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Net farm income projection higher, debt forecast worse

By Lee Schulz, extension livestock economist, 515-294-3356, lschulz@iastate.edu

The good news is USDA's Economic Research Service is forecasting US net farm income will total \$102.7 billion in 2020, up 23% from \$83.7 billion in 2019. The not-so-good news is federal government direct farm program payments are projected to rise by 66% to \$37.2 billion. This follows a 64% climb from 2018 to 2019. In short, an amount equal to 36% of projected 2020 net farm income is direct transfer payments to farmers.

Most direct payments are administered by USDA under the 2018 Farm Bill. In 2019, the Market Facilitation Program (MFP) drove a 64% surge in direct payments. MFP payments were intended to help offset income losses due to trade disruptions pressuring commodity prices. Even with those payments, 2019 net farm income only rose 3% from 2018.

The 2020 increase in federal farm support reflects higher anticipated payments from

supplemental and ad hoc disaster assistance, mainly direct payments for COVID-19 related assistance, which include the Coronavirus Food Assistance Program (CFAP) and Paycheck Protection Program (PPP). Supplemental and ad hoc disaster payments in 2020 are forecast at \$23.4 billion, an increase of \$22 billion from the \$1.4 billion in 2019. These new disaster payments, which did not exist two years ago, represent 59% of forecasted total government direct payments.

Government payments will rise further

On September 17, President Trump and Secretary of Agriculture Perdue announced that USDA will expand the Coronavirus Food Assistance Program, termed CFAP 2. Those payments could transfer up to an additional \$14 billion to farmers who continue to face market disruptions and associated costs because of COVID-19. USDA-

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Handbook updates

For subscribers of the handbook, the following updates are included.

Estimating a Value for Corn Stover – A1-70 (4 pages)

Financial Performance Measures for Iowa Farms – C3-55 (8 pages)

Please add these files to your handbook and remove the out-of-date material.

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ERS could not include them in the farm income and finances forecasts released on September 2.

Supplemental and ad hoc disaster assistance are at the highest since 2014, when payments were \$4.7 billion, which accounted for 48% of federal government direct farm program payments. Even though disaster payments were relatively high in 2014, they only accounted for 5% of net farm income. USDA-ERS forecasted 2020 disaster payments to account for 23% of this year's net farm income. That share will rise once CFAP 2 is included in these numbers.

If realized, 2020 net farm income will be the highest since 2013 and will represent four consecutive years of rising farm income (Figure 1). However, without the increase in supplemental and ad hoc disaster assistance in 2020, net farm income would have declined. The farm economy and income producers receive from the market largely remain depressed.

Crops strengthen, livestock lags

Combined farm income from the sales of crops and livestock is forecast to fall by \$12.3 billion compared to 2019. The \$358.3 billion in cash receipts would be down 3% from 2019. Livestock cash receipts are forecast to be down 8% in 2020, while crops are forecast to be up 1% from 2019. Price and quantity signals in the forecasts are significantly different for crops and livestock. Positive price effects and negative quantity effects are forecast for crop cash receipts. Livestock producers face the opposite. They are experiencing large negative price effects and a much smaller, but positive, quantity effect in 2020.

Figure 1. US Net Farm Income, 2000-2020F

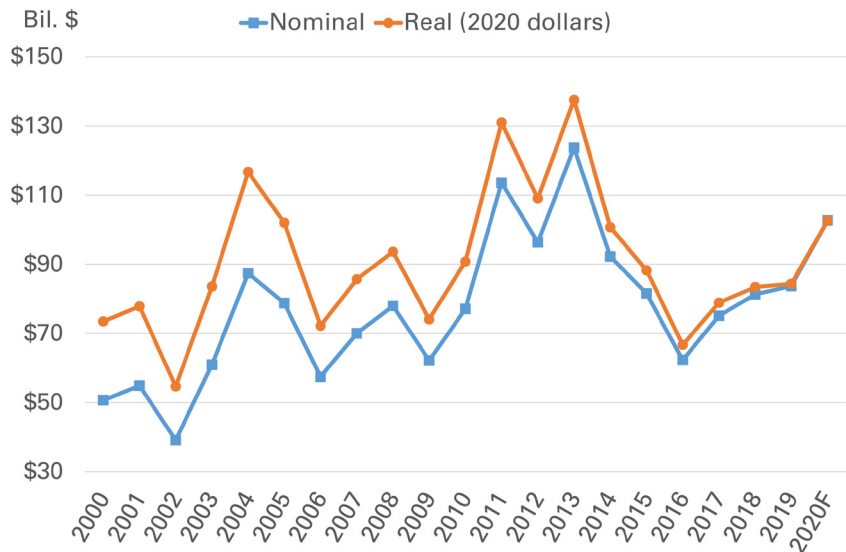
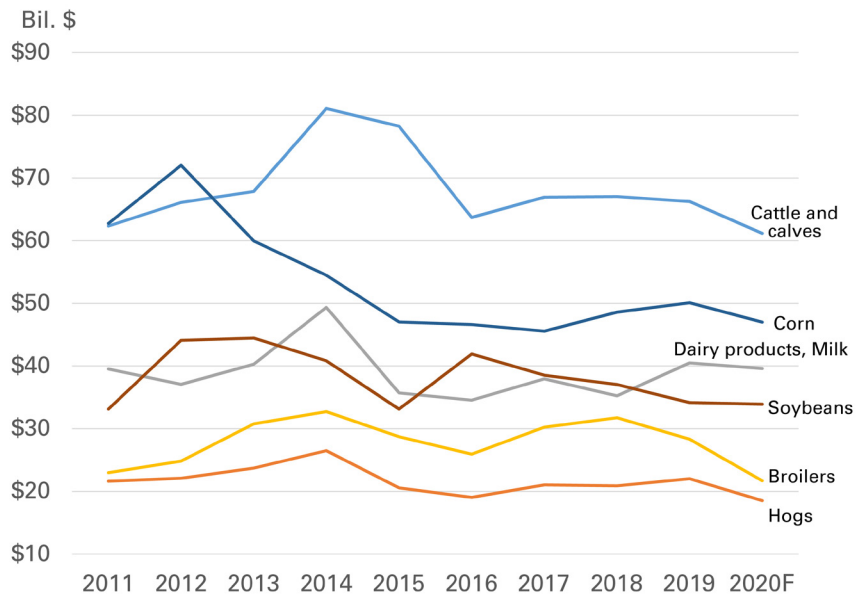


Figure 2. US Cash Receipts by Commodity, 2011-2020F



Source: USDA-ERS, Farm Income Wealth Statistics. Data as of September 2, 2020.

The largest forecasted decline in livestock cash receipts is broilers, down 23% from 2019 (Figure 2). Hogs are forecast down 16%, and cattle and calves are forecast down 8% from 2019. Dairy cash receipts would have a modest decline of down 2%. Eggs could be 12% higher and turkeys 18% higher. Corn cash receipts are forecast to sag by 6%. Soybeans could see a more modest decline of 1%. Hay cash receipts could be up 5%, and the highest since 2014.

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Partially offsetting the decline in farm revenues could be a slight decline of about 1% in farm cash expenses compared to 2019. On a percentage change basis, the largest forecasted declines are interest expenses, fuels and oils, and feeder animals. Rent, property taxes and fees, fertilizer, seed, labor, and feed are forecast higher in 2020.

Farm debt load rising

A USDA-ERS forecast in February projected total farm debt in 2020 at a record \$425.3 billion. The September forecast projects total farm debt at a record \$433.8 billion. Despite higher farm debt, interest expenses are down due to lower interest rates. Nearly 65% of farm debt is real estate. Real estate debt is projected to climb 6% in 2020, compared to 2019, to a record-high \$281.6 billion. Non-real estate debt is projected to rise only slightly to \$152.2 billion.

Farm assets, including farmland, animals, machinery and vehicles and crops in inventory, are projected at \$3.1 trillion, 1% higher than 2019. Most of this rise, on a dollars basis, is related to higher farmland values, but machinery and vehicles and financial assets are projected higher in 2020.

Based on forecasted 2020 debt and asset levels, the debt-to-asset ratio is projected at 14.0% for 2020. Every year since 2012, debt-to-asset levels have risen. The current ratio, which measures the ability of agriculture to pay short- and long-term debt, calculated as current assets divided by current liabilities, is projected at 1.62, the lowest level since 2016. While farm assets remain greater than liabilities, a rapidly declining working capital ratio of 0.15 in 2020 and the lowest level since the series was first recorded in 2009, suggest some farms may be unable to service debt and accounts payable with existing assets. The rate of return on assets for 2020 is projected at 2.91%. This would be the third consecutive year of below 3%. A stark contrast to the 14% returns experienced, on average, from 2010 to 2012.

As was the case during the farm financial crisis of the 1980s, stress is not evenly distributed across all farms. Farms with high debt loads, limited equity, weak profitability and shaky cash flow positions are most vulnerable.

Iowa ranks 2nd nationally in farm cash receipts

On Sept. 2 USDA's Economic Research Service also provided the first state-level farm income and wealth statistics estimates for 2019.

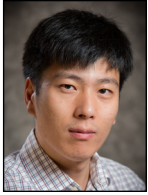
Iowa farmers during 2019 brought in a total of \$27.536 billion in cash receipts. That represents a 1% increase over 2018. Iowa's livestock cash receipts totaled \$14.005 billion last year, down 2% from 2018, while Iowa's crop cash receipts totaled \$13.531 billion, up 3%.

Iowa ranked No. 2 in the US last year in farm cash receipts, behind only California (\$50.117 billion). Iowa ranked No. 4 in 2019 in net farm income behind California, Texas and Nebraska. Net farm income is a broad measure of farm profits.

Corn again ranked as Iowa's top farm commodity in terms of cash receipts, with \$8.748 billion. Hogs ranked second at \$7.771 billion, soybeans third at \$4.459 billion, and cattle and calves fourth at \$3.932 billion.

Iowa is the No. 1 corn production state with 17.5% of the share of US cash receipts for corn. Iowa is also No. 1 in hog production with 35.3% of the share of US cash receipts for hogs. Iowa ranks No. 2 in soybean production (13.1% share of US receipts) and No. 4 in cattle and calves production (5.9% share).

Even though they have been largely overshadowed by Iowa's big four commodities, other commodities have long played an important role in Iowa's diverse agriculture industry. Iowa is No. 1 in egg production (11.0% share of US receipts), No. 6 in turkeys (6.7% share), No. 6 in oats (6.7% share), and No. 11 in dairy production (2.5% share).



A brief argument for healthy US-China agricultural trade relations despite deglobalization pressures

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Even before the COVID-19 pandemic, ongoing deglobalization efforts, a prime example of which is the possible decoupling of US-China economic and trade relations, was fueling a rise in economic nationalism. The onset of the pandemic added delays and created uncertainty surrounding China's food imports and the realization of US-China Phase 1 trade deal goals. In a recent academic paper (Zhang 2020a), I provided extensive discussions on the growing significance of healthy US-China agricultural trade relations for both countries, and this article is a brief summary.

In particular, I argue that Chinese consumers represent an even more important customer base for US agriculture that increasingly rely on global demand. Furthermore, the Phase 1 trade deal could possibly lead to a more balanced bilateral agricultural trade portfolio, one in which China imports a greater share of US protein and retail food products. Additionally, despite the ongoing pandemic and mounting deglobalization pressures, recent surveys show US farmers are optimistic about the future of agricultural trade relations with China and welcome healthy US-China economic relations.

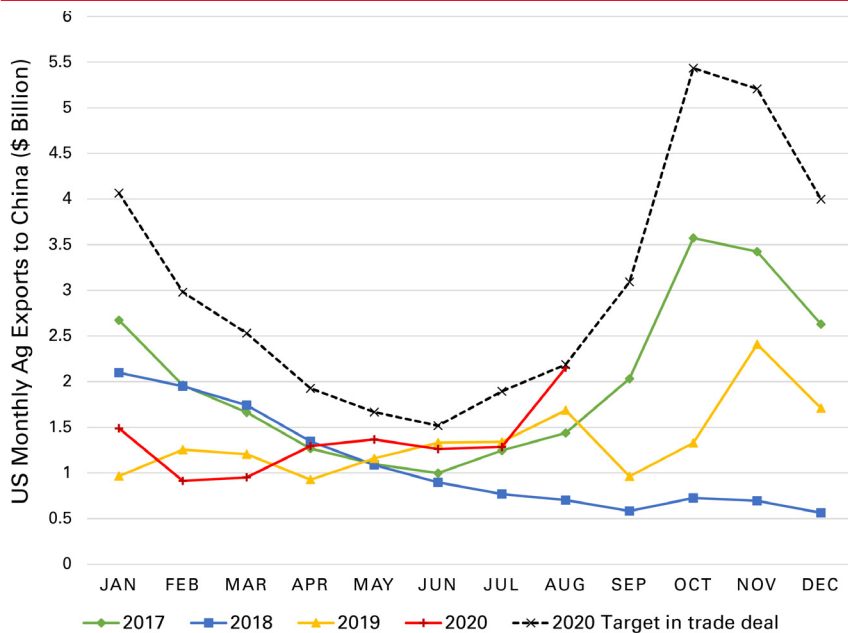
The impacts of COVID-19 on US agricultural exports to China

The origin of COVID-19 and the optimal control measures raised public debate among US and China officials, exacerbating a fraught, bilateral relation that was already deteriorating on multiple fronts from technology to national security. China sought to control COVID-19's spread using lockdowns and country-wide transport restrictions; however, the resultant labor shortage created challenges for China's imports and exports. Furthermore, worries about COVID-19 in China's ship crews led to further logistical challenges and tighter phytosanitary measures at both US and China ports.

Figure 1 shows monthly US exports of agricultural and related products to China from January 2017 to August 2020. The flat red line for February and March 2020, which is lower than the same period from 2017 to 2019, clearly demonstrates the initial challenges posed by China's COVID-19 lockdowns.

COVID-19's rapid global spread created a pending global economic recession and led to a flight-to-safety sentiment among investors. The result was a rapid rise in the US dollar from February to May 2020, stemming from rising investor demand for safer investment options (Miller 2020). From March to early May, the Brazil real depreciated more than 20%, which, coupled with the strengthening of the US dollar, significantly boosted the price competitiveness of Brazil soybeans. In June 2020, Brazil's soybean sales to China reached a record high 10.51 million tons – up 91% from June 2019 and close to 95% of all of China's June soybean imports (Gu, et al. 2020). Overall, in the first seven months of 2020, China imported almost 70% of its soybeans from Brazil – much higher than the 2017 annual share of 52.8% (Zhang 2020).

Figure 1. Monthly US agricultural and related products exports to China, 2017–2020 relative to Phase 1 trade deal target



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Deteriorating bilateral relations during the COVID-19 pandemic make the Phase 1 trade deal even more significant, as evidenced by China's recent progress in purchasing US agricultural products – China has imported a record 2.1 million metric tons of US corn for the 2019/20 marketing year; and, as of October 22, 2020, has bought or ordered 10.5 million metric tons of US corn for delivery in the 2020/21 marketing year. China also bought 10.2 and pre-booked another 15.9 million metric tons of soybeans for delivery for the 2020/21 marketing year, and imported a record 581,500 metric tons of US pork and 21,600 metric tons of US beef as of October 22, 2020, much higher than levels in the full 2017 marketing year (USDA 2020).

The [Office of the U.S. Trade Representative](#) released a report saying that as of October 23, 2020, China has purchased \$23 billion in agricultural products, approximately 71% of its Phase 1 trade deal target (ustr.gov/about-us/policy-offices/press-office/press-releases/2020/october/ustr-and-usda-release-report-agricultural-trade-between-united-states-and-china). This quickly drew some criticism because it counted the commitments and pre-orders the same way as actual purchases. [Chad Bown](#), Peterson Institute of International Economics, argues that the actual purchases as of September only represented about 40%, not 70%, of total agricultural purchase commitments (www.piie.com/blogs/trade-and-investment-policy-watch/trumps-phase-one-trade-deal-china-and-us-election). However, the USTR number shows that both countries are eager to push forward this politically-significant trade deal. In other words, both countries realize the paramount importance of healthy US-China agricultural trade relations especially when other parts of bilateral relations have deteriorated.

China's significance is also elevated due to the economic challenges of other US trading partners during the pandemic. Many other major US partners such as Mexico, Europe, and India are still experiencing rising COVID-19 infections and suffering from major economic shocks, which could limit their

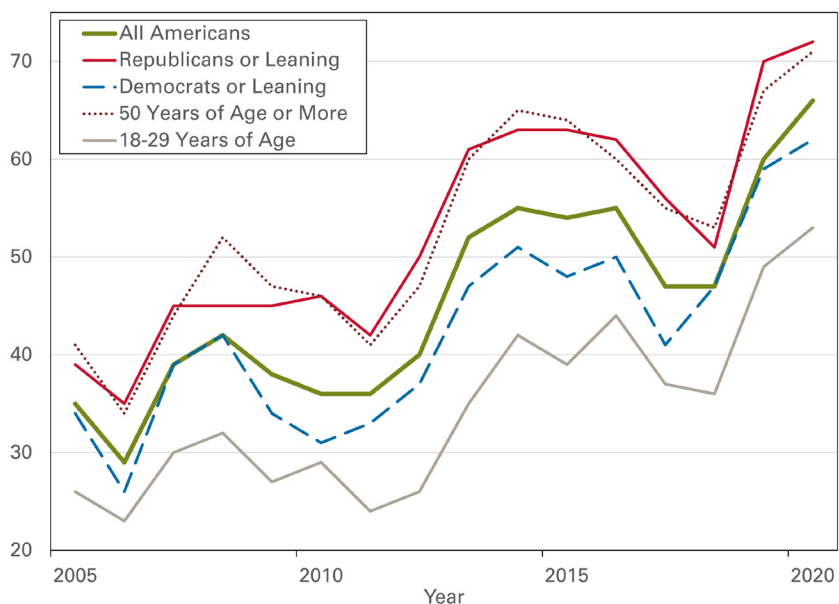
ability to boost purchases of US agricultural products in the latter half of 2020. Even though China's total imports as of September 2020 are just comparable with the 2017 levels, rather than substantially higher, the recent momentum offers more hope for a strong US-China agricultural trade despite the pandemic.

A more balanced trade portfolio

In 2017, China's total agricultural imports exceeded \$140 billion; however, the United States only accounted for very small fractions of China's meat, seafood, and retail food product demand (He, et al. 2020). The Phase 1 deal offers an opportunity for both countries to move away from agricultural trade dominated by feed grains, especially soybeans, to a more balanced portfolio with long-term growth in US meat, seafood, and retail food product exports to China (Zhang 2020a).

China is the world's largest meat buyer and is currently battling an unprecedented pork shortage due to an African swine fever outbreak, which continues to result in rising demand for US pork, beef and poultry products (He, et al. 2020). Furthermore, Germany is currently China's third-largest pork supplier; however, China is now banning imports of Germany pork after Germany confirmed its first case of African swine fever. As Germany is a key US competitor in the global pork market, the United States is now poised to ship more pork to China (Reuters 2020).

Figure 2. The share of US adults who have an unfavorable opinion of China, 2005-2020



Source: Pew Research Center

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Similarly, it is also reasonable to expect the United States to capture a larger share of China's imports as it buys more consumer products such as nuts, fruits and vegetables, wine, seafood, and dairy products. A more balanced portfolio will allow China to strengthen economic ties with agricultural states outside the US Midwest, such as California and Florida, and also fits China's diversification objectives of not solely relying on soybeans when buying US agricultural products.

US farmers' views on China

The US public's opinion on China fluctuates with current events – a decline in negative views in the late 2010s probably reflects cooperation combating the Great Recession, while an uptick in unfavorable opinions since 2017–2018 reflects the ongoing US-China trade war. However, as a whole, the US public's view of China has become increasingly negative, especially over the past decade (see Figure 2). The share of US adults harboring an unfavorable opinion of China jumped from 35% in 2005 to almost 66% in 2020. Furthermore, a recent Harris poll shows that the COVID-19 pandemic is turning both the US Republican and Democratic Parties against China – both now largely agree on issues such as what responsibility China bears for the spread of the pandemic and the US government maintaining a tough position on trade with China (Rogin 2020).

In a recent survey, crop farmers in Minnesota, Iowa and Illinois voiced concerns about China's trade and economic practices in the middle of the trade war (Qu, et al. 2019). These farmers' views also showed negative feelings toward China about current debt deficits and job losses and China's governmental practices regarding intellectual property protection and currency. These perceptions, along with the recognition of income support from the Market Facilitation Program (Glauber 2019), explain the finding that over 56% were still somewhat (34%) or strongly supportive (22%) of President Trump's tariffs on Chinese products (Qu, et al. 2019).

The pandemic did lead to more pessimistic views among producers, especially in the summer months. A recent Ag Economy Barometer survey led by Purdue University and CME Group also shows the share of producers expecting an increase in US agricultural exports over the next five years dropped from 70% to 58% in September due to the pandemic, and the percent of producers who think the trade

dispute with China will ultimately be resolved in a way that benefits US agriculture dipped by 20 percentage points to less than 60% as well.

However, strong CFAP2 (Coronavirus Food Assistance Program) payments, good yields, and a fall rally in commodity prices led to an all-time high in farmer sentiment in October. This optimism could also be seen when asked about future US agricultural exports and the prospect of trade with China: the percent of producers expecting increasing exports spiked to 67% in August and 65% in October, reflecting, in part, rising export sales to China in recent months (Mintert and Langemeier 2020). Furthermore, farmers became more optimistic about trade with China as nearly six out of 10 respondents said in October that they expect China to fulfill Phase 1 trade deal commitments.

In addition, despite the negative views farmers expressed in the Qu, et al. (2019) survey, 92% of those respondents also agreed or strongly agreed that it is important for the United States to maintain a healthy economic relationship with China (see Table 1). Although farmers split equally on whether or not China is an economic ally, only 20% of respondents disagreed or strongly disagreed that China's growing economic strength is good for the world.

These more optimistic views of China's importance for US agricultural markets and the importance of maintaining a healthy bilateral economic relationship are important to recognize, especially because they were made during the thick of trade tensions. In a world with rising economic nationalism and growing distrust, stressing healthy US-China trade relations, for the well-being of both US farmers and China's consumers, is paramount.

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US-China agricultural trade	Strongly Disagree	Disagree	Neither agree nor Disagree	Agree	Strongly Agree
Nothing good will come out of this trade disruption.	15.9	38.7	15.5	17.2	12.7
I hope this trade disruption is resolved soon.	1.5	2.3	14.6	34.2	47.3
The trade disruption will make US agriculture lose markets to our competitors.	5.1	14.7	17.8	33.5	28.9
The US economy will suffer more than China's economy due to this trade disruption.	11.8	26.8	25.2	23	13.3
American farmers will bear the brunt of the tariffs imposed by the Chinese government.	3.4	5.6	15.1	41.6	34.3
A year from now, my farm operation will be better off financially because of this trade disruption.	26.4	26.9	32.8	11.3	2.7
A year from now, US agriculture will be better off compared to now because of this trade disruption.	23.1	25.3	31.4	17.6	2.5
Three years from now, the US economy in general will be better off because of the trade disruption.	13.3	13	28.3	33.6	9.8
The tariffs imposed by the US and China on each other's products will have long-term negative effects on US agriculture .	6.8	20.8	25.1	27.9	19.5
This trade disruption will enhance the economic relationship between the US and China in the long run.	14.3	19	30.2	31.4	5.2

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Table 1. US midwest farmers’ perceptions of US-China trade war and economic relations, spring 2019

US-China economic relation	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
The amount of US debt held by China is a serious problem for the US.	0.9	3.8	17.6	53	24.8
The trade deficit with China is harmful to the US economy.	2.1	9.3	16.2	54	18.3
China engages in cyber economic espionage against the US.	1.1	1.4	27	43.2	27.3
The number of jobs Americans lose to China is problematic.	1.6	8.4	26.4	48.9	14.9
Economically, China is an ally of the US.	7.8	25.1	35.9	28.2	3
It is important for the US to maintain a healthy economic relationship with China.	0.1	0.6	7.2	67	25.1
The US will be better off using a multilateral approach, rather than a unilateral one, in dealing with trade disputes.	1.1	5.9	43.1	36.3	13.6
The US is better off leaving the TPP (Trans-Pacific Partnership).	16	20.6	44.1	16.3	3

Source, S. Ou, W. Zhang, M. Li, L. Rodriguez, G. Han, E. Cork, and J. M. Gbeda. *Midwest crop farmers’ perceptions of the US-China trade war*. CARD Policy Briefs 19-PB 26 www.card.iastate.edu/products/policy-briefs/display/?n=1294



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Internet Updates

The following Information Files have been updated on www.extension.iastate.edu/agdm.

Noninsured Crop Disaster Assistance Program (NAP) – A1-61 (3 pages)

Getting Started in Farming: Part-time or Small Farms – C4-09 (6 pages)

Current Profitability

The following tools have been updated on www.extension.iastate.edu/agdm/info/outlook.html.

Corn Profitability – A1-85

Season Average Price Calculator – A2-15

Soybean Profitability – A1-86

Ethanol Profitability – D1-10

Iowa Cash Corn and Soybean Prices – A2-11

Biodiesel Profitability – D1-15

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