2020-2021 Kentucky Agricultural Economic Situation and Outlook

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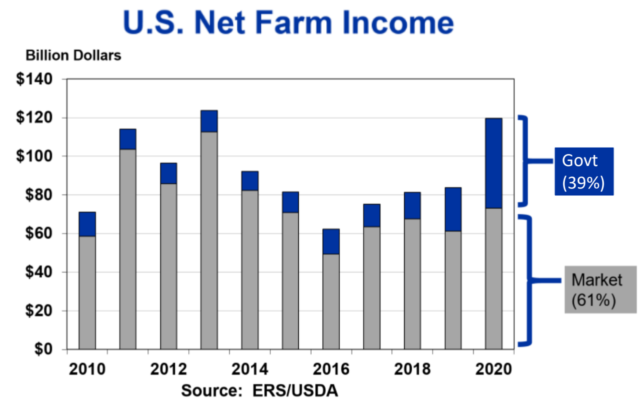
U.S. Agricultural Economy

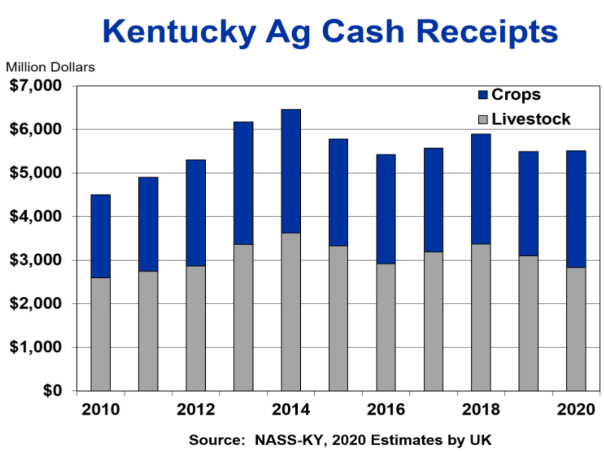
Following several years of depressed commodity prices, trade wars, and challenging financial conditions, 2020 was setting up to be a critical year for the U.S. agricultural economy. On the verge of completion of three major trade agreements (China, USMCA, and Japan), a slowing, but growing world economy, and continued low production expenses, there was some optimism among farmers and ag markets entering 2020 … then COVID-19 hit. Like most businesses, agriculture did not escape the gyrations caused by COVID-19. Plant shutdowns, restaurant/school closings, supply chain disruptions, panic buying, labor uncertainties, and continued trade disputes, were just a few items that led to a wild ride for the ag economy with prices for most farm commodities falling 10-25% or more during the second quarter of 2020.



In response to this crisis, Congress debated various economic stimulus packages, which included funding for agriculture. In total, USDA is projecting that U.S. farmers will receive $46.5 billion of government assistance from two rounds of Coronavirus Food Assistance Program (CFAP) packages, the completion of 2019 Market Facilitation Program (MFP) payments, the Paycheck Protection Program (PPP) and regular farm bill programs (PLC, ARC, conservation) which may account for nearly 40% of net farm income in 2020. Currently, USDA is forecasting that 2020 Net Farm Income will total $119.6 billion, 43.1% above 2019 levels. Adjusted for inflation, U.S. net farm income will be at its highest level since 2013 and well above the 20 year average. Cash receipts are projected to fall slightly, but more than offset by lower production expenses and the escalation of government payments. Receipts have been aided in recent months by an improvement in crop prices, driven by stronger year-end export sales. Despite a lot of volatile factors, U.S. ag exports will likely end the year around $140 billion – relatively flat compared to the past three years after setting a record level of nearly $150 billion in 2014. Alternatively, the value of U.S. ag imports continues to increase more than exports causing the U.S. to flirt with an ag trade deficit for the first time since 1959.

U.S. ag exports to our largest trading partner, Canada, will be virtually flat in 2020, while exports to Mexico could end the year down around 10% as COVID-19 has taken its toll on the Mexican economy. Most of the trade optimism for U.S. ag early this year focused on the U.S./China Phase One trade agreement given their commitment to import $36.5 billion of U.S. ag products in 2020. This compares to a record level of $25.9 billion of U.S. ag exports to China in 2012, which fell to $9.1 billion in 2018. Through September, the U.S. has shipped $12.1 billion (up 37% in 2020), with strong grain, pork and beef sales. Despite robust export activity late in the year, U.S. ag exports to China are still projected to fall below Phase One targeted levels. Export sales to Japan and the EU also trended lower in 2020.

Kentucky's Agricultural Economy



Kentucky's ag economy has seen its cash receipt level fall from a record $6.5 billion in 2014 to $5.5 billion in 2019, but net farm income has been supported in recent years by very favorable crop yields, large government payments, and lower production expenses. Net farm income totaled $2.2 billion in 2019, which actually was above the 10 year average of $1.8 billion, adjusted for inflation. We are forecasting that despite a lot of volatile factors impacting the farm economy, Kentucky ag cash receipts will remain relatively stable in 2020 at $5.5 billion.[i] Our current estimate reflects a much better outcome from our April 2020 forecast when we projected that COVID-19 (and other factors) could trim over $300 million off Kentucky ag sales in 2020. Improving grain prices and impressive yields boosted grain receipts to help offset lower equine, poultry, dairy, and tobacco receipts. Despite a tough year, poultry remains the state's largest ag enterprise, accounting for 19% of projected 2020 sales, followed by corn and soybeans (each at 17%) with equine falling to fourth (16%). Producers of local produce/meats, and other value-added agriculture experienced continued growth, especially given changing consumer purchasing patterns amidst a pandemic. The forestry sector also experienced some improvement with a rebound in stumpage prices amidst tightening supplies, continued growth in barrel demand and a better trade environment. Two rounds of CFAP PPP funds, and the last portion of the 2019 MFP payments will likely boost Kentucky direct government farm payments to more $500 million in 2020, which will likely enable Kentucky net farm income to exceed last year's $2.2 billion level and our highest level since 2013.

What about 2021? While farm income and farmer's optimism rebounded late in 2020, the farm economy enters 2021 with an even greater degree of uncertainty. Every business will continue to be impacted by the Coronavirus and the

[i] Note: USDA/NASS will release official 2020 state cash receipts in August 2021.

lingering effects on the overall economy. Farmers, agribusinesses, and the retail food sector will continue to adjust to the virus creating challenges for some sectors (e.g. ethanol/high-price beef cuts) and opportunities for others (e.g. local food/meat processing businesses). Political uncertainty also affects the 2021 ag outlook regarding how new faces in Washington DC will address future farm policy/government payments, trade policy, ethanol, climate change, water and other environmental regulations, market concentration and rural infrastructure. Farm commodity prices, in general, are forecast to improve, but will be very vulnerable to abrupt changes in trade and the weather. Production expenses are forecast to remain relatively low, especially interest rates and energy-related inputs to help offset anticipated higher feed costs. Land prices and rents are expected to remain steady even amidst a volatile and uncertain farm economy. An improved price outlook may enable cash receipts to be slightly higher in 2021, but net farm income will likely fall given anticipated reductions in government payments. This potential outcome will likely put additional financial stress on many farms in 2021 that were facing cash flow/liquidity/depleted working capital concerns entering 2020.

Selected Commodity Profiles

Cattle—Despite optimism coming into 2020, COVID's demand and supply chain disruptions rocked cattle markets, especially in spring and summer. The backlog of fed cattle that was created by lower spring harvest levels pressured prices all through the marketing chain. Heavy feeder cattle prices decreased by more than $25 per cwt from January to April, but did manage to gain a good portion of that back by early fall. Calf markets failed to see their typical spring run-up and fall prices have been very close to 2019 levels. Cull cow and bull markets were a relative bright spot as less harvest volume impacts were seen in those markets and ground beef demand benefited from increased at-home consumption. Assuming that COVID impacts lessen in 2021, improvements should be seen in both domestic and international beef demand. This, combined with a smaller calf crop should pave the way for price some improvement next year. 550 lb steer calves are likely to average in the $160's by spring and should hold the $140's in the fall on a state average basis, with groups and higher quality calves selling at considerable premiums.

Poultry—Kentucky's poultry sector has generally continued to grow in size for many years and this was again the case coming in to 2020. But, poultry markets were impacted by COVID and wholesale broiler prices will likely be down nearly 20% for the year. Interestingly, egg prices have been higher for 2020 and rose considerably during the early stages of the pandemic. In reality, the vast majority of Kentucky's contract poultry producers are somewhat isolated from these market impacts. However, they are impacted by increases in time between flocks as integrators adjust to market signals, which was the case for many growers this year. While 2020 brought challenges, growth is likely to continue over time, and 2021 should be a much improved year for the sector.

Hogs—With general optimism about trade, and continued concern over African Swine Fever in China, the hog industry came into 2020 expecting a solid year. USDA inventory estimates also suggested increased hog numbers in the Commonwealth for 2020, with much of the increase in contract integrated operations. Eastern Cornbelt hog prices mirrored 2019 for the first three months of the year before COVID's impact on demand and processing took its toll. Prices fell by more than 40% from March to July and 2020 actually saw seasonal lows around the time the hog market typically makes its highs. However, prices have rallied since summer and set up for a much better 4th quarter. While reports continue to suggest China is rebuilding hog numbers, potential for strong exports and improved domestic demand exist for 2021, and hog producers should see a much better year. Eastern Cornbelt hog prices should start 2021 in the $60's on a carcass weight basis, but find the $70's by summer.

Equine—After exceeding $1 billion in both 2018 and 2019, Kentucky farm level equine receipts will drop considerably in 2020. Both the number of horses sold and median prices were down in yearling and breeding stock sales. While the timing of COVID likely had limited impact on stud fees in 2020, stud fees are likely to decline on average in 2021. It is almost a certainty that sale values will continue to be depressed into next year as well. While the market for upper-tier horses has the potential to stay relatively strong, impacts are likely to be felt across the vast majority of the equine market. When sales value, stud fees, and continued declines in the number of mares bred are considered, KY equine receipts will likely be even lower in 2021.

Dairy—Kentucky came into 2020 with another decrease in dairy cow numbers and dairy producers have dealt with an extremely volatile market. The US All Milk price for the first nine months of the year ranged from a low of $13.60 per cwt in May to a high of $20.50 in July. Much of the volatility has been driven by large swings in cheese prices, which have considerable impact on farm level milk prices. Additionally, the 2019 change in the way that the base skim milk pricing factor was calculated, combined with de-pooling in response to higher class III prices, greatly impacted producer price differentials for much of the year. Producers have received some help in the form of Coronavirus Food Assistance Program (CFAP) payments and the Dairy Margin Coverage (DMC) program. But, increasing feed prices have also cut into returns this fall. Looking ahead, indicators suggest that the dairy herd is growing at the national level, which means increased production is likely for 2021. Given this, demand for dairy products will have to improve for producers to see widespread price improvement in the coming year. A farm level milk price range of $17-19 per cwt would seem realistic for 2021.

Corn—Total production for the 2020 corn crop is projected to be just 2% higher than the five-year average. Corn use for ethanol production is projected to be 5% lower than the five-year average, but is roughly balanced by a projected 5% increase in livestock feed use. The biggest change expected for the 2020-21 marketing year is a significant increase in corn exports, projected to be 27% higher than the five-year average. The combined affect would be an 18% drop in corn ending stocks over the five-year average, pushing the expected U.S. on-farm corn price up to $4.00/bu for the 2020-21 marketing year, compared to the five-year average of $3.50/bu. This would be the highest average on-farm corn price seen since 2013. Projected corn prices for the 2021-22 marketing year also look strong, with U.S. on-farm prices in the $3.85-3.95/bu range. This would be about $.40/bu higher than the five-year average. In Kentucky, corn prices are $3.70-3.90/bu as of mid-November, with forward contracting prices jumping to $4.10-4.40/bu this winter in our better markets.

Soybeans—Total production for the 2020 soybean crop is projected to be just 1% higher than the five-year average. U.S. soybean use are projected to be 8% higher than the five-year average, while soybean exports are projected to be 14%

higher than the five-year average. The combined effect of this increased usage would be a 60% drop in soybean ending stocks over the 5-year average, pushing the expected U.S. on-farm soybean price up to $10.40/bu for the 2020-21 marketing year, compared to the five-year average of $8.96/bu. As with corn, this would be the highest average on-farm soybean price seen since 2013. Projected soybean prices for the 2021-22 marketing year also look strong. Futures prices for the 2021 crop are roughly $1.00/bu below the 2020 crop, and would likely result in U.S. on-farm prices of around $10/bu for the 2021-22 crop marketing year. Although lower than projected for 2020-21, this would be over $1.00/bu higher than the five-year soybean price average. In Kentucky, soybean prices are $10.80-11.10/bu as of mid-November, with forward contracting prices jumping to $11.20-11.90/bu this winter in our better markets.

Wheat—Soft Red Winter Wheat production in 2020 increased 11% from 2019 but is still 13% below the 5-year average. Combined with low initial stocks, the resulting available supply going into the marketing year is down 24% from the 5-year average. Domestic use is projected to be down 7% and exports down 28%, for a total use reduction of 14% over the 5-year average. However, given that the available supply is down 24%, the resulting ending stocks are projected to be only 40% of the 5-year average. This has led to steep increases in price, up around $1.00/bu since June. In Kentucky, cash prices as of mid-November and forward contracting prices through the winter are both around $6/bu, prices that have not been observed in years. Forward contract new crop prices (June/July) for 2021 in Kentucky are also around $6/bu.

Tobacco—Kentucky's tobacco sector continued to shrink in 2020 amidst contract volume reductions in response to slumping export markets, imports, lower cigarette sales, and a surplus of dark tobacco stocks. Tobacco acres are projected to be down around 15% in 2020 with yields highly variable across the state. Even with slightly higher market prices, the value of Kentucky tobacco production may fall from $268 million in 2019 to around $225 to $235 million versus averaging $311 million over the past five years. Kentucky tobacco growers did benefit from being a part of CFAP payments, expected to total more than $20 million, along with an expansion in Connecticut broadleaf (cigar) tobacco acres. The reduction in domestic cigarette sales moderated in 2020, snuff consumption was stable, while the growth in vaping products moderated. Despite anticipated lower tobacco product sales and sluggish exports, contract volumes for the coming year may remain relatively stable or could actually increase as leaf stocks are ending 2020 fairly tight and frustrated growers exit. Profit margins will likely continue to be squeezed with higher labor costs, GAP requirements, limited yield gains, and stagnant leaf prices, resulting in continued concentration among growers. Uncertainty on issues such as restricting nicotine levels/flavorings, taxes, immigration, trade, and emerging non-combustible tobacco products will continue to dampen the outlook for the remaining Kentucky tobacco growers.

Hemp—Kentucky's hemp industry took a major pullback in 2020 in response to experiences "learned" from the 2019 crop, characterized by a dramatic drop in prices, unsold stocks, limited processing capacity, regulatory uncertainty, and overall production/marketing frustrations. KDA reported farm sales totaling $51.3 million in 2019, up from $17.8 million in 2018 and $7.5 million in 2017. While the number of grower licenses issued in Kentucky remained stable (960 in 2020 vs 978 in 2019) around 160 licensees indicated that they would not plant a crop in 2020 in hopes of finding a buyer for their unsold inventory from previous years. Licensed hemp acres in Kentucky for 2020 totaled 32,000 acres (following a record high 60,000 acres in 2019), with planted acres reportedly around 5,000 (95% for CBD). Nationally, licensed hemp acres fell an estimated 20-30% in 2020 (vs over 500,000 licensed (250,000 planted) acres in 2019, while the number of hemp licenses issued actually increased. Despite the dramatic cut in acres, a glut of stocks remains with supply chain challenges and company bankruptcies. Given CBD challenges, there appears to be a growing interest nationally in hemp grain and fiber production, but increasing corn/soy prices and processing issues may hinder expansion. The downward spiral in farm-level prices has moderated in recent months, with Kentucky hemp biomass price averaging $0.63/%CBD, conventional grain prices, $0.45-$0.55/lb, organic grain prices, $1.00-$1.25)/lb, and fiber, $0.05-$0.12/lb. Low price expectations in conjunction with unsold stocks, market and regulatory uncertainty, and minimal infrastructure development will likely keep acreage and enthusiasm down in 2021 as the emerging industry works off excess supplies and adjusts to changing market/regulatory conditions.

Fruits, Vegetables and Greenhouse—Horticulture markets in Kentucky are made up of many pieces and cash receipts, especially in the current environment, are difficult to monitor. Costs are up, especially for labor and Covid compliance. But revenues are also up for the most part – although some relatively wide swings in a number of our traditional direct markets. Direct to restaurant and school sales were down substantially. Farm markets sales were up a little, with CSA and agritourism sales up significantly. However, wineries were hit hard with limits to on-site tasting. Auctions were up considerably, approximately 25% YOY. Garden center sales were higher with retail nursery sales noted to be around 20% higher nationally with wholesale nursery up slightly less. Although early for final 2020 estimates, total produce and nursery cash receipts will likely be at record levels for Kentucky, approaching $160 million.

Forestry—Timber and lumber markets improved in 2020 compared to 2018-2019. While the removal of tariffs on hardwood exports into China has increased log and lumber prices for red oak and white oak continues to be high demand for barrels and other products, the health of individual industries varies considerably. One key issue is the shortage of logs. This is a consequence of low timber prices in 2018-19 that resulted in a reduction in timber sales. Ultimately, this has played a role in decreasing logging capacity, reducing log supply and log inventories at mills going into winter. The increasing demand for logs to satisfy lumber and other wood product orders and the limited supply of logs has created a seller's market for timber with overall stumpage prices increasing, a trend which is expected to continue into 2021. On a negative note, the recent and unexpected closure of a pulp and paper facility in eastern TN (Kingsport) and the continued lack of strong pulpwood market in western Kentucky negatively impacts landowners' timber value and the ability to perform good forest management. In summary, the forestry sector contributed $12.9 billion in total output to Kentucky's economy and we expect this contribution to remain steady with stumpage values continuing to improve in 2021 providing opportunities for landowners to sell timber. However, we remain concerned over logging capacity, the long-term health of small mill operations, and lack of markets for low grade pulpwood across the state.

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