



## **The Outlook for U.S. Agriculture – 2021**

### **Building on Innovation: A Pathway to Resilience**

U.S. Department of Agriculture  
97<sup>th</sup> Agricultural Outlook Forum  
February 18-19, 2021

Welcome to the 97<sup>th</sup> annual Agricultural Outlook Forum (AOF), and the first to be held virtually. While we will miss the opportunity to meet friends and colleagues over coffee or lunch, this new format allows us to do so virtually and with a much broader audience across the agriculture sector, across the United State and around the world.

Indeed, going virtual with our event this year has even had the benefit of bringing a much larger group of participants together as registration this year is nearly triple our typical attendance in prior years. This format allows us to come together from home or office without the need, or expense, of travel to DC, and it is great to see people registering from across the country and indeed across the world.

We are excited to welcome you all to discuss issues important to agriculture as well as hear about the exciting things happening at USDA. Our conference organizers have done a great job in modeling this virtual experience as closely as possible to our in-person event, even including a “Networking Lounge” to encourage and facilitate impromptu virtual discussions, and an “Exhibit Hall” to highlight the activities at individual USDA agencies.

It is fitting that this year’s theme focuses on “resilience.” We experienced firsthand just how resilient much of our food and agriculture sector is as it adjusted relatively quickly to the new market realities created by the pandemic and continued to provide a safe, abundant and affordable food supply even as the pandemic put an enormous strain on our production and supply chain networks and altered eating habits and purchase patterns.

The theme of this year’s Ag Outlook Forum is “Building on Innovation: A Pathway to Resilience,” and we have a remarkable program that highlights not only the role that innovation played in helping the sector meet these recent challenges, but also how science and technology provide the foundation in addressing the food and ag sector’s future challenges. The Forum brings together experts from across food and agriculture to share their expertise and experiences with the leadership of USDA. Of course, true to the long history of the Forum, we also provide USDA’s latest perspective on markets, including the outlook for Farm Income, Food Prices, and the Crop and Livestock sectors as we start thinking about acreage, prices, and supply and demand conditions for the new year.

Efforts to plan for the future, whether that be for this coming crop year, for an orderly succession of a family farm from one generation to the next, for integrating 21<sup>st</sup> century technology on-farm, or for meeting growing and changing consumer demands domestically and globally, are often hampered by uncertainty.

In 2019, you'll recall that the sector had to deal with widespread adverse weather conditions during the planting of spring crops, with less-than-favorable conditions lingering throughout much of the growing season. It was the wettest year on record, and the cold conditions and slow planting progress resulted in the most prevent plant acreage ever recorded. Harvest season wasn't much better, and a lot of corn acreage wasn't harvested until the following spring. Net farm income, while rising for the third year in a row, remained well below levels seen from 2010 to 2014. Lower production for corn and soybeans reduced stocks that had risen the previous year, in part, due to trade uncertainty.

The year 2020 began with solid global economic growth and a renewed sense of optimism in the agricultural sector when on January 15<sup>th</sup>, the US and China signed the Phase One trade agreement that sought to cool the trade tensions that had roiled agricultural markets for much of the prior 18 months. That same week, the WHO reported the first confirmed case of COVID-19 outside of China.

As the pandemic spread, economic growth collapsed and supply chains were disrupted. When coupled with widespread shutdowns of work sites and retail outlets, shifts in consumer demand further roiled agriculture and food-related sectors. Industry moved to implement new systems, equipment and protocols in response. Through the summer, these disruptions continued to cast a shadow over almost every aspect of the economy and for the crops and livestock sector, they resulted in suppressed producer prices and, in some cases, limited consumer availability. Government programs and policies sought to moderate the impacts of this unprecedented event.

While the 2020 planting season progressed rapidly under conditions far better than the previous year, increasingly dry conditions emerged in the eastern half of the country late in the season, while a rare derecho, and less-than-ideal growing conditions in other parts of the country reduced the size of the crop even as domestic demand for livestock and dairy products remained robust. China increasingly entered the global market for grains, oilseeds and livestock products in the late summer and into the fall, leading to a surge in commodity prices and improved prospects for crop and livestock receipts. Yet disruptions and uncertainties continued to linger and evolve.

We enter 2021 with a sense of optimism. Despite continued challenges, markets are functioning well, and the food supply remains safe, abundant, and affordable. Commodity prices are strong, reflecting, in some cases, historically tight stocks and remarkably strong export demand in the face of rising prices. We continue to focus on short run navigation of a continuing pandemic alongside long running challenges to improve agricultural productivity, grow overseas markets for U.S. products, and maintain the U.S. position as having one of the lowest-cost, most abundant, and most sustainably produced food supplies in the world.

Following my presentation, we can look forward to hearing some of the first public statements and discussion by the new Administration regarding their priorities for U.S. agriculture and USDA. We will also hear comments from leadership of the House and Senate Agriculture Committees. Other distinguished speakers will discuss advances in technology that can support a growing and resilient agricultural sector, all before we begin the 30 breakout sessions covering a wide range of topics.

I'd now like to turn to the economic outlook for U.S. agriculture. When discussing the outlook for the sector, this year it seems even more important than most to acknowledge the continued uncertainty as we emerge from the impacts of the pandemic and the market looks for further direction.

### **The economy was shaken, but optimism is rebounding**

The economic conditions that many experienced this past year were unprecedented during our lifetime and this creates unique challenges in trying to forecast the U.S. and global economies, and their impact on the ag sector, in the year to come. At the Forum one year ago, we were focused on the potential for a rebound in trade with the growing shadow of the global COVID crisis and its potential economic impact on what was a strong domestic economy. The growth of the pandemic changed that, at least temporarily, as the public health crisis in the U.S. (and worldwide) caused growth to collapse, pushing second quarter U.S. GDP to contract a historic 31% and causing 20 million U.S. workers to lose their jobs, while pushing the unemployment rate above 14%, the highest since the Great Depression. Fortunately, many of the most devastating initial impacts were short-lived, but many others linger, and as a result the global and U.S. economies shrank by 3.5%, in 2020.<sup>1</sup> In nominal terms, the contraction cost the U.S. economy nearly \$1 trillion less GDP in 2020 than anticipated.<sup>2</sup>

Despite the staggering hit to the U.S. and world economy, the pace of the recovery has also been remarkable, and current expectations are for U.S. GDP to exceed 2019 levels before the end of the current year, two years faster than originally anticipated.<sup>3</sup> The record-large fiscal response, combined with reduced consumer spending, in particular on services, caused savings rates to jump from 8% during 2019 to as high as 34% in April 2020. Cumulatively, personal savings were \$1.6 trillion higher in 2020 than during any other year on record.<sup>4</sup> This high level of aggregate savings, including that provided through federal stimulus payments, holds the promise of accelerating the economic recovery as the pandemic subsides and spending patterns return toward normal, but it also highlights the disparities in the economic impacts of the pandemic among U.S. residents.

As of January, 6.3% of workers (10 million workers) are still unemployed, not including the 4 million who have withdrawn from the labor force. Furthermore, the job losses have not been equally distributed across industries, as the accommodation and food service industries alone have lost 3 million jobs compared to a year ago.<sup>5</sup> The quicker than expected economic rebound provides reason to be hopeful although sectorial and individual disparities remain.

### **Safe-haven currencies and a depreciating dollar**

COVID-19 rattled financial and foreign exchange markets dramatically. By the time the U.S.

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<sup>1</sup> International Monetary Fund, January 2021 forecast. U.S. Bureau of Economic Analysis, fourth-quarter 2021 advance estimate.

<sup>2</sup> Calculated from Bureau of Economic Analysis figures with a linear trend on annual GDP from 2010 to 2019.

<sup>3</sup> Median estimate from Reuters polls for U.S. GDP.

<sup>4</sup> Bureau of Economic Analysis, personal income and its disposition

<sup>5</sup> Bureau of Labor Statistics, January 2021 Employee Situation report

Federal Reserve had finished cutting interest rates, world equity prices had fallen 34% below highs from two months prior.<sup>6</sup> Meanwhile, the safe-haven status of the U.S. dollar (USD) caused it to appreciate against nearly every currency during the first six months of the year, including rising by over 30% against the Brazilian real, providing a headwind for agricultural export goods priced in dollars.

As equity markets recovered from their dramatic falls, a significant flight of foreign exchange flowed away from the USD. By the end of 2020, and despite the dramatic rise at the onset of the COVID-19 outbreak, the U.S. dollar depreciated against all ten of the next most heavily traded currencies. Despite its weakness against major currencies, the U.S. dollar remains strong against the currencies of many developing countries, including several important competitors in agricultural trade. From the start to finish of 2020, the dollar remained up 19% or more against the Brazilian real, Argentinian peso, and Ukrainian Hryvnia, with direct implications for the competitiveness of some U.S. agricultural exports.<sup>7</sup>

### **Strong trade demand boosted prices in late 2020.**

Grain and oilseed markets are set to end the 2020/21 marketing year with tightening stocks in several key markets because of strong demand. World corn and soybean ending stocks are projected at multi-year lows as are U.S. ending stocks of corn, soybeans, and wheat. The 2020/21 U.S. season average prices for both corn and soybeans are projected at 7-year highs, and these strong prices have supported the entire grains and oilseeds sector.

The Phase One Economic and Trade Agreement signed by the United States and China on January 15 of last year re-opened to U.S. producers an important market that had been disrupted by ongoing trade tensions for much of the last 18 months. However, early in 2020 the pace of U.S. agricultural exports remained tepid.

The commitment by China to greatly expand its purchases of U.S. agricultural products (and other goods) has coincided with its effort to rebuild its livestock sector after suffering the devastating effects of a widespread outbreak of African Swine Fever. Sales of agricultural commodities to China accelerated in the summer and fall, and by the end of the year the pace of corn and soybean sales to China was at or approaching new records. According to USDA FAS's weekly export sales for the week ending February 4, outstanding sales of U.S. corn (corn sold but not yet shipped) for the current marketing year (ending August 31<sup>st</sup>, 2021) is over 11 million metric tons (mmt), far exceeding its 7.2 mmt (global) TRQ for calendar 2021. Sales of U.S. cotton, beef, pork, poultry and many other products were also strong. All this while many U.S. commodity prices continued to rise.

While exports to China were surging, U.S. agricultural sales to Mexico, Japan, Korea and other major trading partners worldwide also remained strong, providing further support to rising prices. Agricultural trade has proved resilient in the face of a global economic contraction and certainly much stronger than non-agricultural and further from what was experienced during the 'great recession' of just over a decade ago. This strength is reflected in USDA's revised forecast for U.S.

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<sup>6</sup> MCSI global equity price index

<sup>7</sup> All exchange rate values were calculated from Refinitiv.

agricultural trade in FY 2021, with exports now forecast at a record \$157.0 billion, or an increase of over \$21 billion from FY 2020. Exports to China in FY 2021 are forecast at a record \$31 billion, reflecting strong October-December shipments of U.S. soybeans, corn, wheat, cotton, and chicken paws.

This strength in agricultural exports over the past 12 months has helped to drive the price of many commodities from recent lows at the start of the pandemic to highs last seen more than 5 years ago. We expect this export-led demand growth to continue through 2021, supporting prices and farm income, as the global economy continues to recover, and optimism grows for continued rebuilding of the U.S.-China trade relationship.

### **Outlook for 2021 crops led by strong international demand**

Grains and oilseeds have exhibited sharply higher prices since the fall on tightening global supplies and strong international demand, in particular demand from China. Multiple price supportive features are expected to continue in the 2021/22 market year. These include the tightest beginning stocks for corn, soybeans, and wheat in several years and expectations of continued strong import demand from China. In addition, a rebound in motor gasoline consumption is expected to boost demand for ethanol and further support corn markets. We expect grain and oilseed prices to remain at these higher levels reflecting tight global supplies and strong international demand; but above trend yields in the U.S. or competing suppliers, such as the *safrina* corn crop underway in Brazil, a prolonged decline in global economic growth, or a reduction in demand by China or other major importers could pull prices down. With a tightening stocks-to-use ratio, increased price volatility is likely as fundamentals are revealed.

As we look to the prospects for planted acres in the U.S. for 2021 in the context of current high prices, it is relevant to look back to the most recent period when prices and stocks-to-use ratios were similar for major crops. Planted acres of the 8 major row crops (corn, soybeans, wheat, upland cotton, sorghum, rice, barley, and oats) averaged nearly 257 million acres during the recent peak in 2012-14, and since 2014, have averaged about 8 million fewer acres (or about 249 million), including the last two years where prevented plantings were higher than normal. While nowhere near the record prevent plant of 2019, the 2020 planting season was also hindered by uncooperative weather in some parts of the country. With a return to more normal planting weather, we expect a good portion of those acres that were unplanted last year to be planted to corn and soybeans in 2021. The current tight stocks-to-use ratios for corn and soybeans, the lowest since 2013/14, and strong international demand for both commodities, suggest better returns for corn and soybeans relative to wheat, cotton, and many other crops, with a strong overall incentive to plant.

The three-crop total of corn, soybeans and wheat, could reach 227 million acres, the highest since 2016. Current new crop futures prices and contract bids for fall delivery signal strong acreage increases, particularly for soybeans for which acreage is expected to expand 6.9 million acres to 90 million.

Corn area, also facing high prices, is expected to grow 1 million acres to 92 million. The combined two-crop acreage is projected to reach a record 182 million acres, compared to the previous record in 2017 of 180.3 million. Offsetting this increase is lower expected spring wheat acres in the

Northern Plains and lower cotton acreage. As is the case every year, weather will have the final say in the number of acres planted in the United States and remains a key factor in what is the final crop size.

Given continued strong international demand and tight stocks, we project that soybean prices will remain elevated. The soybean price will also be supported by strong domestic demand and growth in U.S. renewable diesel capacity. In contrast, corn prices are expected to decline slightly with larger corn acres and an expected return to trend yields leading to slightly higher ending stocks with strong global demand moderating the price decline on what is expected to be a large crop under normal weather conditions.

Planted area for winter wheat is predicted at 32.0 million acres, up 5 percent from 2020/21 and the first increase in winter wheat acreage since 2013/14. However, higher expected net returns for corn and soybeans in the Northern Plains are anticipated to reduce combined spring and durum wheat plantings for 2021/22. Total wheat area for 2021/22 is projected at 45.0 million acres, up 651,000 acres from the previous year but still below the 5-year average. Wheat prices are projected to rise as lower carryin stocks and supplies lead to tighter ending stocks.

Planted area for cotton is estimated at 12.0 million acres in 2021/22, only slightly lower than the year before as rebounding world demand and late-season damage to U.S. production returned prices to nearly year-ago relative levels. With a considerable reduction in carryin stocks, and steady exports, ending stocks are expected to again decline in 2021/22 despite growth in the crop, but unusually low sub-soil moisture in the Southwest adds uncertainty.

Last year's very large rice crop led to a sharp increase in 2020/21 ending stocks. These large stocks, and high prices for alternative crops, are expected to cut rice area in 2021/22 and in turn reduce rice supplies. Rice exports are expected to decline in 2021/22 due to smaller supplies and fierce competition in international markets, with carryout stocks declining fractionally from the previous year's high levels. However, rice prices are expected to remain firm with support from the broader grain and oilseed sector.

More generally, a rising global demand for more varied diets and increased animal as well as plant protein consumption continues to stimulate demand for feed grains and soybeans. Accompanying increased global demand has been an increase in competition from Brazil during the spring, resulting in more soybean acres and a second-season corn crop that has now overtaken Brazil's first-season crop in size. The higher second-crop corn acres and improved infrastructure in Brazil's northern ports have increased the competition U.S. corn faces on global markets right at the time of U.S. harvest, potentially affecting the U.S. price received for that crop. This year's second crop corn in Brazil is going in late, following a late planted and harvested soybean crop. While the delayed planting puts the *safrina* crop at greater risk of lower yields due to an early end to the April-May rain, current prices in reais offset some of that risk by supporting planted area expansion.

## **Outlook for livestock and dairy**

Livestock and poultry sectors faced unprecedented challenges in 2020 as a result of the global

COVID-19 pandemic. COVID related processing disruptions constrained effective slaughter capacity during the second quarter of 2020. The reduction of slaughter capacity drove a wedge between some animal prices and wholesale meat prices. At the same time changes in types of products demanded resulted in surpluses of some cuts and tight supplies of others. Fortunately, the livestock and poultry slaughter sectors recovered quicker than anticipated in the second half of the year, nearing pre-COVID slaughter levels of 2019 and were able to match cut supplies more closely with demand.

In 2021, livestock and poultry sectors will face additional pressure in the form of higher forecast feed costs, but faced with an expected more stable demand pattern, livestock and poultry prices should average above 2020. Total red meat and poultry production is forecast to increase approximately 1 percent over 2020 production levels. With many of the breeding decisions which will affect animal supplies in 2021 already made, beef and pork production are forecast to increase over 1 percent as cattle and hog slaughter is expected to be larger with additional support from heavier carcass weights. Broiler production is expected to expand modestly, with growth constrained in the latter half of the year by higher feed costs.

Beef production is forecast just over 1 percent higher than 2020 reflecting higher levels of slaughter and heavier carcass weights. However, higher expected feed prices are expected to encourage producers to market cattle in as timely a fashion as possible. Placements in first half of 2021 are expected to reflect a fractionally smaller number outside feedlots at the beginning of the year but the potential tightness in forage supplies due to dry conditions and/or low forage stocks in parts of the county and recent heavy feeding due to cold temperatures provides a degree of uncertainty as to the timing of those placements. Cattle placed in the first half of the year will be likely marketed in the second half of the year.

Pork production is forecast just over 1 percent higher in 2021 on greater availability of hogs for slaughter and a return to more typical levels of slaughter following the disruptions to slaughter in mid-2020. First-half 2021 pork production is forecast higher on second-half 2020 pig crops and second half 2021 pork production reflects slightly higher farrowing intentions for first-half 2021 and coupled with growth in pigs per litter. Although the larger expected supplies of hog will be reflected in higher slaughter during 2021, average carcass weights will reflect a return to a more normal level compared to 2020 slaughter-plant-disruption induced weight gains.

The broiler sector is expected to undergo a slowdown in expansion for 2021. Although production is expected to increase in the first half of the year on increased slaughter rates and heavier average bird weights, the combination of higher feed prices and weakening returns are expected to slow the rate of expansion to less than 1 percent for the year.

Overall livestock and poultry prices are forecast higher in 2021, despite higher anticipated year over year growth in production. Economic growth and support from an increasingly important export component will support higher livestock and poultry prices in 2021.

Fed steer prices are forecast to average \$115 per cwt, up nearly 6 percent from 2020. Lean hog prices are forecast to average 50.50 per cwt, up about 17 percent from last year. The broiler price

is forecast to average 84.5 cents per pound with prices increasing in the latter half of the year as higher feed costs limit production.

The dairy sector too faced a high degree of uncertainty in 2020 as restrictions due to COVID-19, including widespread school closures, resulted in changes in dairy marketing patterns and shifts in product demand. Nonetheless, supported by a growing cow inventory, gains in milk per cow, and an additional milking day, milk production grew by more than 2 percent in 2020. Dairy product prices saw significant volatility during the year as demand shifted and the market looked for direction. At the annual level, cheese prices in 2020 were higher than 2019, butter and whey prices were weaker, while nonfat dry milk prices were close to 2019 levels.

With pressure from large supplies and with unsettled and weaker demand, the all milk price averaged \$18.32 per cwt., \$0.31 lower than 2019. Looking forward, in 2021 the dairy sector is expected to face higher feed prices, which when coupled with weaker all milk prices, is expected to lead to a decline in the cow herd during the year. USDA's *Cattle Inventory* report estimated that the dairy cow numbers on January 1 were one percent above 2020, but producers intended to keep about 2 percent fewer heifers for addition to the breeding herd.

With a higher expected cow herd and continued growth in milk per cow, milk production in 2021 is expected to increase just under 2 percent. Although demand is expected to improve, the sector is entering 2021 with quite large cheese and butter stocks; coupled with additional product production from larger milk supplies, cheese and butter prices are likely to remain under pressure. Conversely, nonfat dry milk and whey prices are expected to find additional support from export markets and forecast to be higher in 2021. The all milk price for 2021 is forecast to decline to \$17.15 per cwt, the lowest price since 2018.

### **Net farm income expected to remain strong in 2021 on rising crop and livestock receipts**

U.S. producers faced many challenges in 2020, and chief among them was the high level of uncertainty, price volatility, and market adjustments related to COVID-19. Impacts varied considerably by sector with some facing lockdowns that fundamentally changed consumer buying habits, such as the sharp drop in food consumption outside the home and increase in food consumed at home, the rise in telecommuting that reduced fuel ethanol demand, and the closure of educational and other institutions that shuttered most cafeterias (and many school lunch providers) nationwide.

The livestock and dairy sectors were especially challenged as industry supply chains had to adjust product offerings and packaging to shift products from foodservice lines toward retail grocery or other outlets. This created a period of sharply lower prices for many commodities in the spring, but as conditions stabilized prices began to recover as the year progressed.

Lawmakers and USDA responded rapidly to the challenging market conditions with several programs to offset agricultural losses and stabilize markets, including the Coronavirus Food Assistance Program (CFAP) and the Farmers to Families Food Box Program. The CFAP programs provided more than \$23 billion in direct payments to help compensate farmers for losses due to the pandemic, while the Farmers to Families Food Box program linked farmers to consumers,

distributing more than 100 million boxes of food to people in need. Substantial modifications were made to SNAP, WIC, and school meals programs to provide increased and more flexible delivery of benefits to persons in need as well.

USDA currently expects net cash income to finish 2020 at \$136.2 billion, but to fall to \$128.3 billion in 2021. We expect net farm income, which includes the value of inventory changes, to decrease \$9.8 billion (8.1 percent) to \$111.4 billion in 2021. Despite this decline, 2021 net farm income would still be 21 percent above its 2000-19 average of \$92.1 billion.

Cash receipts, for both crops and livestock, are forecast to increase in 2021, driven sharply higher on the strength of corn, soybeans, hogs, and cattle, increasing \$20.4 billion (5.5 percent) to \$390.8 billion (in nominal terms) in 2021. Total animal/animal product receipts are expected to increase \$8.6 billion (5.2 percent) with increases in receipts for cattle/calves, hogs, and broilers, and total crop receipts are expected to increase \$11.8 billion (5.8 percent) from 2020 levels, led by higher receipts for soybeans and corn on both increased production and strong prices. When combined, soybean and corn receipts are forecast to increase \$16.1 billion (19 percent) in 2021, more than offsetting declines in fruits/nuts, vegetables/melons, and cotton and when combined with the contributions to cash receipts from hogs and cattle.

However, the decline in direct government farm payments from 2020 to 2021 is expected to more than offset the jump in cash receipts and drive most of the decline in both net income measures. Direct government farm payments are forecast at \$25.3 billion in 2021, a decrease of \$21 billion (45.3 percent) in nominal terms as smaller supplemental and ad hoc disaster assistance for COVID-19 relief is expected in 2021 relative to 2020.

Further reducing farm income, sector production expenses (including expenses associated with operator dwellings) are forecast to increase \$8.6 billion (2.5 percent) in nominal terms to \$353.7 billion in 2021, led by higher spending on feed, fertilizer, and labor. However, these production expenses would remain 18.9 percent below the record high of \$436.1 billion in 2014 when adjusted for inflation.

The 2021 farm assets forecast of \$3.18 trillion represents a 1.8 percent increase from 2020 in nominal dollars. The value of farm real estate assets (land and buildings) accounts for 82.6 percent of 2021 farm sector assets and is forecast at \$2.63 trillion, up 2.2 percent in 2021 in nominal terms. Farm real estate debt is also expected to increase, reaching \$287.4 billion in 2021, a 3.1-percent annual increase from last year. Farm real estate debt as a share of total debt has risen each year since 2014 and is expected to account for 65.1 percent of total farm debt in 2021.

Farm nonreal estate debt is expected to decline by 0.6 percent in nominal terms to \$154.3 billion in 2021. Since its peak in 2014, nonreal estate inflation-adjusted debt has decreased 6.8 percent. With the expected increase in the value of farm sector assets exceeding the expected rise in farm debt, farm sector equity—the difference between farm sector total assets and total debt—is forecast to rise 1.8 percent in 2021 to about \$2.74 trillion.

While the agriculture sector's risk of insolvency is at the highest level since 2002, it is still modest

and well below the peak in 1985. The farm sector's debt-to-asset ratio and debt-to-equity ratio are forecast to reach 13.89 and 16.13 percent, respectively, continuing their slow climb from the lows achieved in 2012. Across the sector, historically low interest rates make managing debt less burdensome and expensive than in decades prior; however, the financial situation of farm varies regionally and by production focus, with nearly 8% of crop farm businesses and 6.1% of livestock/animal product farm businesses forecast to have debt-to-asset ratios exceeding 40%.

### **Acknowledging uncertainty and looking beyond next season**

Perhaps more than any year in recent memory, this year's forecast is characterized by its subject to the uncertainty of how events may unfold over the coming year. Supply chain disruptions have largely been mitigated, but at some cost, and many bottlenecks continue, including current disruptions in container shipping logistics. While the majority of agricultural processing disruptions have been addressed, as this week's cold weather has shown, new disruptions are not inconceivable. The rise in disposable income (and savings rates) in 2020 with a simultaneous contraction in GDP is likely to unwind in 2021 - as the two indicators again move in opposite directions, as the economy rebounds, supporting what has to date been a robust domestic demand for various livestock and dairy products.

With large scale vaccination underway against COVID-19 and the anticipated opening of the economy, motor gasoline use is forecast to further recover and is likely to be the single largest determinant of the domestic use of ethanol and therefore the corn grind for ethanol in the 2021/22 corn balance sheet. With the reported ongoing recovery of the sow herd from African Swine Fever in China and the expected continued cooling of trade tensions, growth in feed exports along with continued pork exports are important elements which will help form crop and livestock balance sheets. These factors are in addition to the normal vagaries of weather both here in the United States and around the world that will determine ongoing crop supplies and feed availability, while tighter stock levels for many crops will likely result in greater price movements as factors emerge.

While current conditions in the sector reflect the uncertainty and volatility associated with the extreme events of the last year, the long-term global demand outlook for U.S. agricultural commodities remains favorable. The longer-run outlook reflects decades-long trends in income growth and shifting dietary patterns toward an increasingly diverse set of crop and animal products, especially in developing countries. USDA's recently published long-run projections envisions world demand for beef, pork, and poultry (combined) to increase by more than 17 percent through 2030, supporting an increase in world corn trade of 22.5 percent (41.8 million tons) and soybean trade of 26.7 percent (36.2 million tons), by the end of the 2030/31 crop year. The U.S. is expected to capture a significant—but declining—share of this growth, with U.S. corn exports projected to grow 11.4 million tons to 70.5 million, and U.S. soybeans exports would increase from 59.2 million tons in 2021/22 to 64.6 million tons by 2030/31.

Global coarse grain consumption is projected to expand by 12.3 percent during 2021/22–2030/31, with feed use growing 16.4 percent and accounting for more than 80 percent of the total expansion. While the largest producers—China, Brazil, the United States, and the European Union—account for the largest shares of gains, developing countries and regions, including Mexico, India, Iran, and Southeast Asia show the strongest growth in feed demand.

World soybean imports are projected to increase by 26.7 percent between 2021/22 and 2031/31, with China accounting for about 79 percent of the projected increase, and Brazil, with its ability to expand area and double cropping, meeting about 70 percent of the increased demand, followed by the United States, Other South America, and Argentina. Soybean meal import demand is projected to expand 10.4 percent and is broad-based, including gains by the European Union, the largest global importer, and an array of other importers. Argentina, Brazil, and the United States are projected to remain the major soybean meal exporters. Soybean oil imports rise 13.1 percent over the projection period based on demand by India, the world's largest importer, and other developing country markets. Argentine exports meet virtually all increased import demand.

Global demand for cotton fiber to produce cotton yarn is projected to increase 20.6 percent between 2021/22 and 2030/31, with China and India, the two largest producers, accounting for most of the increase, along with smaller, but fast-growing, markets including Vietnam, Bangladesh, and Pakistan.

Global consumption of beef, pork, and poultry is projected to grow 8.9 percent, 17.3 percent, and 16.3 percent, respectively, between 2021 and 2030. China, accounts for the largest single share of increased consumption of all three meat commodities and a dominant 73-percent share of the projected increase in pork demand. Projected demand growth for all meats is fastest among middle-income developing regions, including Southeast Asia, Latin America, Africa, and the Middle East. Consistent with its position as the cheapest of the meat commodities, growth in poultry consumption is the most broad-based, including significant gains in lower income developing countries.

## **Conclusions**

Returning to the theme of our Forum, “Building on Innovation: A Pathway to Resilience,” 2020 highlighted how relatively resilient the production of our agricultural sector is, reflecting its long history of adopting cutting edge technology in building the most productive food system in the world. The U.S. is a country that encourages innovation and has always been at the forefront in science, technology, and management practices that support a safe, abundant, and sustainable food supply and distribution sector. And, the sector is well-positioned to lead in addressing many of the biggest challenges faced by the world today, including eliminating food insecurity in the U.S. and worldwide, addressing and mitigating the root cause and impacts of climate change, increasing nutrition security, and continuing to address the economic fallout related to the pandemic.

U.S. agriculture remains the global leader in supplying food to the world, exporting relatively more of our production than most other countries. We are the world's number one beef producer and the largest beef exporter; we export more cotton and corn than any other country in the world; we export the second most wheat and soybeans, and we are a major global exporter of pork, poultry and ethanol, as well. The strength of our export markets was made clear especially in the second half of 2020 as global demand for our corn, soybeans and many other commodities surged, pulling prices to multi-year highs and supporting a sharp rise in crop cash receipts. In 2021, we expect the strong export demand and favorable price conditions to continue, supporting increases in acreage and

production for the primary crops as much as the weather will allow.

The economic fundamentals for the agriculture sector remain positive. While farm income is expected to decline on sharply falling ad-hoc government COVID-19 assistance, substantial growth in cash receipts for both crops and livestock is projected to support net farm income at 20% above the average of the previous 20 years. While risks to the sector remain.

We have an exciting program over the next two days that will highlight many of the challenges that remain, and the work being done to address them. We are pleased that some many people are able to participate virtually in the Ag Outlook Forum this year, and grateful that nobody had to travel to DC in the midst of the severe winter weather currently occurring across so much of the country. Stay safe and warm.

Now I would like to turn the program over to Katharine Ferguson, USDA Chief of Staff, who will lead a conversation with Robert Bonnie, Dr. Sara Bleich, and Oscar Gonzales about USDA's role in the priorities of the new Administration.

Thank you.

Seth Meyer, Chief Economist  
U.S. Department of Agriculture