UNDERSTANDING FOREIGN EXCHANGE RATES

Dive deeper into the historical trends and why they matter.
PART FOUR

COMMODITY HIGHLIGHTS

**CORN**

U.S. corn export trade has fared well in 2021, with an updated forecast of $18.1 billion—a $900 million increase from May’s prediction. However, this strong global market for U.S. corn is expected to soften slightly to $17.1 billion in 2022 despite continued high prices, due mostly to higher volume and foreign competition.

**SOYBEANS**

U.S. soybean exports have experienced record-breaking demand and commodity prices this year, mostly fueled by China as they rebuild their swine herd. While there is concern regarding the dependency on one main importer over the long term, soybean exports are expected to increase by $3.3 billion in 2022 to a record $32.3 billion. This outlook reflects higher prices will continue but volume will decrease given increased competition from Brazil.
DAIRY
Overcoming a year of unprecedented logistical challenges, U.S. dairy exported a record 16 percent of total milk solids in 2020. U.S. dairy exports are expected to build on this all-time high, increasing by $300 million in 2021 and an additional $200 million in 2022 to $7.5 billion. This increase is based on stronger expected import demand from Mexico and Asia for skimmed milk powder and cheese.

POULTRY AND EGGS
Poultry and poultry products are forecasted to experience export trade growth in both 2021 and 2022, with an increase of $300 million in the USDA’s latest trade outlook in 2021 and an additional $100 million in 2022 to $5.9 billion.

LIVESTOCK
U.S. beef and cattle trade rebounded quickly in the first half of 2021, up 21.5 percent over the first six months of 2020. The revised 2021 forecast indicates an $800 million increase in U.S. beef exports driven by global consumption projected at a 14-year high. However, a $100 million decline is predicted for 2022, due in part to lower production rates and slight growth in Brazilian beef production. Exports for pork and pork products are projected to decline $100 million to $7.1 billion in 2022 as China’s hog industry continues to recover from swine flu.

COTTON
U.S. cotton is the most reliant sector on export trade, accounting for nearly 88 percent of total U.S. cotton production. Fortunately, due to higher unit values and renewed demand after COVID-related shutdowns, export trade is forecasted to increase $500 million to $6.8 billion in 2022.

TREE NUTS
European Union, India, and China are among the top importers of U.S. tree nuts. While record harvests in past years have put downward pressure on unit values, mega-drought conditions could lower production and increase market price if demand holds. Stronger shipments to Europe and Asia are projected to lead to a $400 million increase for U.S. tree nut exports to $9 billion in 2022.
History suggests that exchange rates will play an important role in determining export demand for agricultural commodities, just as they did during the farm financial crisis in the 1980s. That is why movements in real trade-weighted exchange rates are often said to be a leading indicator of U.S. exports. Future trends in these exchange rates will create a trickle-down effect on net farm income and the overall financial health of the sector. Government intervention in the form of tariffs and quotas will continue to distort exchange rate effects as seen in recent years. Other factors such as growth in foreign income and population growth will have a longer run effect on trade between nations.

As we race towards the end of 2021, the unprecedented monetary and fiscal stimulus underway in the U.S. suggests the risk of future inflation and possible contractionary policies by the Federal Reserve to head off inflationary expectations. Distortions to domestic and global supply chains also add to this uncertainty, with a lack of available shipping containers and labor shortages all along the chain. Shipping container issues are expected to linger into 2022. Damage to the major Louisiana export facilities from Hurricane Ida could also add to logistical bottlenecks of grain exports into next year.

**BOTTOM LINE**

If the Federal Reserve continues to allow some inflation above its target, interest rates will remain low and, if other factors remain constant, the real trade-weighted exchange rate for U.S. agricultural commodities remains weak and supports a continuation of strong export demand in 2022.
As we look forward to 2022, the previously stated uncertainty surrounding future trends in interest rates, inflation, and commodity prices at home and with U.S. trading relationships will impact trade-weighted exchange rates. The USDA predicts that agricultural exports in 2022 will be up 2.3 percent over 2021 levels. That being said, a lot can change before then. If we start to raise interest rates to combat inflation, the value of the dollar will rise, and U.S. farmers could be less competitive in a global market. So, the question remains—are current inflation trends transitory or permanent?

Production in competitor nations also bears watching as we move into 2022. Brazil is a major competitor in both soybeans and corn in the global marketplace as noted earlier. Brazil is experiencing the worst drought in nearly half a century with La Niña weather pattern likely to bring more dry temperatures as Brazilian farmers approach the planting season. Brazil is also experiencing inflation annualized at nine percent which may affect the Brazilian real’s competitiveness depending upon the monetary policy actions taken by Brazil’s central bank.

There are also a number of geopolitical factors at play in terms of our trade relationships with foreign countries. Little focus has been placed on the future of the U.S.-China trade agreement and what will happen once phase one expires the end of 2021 and China falls short of the agreement’s original obligation. These answers may be uncovered in 2022, or they may not.

**BOTTOM LINE**

For now, all signs for U.S. total agricultural trade in 2022 are pointing towards a year of strengthening and profit for American farmers and ranchers.
PART SEVEN

HOPE FOR THE BEST, PREPARE FOR THE WORST

Understanding the fundamental factors impacting global trade markets and the current economic climate is an important step in establishing a successful business plan for your farm operation. The next step is evaluating your existing balance sheet to ensure you have the capital you need to capitalize on the opportunities it holds while mitigating the risks it may carry.

Founded with roots in agriculture, AgAmerica understands the volatility of these markets. That’s why we’ve created financing that can adapt to your changing needs. When uncertainty strikes, AgAmerica is here to help you through it. Whether you want to:

- Refinance debt and reduce payments;
- Consolidate, restructure, or recapitalize debt;
- Lower your current interest rate;
- Extend loan terms;
- Boost operational liquidity;
- Purchase new property;
- Expand your operation;
- Finance farm upgrades and equipment; or
- Increase short-term cash flow.

AGAMERICA SPECTRUM

Learn more about AgAmerica’s spectrum of innovative financing solutions and contact one of our land lending experts today.