The Feed

Farmer Mac's Quarterly Perspective on Agriculture

Summer 2020

FARMER MAC

FINANCING RURAL AMERICA

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ABOUT THE FEED

The Feed is a quarterly economic outlook for current events and market conditions within agriculture. The report is broad-based, covers multiple regions and commodities and incorporates data and analysis from numerous sources to present a mosaic of the leading industry information, with a focus on the latest information from the United States Department of Agriculture and their Economic Research Service. There are several regularly included sections like weather and major industry segments, but the authors rotate through other industries and topics as they become relevant in the seasonal agricultural cycle. Where the report adds value to readers is through its unique synthesis of these multiple sources into a single succinct report. Please enjoy.

ABOUT FARMER MAC

Farmer Mac is a vital part of the agricultural credit markets and was created to increase access to and reduce the cost of capital for the benefit of American agricultural and rural communities. As the nation's premier secondary market for agricultural credit, we provide financial solutions to a broad spectrum of the agricultural community, including agricultural lenders, agribusinesses, and other institutions that can benefit from access to flexible, low-cost financing and risk management tools. Farmer Mac's customers benefit from our low cost of funds, low overhead costs, and high operational efficiency. For more than a quarter-century, Farmer Mac has been delivering the capital and commitment rural America deserves.

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FROM THE DESK OF THE CHIEF ECONOMIST

Focus on the Foot in Front of You

I think I can safely say that nobody had this in their business plan for 2020. Corporate strategists, investment managers, and regulators—all these groups advise stress- and scenario-testing your business, which involves rethinking assumptions, weighing different demand conditions, and evaluating business continuity under stressful conditions. And rightfully so: this is an incredibly valuable exercise that can illuminate potholes and ditches as well as signs and signals of opportunity along the road. But a global pandemic followed by a sustained economic slump— that is the stuff of Black Swans, exceedingly rare events that are nearly impossible to predict and which carry significant impacts on the economy. Try to run your business planning for a Black Swan event, and you will find it difficult to survive; however, ignore its possibility at your peril.

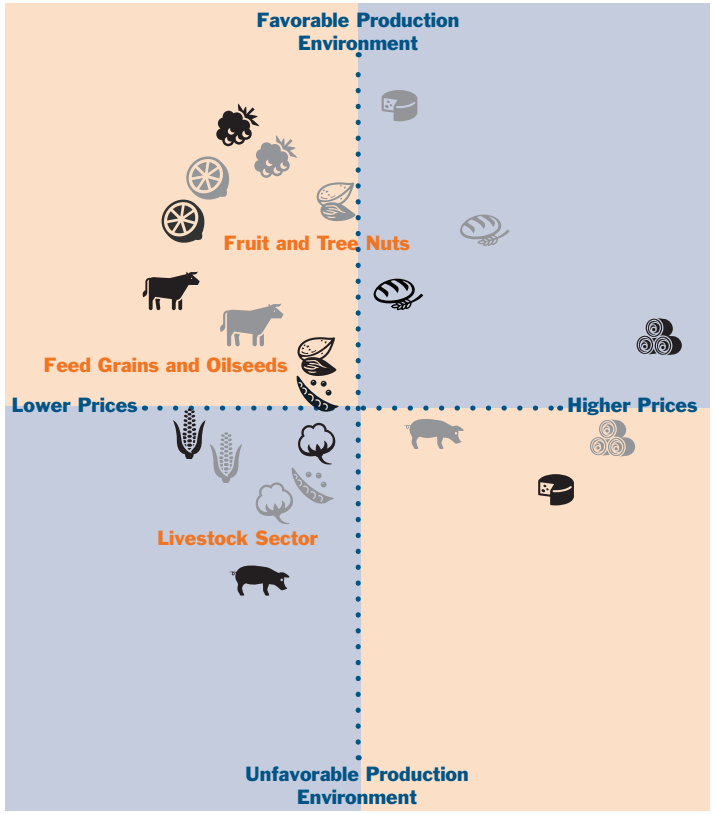
So, what do leaders and their businesses do when the rare bird rears its improbable head? For one, many leaders focus on the things that they can control. Soybean growers can't control trade policy; corn growers can't control ethanol production; hog producers can't control viral outbreaks in their integrators' plants; fresh fruit and produce producers can't control restaurant and school closures. However, producers **can** adjust production profiles, examine new delivery channels, and scrutinize capital expenses. Additionally, successful leaders will intensely study sources and uses of working capital during disruptions like this one. Businesses with optionality and liquidity thrive in heightened uncertainty. Flexibility gives companies the ability to pivot into new markets or make asset sales or purchases when prices are right. And if revenue dips for an extended period, liquidity provides the buffer to keep the lights on. Secondary markets like Farmer Mac can provide a critical liquidity lifeline to both lenders and producers during times like these. Finally, resilient business leaders protect and rely on their people during times of heightened uncertainty. As much as automation has altered the agricultural supply chain in the last 20 years, human capital is still a significant input into food production. The health and well-being of our farming, rural, and ag lender workforce is imperative to a vigorous and vibrant recovery.

Navigating in the dark can be a challenging and frightening thing. However, if we count on our community as a strength, we can chart a course out of the fog together, putting one foot securely in front of the other. As I have spent countless hours studying our current conditions, I am reminded of our shared mission— feeding, clothing, fueling, and powering a world that needs community strength now more than ever.

Our very best to you and your families this summer,

Jackson Takach, Chief Economist

PRODUCTION AND MARKET PRICE PERCEPTUAL MAP



Spring 2020	Summer 2020
	ALMONDS
	CATTLE/CALVES
	CITRUS
	CORN
	COTTON
	DAIRY
	HAY
	HOGS
	SOYBEANS
	WHEAT
	WINE GRAPES

CHANGING CONDITIONS OF FARM BANKRUPTCIES

(resource 1, 2)

By: Robert Dinterman, The Ohio State University

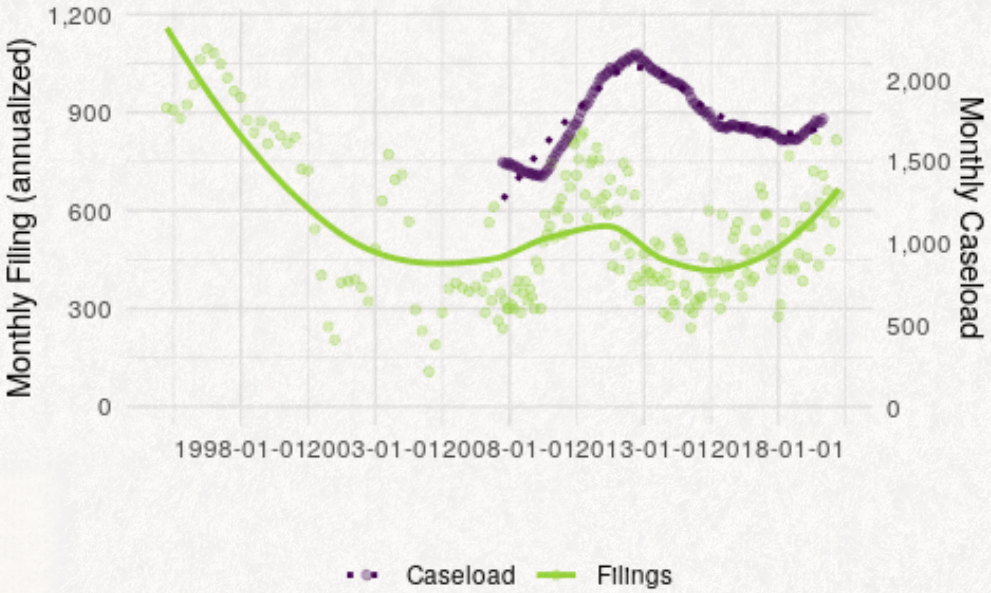
Key Highlights

National farm bankruptcies have approached levels not seen since 2009-2012.

Bankruptcy filings have increased in some areas, but remain relatively low.

Farm and off-farm income levels, farmland value trends, and macroeconomic factors all help determine regional differences in farm bankruptcy levels.

Figure 1: National Chapter 12 Trends



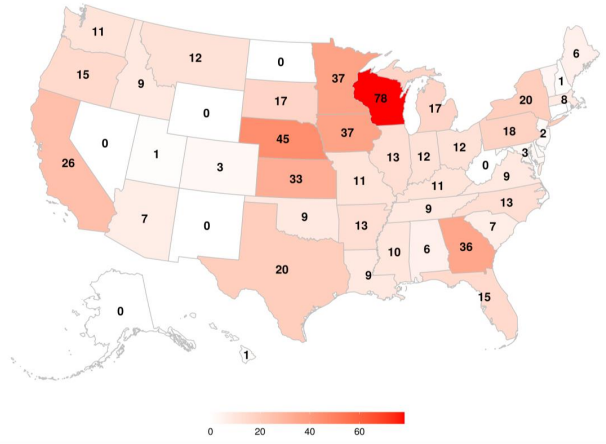
A continued lower-price environment, uncooperative weather events over the past year, trade uncertainty, and COVID-19 have all contributed to depressed net cash farm income levels and placed upward pressure on farm bankruptcies. Some of the lower net cash farm income has been offset by government payments; however, there is still significant financial stress in the agricultural sector. The U.S. Courts recently released the bankruptcy filing numbers for the first quarter of 2020, which had a total of 170 chapter 12 bankruptcies filed, an increase from the previous year's first quarter of 130 chapter 12 bankruptcy filings. This increase came even though the COVID-19 pandemic delayed in-person events at bankruptcy courts, which suppressed the number of filings in March. Since 2014, chapter 12 filings have gradually increased year-over-year and have now approached levels unseen since 2012— although the filings are still substantially below levels seen prior to 1998.

FARM BANKRUPTCY. Chapter 12 bankruptcy, more commonly referred to as farm bankruptcy, is a bankruptcy procedure where family farmers or family fishermen can restructure their debts to be repaid over a period of three to five years, conditional on income and debt limit requirements being met. The chapter was created in 1986 as a response to the 1980's Farm Crisis, to serve as a bankruptcy option for farmers to retain their farm.

The farming debt limit for chapter 12 was recently increased to $10 million with the passage of the Family Farmer Relief Act, which was signed into law on August 23, 2019. The prior debt limit was $4.4 million as of April 1, 2019. The effects of the increased debt limits have been muted so far—less than 1% of all farmers that have filed for chapter 12 since the increase have had debts larger than the old limit. However, the increase is likely to have long-term implications, as the average debt load of filers has been steadily increasing.

REASONS FOR FILING CHAPTER 12. In general, a farmer is likely to file for bankruptcy if their current cash flow does not meet their current debt obligations. This situation usually arises not from

Figure 2: Total Chapter 12 Bankruptcies Filed, April 2019 – March 2020



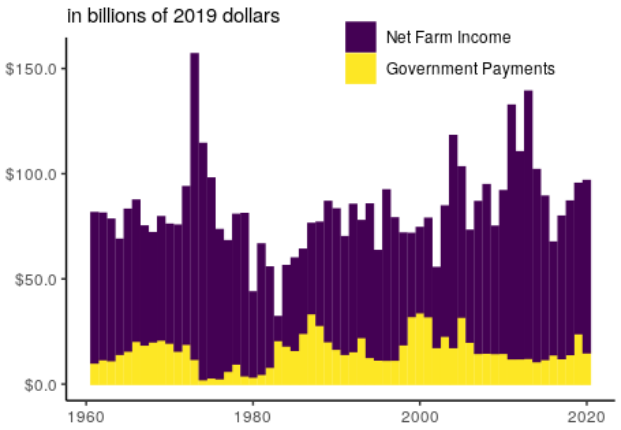
one specific event, but from a series of events that slowly erodes a farmer's equity and places them in an insolvent position. Chapter 12 allows the farmer to continue their operation while restructuring their debts by proposing a payment plan over the course of three to five years (although certain long-term debts can be repaid over a longer horizon). Successful completion of a bankruptcy filing leads to the discharge of unsecured debts for the debtor. One of the benefits of a chapter 12 procedure is that it allows a debtor to cram down secured debts to the current value of its collateral, as unsecured debt is dischargeable in a successful bankruptcy filing. While chapters 11 and 13 also allow for a cram down, those chapters are prohibited for cramming down mortgages, a limitation that chapter 12 does not share. With over 80% of a farmer's assets tied up in agricultural land, a chapter 12 cram down can be extremely useful for farmers in areas of declining land values that previously took on debt to finance the purchase of their land as reclassifying secured debt to unsecured debt. Declines in agricultural land values are thus a leading cause for filing a bankruptcy, although negative income shocks, increased debt costs, and unexpected costs also contribute to bankruptcy filings.

While there has been an increase in chapter 12 filings since 2014, certain areas in the United States have felt more financial stress in agriculture than other areas. Over the past year the upper Midwest has seen a considerable increase in chapter 12 filings, with Wisconsin leading the nation in chapter 12 bankruptcies. The main culprit for farm bankruptcies in Wisconsin has been the lagging dairy sector, which has suffered low commodity prices due to overproduction in the industry. For other areas in the upper Midwest, like Kansas in particular, the stagnant or declining agricultural land markets that have resulted from multiple years of declining farm income—a trend that has recently been exacerbated by the trade war with China— have contributed to increased bankruptcies.

FARM INCOME. Since 2016, net farm income has been slowly creeping up nationally, but has yet to return to the decade's early boom period. Market Facility Program (MFP) payments began impacting net farm income measures in 2018. The program was meant as a one-time payment to compensate cotton, corn, dairy, hogs, sorghum, soybeans, and wheat producers from foreign retaliatory tariffs. However, this program was again enacted in 2019 (to be paid over 2019 and 2020) due to the elongated trade war, and the scope of covered commodities was greatly increased. Uncertainty surrounding a major export market for agricultural producers has greatly affected future expectations in farm incomes, which has been reflected in land markets.

Of the $83.78 billion in net farm income for 2018, about $13.67 billion were direct government payments, a majority of that from MFP. Current estimates for the 2019 and 2020 net farm incomes are $93.56 billion and $96.67 billion respectively, with substantial support from government payments ($23.66 billion and $14.98 billion). While MFP payments certainly buoyed current cash flow, the program is still only designed as a temporary measure. The degree of future measures to support net farm income is unclear, despite ongoing global factors affecting farm, including the COVID-19 pandemic. Government measures to counteract the effects of COVID-19, such as the Coronavirus Food Assistance Program (CFAP), will provide up to $16 billion in direct payments, which has yet to be accounted for in the USDA ERS estimates of net farm income. The uncertainty in how these payments will be distributed makes it hard to gauge how much government payments can stave off the current upward trend in bankruptcy filings.

Figure 3: Historical Farm Income in Agriculture



Source: USDA-ERS

AG BANK VOLUME UPDATE

(resource 3, 4)

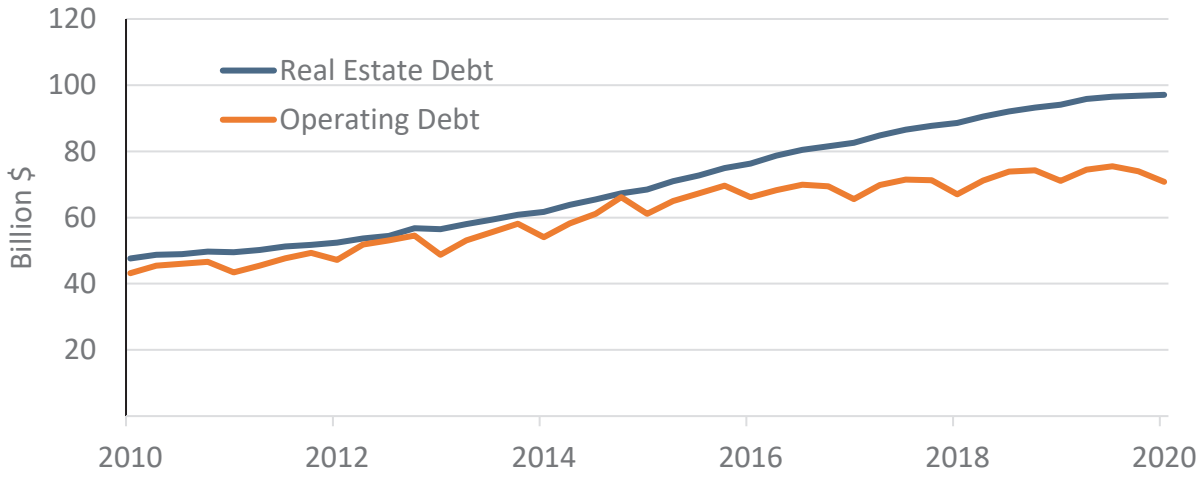
Key Highlights

Total real estate loan volumes continued to rise in Q1 2020, but growth has slowed and could turn negative this year.

Large commercial banks used to drive agricultural loan growth, but now show the slowest growth.

We estimate that real estate loan growth is fastest in the Great Plains and the Western Corn Belt, but slower along the coasts.

Figure 4: Total Loan Volumes for Reporting Banks, 2010 – Q1 2020



Source: Federal Financial Institutions Examination Council Call Reports

At the end of 2019, agricultural volumes at FDIC-insured banks had grown for a decade. Even the 2008 financial crisis had limited impact on increasing loan volumes, only briefly pausing their upward trajectory. But as the decade ended, there were some indicators that this rapid ascent was slowing. Real estate loan volume growth slowed through 2019, and the Federal Reserve Bank of Kansas found that operating debt had decreased through Q4 2019.

We can get a glimpse into whether this trend is continuing into 2020. Due to the ongoing pandemic, banks have had additional time to submit their call report data, delaying the official report. However, the Federal Financial Institutions Examination Council (FFIEC) has released call reports for the 90% of banks that have already filed. This subset will enable us to estimate if the current trends have continued before the full data are released later this year.

TOTAL LOAN VOLUMES. From the observed banks, it is likely that the trends from prior quarters have continued. Operating loan volumes have declined year-over-year between Q1 2019 and Q1 2020 by less than a percent. Real estate loan volumes for this group continued to rise, but by a lower percentage than in prior years. The 3% year-over-year growth represents a decline from over 10% per year during the commodity supercycle. Among all banks, real estate volumes were lower in Q4 2019 than Q4 2018, signaling that volume declines are possible this year.

TRENDS IN BANK GROWTH. The slowing growth in loan volumes is not even across all banks. The smallest 20% of banks by total assets saw year-over-year growth in their agricultural real estate portfolio of under 2%. The median bank, with $220 million in assets under management, saw growth near 6%. However, the largest 10% of banks, with more than $1.4 billion under management, saw no growth in their agricultural real estate volumes year-over-year. This paints a picture of mid-size community banks and regional banks growing agricultural volumes more than either national banks or small community banks.

This is different than what we saw in earlier years. At the tail end of the commodity supercycle, the largest 10% of banks were rapidly growing their agricultural real estate portfolios, exceeding growth above 12% per year. While growth has fallen across all asset size classes, the largest banks went from growing the fastest in 2016 to not growing at all in 2020. Growth has fallen the least among mid-size banks with between $200 million and $1 billion in assets under management.

Growth in agricultural portfolios has also been strongest in banks that have existing agricultural

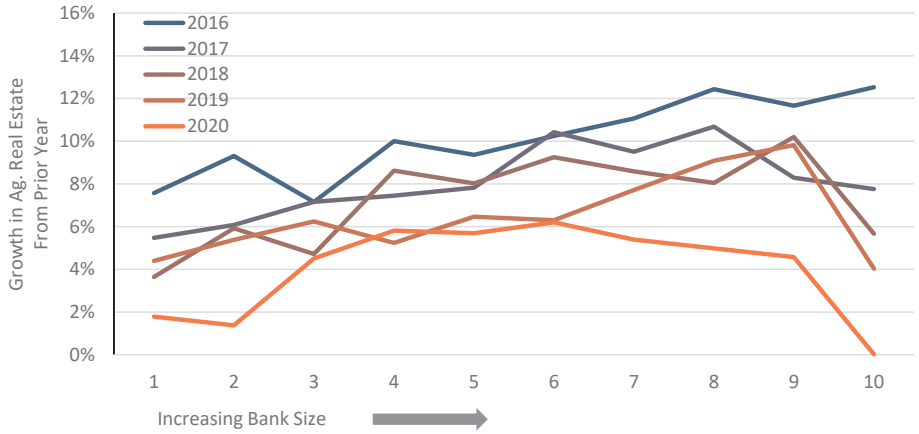
portfolios. Put another way, commercial banks without significant agricultural experience have not seen growth in their agricultural holdings. However, growth does not increase with concentration once a portfolio has been established. The median bank in Q1 2020 had 6% of their portfolio in agriculture and saw 4% growth in their real estate volumes. The 10% of banks most concentrated in agriculture also saw 4% volume growth.

REGIONAL DIFFERENCES. There are also differences in how volumes have changed across the country. Mid-size commercial banks with some experience in agriculture are most common in the Western Corn Belt and Northern Great Plains. Conversely, many coastal regions tend to rely on the larger commercial banks that have seen slower growth over the last year. Coastal regions are also frequently served by banks with low concentrations in agriculture. This implies that those regions are more likely to have seen zero or negative growth in real estate volumes over the last year among all commercial banks.

By using interest expense data from the Census of Agriculture combined with additional regulatory data from the FDIC, we can estimate total lending into a county from all commercial bank lenders. There are some regional patterns that emerge from this analysis. States that saw significant strain due to the struggles of the dairy industry, like Michigan, are estimated to have seen lower or negative growth. In general, the Great Plains have outperformed the rest of the country, though areas like southeast South Dakota with significant flooding have not seen the same growth. In general, the Western Corn Belt appears to have seen strong real estate loan volume growth, though evidence is more mixed in the Eastern Corn Belt. Many important agricultural regions along the coasts are estimated to have seen sharp declines in their real estate volumes.

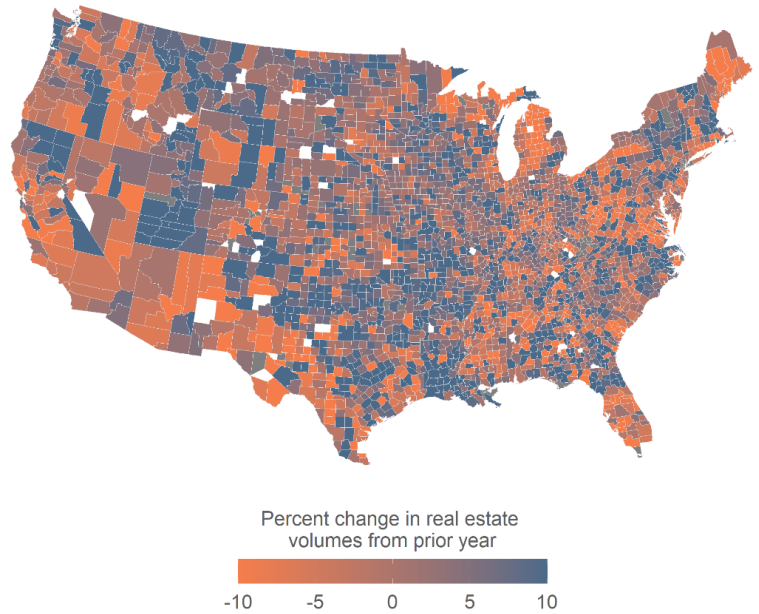
Heading into the pandemic, agricultural lending was already seeing slower growth. The large banks that used to lead this volume growth have shown much slower growth as of the latest data. Some signs point to lower growth in coastal regions or regions that are heavily reliant on strained commodities. Nonperforming rates were largely the same as the prior year. In short, commercial bank lending was plateauing even before the start of the additional uncertainty that came with the arrival of COVID-19. The combination of these factors could be the undoing of a decade of commercial bank expansion into agricultural real estate. But if history is any guide, the contraction may be short-lived, and a credit cycle expansion could soon return.

Figure 5: Agricultural Real Estate Growth by Total Bank Size, 2016 - 2020



Source: Federal Financial Institutions Examination Council Call Reports

Figure 6: Farmer Mac Estimate of County Real Estate Loan Growth, Q1 2019 – Q2 2020



Source: Internal Farmer Mac Estimates

FOREIGN CROP PRODUCTION IN THE WAKE OF COVID-19

(resource 5, 6)

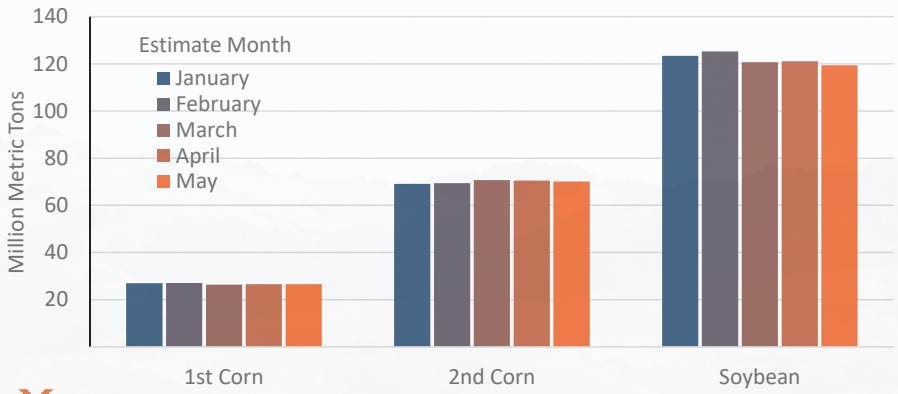
Key Highlights

COVID-19 has not impacted foreign production for crops and permanent plantings to date, though processing and transportation risks remain.

Brazil saw no declines in production from worker absenteeism through their most recent harvests.

European countries made policy changes to address the loss of some migrant labor, which have met labor needs.

Figure 7: Production Estimates for Select 2019/2020 Brazilian Crops by Month



Source: Brazilian Institute of Geography and Statistics, Systematic Survey of Agricultural Production

At the start of the pandemic, one of the most serious threats to worldwide agriculture was how the outbreak would impact access to labor. Widespread illness had the potential to impact labor-intensive production, as well as processing and transportation. However, through June of this year, no substantive impacts on foreign production have been observed. From Russia to Brazil, our major agricultural competitors are expecting production for important commodities to exceed prior year totals. Globally, the USDA estimates that the total production of wheat, soybeans, and corn for the 2020/21 crop marketing year will exceed that of 2019/20.

ABSENTEEISM. Production risk in agriculture during a pandemic stems from an inability to access labor, either due to worker absenteeism or challenges in accessing migrant labor. Workers may be absent due to illness or out of concern for their safety. In South America, limited migrant labor in Brazilian agriculture means that they are especially exposed to absenteeism concerns. Many important harvests occur during the months that coincided with the initial waves of the pandemic. Brazil's first corn crop, soybean, and coffee harvests finish between March and May, while the second corn crop begins harvest in May but is largely done in June and July. In response, the Brazilian government classified agricultural labor as essential.

Production estimates from the Brazilian government for these crops showed little change before and after the start of the pandemic. The first corn crop estimate from January was within 2% of the latest release. The record soybean crop did see a 3% decline from January estimates, but that can be explained by dry weather patterns in southern Brazil. In short, official estimates have shown little to no impact on production, implying limited effects from worker absenteeism. Brazil will have many more COVID-19 cases during the ongoing second corn crop harvest, so impacts may still materialize there, despite limited evidence of disruption so far..

MIGRANT LABOR. As was the case in the U.S., the European Union had significant hurdles due to their reliance on migrant labor, as nations closed their borders during the pandemic's initial spread. Some nations, like France and Germany, attempted to encourage newly laid-off workers to enter agriculture, with limited results. However, nations quickly moved to allow seasonal workers through despite the pandemic. In Germany, the federal government offered air travel for 80,000 seasonal workers from neighboring states. Broadly speaking, the importance of migrant labor has been recognized in foreign producers that rely on that labor, and policies have been put in place to mitigate access concerns.

This does not mean that future labor challenges will not arise to harm producers. Off-farm processing and transportation has caused problems in the United States, Europe, and India. A more widespread wave of cases could also cause greater absenteeism or migrant labor issues. However, if current conditions continue, our foreign competitors will see limited impacts to their production, and many will see record production for the current crop marketing year.

WEATHER

(resource 7, 8)

Key Highlights

Generally favorable growing conditions expected across the Midwest.

Southeast expected to remain wet.

Early summer has seen a good start to the growing season in much of the country. Mild weather and elevated soil moisture have resulted in crop progress throughout the Midwest that is ahead of recent years, with high crop quality reported. This trend may turn more stressful over the remainder of the summer as warmer than normal temperatures expand into the Midwest. Hotter weather tends to reduce soil moisture levels, which would add humidity to the heat. Hotter and drier than normal weather are expected to dominate the Southwest and Southern Plains through the summer.

The Southeast, especially areas closer to the coast, is likely to see higher than normal precipitation over mid and late summer. This would be the result of warm water temperatures in the Gulf and Atlantic, combined with a more active tropical weather season due to La Niña conditions in the Pacific Ocean. The La Niña conditions tend to reduce upper atmosphere winds that ordinarily inhibit the development of tropical cyclones; therefore, this is anticipated to be one of the more active Atlantic hurricane seasons in several years.

The West is expected to remain warm and dry over the remainder of the summer, as is typical. Given the areas of drought and low soil moisture after a dry winter, fire conditions should be monitored during late summer and early fall.

Figure 8: Seasonal Drought Outlook

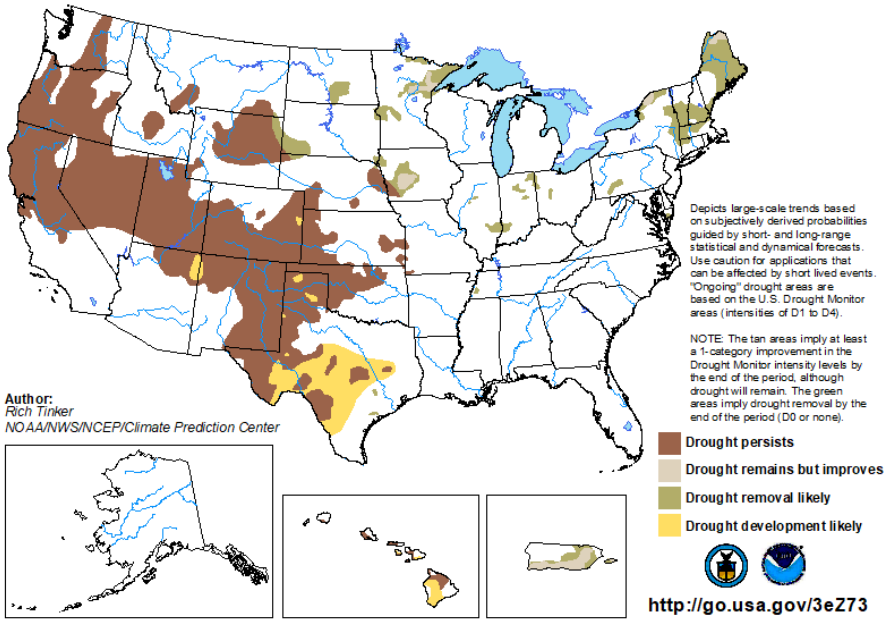
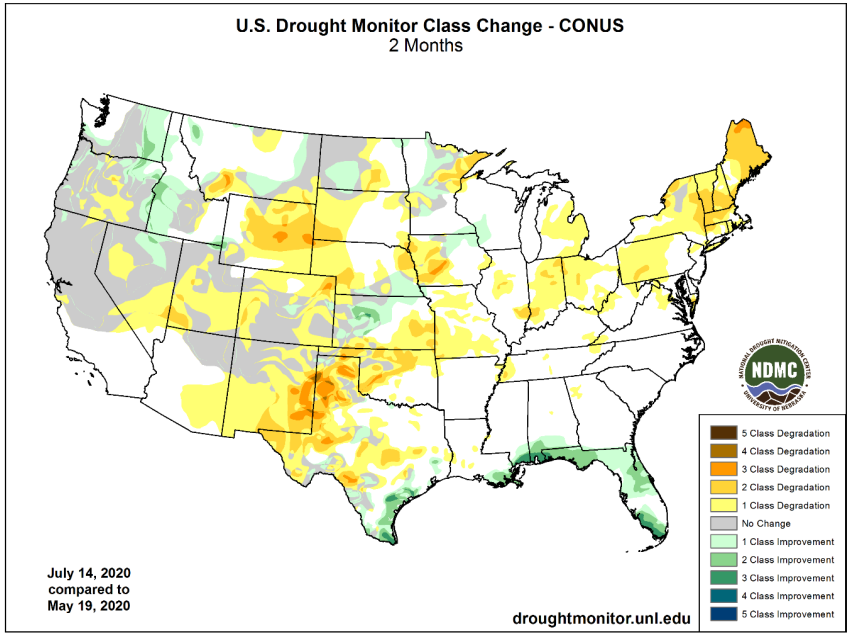


Figure 9: Drought Monitor Class Change



Key Highlights

Contracting global growth will create headwinds for animal proteins and consumer-oriented goods; North American and Eurozone partners will see greater declines than Asian partners.

A stronger dollar will weaken American competitiveness; cash grains will see greater competition than animal proteins due to differences in currency depreciation.

Low oil prices will place pressure on corn, wheat and soybeans; oil prices are not expected to return to 2019 levels through 2021.

Agricultural prices are predominantly driven by exports. Exports led the price surges in the 1970s, 1990s, and late 2000s. These spikes were caused by a series of macroeconomic factors in addition to changes in agricultural production. While these periods are not identical, they shared many macroeconomic themes: a strong economic environment and a depreciating U.S. dollar that led to export growth. With the globe in a recession, many of these same factors will now be working in the opposite direction, suppressing agricultural exports and profitability through the downturn.

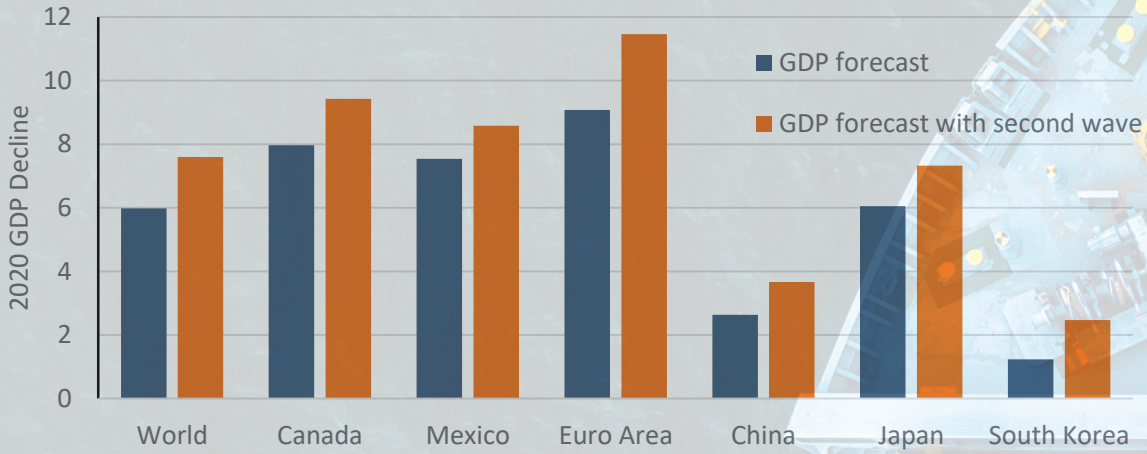
GROWTH IN MAJOR IMPORTERS. Global growth is important to U.S. agriculture because it increases disposable income and creates new markets for American products. Historically, negative or slow growth has led to decreased demand for animal proteins and a reduced need for crops through impacts on feed. Globally, the OECD forecasts that GDP growth will be negative 6%, or almost negative 8% if a substantive second wave of COVID-19 cases emerge.

The emerging economic downturn will not be even across our major agricultural markets. Canada and Mexico accounted for almost 30% of U.S. agricultural exports in 2019 and are both forecast to see sharper declines in GDP growth than the global average. The Eurozone represents another 9% of exports and will see some the sharpest declines in the world. Spain, France, and Italy are all forecast to see declines of between 11% and 14%.

Impacts are less severe to our major partners in Asia. While Chinese growth expectations have fallen significantly, they are forecast to see only a mild contraction in 2020. South Korea's ability to curb the spread of infection has also resulted in lower forecast GDP declines. While Japan has also seen lower case counts, the Japanese economy has been slower in recent years, and so is forecast to see a greater contraction in 2020.

This regional variation will place unique pressure depending on the commodities these countries import. In 2020, almost 15% of the goods by value going to hard-hit Europe were almonds. Canada imported more fresh fruits and vegetables, while Mexico's top U.S. imports were corn and soybeans. Across Asian nations with smaller forecast GDP declines, beef and pork are top exports. This could provide some insulation for animal products, though they will face more headwinds from GDP declines in emerging markets.

Figure 10: Forecasts for GDP Declines for Major U.S. Export Markets, 2020



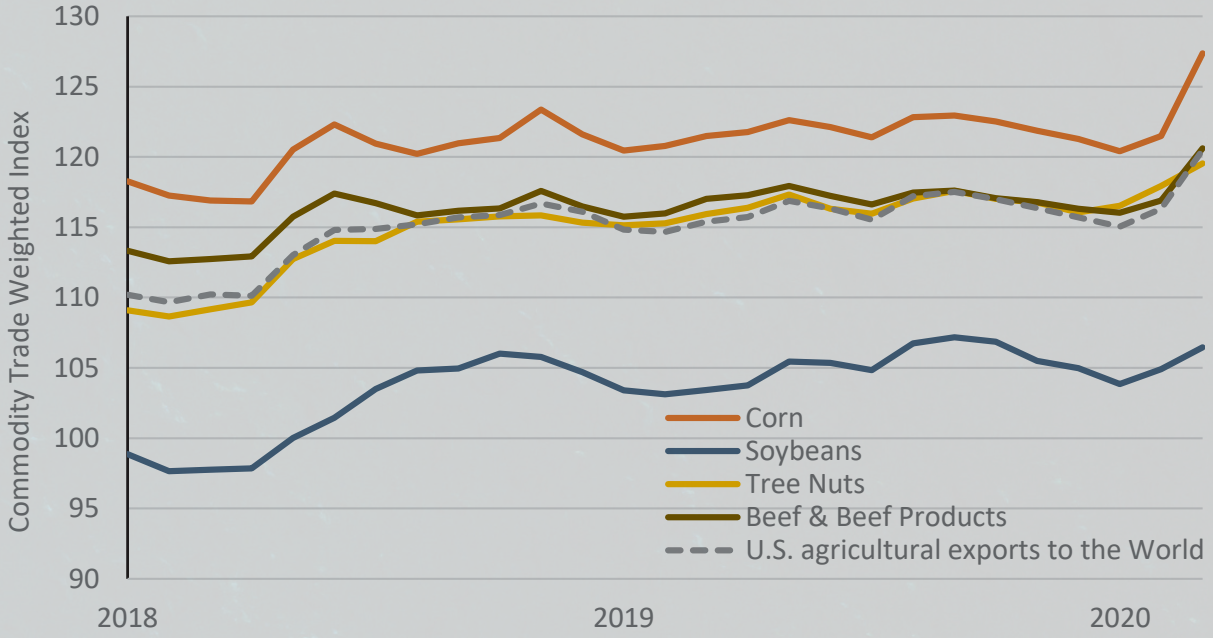
Source: OECD Economic Outlook Number 107

STRENGTH OF THE U.S. DOLLAR. A stronger U.S. dollar reduces the competitiveness of American commodities. Since March, the U.S. dollar has appreciated against a basket of currencies. This appreciation will have disparate impacts on commodities based off how the U.S. dollar has appreciated against the currencies of countries who either import or export that good. For corn, the dollar has surged against the Mexican peso and Brazilian real in March, weakening U.S. competitiveness. Tree nuts have seen less change in their competitiveness since importers like the E.U. have seen less change relative to the dollar.

Over the near term, forecasts indicate that currencies for major agricultural exporters like Russia and Brazil will continue to depreciate relative to the U.S. dollar. Weak oil prices will continue to place pressure on the ruble and are unlikely to change over the short term. In Brazil, the pandemic accentuated pervasive structural issues that have caused depreciation against the dollar. However, forecasts are stable for major dairy and meat producing regions like the European Union or New Zealand. This could provide some stability for animals and animal products while weighing on major cash grains.

OTHER FACTORS. Energy costs are closely tied with U.S. agriculture costs. The largest impact stems from biofuels: as biofuel prices rise, the profitability and use of agricultural products like corn or sugar cane increases. However, low energy costs also lower farm expenses and prices for commodities like wheat and soybeans. As mentioned above, petrostates like Russia have currencies that are closely linked to oil prices. As oil prices decline, those nations' currencies depreciate, increasing their competitiveness against American goods. Through 2021, the U.S. Energy Information Administration forecasts that the price of WTI crude will not return to pre-pandemic levels.

Figure 11: Commodity Trade Weighted Index, 2018 – Q1 2020



Source: USDA ERS Agricultural Exchange Rate Data Set

There are myriad other ways that the global economy could influence American agricultural exports. Population growth is the most important driver of total exports, and this growth slows during recession events. The costs of government response to COVID-19 could leave nations unable to fully fund agricultural research, which could lead to lower productivity in the future. However, low inflation and robust government policies may partially offset anticipated declines.

U.S. farmers are closely intertwined with the global economy, even when not accounting for foreign agricultural production. Through at least 2021, producers will have to work in an environment with contracting economies, low oil prices, and a stronger U.S. dollar. However, not all commodities or markets will be impacted the same. Global pressures will be strongest for commodities like corn and wheat. Animal proteins and consumer-oriented goods are typically most at risk during downturns but may see some support due to where those commodities are produced and purchased. The outlook for 2020 may be poor, but if producers can get through the current growing season, many global factors should once again be working in their favor for the next crop marketing year.

COVID-19 EMERGENCE IN RURAL COMMUNITIES

(resource 13, 14, 15)

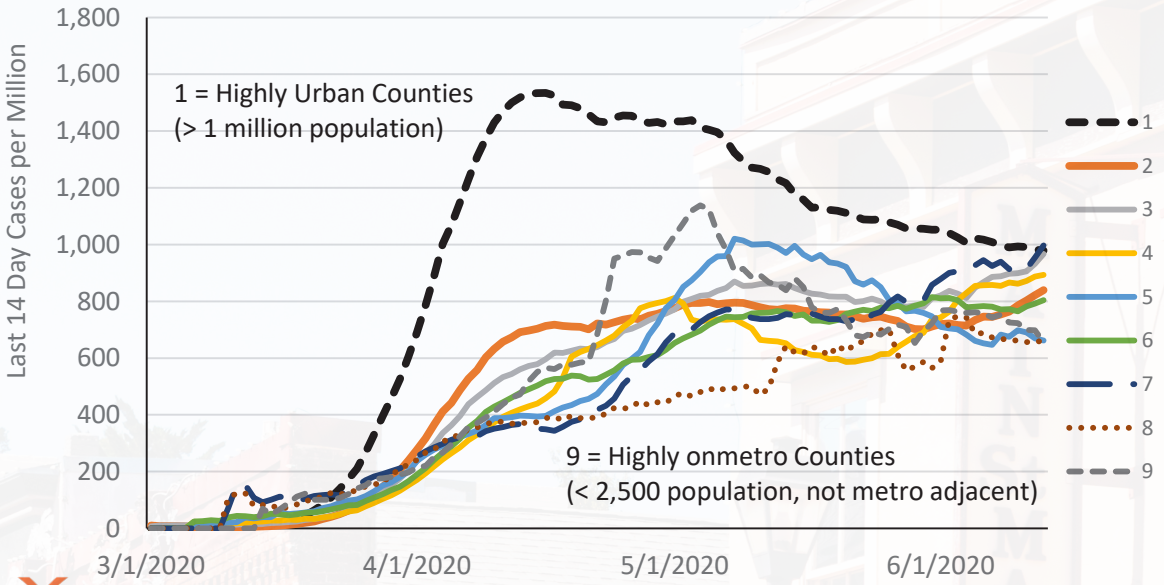
Key Highlights

COVID-19 first spread quickly in the U.S. in metro and metro-adjacent counties.

In late April, outbreaks at food processing plants caused case rates to spike in more nonmetro areas.

By mid-June, there was no statistical difference in new case rates between metro and nonmetro counties.

Figure 12: COVID-19 Emergence by County Metro/Nonmetro Continuum



Source: Johns Hopkins University, Coronavirus Resource Center; USDA Urban-Rural Continuum

Although cases began popping up in the U.S. as early as January 2020, COVID-19 took root in March and April. Urban centers bore the brunt of the early caseloads. New York City averaged more than 3,600 new COVID-19 confirmed cases per day in April. Chicago's Cook County averaged 1,200 new cases per day in April and May. Active cases per million had an initial national peak on April 16, and on that day, 12 of the top 20 active case counties had 1 million or more in population.

However, by the end of April case rates started to rise in nonmetro counties. Many food processing plants experienced higher percentages of their employees testing positive for COVID-19. Additionally, a rise in confirmed cases in state and federal prisons triggered high case rates across many rural counties. By May 5, 2020, the average new case rate per million in rural counties was no longer statistically lower than that of metro counties. And since mid-May, there is no difference between the two; on average, metro and rural counties are experiencing new case rates at approximately the same level. On June 24, none of the top 20 active case counties had 1 million or more in population; they were all metro-adjacent or rural. In late June, Tyson's reported significant rounds of positive test results at plants in Missouri and Arkansas, sparking a resurgence in virus spread throughout the meat processing industry.

Active case rates rose rapidly in mid-to-late June in both rural and urban areas. June COVID-19 emergence model projections released by the University of Washington predict a steady rate of new cases throughout the summer. The resurgence of COVID-19 cases is particularly challenging for agricultural operators and farm workers on labor-intensive crops like fruits, melons, and berries. Summer is a critical season for farmworkers for many of these crops, and the close living and commuting conditions these workers experience could heighten virus spread in rural and agricultural areas. Access to protective equipment and reduced staffing will be critical to keeping cases low this summer and fall. Community spread is likely to continue to be pervasive in both metro and nonmetro areas through the fall, and agricultural production centers may see a persistent increase in case rates throughout the harvest. Rural areas without large agricultural or manufacturing labor pools may continue to see lower case rates and community spread.

DAIRY UPDATE

(resource 16, 17, 18)

Key Highlights

Dairy prices have rebounded from extreme lows but are not expected to sustain current prices.

Demand may be temporarily boosted from government purchases, export backlogs, and the refilling of the food service pipeline.

Production cuts have adjusted the industry to longer-run reductions in demand.

Figure 13: 2020 Class III Milk Futures, January to June 15

Source: Barchart Class III Milk Futures

Between the May and July USDA WASDE releases, the outlook for U.S. dairy radically changed. While annual price estimates did not return to pre-pandemic levels, prices for cheese, butter, and fluid milk rose sharply from their May figures. A combination of factors has led to a more positive environment than what was expected just a few months ago. The challenge for the industry is that many of the forces boosting prices will not have a long-term impact, though at least prices are not expected to return to their April lows. These forces include the return of some restaurant demand, government purchases, exports, and production cuts.

DEMAND BOOSTS. Several of the factors currently bolstering dairy prices are expected to last only in the short term. For example, the USDA has been authorized to purchase $100 million per month of assorted dairy products to deliver to food banks and other non-profits, but the total funding would only allow for purchases through Q1 2021. Dairy is also benefitting from a backlog of exports that were purchased when prices were at their lowest. May data are not yet available, but U.S. exports in April were above prior year values. Finally, the foodservice industry is working to refill its pipelines, meaning large scale purchases over the near term that may not result in higher future demand.

Over the long term, the news is more mixed. Retail purchases of dairy products are not enough to make up for the large gaps from the foodservice industry, especially for milk solids. Lagging impacts from the pandemic on foodservice could lead to persistently lower demand. Historically, dairy exports have also struggled during global economic downturns, though markets may step in (as they did in April) when prices are low. Government purchases will represent up to 2% of total dairy cash receipts in 2020 but are unlikely to continue through the end of 2021.

PRODUCTION CUTS. The dairy sector has responded to these longer-term threats by working to curb total output. As cold storage volumes of many dairy products rose in March and April, many fluid milk producers began to reduce feedings or milkings per day. Recent reports have indicated falling supplies for cream and select milk classes, though regional variation exists. As dry product demand rose with the resumption of a large portion of food service activity, these production declines were enough to provide a strong base for current milk prices.

None of these forces will make up for the fall from the promising position the dairy sector was in at the start of the year, when the USDA had estimated that dairy producers were poised to have their best year since 2014. However, the combination of robust government support, temporary demand boosts, and production adjustments have helped stabilize the industry over the short run.

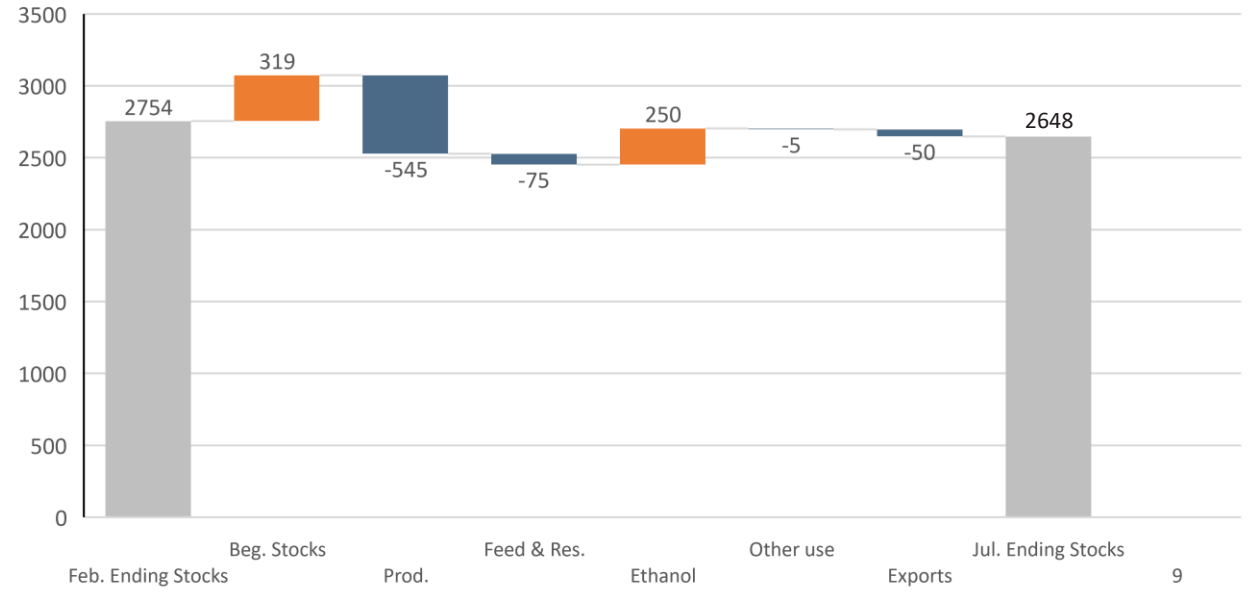
Key Highlights

Ending stocks will weigh on corn prices over the medium term; some help may come from lower production forecasts, but demand concerns persist.

Early warnings drove acres away from soybeans, but there is some potential for upsides due to low Brazilian stocks and rapid Chinese hog repopulation.

Wheat faces long-term pressure from high global stocks, but recent production declines in Russia have helped boost prices.

Figure 14: Changes to 2020/21 CMY Ending Stocks between February and July Forecasts



Source: USDA OCE Baseline Projections, USDA OCE July WASDE

The medium-term outlook for corn, soybeans, and wheat is mixed. While these commodities all saw positive developments in the first part of July, all three will face high ending stocks at the end of the current crop marketing year (CMY). The fundamental challenge of slow global growth and increased foreign production will weigh on producers through the next crop cycles. Producers will have to navigate both the uncertainties of the current crop cycle brought on by coronavirus and a persistent slow price environment in subsequent years.

CORN. Even before the pandemic, corn was facing pressure heading into the 2020/21 CMY. Ending stocks to use ratios were forecast to be at their highest point since 2004. A record-breaking 15.5 billion bushel harvest was forecast driven by an expected sharp increase in planted acres. Sluggish growth in biofuel use and competition for foreign exports were expected to drive ending stocks higher. While producers were severely harmed by the widespread flooding in the 2019/20 CMY, these production declines helped offset declining ethanol use in the first half of the year.

After the USDA released their prospective planting report indicating very high corn acreage, a multi-year corn glut appeared likely. Low prices spurred some additional use for feed and drove exports above historic averages but ending stocks for the 2020/21 CMY were forecast to hit record highs. Producers saw a reprieve in late June when the June acreage report signaled a production decline of almost 1 billion bushels brought on by a 5-million-acre reduction in planted acres. Weather conditions also pointed to a more favorable price environment.

While these stocks represent a decline from the historic levels expected through mid-June, they still represent a challenging environment for corn. The 18% stocks to use ratio forecast for the 2020/21 CMY is high by historic standards. Our producers will compete for smaller export markets as growth in use for feed and biofuels slows during the global downturn. Growth in ethanol will be even slower as oil use contracts during recessions. While the forecast decline in production is a welcome reprieve for producers, the fundamentals of the corn market will present challenges over the middle term.

SOYBEANS. Producers had misgivings about the soybean market in early 2020. China did not increase its soybean purchases in January in accordance with the Phase 1 agreement. The emerging coronavirus hindered Chinese

repopulation of hog herds decimated by African Swine Fever and limited Chinese pork consumption during the Lunar New Year. Brazilian soybean production was forecast to set another record. Domestically, crop insurance programs appeared to favor corn over soybeans. These factors weighed on soybean futures, driving down 2020/21 CMY futures in January.

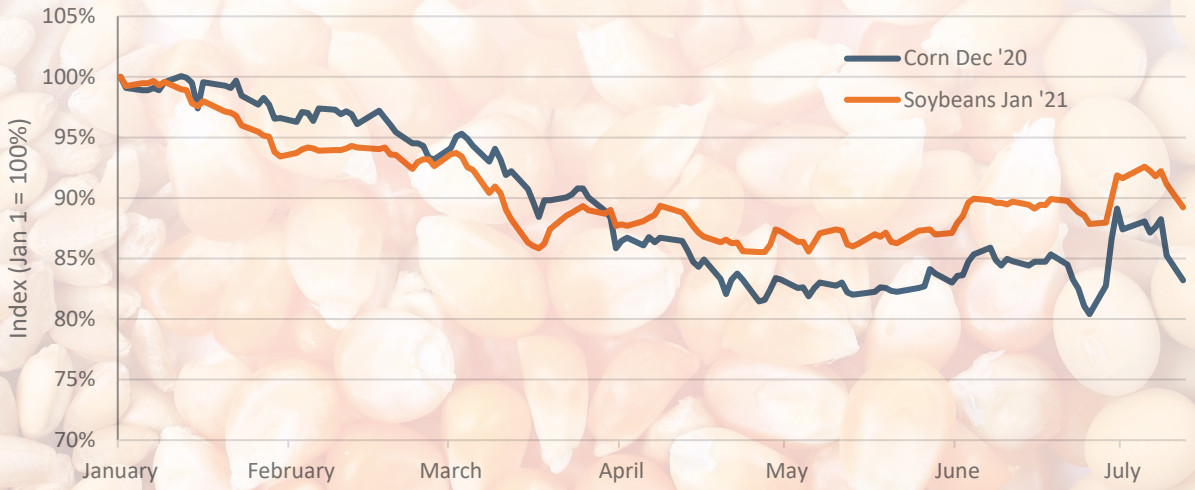
Despite these headwinds, national soybean cash prices were within 5% of their January 1 level in the first week of July. Soybeans have potential upside heading into the end of the year. Brazilian stocks are low after a record period of exports during the first half of the year, meaning that China would source more soybeans from the U.S. Hog repopulation in China is happening faster than was anticipated. Domestic crush operations are robust, though a weak global economy can suppress demand.

WHEAT. Wheat prices surged during the initial days of the coronavirus pandemic on strong retail demand. While the domestic run on flour provided support through April, the systemic challenges facing wheat began to suppress prices in May. The USDA's July WASDE estimated another year of record production and ending stocks for the 2020/21 CMY, led by increases from countries like Russia. Favorable crop conditions both at home and abroad led to higher forecasts for 2020/21 production.

The upside for wheat is limited over the next year. U.S. winter wheat production is well underway, meaning production estimates are unlikely to decline. Foreign producers with late-year harvests, like Russia, do still have some potential to show production declines, which happened within the first few weeks of July. China is forecast to have more than half of the world's wheat stocks, and they have not historically purchased large wheat volumes from the U.S. Low corn prices had placed pressure on feed use but may subside as corn prices improve. Combined with the depreciation of the currencies of major wheat exporters, U.S. wheat producers will face many headwinds over the next few years.

Any short-term impacts to the grain market will be offset in part by robust government support. While farm receipts are forecast to fall almost 6% in 2020, direct government payments are forecast to be more than twice their historic averages in 2020. Producers will have to set themselves up for 2021, when government support may wane but the low price environment brought on by high stocks may persist.

Figure 15: Soybean and Corn Futures, January 2020 - Present



Source: Barchart Commodity Futures

CATTLE AND HOGS

(resource 22, 23, 24, 25)

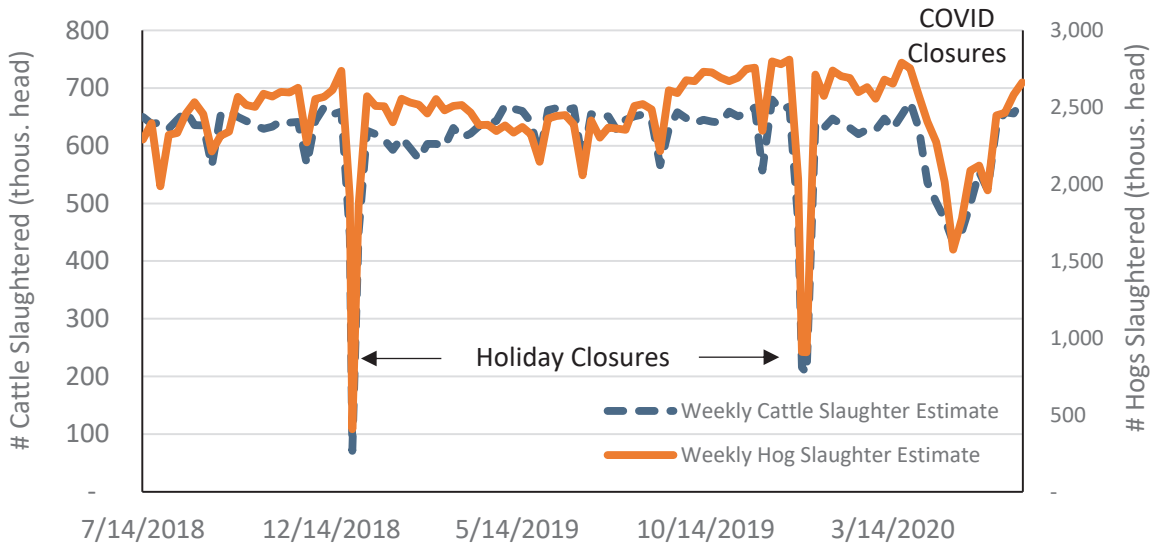
Key Highlights

Cattle and hog processing levels have bounced back from COVID-19 outbreak-related closures in April and May.

Animal inventories remain elevated, keeping downward pressure on market prices.

Hog prices will take longer to bounce back despite strong demand for pork.

Figure 16: Weekly Estimated Commercial Cattle and Hog Slaughter



Source: USDA, Agricultural Marketing Service, Daily Livestock Commercial Slaughter Estimates

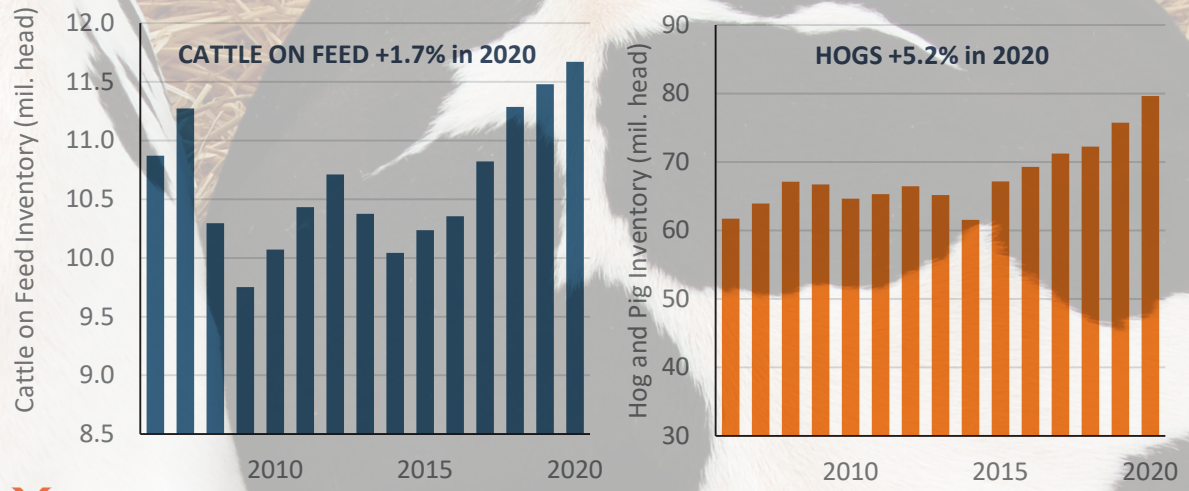
Demand for cattle and hogs saw considerable volatility in the second quarter of this year. COVID-19 outbreaks roiled the meat-processing industry throughout April and May. The close nature of the packing work combined with the cold, damp environment inside the plants increased the person-to-person spread of the novel coronavirus. In counties with a high number or percentage of employees working in food processing plants, the number of reported COVID-19 cases increased by 470% between April 1 and April 30, compared to other counties with an increase of 370% in the same period. COVID-19-related deaths increased 14-fold in the same time frame and counties, compared to 11-fold in other counties. More than 40 individual processing plants temporarily closed in April and May to allow employees to isolate and quarantine as well as to enhance plant personnel safety protocols. Some of the plants that closed were very large, such as the Tyson Foods pork plant in Waterloo, Iowa (3,000 employees, nearly 20,000 hog-per-day capacity), and the Cargill beef plant in Schuyler, Nebraska (2,200 employees and 4,500 cattle-per-day capacity). By May 2, U.S. beef processing stood at 69% of capacity, and U.S. pork processing stood at 60% of capacity (see Figure 16). On April 28, President Trump signed an executive order under the Defense Production Act declaring these plants part of the country's critical infrastructure, reducing liability for packers and processors. Plants with high positive test rates sent employees home to heal, and many installed additional protective equipment to help prevent future spread; by June 20, industry capacity had returned to full output.

Although the return of meat processing capacity happened faster than many expected, the 40% decline in production took its toll on cattle and hog operations. With fewer buyers of live animals, inventories of both cattle and hogs increased significantly. Hog producers were hit particularly hard, as the pork production lifecycle is only around six months. The hogs that were meant for market but went unsold in May remained on farms and in barns, causing crowded conditions for the next litter. Overcrowding created sharp oversupply, and many producers were forced to kill animals on-farm with no place to send mature hogs. This issue was exacerbated by the recent expansion of pork production in the U.S., with hog inventories up 30% in the last five years. Between March and April of 2020, cash hog prices fell more than 30%. Because the cattle cycle is three to four times as long, overcrowding was less of an issue. But the drop in cattle buying certainly affected prices with a decline of 11% between March and April 2020 (see Figure 17). While cattle prices rebounded somewhat in May, hog prices continued

to drop, as animal oversupply is an issue that is not easily or quickly corrected. More than 3.7 million hogs went unprocessed in May 2020, and even if the industry operated continuously at 105% of capacity, it would take another six to eight months to work through the backlog.

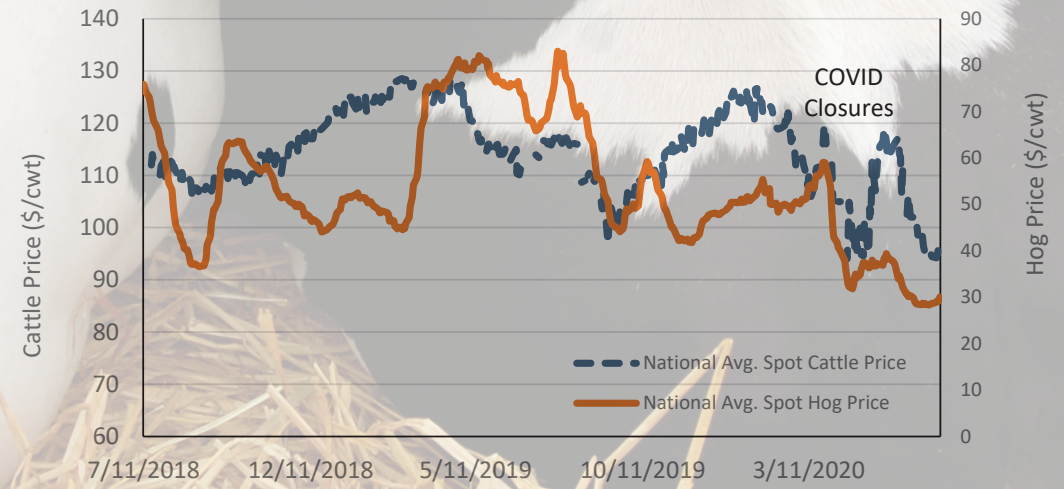
Demand will drive the other half of the livestock pricing equation. Beef and pork demand have remained elevated, particularly at domestic grocers. Processors have been able to ink healthy margins as a result of higher retail pork and beef prices. Pork exports to China slowed in June, but cumulative pork exports for the year are up more than 30% compared to 2019. Domestic demand for beef has held up during the pandemic, but there is some cause for concern that away-from-home dining will not return to pre-pandemic levels this year. Beef demand would also be impacted by a prolonged global recession, as there is a strong linkage between beef consumption and rising income levels. Cattle futures prices in early July show levels holding at $105 per hundredweight into mid-2021, evidence that there is some stability returning to cattle prices. Lean hog futures are flat at current levels through the end of 2020, with a sharp rebound in the first half of 2021. This price trajectory fits with a narrative of backlog reductions in 2020, followed by a more normal production environment in 2021. However, through early July, COVID-19 cases are building once again in counties that have food processing plants. Another round of plant closures could cause volatility to extend into 2021.

Figure 17: June National Cattle and Hog Inventory by Year



Source: USDA, NASS Survey Data

Figure 18: Daily National Average Spot Cattle and Hog Prices Reported



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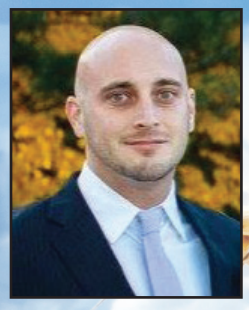

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