CoBANK KNOWLEDGE EXCHANGE

QUARTERLY U.S. RURAL ECONOMIC REVIEW

October 2019

Trade Remains the Focus as Tariffs Take Toll on Agriculture

This quarterly update is prepared by the Knowledge Exchange Division and covers the key industries served by CoBank, including the agricultural markets and the rural infrastructure industries.

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Key Points

- Trade tensions continue to mount as global economic growth slows. The U.S. economy remains on much better footing, largely due to solid wage growth and consumer spending.
- Soybean prices surged late last quarter based on fears of delayed maturity of the U.S. soybean crop and hopes of resuming China market access. Ethanol producers are dialing back production after contending with negative margins, trade issues, blending waivers, and volatile corn prices.
- Cool spring weather lifted livestock weights, driving increased protein supplies this summer. Trade volume is expanding and U.S. meat and poultry producers will soon see the benefits. Dairy cow numbers are down 82,000 head year-over-year, weighing on total U.S. milk production.
- Foreign buyers are defaulting on cotton contracts after prices dropped significantly in recent months. Rice prices have surged in the last quarter and shipments to Mexico alone are up 45% so far in the marketing year.
- Total shipments for the 2018-19 almond crop year finished strong despite the trade headwinds, bringing ending stocks to their lowest level since 2012. Prices for process oranges and wine grapes are expected to be soft over the next quarter due to increased production, weak domestic demand, and ongoing trade issues.
- Moderate natural gas prices are likely to put downward pressure on power prices nationally while driving the continued retirement of less-efficient generating capacity.
- With most large fiber optic transport companies already acquired, institutional investors are eyeing fiber-rich rural operators as their next targets.

Executive Summary

Trade negotiation breakthroughs with China remain elusive, and the U.S. agricultural sector is preparing for its second harvest under the shadow of hefty tariffs. Lower feed prices, however, are aiding animal protein and dairy margins.

The global economy is also straining under the weight of trade disruptions as business investment and manufacturing slow around the globe. The U.S. economy remains the best house in an increasingly troubled neighborhood as the domestic consumer spends on.

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Global Economic Environment

Trade tension impacts continue to mount in 2019 as higher and broader tariffs stifle demand for products around the world. The Organisation for Economic Co-operation and Development in late September again trimmed its 2019 and 2020 outlooks for the global economy. It projects that the world economy will grow 2.9% this year – the slowest pace since 2009, and a steep decline from 3.6% growth in 2018. Slowing of China's economy and the ripple effects in Asia and Europe are largely to blame.

Trade talks between the U.S. and China continue, but negotiators remain far apart on key issues. The U.S. and Japan have negotiated a deal that would improve U.S. competitiveness relative to that of countries in the Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP), renamed from Trans-Pacific Partnership (TPP) after the U.S. left the pact.

Negotiations with the EU are also ongoing. Limited progress has been reported on both fronts. It is also becoming increasingly unlikely that the United States-Mexico-Canada Agreement (USMCA) will come up for a vote in Congress before the 2020 election.

The latest on the major trade negotiations:

- **China.** Trade talks between the U.S. and China continue, but the potential for a deal remains far off. Principal-level meetings are planned for mid-October, and China hopes to prevent further planned U.S. tariff hikes in October and December. September talks did result in some renewed Chinese purchases of U.S. agricultural goods, and raised questions as to whether a smaller scale deal is possible in the near-term. President Trump, however, appears to remain committed to a comprehensive deal or nothing.
- **USMCA.** The USMCA agreement is held up on labor concerns among House-led Democrats. No major labor union supports USMCA in its current form, and both Democrats and Republicans are keen to win labor support in 2020. Given that significant change to labor provisions would require new ratification by all three countries, it appears unlikely that the deal will be put to a vote before 2021.
- **EU.** Trade relations between the U.S. and the EU remain tense as the two sides continue to discuss steel and aluminum tariffs, state aid for aircraft, agricultural access, World Trade Organization appointments, and EU auto and auto part tariffs. Little progress has been made despite months of negotiations.
- **Japan.** The U.S. and Japan reached an agreement in August, then in September, Japan announced it would reduce or eliminate tariffs on $7.2 billion of U.S. agricultural commodities. The deal is tentatively scheduled to go into effect on January 1 and would put most U.S. agricultural commodities on equal tariff levels with CPTPP countries.

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U.S. Economic Environment

The U.S. economy remains on much better footing than the global economy, largely due to solid wage growth and consumer spending. Persistently weak inflation has bolstered disposable income and largely offset price increases resulting from tariffs.

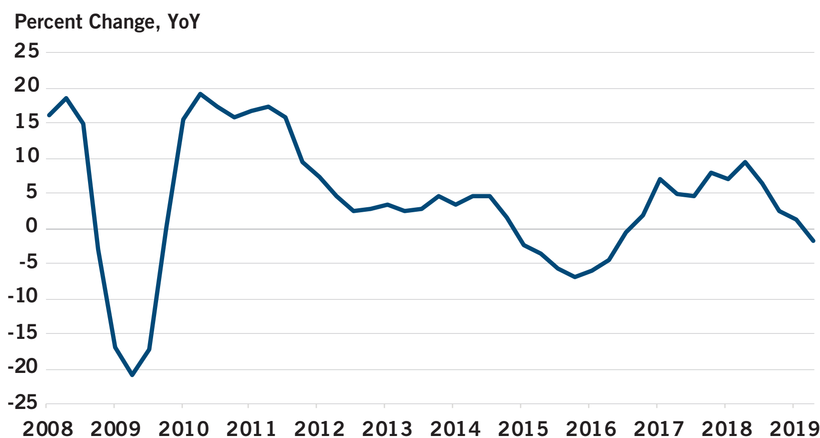
Businesses are not faring quite as well. Business sentiment, business investment, and inventory levels are all moving in the wrong direction. The manufacturing sector has been particularly weak, mirroring similar conditions in Europe and Asia.

The U.S. dollar has also been very strong, reaching a two-year high in September *(Exhibit 1)*. This is reflective of the relative economic strength of the U.S. versus the rest of the world, but the strong dollar makes U.S. goods more expensive abroad. This is compounding the tariff impacts on exporters *(Exhibit 2)*, particularly in the agriculture sector.

EXHIBIT 1: U.S. Dollar Index

Source: Wall Street Journal

EXHIBIT 2: U.S. Exports of Goods and Services



Source: U.S. Bureau of Economic Analysis

Altogether, the U.S. economy will grow at roughly 2% in 2019 but growth will likely slow further in 2020 to a range of 1.5% to 2%. President Trump has delayed the next two tariff tranches until Oct. 15 and Dec. 15. But if both are imposed as planned, tariffs will drag down 2020 GDP by roughly 0.5 percentage points, or more than $100 billion of economic activity.

The other worrisome metric has been the persistence of an inverted yield curve. Most short-term Treasury yields have exceeded long-term yields for the past several months, signaling increased risk that we could slip into recession in 2020 or 2021. Most economists now peg the risk of a 2020 recession between 30% and 50%.

The Federal Reserve has responded to these increased risks by cutting its federal funds rates by a combined 50 basis points between July and September. And they appear to be prepared to cut further if market conditions warrant. The market broadly expects one more 25 basis point cut before the end of the year, but dissent amongst Federal Open Market Committee members has increased. Several members have recently voiced opinions that economic data has been strong and rate cuts are unjustified. All Federal Reserve officials are also aware that at the current target rate of 175-200 basis points, there is already very little room to ease monetary conditions if the economy hits a rough patch.

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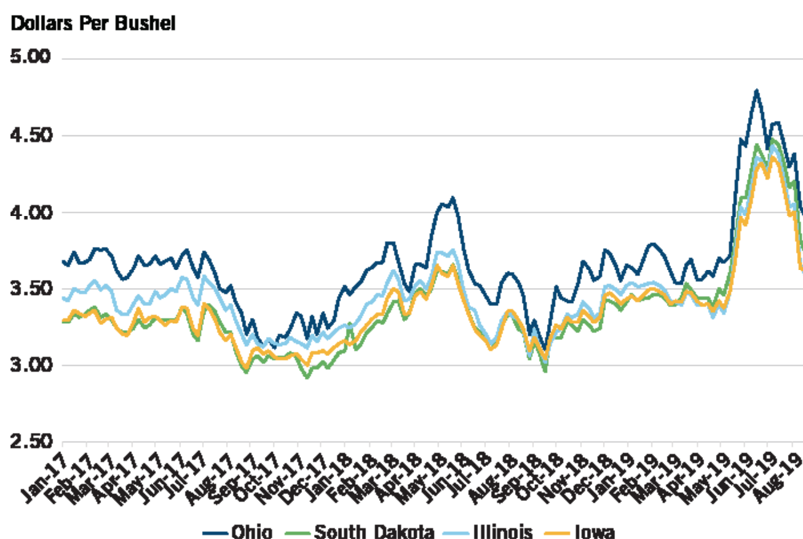
EXHIBIT 3: Cash Corn Bids



Source: USDA-AMS

U.S. Agricultural Markets

Uncertainty over trade policy, weather, and African Swine Fever (ASF) have dominated agricultural markets, causing greater volatility across the industry, from producers to end users.

Trade negotiations between the U.S. and China stalled, but are hoped to resume yet again in October. In a show of good faith ahead of the high-level meetings, both the U.S. and China halted tariff increases with China exempting state-owned and private soybean buyers' firms from retaliatory tariffs on U.S. soybeans. The waivers resulted in a flood of new Chinese purchases of U.S. soybeans that lifted commodity markets. Uncertainty of the outcome from the planned talks between the U.S. and China, though, continues to hang over the long-term view of the U.S.'s export competitiveness into China.

The new trade deal struck between the U.S. and Japan, though, is a bright spot in U.S. agriculture's competitiveness into a key export destination. While most agricultural commodities will benefit from the negotiation, rice and some dairy products will not gain new access into the Japanese market. Japan eliminated tariffs on products like sorghum and various specialty crops like almonds, walnuts and blueberries, and will phase in lower tariffs for products such as beef, pork, ethanol, wine, cheese, and whey. The new tariff levels are scheduled to go into effect January 1, 2020.

Ethanol blending waivers issued by the EPA added to the frustrations of U.S. farmers and ethanol producers. In August, the Trump administration approved 31 of 40 requests from small refineries to be exempted from the legal obligation of blending ethanol per the Renewable Fuel Standard (RFS). Ethanol producers argued the small refinery exemptions caused demand destruction for ethanol and were a major contributing reason for the closure of ethanol plants following months of slim to negative processing margins.

ASF in Asia and Europe continues to be the potential bright spot for U.S. agriculture. The spread of the non-curable swine disease across Asia has caused a surge in pork prices, particularly in China. With trade negotiations between the U.S. and China still ongoing, market participants are struggling to forecast how or when the U.S. will benefit from increased pork shipments to China long term.

Direct payments to farmers and ranchers last quarter from the USDA's Market Facilitation Program (MFP) put billions of dollars in the pockets of producers to help offset the damage from the trade war to U.S. markets. The MFP payments come in addition to billions in prevent-plant payments from USDA and crop insurance indemnity payments. While farm groups argue that free-trade is preferable and more reliable for farmers' incomes, the payments will help farmers manage temporarily through a tight margin environment.

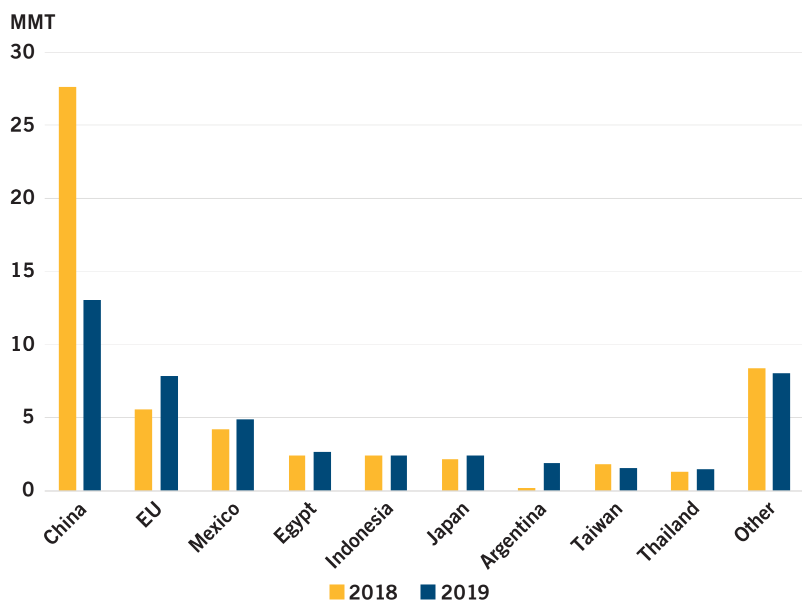
Grains, Oilseeds, and Biofuels[1]

Corn

The historically late planting of the corn crop this spring cast a long shadow through the quarter with extremely volatile cash corn prices *(Exhibit 3)*. End-users like ethanol producers and livestock and poultry feeders bid old-crop corn supplies higher in anticipation of a short harvest this fall, with prices falling back to levels seen prior to spring planting.

EXHIBIT 4: U.S. Soybean Exports

For September 1 - August 31 Marketing Year



Source: USDA-FAS, Export Sales as of August 29, 2019

USDA currently predicts the U.S. corn crop to be 13.8 billion bushels on a yield of 168.2 bushels per acre,[2] down from last year's crop of 14.4 billion bushels with a 176.4 bushel-per-acre yield. After USDA announced a much higher than expected crop estimate in August, corn futures fell 17% before reaching contract lows.

Industry experts and U.S. farmers, however, have argued that USDA's estimate does not adequately reflect the delayed maturity of the crop caused by the excessive rains during spring planting season. Nearly all states are behind in crop maturity, but the most concerning delays are in the eastern Corn Belt states of Illinois, Indiana, Michigan, Ohio, and Wisconsin, and the western Corn Belt states of North Dakota and South Dakota where maturity lags 20-30 percentage points behind average.[3] Because of the delayed maturity, a normal frost of 32 degrees F for four hours in October would kill underdeveloped crops. Harvested acreage is also expected to be down as more acres are chopped for silage instead of harvested for grain.

Volatility in basis and carry in the futures market continues to plague grain merchandisers. To alleviate concerns of potential supply shortages this fall – specifically in eastern Corn Belt states like Indiana, Michigan, and Ohio – old-crop inventories are moving east from Illinois and Iowa and causing basis to weaken in the eastern Corn Belt. Regional shortages, however, are expected to continue driving volatility in local basis this fall and winter.

Farmers continue to hold on to old-crop corn supplies in hopes that prices will recover in the months ahead on local supply shortages. But globally, grain stocks remain ample – and are widely expected to dull any significant rallies in corn if harvest reports confirm a smaller than expected U.S. crop. In contrast with other areas, western Plains grain handlers anticipate big harvests this fall and are preparing to store corn and sorghum in bunkers and ground piles. Abundant wheat and sorghum supplies, meanwhile, compete with corn for bunk space in feedlots with cash wheat prices now trading below cash corn.

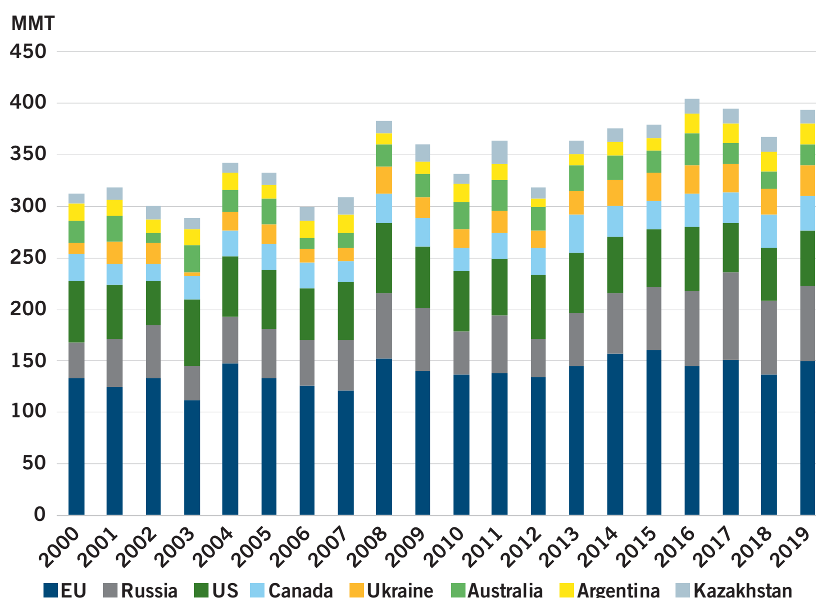
Soybeans

Soybean prices surged late last quarter based on concerns over the delayed maturity of the U.S. soybean crop and hopes of the return of Chinese demand following a resolution to the trade war. Uncertain progress in trade talks between the U.S. and China, though, has capped rallies, while record-large U.S. soybean inventories continue to weigh on the market. Soybean basis at country elevators, meanwhile, remains historically low amid ample old-crop supplies.

USDA's latest estimate on the U.S. soybean crop calls for production to fall to 3.6 billion bushels with a yield of 47.9 bushels per acre, down from last year's crop of 4.5 billion bushels on a yield of 51.6 bushels per acre. The delayed maturity of the crop heading into fall has growers concerned that freezing temperatures will cut yield potential short. Based on USDA's Crop Progress reports, much of the U.S. soybean crop will need frosts to hold off until late October or early November for plants to be fully developed for harvest.

The trade war continues to haunt U.S. soybean farmers with the U.S. now carrying record soybean supplies into fall harvest. Exports continue to lag,[4] particularly to China, as the U.S. and China remain embattled in an ongoing trade war *(Exhibit 4)*. While exports to other markets like

EXHIBIT 5: Wheat Production in Major Exporting Countries



Source: USDA-FAS

the European Union are much improved over prior years, the increase has done little to replace the lost sales to China. In a sign of good faith ahead of negotiations that are expected to resume in early October, the Chinese government exempted U.S. soybeans from additional tariffs. New private sales of U.S. soybeans to Chinese customers were confirmed in early September.

However, with the trade war still in full effect, new competition for Chinese market share is building. Argentina, the world's largest soybean meal and oil exporter, won approval to export soybean meal to China, possibly by early 2020. The early September announcement is another sign that while the U.S. and China inch towards an uncertain resolution to the trade war, China is simultaneously pivoting away from the U.S. – creating long-term impacts on the U.S.'s ability to compete for export market share.

As the U.S.-China trade war rages on, Brazilian and Argentinian farmers are looking to capitalize on new Chinese business. South American farmers will soon plant the 2020 soybean crop and their soybean acreage is widely expected to expand.

Wheat

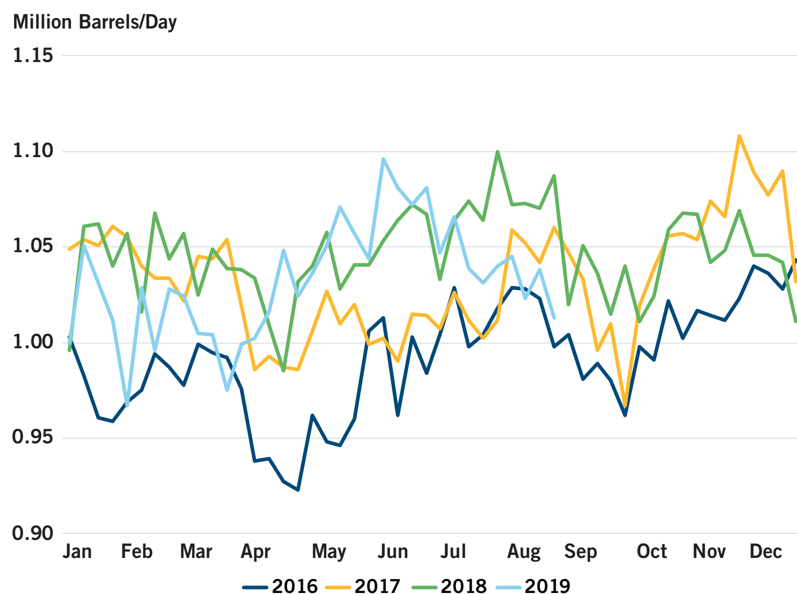
U.S. winter wheat crop planting is well underway, with farmers in Texas and Kansas concerned that lack of soil moisture may inhibit fall establishment. Ample supplies of hard red winter and hard red spring wheat pushed prices to new contract lows in the last quarter with cash wheat prices on the Plains now trading at a discount to corn. Feedlots on the Plains have taken advantage of the price disparity and are incorporating wheat into the feed rations.

Impressive harvests on the Plains this summer have filled bins to capacity. While harvested acreage declined this summer on reduced planted acreage, farmers reported extraordinary yields following the wettest winter and spring on record. USDA estimates the average U.S. wheat yield this year the second-highest on record at 51.6 bushels per acre, up from last year's yield of 47.6 bushels per acre.

In the futures market, hard red winter wheat continues to trade at a steep discount to soft red winter wheat – an odd relationship given the protein premium hard red winter normally holds over soft red winter. Ample hard wheat supplies and short soft red winter supplies are expected to continue to hold hard red winter at a discount to soft in the months ahead as hard wheat inventories are whittled down.

U.S. wheat's export program has been robust compared to prior years with the U.S. benefiting from Australia's smaller crop and reduced export capacity. Problems with the Canadian wheat crop are also expected to support U.S. wheat export capabilities in the year ahead. Shipments of U.S. wheat into Japan are also anticipated to improve with the signing of a U.S.-Japan bilateral trade agreement. U.S. wheat has been at a disadvantage to Canadian and Australian wheat which have the advantage of lower tariffs from being signatories to the CPTPP.

EXHIBIT 6: Weekly U.S. Ethanol Production



Source: U.S. Energy Information Administration

However, the world export market remains competitive, particularly with shipments from the Black Sea region reaching deeper into markets like Mexico traditionally held by the U.S. Total wheat production in the major wheat-exporting countries has improved over last year, according to USDA *(Exhibit 5),* with total world-wheat production expected to climb to a new record high. With wheat prices trudging under the weight of ample supplies both in the U.S. and throughout the world, U.S. farmers are widely reported to be pulling back even further on wheat acreage as the winter wheat planting season concludes.

Southern Hemisphere crop harvest will commence in Argentina and Australia in December with growing focus on dryness in eastern Australia. In the absence of a robust Australian harvest, competition among exporters – specifically between the U.S. and Russia – will be intense in Southeast Asian markets.

Ethanol

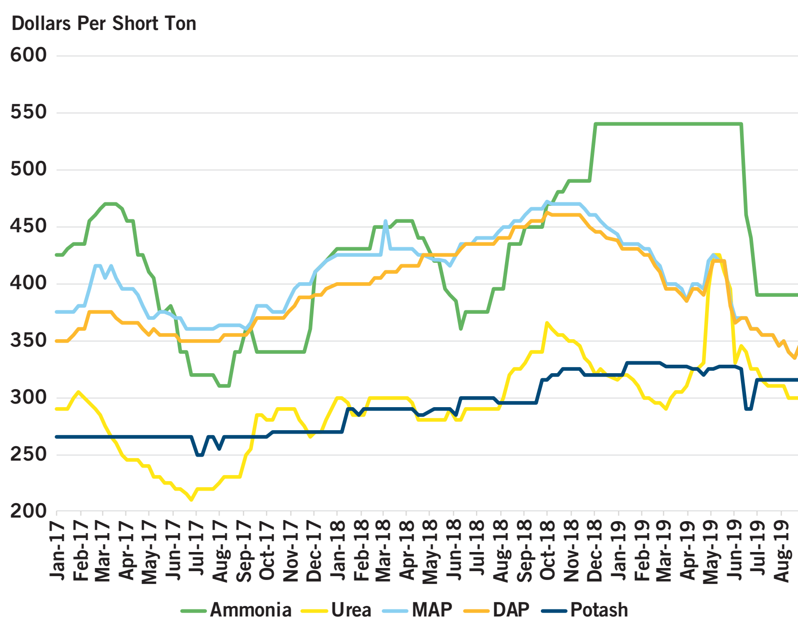
Even in the midst of the summer driving season when demand typically is at its peak, U.S. ethanol production last quarter fell to its lowest level in two years *(Exhibit 6).* Inventories, meanwhile, reached record highs on a seasonal basis. Pressured by the supply abundance, the price of ethanol continues to hold at multi-year lows. Front-month ethanol futures at the CME Group fell 21% off their mid-July peak to the contract low of $1.26 per gallon in mid-August. With several months of negative ethanol margins, ethanol producers are dialing back production and in some cases closing their doors indefinitely.

The policy front has failed to bring much optimism for ethanol amid the persistence of low or negative processing margins. On August 9, the Trump administration approved the EPA's move to grant 31 of 40 applications for blending waivers – a number that far exceeds what was granted by prior administrations. The exemptions free the refiners from the legal obligation under the RFS to blend ethanol, contributing to the erosion of domestic ethanol demand. While the Trump administration approved the year-round sale of E-15 (gasoline blended with 15% ethanol) in May, the refinery exemptions angered ethanol producers and corn growers. The ethanol industry is currently pushing for the Trump administration to reallocate exempted gallons into other channels or boost blending volume mandates.

Trade issues, meanwhile, also continue to cloud ethanol's outlook. U.S. ethanol shipments year-to-date (YTD) are 19% below last year's record pace.[5] Ethanol exporters face new competitive headwinds with Brazil's increased ethanol production capacity. Brazil, the top export destination for U.S. ethanol, recently increased its tariff-free import quota for ethanol to 198 million gallons per year from 158 million gallons per year. The increase comes as ethanol production in Brazil is expected to increase by 4%, or 350 million gallons, in 2019.[6]

The trade war also complicates ethanol's export campaign with shipments to China dropping off completely. China's ambitions of achieving an E-10 (10% ethanol) fuel supply by 2020 were once seen as a growth opportunity for U.S. ethanol. However, the trade war shows no signs of abating. The last U.S. ethanol shipments to China were in March 2018.

EXHIBIT 7: Corn Belt Fertilizer Prices



Source: Green Markets

Adding to ethanol producers' woes is the uncertainty over this fall's late-planted corn crop that has caused extreme volatility in local corn prices, specifically in the eastern Corn Belt. Cash bids at ethanol plants in states like Ohio and Indiana have skyrocketed in recent months as ethanol producers attempted to gather old-crop corn supplies from farmers ahead of an uncertain fall harvest.

As abundant ethanol supplies realign with weakening demand, ethanol processing margins are expected to remain under pressure in the months ahead and curtail U.S. ethanol production. However, with more production capacity coming off line, the resulting drop in ethanol supplies ultimately will support prices and lift margins long term.

Farm Supply

Fertilizer

Fertilizer prices have stabilized after falling throughout the summer.[7] Warehouse fertilizer inventories in the Corn Belt remain oversupplied following this year's unseasonably wet weather that caused a sharp reduction in planted acreage. Corn Belt anhydrous ammonia prices plunged from $540 per ton in June to $390 per ton in September – a 28% drop through the last quarter – while dry urea fell 13%. Other fertilizers were also lower throughout the quarter with monoammonium phosphate (MAP) and diammonium phosphate (DAP) both down 7% and potash down 3% *(Exhibit 7).*

Further west on the Plains, co-ops reported a more normal agronomy season with strong spring applications. Flooding on the Mississippi River, however, caused ag retailers to buy fertilizer at higher prices, resulting in compressed margins on fertilizer sales. Ag retailers that were fortunate enough to clear fertilizer inventories this spring are looking forward to restocking at much lower prices.

While fertilizer prices appear to have reached a bottom, numerous fundamentals weigh on hopes for a market rebound heading into the fall applications season. Low corn prices continue to drag on nitrogen fertilizers, and large global phosphate inventories continue to pressure phosphate fertilizers. The increasing financial stress across the agriculture sector also has many ag retailers bracing for farmers to be ultrasensitive on production costs, aggressive on price, and increasingly frugal on fertility rates.

This fall's historic delayed harvest further complicates the ag retail outlook. Because of the late maturity of the fall crop, a late harvest could limit fall fertilizer applications with farmers preoccupied with harvest operations. Harvest in the Corn Belt is widely expected to last well into November and December and push fertilizer applications into the spring.

As ag retailers struggle with a liquidity crunch from slow sales and falling prices, many agronomy departments will be stringently managing inventories.

Seed and Crop Protectant

Ag retailers anticipate more corn acres in the 2020 planting season though the steep drop in corn prices has dampened expectations of its extent. With winter wheat

acreage predicted to continue shrinking this fall, row crops – particularly corn – are assumed to be the major beneficiaries next spring. Corn is the highest input crop compared to soybeans and wheat, so ag retailers will welcome any movement of acreage to corn and away from wheat and soybeans.

The intensifying financial stress across agriculture, though, raises the question of whether farmers will be able to pre-pay for inputs like seed and crop protectant ahead of the New Year. With pre-pays for inputs expected to be down year-over-year (YoY) this winter, the uncertainty for ag retailers increases as they anticipate farmers' needs in a highly competitive farm supply market.

Glyphosate, meanwhile, continues to be in the news with Bayer now juggling thousands of lawsuits based on claims that glyphosate caused cancer. The claims are backed by the World Health Organization's International Agency for Research on Cancer's conclusion in 2015 that glyphosate is "probably carcinogenic for humans" despite the U.S. EPA and numerous other regulatory bodies around the world concluding the herbicide is not a public health risk when used properly. Bayer says it does not intend to stop manufacturing the herbicide, but has signaled that a settlement is possible. To date, courts have ruled against Bayer in three cases.

Animal Protein[8]

The already volatile U.S. animal protein markets have grown even more so in the third quarter on nearly every front: feed costs, capacity disruptions, trade flows, political disruptions, and the macro economic outlook.

One area of volatility was the cool and wet weather this spring which affected all of agriculture, including the animal protein markets. As cool weather helped livestock convert feed into mass more easily, livestock weights across the sector rose, driving increased protein supplies through the summer. Live weights for hogs and chickens this summer have climbed to all-time highs seasonally, increasing supply by 1% to 1.5%. While we had expected U.S. animal protein supply growth to slow in 2019, the impact of weather this year may very well mean the growth in 2019 will match the 2.5% growth in supply seen last year.

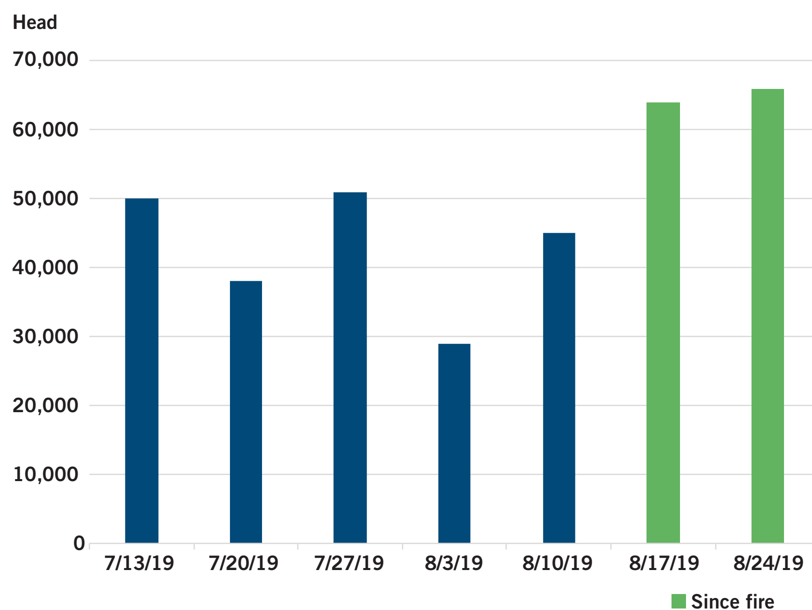
The impact of ASF on global pork supplies is just beginning to be felt in the U.S. animal protein sector. While prices have ridden a rollercoaster so far this year based on expectations, reality is now hitting. Trade volume is expanding and will begin to yield benefits to producers across the meat and poultry industries. The expanding trade volume, along with the signing of important trade agreements this summer with Japan and Mexico, will also aid in improving the sluggish level of trade flows so far this year. The new trade deal with Japan also lifts hopes of renewed exports, particularly for U.S. beef and pork.

Beef

The U.S. beef sector has experienced two significant and opposing developments over the last quarter. The first is the decline in feed prices. As crop conditions and yields stabilized, corn futures have declined from above $4.50 per bushel now toward $3.50. This has greatly improved cost-of-gain projections for cattle feeding for the remainder of 2019 and in to 2020.

The second development is the fire at a large Kansas beef plant in early August. The loss of this plant cut available fed cattle harvesting capacity by 6%, creating

EXHIBIT 8: Saturday Steer and Heifer Slaughter



Source: USDA-AMS

a significant challenge for cattle feeders to find excess capacity elsewhere *(Exhibit 8)*. The industry has responded as other plants were able to absorb capacity by operating more Saturday shifts. Unlike the chicken and pork sectors that have built more than a few new plants in the last few years, beef packing capacity has been tight as the cow herd has expanded. This tight capacity has put beef packers in the catbird seat recently. While the Kansas plant will be closed for months, not years, the disruption in capacity and further shifting of leverage in favor of the packer increases the odds of herd liquidation.

Beef exports have improved from the sluggish start at the beginning of the year. May and June exports were flat YoY, an improvement from February, March and April when exports were down approximately 5%. The outlook for beef exports brightened after the U.S. and Japan signed an important trade agreement in late August with Japan announcing in late September it will phase in tariff reductions on beef, which currently carries a hefty 38.5% tariff. This will likely pave the way for U.S. beef to regain a competitive footing with countries in the CPTPP, which the U.S. opted out of last year. These countries have had more favorable tariff levels. In addition, while it's unlikely that the U.S. will export beef to China, China's overall beef imports continue to climb, thus helping to tighten trade flows that may have historically competed with the U.S. market.

We continue to expect beef production to increase 1.5% in 2019 but the question remains whether the U.S. beef cow herd will experience a flattening near current levels or follow a traditional cycling down following the last few years of herd expansion.

Pork

Over the last few months, nearby U.S. hog futures first climbed to over $90 per hundredweight in May then dropped to under $60 at the end of August. The market and hog producers are attempting to manage larger supplies (resulting from efficient hog weight gain during the cool spring) and also calculate how to address export opportunities created by ASF, the largest disease outbreak in the history of global pork.

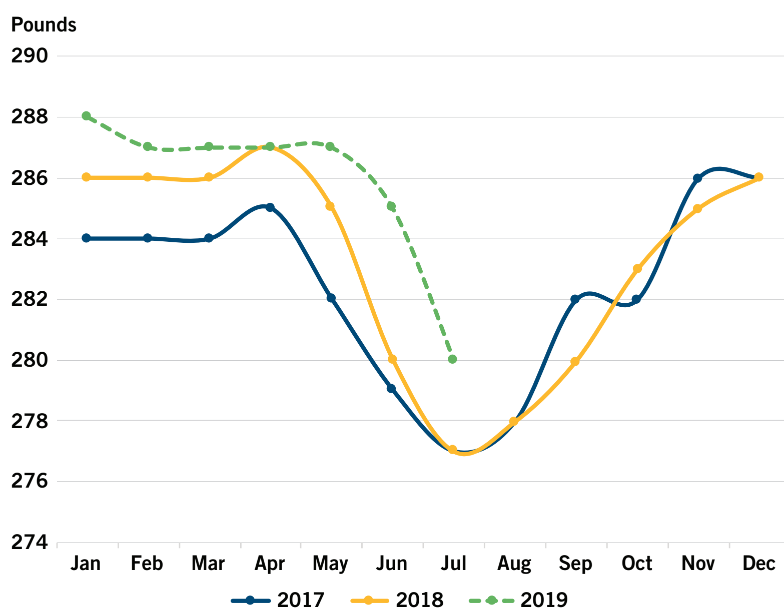
The rise and fall of hog futures doesn't indicate that the disease outbreak in China, other parts of Southeast Asia, and Eastern Europe, isn't as significant as we and others have expected. Instead it does indicate that the timing of the trade opportunities from the loss of hog supplies will be later in the year than some had expected.

The cool, wet spring added 1.8% and 1.1% during June and July, respectively, to hog live weights *(Exhibit 9)*. Increased weights coupled with reduced instances of PRRS (porcine reproductive and respiratory syndrome) have lifted pork supplies more than 4% through July over last year. These factors are driving our new forecast for U.S. pork production growth to 4% in 2019, up from our previous forecast of 3%. With hog producer margins currently below break-even for the remainder of 2019, the incentive for further supply growth is tied directly with trade growth expectations to make up for international supply losses from ASF.

U.S. pork trade has struggled so far in 2019. While pork exports to China increased 28% the first half of the year *(Exhibit 10),* this growth has been more than offset by a 20% decline in shipments to Mexico, 12% decline to Korea and 4% decline to Japan. These are the top three markets for U.S. pork so their declines are pulling overall exports down 2% – at a time where many had expected ASF to bring the largest trade flows in history. Trade disputes and retaliatory tariffs are having a more significant impact than ASF on hog supply and demand balance.

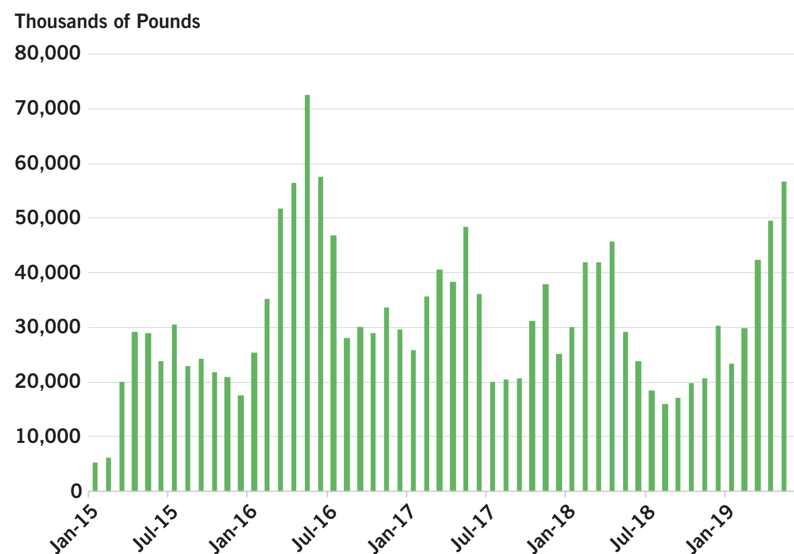
As we look to the remainder of 2019, though, the U.S. has resolved some key trade disputes in the steel and aluminum tariffs with Mexico, and signed a new trade agreement with Japan. Also, and likely more importantly, the U.S. set a new record for pork exports to China in July. If these trends continue, and exports improve to Mexico and Japan, then U.S. supply and demand will continue to improve to a greater degree through the remainder of 2019 than the futures market indicates.

EXHIBIT 9: U.S. Hog Liveweights



Source: USDA-NASS

EXHIBIT 10: U.S. Pork Exports to China



Source: USDA-ERS

Chicken

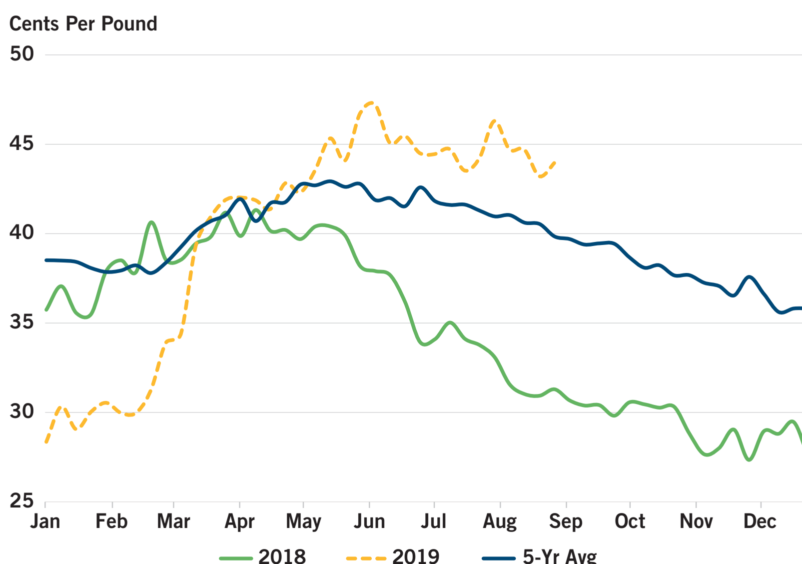
Supply growth of the U.S. chicken sector lagged the other two major proteins in the third quarter. USDA expects that production increased 2.5% in Q3, which is largely in line with the second quarter. A seasonal price drop started earlier in the summer than normal, limiting the incentive for additional supply growth. We continue to expect growth of 2% in 2019 which is slightly below the 2.2% growth in 2018. The primary determination for prices is whether dark meat values can hold up through the fall, as they have helped offset the continued weakness in breast meat values.

Through August, chicken production is up by 2% YoY but the rate in July and August has been higher than that, prompted by cooler than normal summer temperatures and the new large bird plants ramping up production. We expect average bird weights to begin to stabilize with year-ago levels, but also that three new plants will drive a modest increase in supply for the remainder of 2019.

Chicken prices and producer profitability are in the black as USDA leg quarter prices have held at around 40 cents per pound for most of the summer, a significant improvement from prior year levels *(Exhibit 11)*. As Brazil and some other major exporters of chicken have focused on the China market, they have left the U.S. in a favorable position for exports. In addition, a growing number of U.S. consumers prefer dark meat over white meat, driving the industry to increase the capacity of mechanical chicken leg deboning. This trend is likely to continue for years to come.

U.S. chicken export volumes are mostly flat. Growth in trade with Mexico and Eastern Europe are offsetting weakness in shipments to Angola and Canada. We expect this pace to improve for the remainder of 2019, as China and other parts of Asia and going to the global protein marketplace to make up for loss in their pork supplies due to ASF.

EXHIBIT 11: Chicken Leg Quarters



Source: LMIC

EXHIBIT 12: Class III Milk vs Cheese Futures

Source: CME Group

Dairy

USDA July numbers show cow numbers down 82,000 head YoY, weighing on total U.S. milk production. Total milk production will likely hold steady or experience a slight decline in the remaining months of 2019. In the event feed supplies improve and drop in price, however, total volume of production could increase in the fourth quarter.

Class III milk prices, meanwhile, have been the highest since 2014 *(Exhibit 12)*, driven by increased block cheese prices and a decline in cheese inventory – the first time inventories have fallen since 2014. The rebound in cheese exports, particularly to Mexico, has underpinned the rally in cheese prices. Cheese exports YTD are up 3% from 2018 and represent 6% of U.S. cheese production. Heading into the peak demand season, cheese prices are expected to continue at current levels. However, the ever-widening of the block-barrel spread continues to stress barrel cheese processors.

Despite lower domestic butter production, U.S. butter prices have recently declined following the trend of lower global butter prices. Increased butter imports have filled the domestic production void. Amid the global butter

surplus, prices will likely be range-bound through the end of the year. Whey prices will be capped not only by weakness in the export market caused largely by the U.S.-China trade war, but also by the decline in the Chinese swine herd where whey is commonly used as a feed ingredient. China, though, recently rolled back whey permeate tariffs. This opens the door to whey's important export market, as China accounted for 50% of total exported volumes between 2015 and 2018.

The most recent announcement from Japan of reduced tariffs on U.S. dairy products like cheese and whey are also welcome news that bolster hopes of progress for a more competitive trade front for U.S. dairy. Cheese and whey are two of the biggest dairy exports to Japan and will have TPP-level tariff treatment. Not all dairy products, though, gained new market access in the agreement.

USDA has bumped up price expectations,[9] putting the annual all-milk price at $18.35 per cwt for 2019 – a material increase from the July estimate of $18.20 per cwt. USDA expects milk prices to continue rising into 2020 to an annual price of $18.85 as milk production atrophies on herd culling and higher feed prices. Increases in milk prices, though, will be tempered by low butter and whey prices in the short term. The stronger price outlook for the dairy sector is good news for dairy farmers who have struggled with persistently tight or negative margins. More than half of the licensed herds in the U.S. have also enrolled in the USDA Dairy Margin Coverage program. The program offers risk protection to dairy producers when the difference between the all-milk price and the average feed cost falls below a dollar amount selected by the producer. Dairy producers who signed up at $9.50 per cwt margin are guaranteed a payout above the premium for 2019 with payouts announced for each month from January to July.

Other Crops

Cotton

Cotton prices tumbled to three-year lows in the last quarter as expectations for sizable U.S. and world cotton crops collided with a dimming outlook on trade – front-month cotton futures fell 14% from July into September.

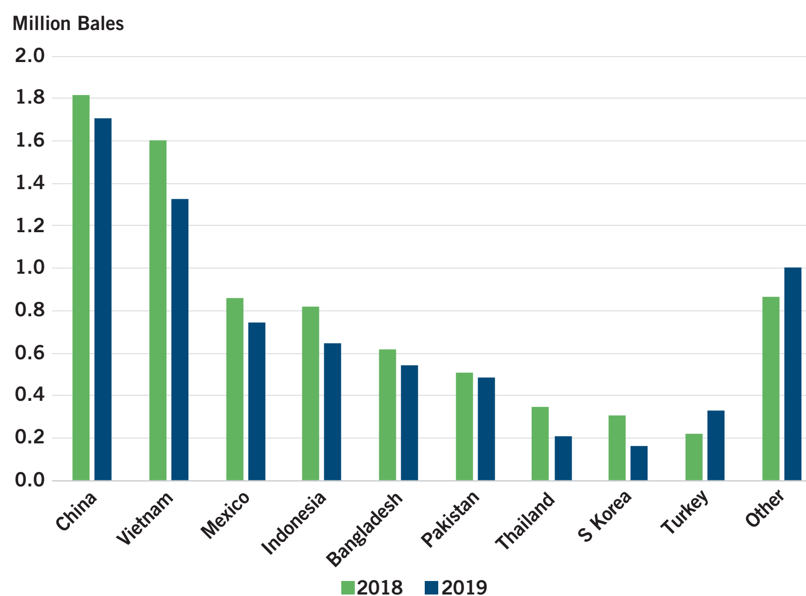
USDA predicts the U.S. cotton harvest to jump 16% from last year to 21.86 million bales as acres shift from soybeans to cotton. Concerns are growing, though, that drought is cutting yields shorter than expected in the top-producing cotton state of Texas. In the last week of September, over half the state was in moderate drought, a fifth of the state in severe drought,[10] and less than half of the Texas crop cotton bolls were opening.[11] Crop losses from Hurricane Dorian have been minimal; Georgia and the Carolinas recorded damage mostly along near-coastal regions outside the cotton belt.

Global cotton production, meanwhile, is expected to reach a new high of 124.9 million bales.[12] The stocks-use ratio of cotton outside of China is climbing to its highest level since 2011 with both India and Brazil expected to end the marketing year with record inventories. India's swelling inventories are especially worrisome as it benefits from closer proximity to the important Chinese and Southeast Asian markets. The global cotton surplus comes at a time when U.S. cotton producers are in need of a robust export market. With ample production and growing headwinds on the export front, U.S. ending stocks for the 2019-20 marketing year are expected to climb their highest level in 12 years.

Foreign buyers are defaulting on contracts after cotton prices dropped significantly in recent months. The number of unshipped bales of cotton sold to China is only slightly lower than last year with outstanding export sales to China topping the list *(Exhibit 13).*

The trade row between the U.S. and China is expected to have a long tail for cotton as the textile industry continues its gradual migration out of China to countries benefiting from cheap labor and lower tariffs. Southeast Asian countries, specifically Vietnam, Indonesia, and Bangladesh, will likely continue to be growth opportunities outside China for U.S. cotton exports.

EXHIBIT 13: Outstanding Export Sales – All Cotton



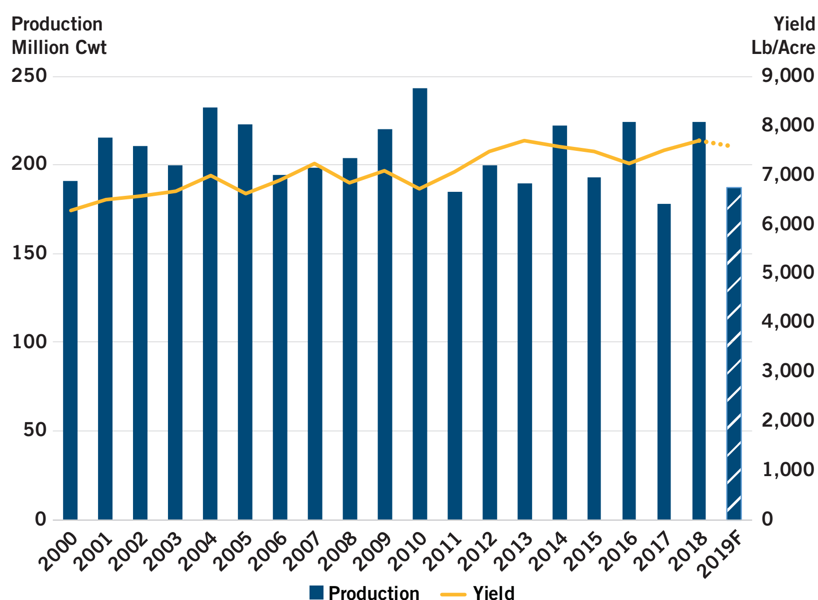
Source: USDA-FAS, U.S. Export Sales for Week Ending August. 29, 2019

Rice

Rice prices surged in the last quarter, driven by fears of a scant U.S. harvest following delayed plantings and poor crop conditions. Rough rice futures climbed 11% to new highs. Extreme wet weather significantly curtailed planted acreage and sweltering summer heat during the important grain-fill period stunted yields, as has become apparent at the mid-way point of U.S. rice harvest.

The steep reduction in planted rice acreage in the upper Mississippi River Delta[13] prompted USDA to cut its U.S. rice crop estimate in the September crop report. USDA pegged the total rice crop at 187.3 million cwt, down 16.5% from last year's crop with USDA also trimming yield *(Exhibit 14).* The projection on long-grain rice production dropped to 126.7 million cwt – well below last year's harvest 164.0 million cwt. Long-grain ending stocks for the 2019-20 marketing year were slashed by a third to only 19.3 million cwt, which compares to the 2018 stocks estimate of 32.6 million cwt.

EXHIBIT 14: U.S. Rice Crop



Source: USDA-NASS

U.S. rice prices have also found support on strong export demand, particularly to Mexico, Haiti, and Iraq. Shipments to top-buyer Mexico alone are up 45% so far in the marketing year. Japan, which is the top export market for U.S. short- and medium-grain rice, has also

EXHIBIT 15: YoY Change in Tree Nut Exports
Year-to-Date (August-June) Change, 2018-19 vs 2017-18

	Volume*	Value
Almonds	-1%	0%
Pecans	-19%	-31%
Walnuts	6%	-21%
Pistachios	19%	21%

*Shelled weight equivalent basis
Source: U.S. Customs (via Global Trade Tracker)

shown noticeable increases YoY in shipments. However, U.S. rice did not gain new access in the U.S.-Japan trade agreement, which under current quotas gives export advantage to competing countries, like Australia, that are members of the new CPTPP.

Globally, rice supplies are abundant and holding prices steady in overseas markets despite weather concerns over the Indian crop. Total rice ending stocks are still projected to be record high this marketing year at 172.7 million tons, according to USDA, which portends a highly competitive export market in the months ahead.

Sugar

Since the last CoBank quarterly industry update, USDA has further increased its 2019-20 cane and beet sugar production projections to 9.3 million short tons raw value, a 3% increase over 2018-19 estimates.[14]

- **Beet Sugar:** Generally favorable weather since spring has offset the impact of the delayed planting in most areas. USDA estimates that 2019-20 beet sugar production is up 3.4% over 2018-19.[15] However, there are regional variations – early-season moisture impacted southern Minnesota beet growing regions more harshly than the core production region of the Red River Valley in northern Minnesota and North Dakota. To manage processing capacity, additional beet sugar production means some of this crop will be harvested early. As a result, USDA has also increased its 2018-19 sugar production estimates.
- **Cane Sugar:** Since the previous quarterly update, USDA has increased its cane sugar production estimates from Florida based on a slight bump in harvested acreage and record yield. This brings total 2019-20 cane sugar projections up 2.5% over 2018-19.[16]

USDA has raised its 2019-20 projections of sugar deliveries for food and beverage based on pace of deliveries to date. While the industry cautiously monitors sugar consumption trends and has taken note of the decline in total sugar deliveries for food and beverage over the previous two calendar years, the YTD pace provides cautious optimism.

The increased consumption and reduced import estimates only partially offset the increased production estimates. The 2019-20 stocks-to-use ratio grew from 12% as reported in the May USDA report (basis for last CoBank quarterly update) to almost 14%. While this is an increase since the last report, it is still down relative to the higher levels experienced over recent years.

The higher stocks-to-use ratio projections may soften prices relative to previous expectations, but the impact will likely be negligible. U.S. sugar prices have remained relatively stable in recent years despite low world prices and higher stock-to-use ratios. The policy instruments in place seem to be functioning as intended and are expected to keep prices generally stable.

Specialty Crops

Total shipments for the 2018-19 almond crop year finished strong despite the trade headwinds *(Exhibit 15),* bringing ending stocks to their lowest level since 2012. To further tighten the supply situation, USDA estimates 2019-20 almond production will decline 3.5% YoY and the Almond Board of California reports that new crop commitments are well above normal pace. These supply and demand dynamics can be expected to keep prices firm over the coming months.

Increased production, weak domestic demand, and ongoing trade issues are expected to keep prices soft for process oranges and wine grapes over the next quarter.

- While packinghouse door and on-tree prices for process oranges remain weak, the YTD retail orange juice prices are up.
- California Valencia orange prices this year have struggled more than other regions and varieties due to size and quality issues.
- While harvest has just begun, wine grape quality and yields are looking good.

The new U.S.-Japan bilateral trade agreement, though, will greatly improve access to an important and growing market. Tariffs on products like almonds, walnuts, blueberries, and other fruits and vegetables will be eliminated upon implementation. Tariff reductions on other products like wine and oranges will be phased in.

Tree Nuts

Almonds: The final 2018-19 position report from the Almond Board of California estimates that total almond shipments (domestic and exports) are up almost 1% YoY.[17] With this boost in shipments, ending stocks are expected to be at their lowest level since 2012. The Almond Board also reports the pace of new crop commitments are up 71% over last year. Weather and limited pollination days are contributing to further tightening of the supply situation. According to USDA's July California Almond Objective Measurement Report,[18] production estimates for 2019-20 have come in 12% below May expectations and 3.5% below last year's production. With low inventories, the projected supply reduction, and strong demand, prices should remain firm over the next quarter, even in the face of ongoing export headwinds resulting from retaliatory tariffs.

Pecans: Year-to-date (August-June) 2018-19 pecan exports are down 19% YoY by volume and 31% by value.[19]

Despite production losses in the 2018 crop, prices for both shelled and in-shell pecans continue to remain relatively low due to large carry-over stocks, increased imports, and weak export demand resulting from increased tariffs and growing Chinese production.

Pistachios: Year-to-date (August-June) 2018-19 pistachio exports are up 19% YoY by volume and 21% by value. This reflects strong world demand for pistachios.[20] World consumption of pistachios has been trending steadily upward for over a decade. Additionally, the U.S. share of world production has been growing, reaching 55% in 2018-19.[21] This strong demand and U.S. market share position has contributed to the 2018-19 U.S. export growth, even in light of growing tariffs.

Walnuts: Year-to-date (August-June) 2018-19 walnut exports are up 6% YoY by volume but down 21% by value.[22]

World consumption of walnuts has also been trending upward over the past decade. However, unlike pistachios, the U.S. market share has been static, hovering around 30% for over a decade.[23] This gives importers greater sourcing flexibility relative to other tree nuts.

Grapes

Wine Grapes: While harvest has just begun, so far crop yields and quality are looking good overall. The wet spring means some areas continue to combat mildew problems and harvest may be a couple weeks behind in some areas. Inventories for most varieties (excluding merlot and zinfandel) remain high, and pricing continues to trend downward.[24,25] In light of the high domestic

inventories, Ciatti wine and grape brokers report that buyers have strict contract specifications and low tolerance for mildew. On a global level, supply and demand is more balanced. Production in Spain, France, and Italy is expected to be down this year, but with tariffs on U.S. wine in key export markets, it may be harder for the U.S. to capitalize on this situation.

Citrus

Oranges: The annual USDA Citrus Fruits report[26] was released at the end of August, raising 2018-19 U.S. orange production estimates to 5,327 thousand short tons. This is a slight upward revision from last quarter.

While some Valencia growers in Florida reported difficulties finding a market last quarter, processors had committed to large supply purchases from Mexico following Hurricane Irma in 2017. Total 2018-19 U.S. processed orange utilization, as a share of total orange utilization, was back up to 2016-17 levels.[27]

2018-19 orange prices have averaged 31% below 2017-18, when supply was constrained, and 16% below 2016-17. However, California Valencia orange prices have taken a much steeper dive, averaging 55% below 2017-18 and 51% below 2016-17, as size and quality issues have been reported.[28]

According to Nielsen topline reports,[29] retail orange juice sales continue to decline, with YTD volume sales down almost 6%. Retail orange juice prices have been up 3%, while USDA reports a decline in process orange prices at the packinghouse door and on-the-tree.

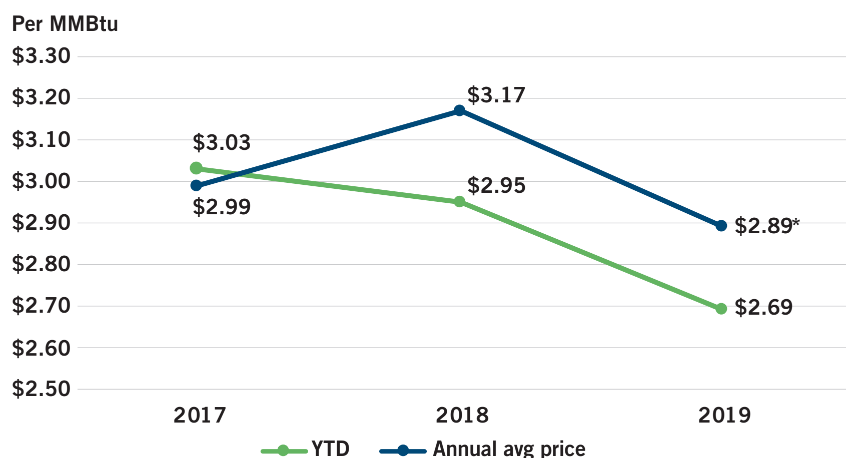
As reported in the previous quarterly industry update, USDA projects 2018-19 orange production to be up 26% in Brazil and expects Mexico to remain at the peak level reached last year. With world production projected at its highest level in eight years, ongoing trade issues, the increased production estimated for the U.S. and the declining orange juice consumption trends, U.S. process orange prices will likely remain under pressure over the coming year.

Grapefruit: While up over 2017-18, the USDA 2018-19 grapefruit production forecast is down 19% from 2016-17.[30] This latest estimate represents less production than last quarter. Grapefruit prices are also down roughly 1% relative to 2016-17.

Other Fruits & Vegetables

Tomatoes: On May 7, 2019, the U.S. withdrew from the 2013 Suspension Agreement on Fresh Tomatoes from Mexico. As a result, a 17.56% tariff was been placed on Mexican tomato imports and the U.S. Department of Commerce resumed its antidumping investigations. A new draft agreement was reached on Aug. 20 and was signed Sept. 19. The new agreement sets floor prices for round and roma tomatoes at 31 cents per pound, stem-on tomatoes at 46 cents, tomatoes on the vine at 50 cents, specialty loose tomatoes at 49 cents, and specialty-packed tomatoes at 59 cents. Organic tomatoes will be priced 40% higher than non-organics.[31] Under this new agreement, there will be border inspections on all Mexican round, roma, and bulk grape tomatoes. This was one of the more contentious provisions of the new agreement. U.S. fresh tomato growers contend it is a necessary provision to ensure the proper enforcement of the agreement, but critics warn that this level of inspection will cause delays that will affect quality and price for the consumer.

EXHIBIT 16: Henry Hub Dry Natural Gas Prices



*EIA projection

Source: EIA

Infrastructure Industries

Power and Energy

Continued growth in the U.S. supply of dry natural gas during Q3 2019 outpaced rising demand from power generators and other sectors, resulting in 2019 YTD average Henry Hub pricing of $2.69/MMBtu. This is down from $2.95/MMBtu and $3.03/MMBtu for the same periods of 2018 and 2017, respectively. Seasonal demand from power generation and home heating is likely to slightly boost Henry Hub prices in Q4. The U.S. Energy Information Administration (EIA) projects an annual average price of just $2.89/MMBtu in 2019. If realized, that would be a 28-cent decline from the 2018 average of $3.17/MMBtu and a 10-cent decline from the 2017 average of $2.99/MMBtu in 2017 *(Exhibit 16).*

Such moderate natural gas prices are likely to put downward pressure on power prices nationally while driving the continued retirement of less-efficient generating capacity. Specifically, nearly 13 GW of coal-fired capacity has been retired this year or is scheduled to retire by the end of 2020, accounting for 5% of the capacity existing at the end of 2018.[32] With the abundant supply of natural gas and less power needed for the coming winter, which is projected to be warmer than normal,[33] the natural gas industry will be able to replenish inventories at greater-than-average rates compared to the past four years. These factors together are likely to drive lower-than-average power prices from November 2019 through March 2020 – especially at higher latitudes, which are expected to see the warmest winters relative to historical averages.

In Q3 2019, over 2,860 MW of primarily renewable generating capacity came online across the U.S. while approximately 490 MW of capacity retired (all summer-rated). In regards to renewables, specifically, over 1,730 MW of wind capacity spread across six states came online in this time period, with the three largest projects all located in Texas: the 300 MW Santa Rita East Wind Farm, 300 MW Ranchero Wind Project, and the 238 MW Rio Bravo Windpower Project. Over 925 MW of solar capacity spread between 19 states came online in Q3, with the largest projects located in Texas (the 255 MW Phoebe Energy Project), Nevada (the 200 MW Techren Solar II), and California (the 80 MW Rugged Solar Farm).

Market in Focus: ERCOT

After ERCOT saw the entry of just 100 MW gas-fired peaking capacity in Q3, renewable capacity is projected to continue to dominate the market's near-term additions. There is just 560 MW of natural gas-fired generation under construction in ERCOT, a minor amount when compared to the 3,980 MW and 1,545 MW of wind and solar capacity, respectively, being built in the market (all nameplate capacity).

Because Texas' abundant wind and solar resources account for much of the relative success of renewable resources in ERCOT, the market's unique structure disproportionately incentivizes their development and operation. In particular, ERCOT's lack of a capacity market affords renewables a significant economic

advantage relative to their dispatchable competition given that hourly renewable resource output is relatively hard to predict years in advance. Discussion of creating some type of capacity market continues, but there is no concrete progress. Opponents of adding a capacity market are likely to point to ERCOT's reliable operation throughout 2019's summer heat waves in spite of a reserve margin of just 8.6% (versus the target of 13.7%). Proponents of adding a capacity market may point out how narrowly ERCOT escaped a systemic emergency, with less than 2,300 MW in reserve and realized power prices of $9,000 MWh on August 12, 2019.[34]

Additionally, ERCOT's method of calculating a locational-marginal price (LMP) will likely continue to omit marginal losses despite some stakeholders' calls for its inclusion. (ERCOT is unique among U.S. wholesale markets in this regard. Elsewhere, the LMP at any bus is made up of three components: the system marginal price or energy component, the congestion component, and the marginal loss component.) ERCOT's continued omission of marginal losses will further incentivize the buildout of long-distance, high-voltage transmission lines from the wind resource-rich north and west zones to load in the southern and eastern parts of Texas, which in turn will continue to enable wind capacity buildout.

Rural Water Systems

Proposed Changes to Infrastructure Permitting Under the Clean Water Act

On August 9, the U.S. Environmental Protection Agency (EPA) issued a notice of proposed rulemaking (NOPR), indicating that the agency seeks much greater authority in the infrastructure permitting processes regulated under the Clean Water Act (CWA). Under the EPA's proposed rule, states could only prevent infrastructure construction in matters concerning water quality, which would end states' other long-held permitting authorities under the CWA. Additionally, if enacted, the rule would cut states' time to evaluate any relevant environmental permits, including those pertaining to water quality.[35]

EPA Administrator Andrew Wheeler has indicated that an objective of the rulemaking is to reduce regulatory burdens on project developers, particularly in the oil and gas sectors:[36]

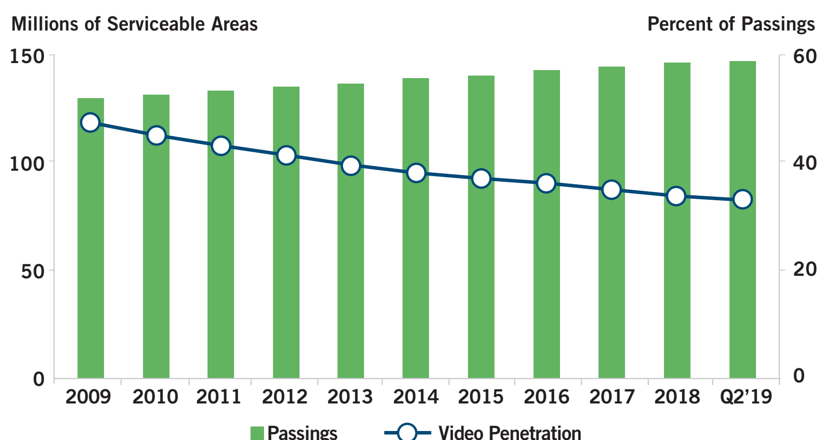
> *"Our proposal is intended to help ensure that states adhere to the statutory language and intent of Clean Water Act. When implemented, this proposal will streamline the process for constructing new energy infrastructure projects that are good for American families, American workers, and the American economy."*

Specifically, the EPA seeks to change Section 401 of the CWA. This section currently gives states the right to certify that infrastructure projects requiring permits comply with both federal and state environmental law. In practice, Section 401 gives state regulators the right to certify or deny projects that require permitting by the EPA, the Federal Energy Regulatory Commission (FERC, e.g., for hydropower licenses and natural gas pipeline certificates), or the Army Corps of Engineers.

The NOPR specifies that the one-year period to certify or deny a project as required under the CWA begins with the state's receipt of the initial permit application. This standard contrasts with some states' practice of starting the one-year clock when the state deems the

EXHIBIT 17: Cable Video Subscriber Penetration of Passings*

2009-2018 + Q2 2019



*Passings are serviceable homes and businesses

Source: S&P Global Market Intelligence

permit application to be complete. The EPA asserts that its proposed rule would still allow states up to one year as is "reasonable". While this specification builds on the January 2019 ruling in Hoopa Valley Tribe v. FERC from the U.S. Court of Appeals for the D.C. Circuit, it is likely to receive pushback from states accustomed to evaluating complex projects over multiple years.

New York and Washington have exercised their authority under Section 401 of the CWA by denying permits in recent years for the construction of a coal terminal and certain natural gas pipelines. In those cases, the states cited concerns about air and water quality, as well as the projects' potential contributions to climate change.[37]

Some key stakeholders have voiced concerns about the appropriateness of the EPA's proposal, as well as the thoroughness of the process that EPA used to create it. In particular, the Association of Clean Water Administrators (ACWA), whose members include the state, interstate, and territorial officials who are responsible for implementation of the CWA's water quality programs, pointed to several perceived deficiencies in the EPA's undertaking. Specifically, in a letter to the EPA dated May 24, 2019, the ACWA asserted that the EPA's recommendation exhibited:[38]

- A general lack of recognition of states' rights to protect their water resources under Section 401 of the CWA;
- An attempt to fundamentally alter the balance of power between state and federal governments in regards to managing water resources;
- Inadequate outreach to states in regard to appropriateness of the potential recommendations; and
- Inadequate evidence of why such recommendations are in the public's best interests.

The EPA issued the NOPR in response to President Trump's Executive Order 13868, "Promoting Energy Infrastructure and Economic Growth." Under the executive order, the EPA has until May 2020 to finalize the rule.

Telecommunications

High-speed internet gains offset cord-cutting pain

Cord cutting is accelerating *(Exhibit 17)* as more consumers opt for over-the-top video services – streaming media services such as Netflix and Amazon Prime Video offered directly to viewers over the Internet – instead of traditional cable TV. For example, in the second quarter of 2019, Comcast, Charter Communications, and AT&T reported a loss of over 1.2 million video subscribers, a significant increase over 134,000 lost a year earlier. Both Disney and Apple are planning to enter the over the top market later this year with their new video packages. With more choice from major media companies, we expect the current trend away from cable to continue into 2020.

Cord cutting is also happening in rural America and for rural operators, and this isn't necessarily a bad thing. Given their relatively small customer base, they pay a lot per customer for content distribution rights which puts pressure on video margins. In fact, some rural cable operators' video margins are breakeven at best.

The silver lining in all of this for cable operators is the growth of their high-speed internet. To watch over-the-top content, consumers need a fast and reliable broadband connection. And cable operators have been reporting some impressive broadband growth of late. According to the Leichtman Research Group,[39] in Q2 2019 cable operators added a combined 530,000 margin-rich high-speed internet users.

M&A investors turn attention to rural operators

Private equity firm Grain Management has been busy acquiring fiber-rich and long-standing rural telecom and cable companies. In August, Grain Management announced plans to acquire Hunter Communications, Summit Broadband, and to take a majority stake in Ritter Communications.

Hunter Communications, based in Oregon, was founded in 1992 and owns the largest privately-held fiber network in the state. Summit Broadband is based in central Florida and was founded in 1994. The company provides voice, video, and high-speed data to residential and commercial customers, and owns 1,800 fiber route miles. Ritter Communications was founded in 1906 and provides service to 45,000 customers across Arkansas, southeast Missouri and west Tennessee. The company is Arkansas' largest privately-held regional provider of broadband fiber, telecom, video, and cloud solutions.

Fiber-rich rural operators are becoming attractive takeout candidates for institutional investors. Since most of the large fiber transport companies have already been acquired, it's not surprising to see smaller companies being rolled up by private equity. Given the expected surge in data traffic from technologies like over-the-top video, 5G, and cloud computing, fiber assets offer investors a predictable revenue stream that has been increasing every year. It stands to reason that this trend will continue for the foreseeable future.

Sen. Warren plans to bridge the digital divide

Presidential hopeful Sen. Elizabeth Warren has introduced her plan to bridge the digital divide and it includes establishing a new Office of Broadband Access armed with an $85 billion federal grant program. $85 billion is a lot of money, but it may not be enough because the current broadband maps underestimate the true digital divide. The FCC is working on fixing its broadband mapping problem, so the industry should have a better idea sometime next year of how many people are without broadband.

Sen. Warren's plan limits these federal grants to electricity and telephone cooperatives, nonprofit organizations, tribes, cities, counties and other state subdivisions. However, we think the government should cast a wider net and include for-profit telecommunications providers. First, building and managing these networks takes expertise and experience, and it's not clear that all cities and non-profits have such capabilities. Second, bridging the digital divide is a huge undertaking, therefore, it would be prudent to include a wide array of companies/organizations – especially ones that have experience building broadband networks.

Despite some of our criticism, the fact that Sen. Warren has a plan with significantly more funding than what's available today is clearly a good thing for rural America. At the rate we're going, it will be a very long time before the digital divide is gone. When we get a sense as to the true digital divide, policy makers could be in for a rude awakening, reinforcing the need for a bold plan with a focused effort.

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This quarterly update is prepared by the Knowledge Exchange Division and covers the key industries served by CoBank, including the agricultural markets and the rural infrastructure industries.

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