

Congress Passes Omnibus Spending Package

The House recently approved and sent to President Biden's desk a \$1.7 trillion year-end spending bill that includes \$3.7 billion in farm disaster aid, resolving some key unfinished business for agriculture, including measures to help producers take advantage of carbon markets.

The 225-201 House vote followed Thursday's 68-29 approval by the Senate, where 18 Republicans supported the bill. In the House, 216 Democrats joined nine Republicans in the majority, while 200 Republicans were joined by one Democrat in the minority.

Among the 18 Senate Republicans who voted for the measure was the ranking member of the Senate Agriculture Committee, John Boozman of Arkansas, who helped negotiate the agriculture and child nutrition provisions that were added to the package.

The Senate's final action was delayed a day by Utah GOP Sen. Mike Lee's insistence that the Senate vote on retaining the Trump-era's Title 42 border policy, which allows border officials to expel migrants who have crossed the border. Lee sought to withhold funding for the Department of Homeland Security unless the administration reinstated the policy, but his amendment failed, 50-47.



PBS.

Continued next page

What's inside this Issue?

Omnibus Spending Package; Biggest Ag News Stories of 2022; Global Fertilizer Outlook; Adverse Effective Wage Rate; Projected Cost of Production for 2023; Crop Market Update; and more!

Recapping the Top 10 Ag News Stories of 2022

Each year, the Editors at the DTN Progressive Farmer summarize the major agriculture and food policy news stories of the year. Here is a recap of the top 10 stories from the previous year.

No. 10: Farmland Values Smash Records in 2022, Undeterred by Interest Rate Hikes. Strong farm incomes during the past few years have incentivized farmers to expand their land base, and experts tell DTN that owner-operators make up the majority of buyers. Investors, who are more interested in using farmland as a hedge against inflation, are also buying when they can. "Historically, farmland has been a great inflation hedge. In fact, the correlation is 1-to-1." "And we've seen investors being the high bidder at some farmland auctions." Unlike residential real estate, rising interest rates haven't been enough to douse the flames of the farmland market, and buyers still outnumber sellers in the market, although prices are pulling more land into the sales stream. The Kansas City Federal Reserve reports that the average interest rate on farm real estate loans was between 6% and 6.75% in the third quarter of 2022. Farmland values were up 20% from the same period last year. While that's big growth, it's actually the lowest increase since early 2021.

No. 9: Machinery Shortages Continued in 2022. COVID-19 emerged from Asia three years ago, and as farmers head into 2023, many find it difficult to get their hands on both new equipment and on parts to repair old equipment. Nothing of the last three years has been straightforward or simple, and that certainly includes the price and availability of new agriculture equipment and parts. The supply chain issues that began early in the pandemic have continued to be a dominant concern through the year for farmers, although the nature of the problems changed some. The difference into the summer of 2022 for manufacturers was exploding lead times on parts, which became "substantially longer than it used to be". The parts shortages weren't affecting manufacturing quite the same, with the exception of computer chips, which continued to pace the ability to push out fully finished new products for many manufacturers. The entire 2022 production for many major pieces of equipment was sold out by January of 2022 for some major manufacturers, and even at that time, the waitlists extended into 2023. That said, some segments of the market did show signs of cooling, especially as interest rates rocketed higher as inflation concerns became paramount. Another aspect of the supply chain issue was frustrations with ocean shipping: Ocean shippers left agricultural goods at port and instead returned to China with empty containers to boost the speed of reloading goods in China to then return products to the U.S., DTN reported.

No. 8: Big Year for Ag in Supreme Court Cases on Prop 12, Clean Water Act, Roundup. Rarely in history has agriculture garnered more attention with the Supreme Court than it did in 2022.

Continued on page 4

Omnibus Spending Bill (cont.)

The disaster aid is supposed to help cover farmers' losses from drought and other disasters. Additionally, the bill includes \$250 million for special payments to rice growers, who haven't benefitted from the sharp rises in market prices that other grain producers and soybean producers have seen.

Rice producers also will receive a one-time payment with funding of \$250 million following higher fertilizer prices and relatively flat commodity prices that affected rice growers more adversely than for other commodities. Sen. John Boozman, R-Ark., helped include the language, citing that as many as two-thirds of rice producers were projected to lose money in 2022. Another \$100 million will go to make payments to cotton merchandisers who faced financial losses because of supply chain problems during the pandemic.

Also attached to the bill is the Growing Climate Solutions Act, which would authorize USDA to oversee the registration of farm technical advisers and carbon-credit verification services, and the SUSTAINS Act, which would allow corporations and other private entities to contribute funding for conservation projects and authorize USDA to match the donations.

The bill includes language allowing USDA to set standards and verification rules for agricultural carbon market programs. The language adopts provisions from the Growing Climate Solutions Act for USDA to create a new program and form an advisory committee, as well as boost technical assistance for farmers interested in carbon markets.

The carbon provisions define "agriculture or forestry credit" as a credit that prevents, reduces or mitigates greenhouse gases, including through the sequestration of carbon, as a result of agricultural or forestry activity.

Earlier this year, the Inflation Reduction Act provided \$19.5 billion for conservation programs specifically tied to reducing emissions and sequestering carbon. USDA also now has \$3.1 billion in outstanding grants for more than 140 different pilot projects around the country meant to find ways to reduce agricultural emissions under the Partnership for Climate-Smart Commodities.



The omnibus also would reauthorize the Pesticide Registration Improvement Act, which imposes fees for maintenance and registration of active ingredients. The measure boosts registration and maintenance fees 30% and allows EPA to raise fees by 5% in 2024 and 2026. The bill also extends the deadline for EPA to complete registration review decisions for all pesticide products registered as of October 1, 2007. Boozman noted earlier this week, "EPA is facing a significant backlog of pesticide registrations due to a variety of factors over the past several years, which raises potential implications for continued access to numerous crop protection tools. The agency will be allowed to continue its registration review work through October 1, 2026, as a result of this extension."

The bill also will extend the Livestock Mandatory Reporting (LMR) for packers through September 30, 2023. Another \$1 million in funding was added to support a cattle contract library pilot project already launched by USDA. Congress also increased funding for enforcement of Packers and Stockyards Act rules by \$5 million as well.

The bill also includes a significant provision to ensure low-income kids have enough to eat during summer months. The bill will make permanent a summer EBT program to provide up to \$40 a month per child. The provision would allow grab-and-go or home delivery of meals to kids in rural areas as an alternative to meals in group settings.

The Rural Electric Program will receive \$4.3 billion in guaranteed underwriting loans, of which up to \$2 billion will be used for upgrading fossil-fuel electric power plants that utilize carbon subsurface utilization and storage systems.

Rural broadband programs receive \$455 million, including \$348 million for the ReConnect program through USDA. For farm ownership loans, USDA receives authority for up to \$3.5 billion in guaranteed farm ownership loans and \$3.1 billion in direct farm ownership loans.

FSA also will be able to provide farmers with \$2.19 billion in guaranteed operating loans and \$1.64 billion in direct operating loans. USDA's Business and Industry Loan Program also is bumped up 45% to \$1.8 billion.

USDA also will have authority for up to \$4 billion in emergency loans.

Notably missing from the legislation are any reforms to the H-2A farmworker visa program which farm groups had lobbied for until the last possible hour. Minority Leader Kevin McCarthy, R-Calif. has said the Republican-controlled House won't consider immigration reform in the next Congress.

Global Fertilizer Outlook

The many issues facing the global nitrogen market in 2022 are going to continue to test the market in 2023. These include the war in Ukraine, rising natural gas prices, weather and currency concerns. As a result, the supply and price of nitrogen fertilizers will be subject to the various geopolitical world events. Nitrogen prices are already at high levels and fertilizer analysts don't believe prices will decline any time soon.

The International Fertilizer Association (IFA) released its Medium-Term Fertilizer Outlook 2022-2026 in July 2022 and said world nitrogen capacity in 2022 was estimated to be just under 160 million metric tons.

Because of the war in Ukraine, IFA presented three scenarios to reflect the uncertainty in the fertilizer market. An optimistic scenario includes partial recovery of exports, improved affordability and minimal yield impact. A pessimistic scenario would see further deterioration of supply, worsening affordability and chronic shortages. A middle-ground scenario would be pockets of availability and affordability crisis, and trade-rerouting.

Part of the cloudy outlook for nitrogen is the amount of nitrogen fertilizer produced in the Black Sea region. The cloudy outlook is because that almost one-third of the forecast capacity expansions between 2022 and 2026 will occur in either Russia and/or Belarus. The on-going war in Ukraine makes it questionable at best if these expansion projects can supply the world with nutrients.

Among the many issues facing the global nitrogen fertilizer market in 2023, the price of natural gas price looms as one of the larger factors. This is especially true in Europe, which saw some nitrogen fertilizer production curtailed this summer because of higher natural gas prices, according to Chris Lawson, head of fertilizers for London-based CRU Limited.

These European production issues affect the world nitrogen fertilizer market with less overall supply available. The good news is this fall natural gas prices dropped some; this allowed much of the nitrogen fertilizer production shelved earlier this year in Europe to begin again. The bad news is if the European winter is colder than normal, natural gas supplies could decline, and prices could rise again.

Another factor into the nitrogen outlook in 2023 is how various weather issues will affect the supply of nitrogen fertilizer. U.S. weather issues, specifically the severe Midwestern drought, had a negative effect on Mississippi River levels; the shallower rivers led to barges having less grain going down the river and less fertilizer aboard going back up the river.

There is bad news and good news in the phosphorus (P) outlook for 2023. The bad news is that various challenges remain to the global fertilizer market. Top of the list is the continuing war in Ukraine, as well as some nutrient logistics concerns in the United States because of weather. The good news is with record high prices, there was less demand globally for fertilizer in 2022: Many farmers decided not to apply P fertilizers. This situation could lead to lower P fertilizer prices in 2023.

A wild card in the P outlook in the New Year could be when or if China reenters the P fertilizer export market. There are some questions if China will ever export these fertilizers again, according to fertilizer analysts. A wild card to the P outlook in 2023 is if or when China reenters the P export market. China was

one of the world's largest P exporters at one time, supplying about 30% of the total world trade.

When fertilizer prices skyrocketed in 2021, the Chinese government decided to ensure there was an adequate domestic supply of P fertilizer for its own farmers by eliminating exports. The initial thought was China would return to the market in mid-2022 but this situation did not occur

What is going on with fertilizer right now in Brazil could be a leading indicator of what the rest of the world might see with fertilizer supply and prices in 2023. Brazil, which imports nearly all of its nutrient needs, currently has excessive inventories of P fertilizer. Prices for P fertilizer have dropped 20% to 30% because of the high inventories in the South American country.

The global potash (K) outlook in 2023 looks to be a bit of a mixed bag. The entire world fertilizer industry continues to watch closely the continuing war between Ukraine and Russia which could disrupt supply. Russia and Belarus account for 41% of the globally traded K and are the second and third largest producers.

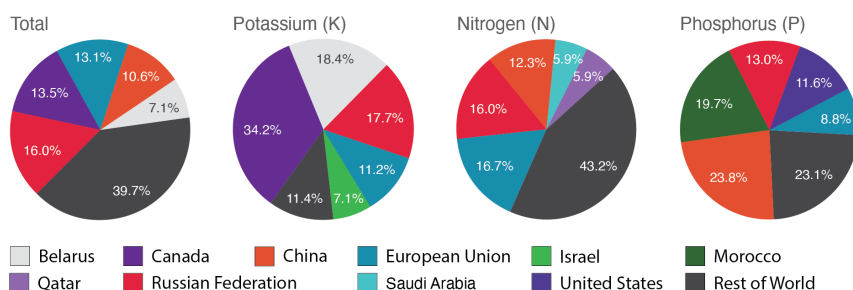
Because of record-high fertilizer prices, farmers across the world cut back on these nutrients which caused much demand to fall. With more supply on deck in 2023, potash prices should push lower in the New Year. Much demand destruction has been done to the K market in 2022. It was thought when the war began in February 2022 that this was going to limit the supply of potash, as so much comes from the Black Sea region -- so prices increased significantly. However, the largest K producer in the world, Canada, responded with increased production. This increased Canadian production has helped to alleviate possible supply concerns, even with about 10 million metric tons annually from Russia and Belarus.

Much like Brazil was an early indicator of what could happen in the U.S. in the phosphorus (P) market, what is happening now in Brazil is what could be seen for the K market in 2023 in the U.S.

One area that needs to be watched closely in the U.S. in the early part of 2023 is fertilizer logistics. This could affect both nutrient supply and price.

The all-important Mississippi River continues to operate at extremely low levels because of drought lowering river levels. Reports from the river say barges are operating somewhat lighter to negotiate the shallower river. How slowly fertilizer moves up the Mississippi River this winter will have a large effect on both nutrient supply and price. Another winter of dry conditions could make the situation even worse. Any logistics issues limiting the movement of fertilizer could quickly cause large price hikes, especially if the river remains low next spring.

Chart 4. Global Fertilizer Exports



Source: IFASTAT, 2017-2019 average

Top News Stories of 2022 (cont.)

Five ag-related cases were appealed to the court and two were argued before justices this past year. These included Proposition 12, the Clean Water Act, Roundup and other cases that influence agriculture. From time to time, important legal issues in agriculture find their way to the Supreme Court. In 2022, however, there were five cases petitioned to the court with the potential to result in major changes to production agriculture. Although the court on average agrees to hear about 80 out of 8,000 cases brought to its attention every year, challenges to the Clean Water Act and California's animal-welfare law resulting from Proposition 12 were argued before the Supreme Court in October.

The California law sets restrictions on pork sold in the state, requiring pork products to come from farmers meeting certain criteria as to growing environment. Ag groups argued before the Supreme Court that because California imports nearly all of its pork from other states, Proposition 12 in effect violates the Constitution by regulating economic activities in other states.

On the Clean Water Act case, attorneys for Idaho couple Michael and Chantell Sackett asked the Supreme Court to resolve one question: Do wetlands lose protection by the Clean Water Act if they're separated from other waters by barriers? As the industry awaits the court's decision on Sackett, the Biden administration continues to work on a new CWA definition of waters of the U.S. The court is expected to issue a ruling on both cases sometime in spring 2023, perhaps later. Clearly, both cases have the potential to alter how farms across the country do business. In addition, in 2022 the Supreme Court turned down petitions for review on three other ag-related cases. That includes rejecting Bayer's request for review on two multi-million-dollar judgments against the company as part of Roundup product liability cases litigated.

No. 7: Mississippi and Ohio Rivers Hit Rock Bottom in Fall 2022. Water levels on both the Lower Ohio and Mississippi River started to fall in late August, creating havoc for southward-bound barges. As corn and soybean harvest started in September, water levels on the Lower Mississippi River (LMR) were dangerously low in some areas, especially at Memphis with the river there was at minus 6.7 feet during the last week of September. Since most of the fall export business was for soybeans at the U.S. Gulf, the persisting low water was problematic for shippers needing to move the new-crop harvest down river.

The low water became an issue throughout the entire system due to lack of rain in the entire Midwest and Ohio River Valley. Precipitation in these areas is very important for maintaining sufficient water levels on key rivers, Thomas Russell, of Russell Marine Group, told DTN on October 1. "In recent weeks, low water levels, particularly on the Lower Mississippi, have resulted in barge terminals having difficulty loading barges with some barge terminals unable to operate due to low water at docks." By mid-October, barge groundings were stopping loaded barges from reaching the Gulf in a timely manner and river terminals were scrambling to stay open as harvest bushels want to move there. Dredges started working in all the low water areas and have never stopped as they moved from one trouble spot to the next and continue to do so.

Soybean and corn basis at river terminals affected by the river closures as the dredges worked and dropping river levels, slashed their basis to the farmer. Shippers were facing higher barge freight, reduced drafts and smaller tow sizes from 36 to 25. In the end, the price to the farmer included all those extra costs and in turn, lower basis.

By the end of November and after a few weeks of reprieve from extremely low water and barge groundings thanks to Tropical Storm Nicole, river levels fell again. Russell explained, "Bursts of precipitation will provide only temporary rises that flush through and fall again rather quickly. It is estimated the fix will require 40 to 60 days of 'normal' precipitation to provide full recovery. Rebalancing will be greatly assisted once river depths and widths improve to levels where tow sizes can return to usual 35-40 barges." By the second week of December, tow sizes started to increase to 35 barges as the Memphis gauge hit minus 2 feet or better. Barge drafts also increased at that time to 10 feet 6 inches and currently, as of Dec. 18, drafts on the Ohio went to 11 feet 6 inches and Cairo south went to 12 feet 6 inches, while on the Lower Mississippi, drafts also returned to normal— for now.

No. 6: Climate Takes Center Stage With Inflation Reduction Act, USDA Grant Programs in 2022. After more than a year and a half of negotiating with members of his own party, President Joe Biden got his signature climate legislation when Congress approved the \$739 billion Inflation Reduction Act (IRA) back in August. The act includes a historic investment of \$369 billion for climate initiatives, including about \$19.5 billion for USDA conservation programs meant to champion climate-smart practices. The climate provisions in the law are expected to help lower greenhouse-gas emissions in the U.S. economy 40% below 2005 levels by 2050.

For a long stretch it appeared a bill meant to incentivize renewable energy could not clear Congress because of infighting among Democrats, especially in the Senate where Democrats could not afford to lose any votes. After months of talks, the bill finally passed both chambers of Congress along party lines as Republicans pointed to high inflation facing Americans and used the bill as a campaign talking point against Democrats.

IRA is the biggest climate act in the country's history, but USDA also moved in 2022 to jumpstart climate-smart incentives for farmers. After initially announcing plans for a \$1 billion grant program, the Partnership for Climate-Smart Commodities, Agriculture Secretary Tom Vilsack expanded that funding last fall to top \$3.1 billion. USDA has announced more than 140 climate-smart project grants. The goal of those programs is to help incentivize farmers and ranchers to lower emissions and sequester carbon in the soil.

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Top News Stories of 2022 (cont.)

All told, the Partnership for Climate-Smart Commodities will involve more than 60,000 farmers and 25 million acres. USDA projects the project will amount to more than 60 million metric tons of carbon dioxide or equivalent sequestered. That's about the same as removing 12 million vehicles from the road for a year.

Americans will start to see tax credits for heat pumps, rooftop solar panels and electric cars. The tax credits for EVs could go as high as \$7,500, though more likely will average about \$4,000. Companies will also get tax credits to install more EV charging stations nationally. While biofuel groups continued to raise concerns over the Biden administration's fixation with electric vehicles, IRA also is a big deal for the renewable fuels industry. The law extended tax credits for biodiesel and also created a new renewable fuels infrastructure grant program. The law also opens up biofuels to create Sustainable Aviation Fuel (SAF) through new tax incentives. The SAF tax credits, in the short-term, could run as high as \$1.75 a gallon. A new Clean Fuel Production Credits will run from 2025 to 2027.

Among the top spending items for USDA, the Environmental Quality Incentives Program (EQIP) will receive \$8.45 billion; the Regional Conservation Partnership Program (RCPP) receives \$4.95 billion; the Conservation Stewardship Program (CSP) receives \$3.25 billion; and the Agricultural Conservation Easement Program (ACEP) receives \$1.4 billion.

Another \$1 billion will go to the Natural Resources Conservation Service (NRCS) for technical assistance to producers. USDA will also receive \$300 million to quantify carbon sequestration and emissions on farms. At least \$4 billion in the act goes to deal with drought relief in the Colorado River Basin. Renewable energy programs through USDA overall will receive \$13.3 billion. Rural electric cooperatives will receive \$9.7 billion for loans to build out renewable energy infrastructure with specific language on "zero-emission systems" and carbon capture programs. At least \$5 billion will be used for forest management, including about \$2.15 billion for funding to reduce dead wood and other vegetation that would be fuel for forest fires. Another \$2.75 billion will go toward urban areas and other non-federal forests to develop incentives such as carbon sequestration in those areas. Another \$1 billion goes for loans for electric generation from renewable energy resources for rural and nonrural power companies. This includes solar, wind, hydropower, biomass, or geothermal. The federal government would cover up to 50% of the loans for such projects.

Companies championing carbon pipelines were also rewarded in the legislation. The 45Q tax credit for industrial carbon sequestration will be extended for projects that begin construction before 2033. The tax credits were also increased from \$50 a ton to \$85 a ton.

No. 5: Soy Crush Plants Give Long-Term Support to Bean Markets. A bright spot on the soybean horizon is the expected high demand for soybean oil for renewable diesel and aviation fuel production. Renewable diesel production has nearly doubled from 971 million gallons per year in 2021 to 1.92 billion gallons in 2022, according to the U.S. Energy Information Administration (EIA). Refiners are quickly ramping up production to satisfy an insatiable demand for the environmentally friendly, low-carbon fuel and cash in on federal and state tax credits. The federal Renewable Fuel Standard (RFS) also generates a potentially lucrative market for Renewable Identification Numbers (RINs). As with any rapid expansion, growing pains and altered plans are likely. In early December Epirote Energy announced its \$400 million crushing plant planned for Crookston, Minnesota, is now scheduled to be built near Grand Forks, North Dakota.

No. 4: New Packing Plants Point to Long-Term Shifts for Cattle Business. Many analysts believe COVID-19 caused a paradigm shift, as Americans experienced for the first time in their lives the sight of empty grocery shelves. It became clear that concentrating meat and poultry processing in a handful of large companies was an issue of national security. The Biden-Harris Action Plan was announced as a result, with President Joe Biden signing an Executive Order on Promoting Competition in the American Economy, in July of 2022. The plan noted that four large meat packing companies control 85% of the beef market; four processing firms control 54% of the poultry market; and four processors control 70% of the pork market. This level of concentration created a bottleneck in the food chain during COVID.

In November 2022, USDA attached \$223 million in grants and loans to the problem, with Agriculture Secretary Tom Vilsack noting that the grants would go to 21 meat-processing projects in what he called the first round of the Meat and Poultry Processing Expansion Program. Biden said in a 2022 meeting with producers that his administration plans to invest as much as \$1 billion to expand competition in the U.S. meatpacking industry.

Will more processing space be a positive for the beef industry? Basic supply-demand economics says it should be good for business, because more buyers will be competing for cattle. The long-term question is whether the business model can sustain itself. There is a reason the beef business became concentrated in a handful of processors. There's not a processor anywhere that can stay in business if it can't procure cattle at a cost that will allow it to make a profit. More competition will be good for cow-calf producers in the short term, there's no doubt. But it will take a delicate balancing act to keep the doors open long-term at this growing list of meatpackers and processors.

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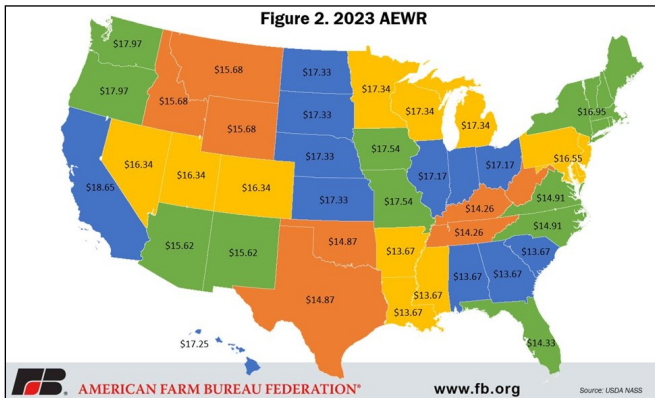
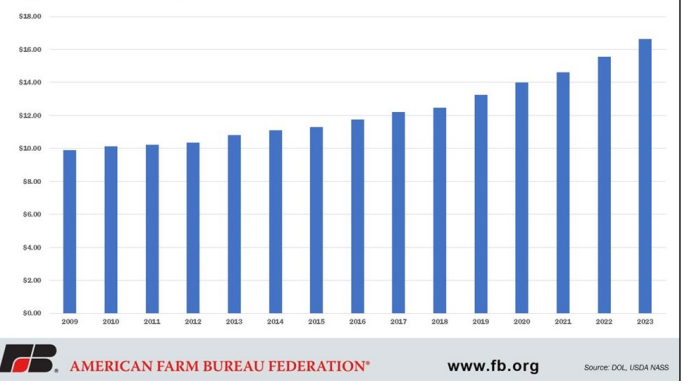
Adverse Effect Wage Rates (AEWR) for 2023

The USDA National Agricultural Statistics Service’s released the semi-annual Farm Labor Report (FLR), which includes quarterly estimates of number of hired workers, average hours worked per worker and average hourly wage rates. The report also provides an annual weighted average hourly wage rate for field workers, field and livestock workers combined, and all hired workers, based on the quarterly estimates. Of utmost importance to users of the H-2A visa program, the field and livestock workers’ combined wage rate for 2022 contained in the FLR becomes the Adverse Effect Wage Rate (AEWR) utilized in the H-2A program in 2023. So, while the rates don’t become official until they are released by the Department of Labor in the Federal Register, usually around mid-December, the rates published in the FR are typically unchanged from what is published in the FLR. Given the overall tightness in the U.S. labor market, few would be surprised that the fiscal year 2022 U.S. average field and livestock workers’ combined wage rate rose, but the 6.8% fiscal year-over-fiscal year increase outpaced the 5.3% fiscal year-over-fiscal year growth in seasonally adjusted average hourly earnings of all private employees and will continue to put significant pressure on the bottom lines of farmers with significant labor needs.

The American Farm Bureau Federation reports that the field and livestock workers’ combined wage rate is the basis for the AEWR, but the AEWR is not a national rate, rather it is set at the farm labor region as defined in the FLR. There are 15 farm labor regions, plus individual rates for California, Florida and Hawaii. So, while the 2022 U.S. average field and livestock workers’ combined wage rate was \$16.62 per hour, up \$1.06 per hour or 6.8% from 2021, there are considerable differences between regions.

In 2023, every state will have an AEWR in excess of \$13 per hour. Six states (Alabama, Georgia, South Carolina, Arkansas, Louisiana and Mississippi) will have an AEWR between \$13.00 and \$13.99. Eight states (Kentucky, Tennessee, West Virginia, Florida, Oklahoma, Texas, North Carolina and Virginia) will have an AEWR between \$14.00 and \$14.99. Five states (Arizona, New Mexico, Idaho, Montana and Wyoming) will have an AEWR between \$15.00 and \$15.99. Seventeen states (Colorado, Nevada, Utah, Delaware, Maryland, New Jersey, Pennsylvania, Connecticut, Maine, Massachusetts, New Hampshire, New York, Rhode Island and Vermont) will have an AEWR between \$16.00 and \$16.99. And sixteen states will have an AEWR in excess of \$17.00 per hour (Illinois, Indiana, Ohio, Hawaii, Kansas, Nebraska, North Dakota, South Dakota, Michigan, Minnesota, Wisconsin, Iowa, Missouri, Oregon, Washington and California).

Figure 1. U.S. AEWR, 2009-2023



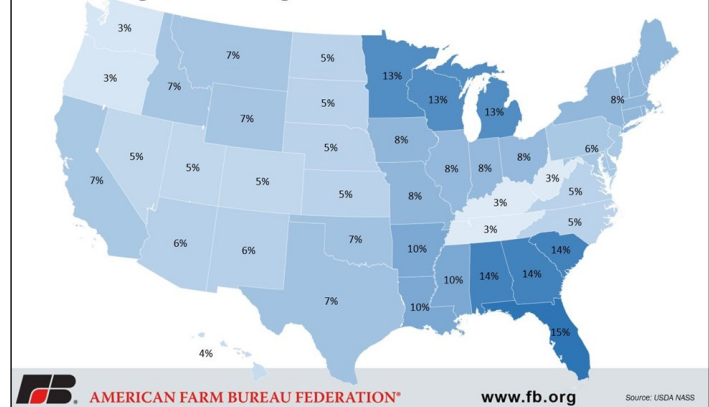
Unlike in 2021, every farm labor region and state experienced a higher average wage rate in 2022 and will subsequently have a higher AEWR in 2023. The Appalachian II region (Kentucky, Tennessee and West Virginia) had the smallest increase in terms of dollar per hour and percentage with a \$0.37 per hour or 2.7% increase. Florida had the largest percentage increase – 15.5%. The Lake region (Michigan, Minnesota and Wisconsin) had the largest increase in dollar terms – \$1.97 per hour. Once again in 2022, California had the highest overall wage rate at \$18.65 per hour.

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While the H-2A program is utilized by farmers and ranchers across the U.S. for a variety of seasonal or temporary farm work, it is most closely associated with the fruit and vegetable sector, often short-handed to specialty crops. Like all other farmers and ranchers, specialty crop growers face a 2023 growing season filled with increased input costs from diesel fuel, electricity, seeds, fertilizer, cash rent to interest rates, just to name a few. With the release of the FLR we now know that labor costs will also be rising. With labor costs accounting for up to 38.5% of total production expenses in the fruit and tree nuts sector and 28.5% in the vegetable and melons sector, this increase is no small part of the budget. Meanwhile, the value of U.S. production of citrus and non-citrus fruit, nuts, vegetable and dry pulse crops in 2021 at \$48.4 billion was largely constant over the last four years. 2023 is shaping up to be another challenging growing season.

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Figure 3. Percentage Increase in 2023 AEWR Over 2022 AEWR



Top News Stories of 2022 (cont.)

No. 3: Fertilizer, Ag Chemicals, Fuel All Saw Price Hikes on Supply Concerns in 2022. Input prices for crop production, like the cost of many other items, saw large increases in 2022. Fertilizer, agricultural chemicals, and fuels all saw big jumps in price because of various supply issues and rising costs associated with manufacturing. Unfortunately for crop producers, input prices do not appear to be dropping significantly as we move into 2023. Fertilizer prices make up a large percentage of the total crop production costs. Prices rose in the first part of 2022 before leveling off in spring. Nutrients then saw a long, slow decline in prices in the second half of 2022. Fertilizer prices were already higher because of various supply issues in recent years. The beginning of the Russia-Ukraine war in February 2022 was another factor that pushed prices higher. Russia and Belarus are large potash fertilizer producers -- the second and third largest potash producers in the world. Supply from the Black Sea region stopped. Global prices spiked higher as there were major concerns supply from those countries was going to be hindered by the war. Major nutrient importing countries, such as Brazil, scrambled to find supplies to meet their fertilizer needs. However, as it turns out, the war has had less of an impact on fertilizer supplies and prices than many feared. Other fertilizer-producing regions of the world stepped up production levels after the war began. Canada, the world's largest producer of potash, increased production to offset the lost imports from Russia and Belarus. By the end of 2022, while still fairly high historically, ample supplies of nutrients (especially in phosphorus and potash fertilizers) have some global fertilizer prices falling. Shortages of agricultural chemicals due to the COVID-19 pandemic, labor shortages and increasing shipping costs all came together to cause prices to climb significantly higher in 2022. Glyphosate and glufosinate were the most affected active ingredients. Both were in high demand with glyphosate remaining the base of many weed control programs and glufosinate now a post-emergence spray option in soybean production. Analysts hope increased production of these chemicals in 2023 will lead to lower ag chemical costs in the year ahead. Fuel prices rose and then fell during the year. Much like fertilizer and ag chemicals, supply issues affected the flow of fuel; less supply pushed the fuel cost higher during mid-2022. However, the year ended with lower fuel prices. Farmers will watch diesel prices closely, as well as propane, as the new year starts.

No. 2: Russian Plan for Easy Conquest Riled 2022 Grain Markets. When thinking back to February 24, 2022, the start of Russia's one-sided war against Ukraine, it is easy to forget wheat prices had already been trading near \$8 and \$9 a bushel, their highest levels since 2012. Prices had earlier been propped up in late 2021 by a spring wheat drought on both sides of the U.S.-Canadian border. The hangover of logistics and production problems from the initial global pandemic in 2020, China's surprisingly large corn and soybean imports in 2021, North American drought in 2021 and Brazilian soybean drought in early 2022 all formed a cluster of unexpected bullish events that raised concerns about higher prices, even before Russia invaded. Because Ukraine is one of the world's largest exporters of wheat, corn, barley and sunflower oil, it didn't take long for world markets to respond with higher grain prices. Ukraine's winter wheat crop had already been planted the previous fall and there were questions about what would happen at harvest. The Russian Navy quickly blocked Ukraine's access to the Black Sea. Eventually, spot U.S. prices of corn would hit a high of \$8.27 a bushel by April and Kansas City wheat would hit \$13.79 1/4 by May, but grains were not the only rattled markets. In the U.S., spot crude oil hit a peak of \$130.50 a barrel in March, DTN's national index of anhydrous ammonia prices were going for more than \$1,500 a ton at planting time and spot natural gas hit a high of \$10.03 per million British thermal units (Btu) in August -- all much higher-than-normal levels. Europe's energy prices soared even higher as Russia withheld natural gas.

No. 1: La Niña Remained in Control for Crop Year. La Niña never gave up its control over the entire course of 2022. While La Niña developed in late 2020 and persisted into early 2021, neutral conditions took over during the summer. But when it returned in late 2021, the episode never relinquished its grip on the Pacific Ocean or its driving force for U.S. weather in 2022. From early flooding and cold that delayed planting, to heat and drought that caused variable yields and livestock losses, La Niña brought plenty of weather challenges.

Through the spring, La Niña favored a few deeper storm systems. Two such storms produced significant blizzards in April for the Northern Plains and eastern Canadian Prairies, burying them in feet of heavy, wet snow, leaving the region very wet and planting significantly delayed through May. But the Central and Southern Plains did not benefit from the pattern, as it stayed much drier when the pattern should have been more active. A few significant storms went through with some rain and severe weather, but overall, the heat and dryness grew and significantly. In late May through most of July, the typical La Niña summertime pattern hit, and it hit hard. A large ridge of high pressure brought widespread heat to much of North America during these several weeks, hitting triple digits not only in the Southern Plains, where it is most typical, but also up into large portions of the Midwest and into the Northern Plains. At the same time, dryness took over a lot of the country, and drought grew through areas of the Southeast and Midwest and farther north in the Plains as well. Drought spread over much of the country during the fall and, according to the U.S. Drought Monitor. The increasing dryness led to more issues with river flows across the country and eventually came to a head in October as historically low water levels affected barge transportation on the Lower Mississippi River. La Niña's impacts were not limited to the U.S. either. Crop production was limited throughout most areas of the world, including heat and dryness in Argentina and southern Brazil, and significant heatwaves in India in the spring and Europe and China during the summer. The only large agricultural areas to receive beneficial weather were in central Brazil, the war-ravaged Black Sea region, and across Australia, which is trending toward a record wheat crop.



Breakeven Analysis for 2023 Cost of Production

The following tables calculate the breakeven yield (presented in the first table) and breakeven price (in the second table) needed to cover a range of direct production expenses per acre for the 2023 crop year for selected crops. *Continued over the next two pages.*

<i>Specified Production Cost per acre for corn</i>											
<i>Price/bu</i>	<u>\$450</u>	<u>\$475</u>	<u>\$500</u>	<u>\$525</u>	<u>\$550</u>	<u>\$575</u>	<u>\$600</u>	<u>\$625</u>	<u>\$650</u>	<u>\$675</u>	<u>\$700</u>
\$4.20	107.1	113.1	119.0	125.0	131.0	136.9	142.9	148.8	154.8	160.7	166.7
\$4.35	103.4	109.2	114.9	120.7	126.4	132.2	137.9	143.7	149.4	155.2	160.9
\$4.50	100.0	105.6	111.1	116.7	122.2	127.8	133.3	138.9	144.4	150.0	155.6
\$4.65	96.8	102.2	107.5	112.9	118.3	123.7	129.0	134.4	139.8	145.2	150.5
\$4.80	93.8	99.0	104.2	109.4	114.6	119.8	125.0	130.2	135.4	140.6	145.8
\$4.95	90.9	96.0	101.0	106.1	111.1	116.2	121.2	126.3	131.3	136.4	141.4
\$5.10	88.2	93.1	98.0	102.9	107.8	112.7	117.6	122.5	127.5	132.4	137.3
\$5.25	85.7	90.5	95.2	100.0	104.8	109.5	114.3	119.0	123.8	128.6	133.3
\$5.40	83.3	88.0	92.6	97.2	101.9	106.5	111.1	115.7	120.4	125.0	129.6
\$5.55	81.1	85.6	90.1	94.6	99.1	103.6	108.1	112.6	117.1	121.6	126.1
\$5.70	78.9	83.3	87.7	92.1	96.5	100.9	105.3	109.6	114.0	118.4	122.8
\$5.85	76.9	81.2	85.5	89.7	94.0	98.3	102.6	106.8	111.1	115.4	119.7
\$6.00	75.0	79.2	83.3	87.5	91.7	95.8	100.0	104.2	108.3	112.5	116.7

<i>Specified Production Cost per acre for corn</i>											
<i>Bu/ac</i>	<u>\$450</u>	<u>\$475</u>	<u>\$500</u>	<u>\$525</u>	<u>\$550</u>	<u>\$575</u>	<u>\$600</u>	<u>\$625</u>	<u>\$650</u>	<u>\$675</u>	<u>\$700</u>
90	\$5.00	\$5.28	\$5.56	\$5.83	\$6.11	\$6.39	\$6.67	\$6.94	\$7.22	\$7.50	\$7.78
100	\$4.50	\$4.75	\$5.00	\$5.25	\$5.50	\$5.75	\$6.00	\$6.25	\$6.50	\$6.75	\$7.00
110	\$4.09	\$4.32	\$4.55	\$4.77	\$5.00	\$5.23	\$5.45	\$5.68	\$5.91	\$6.14	\$6.36
120	\$3.75	\$3.96	\$4.17	\$4.38	\$4.58	\$4.79	\$5.00	\$5.21	\$5.42	\$5.63	\$5.83
130	\$3.46	\$3.65	\$3.85	\$4.04	\$4.23	\$4.42	\$4.62	\$4.81	\$5.00	\$5.19	\$5.38
140	\$3.21	\$3.39	\$3.57	\$3.75	\$3.93	\$4.11	\$4.29	\$4.46	\$4.64	\$4.82	\$5.00
150	\$3.00	\$3.17	\$3.33	\$3.50	\$3.67	\$3.83	\$4.00	\$4.17	\$4.33	\$4.50	\$4.67
160	\$2.81	\$2.97	\$3.13	\$3.28	\$3.44	\$3.59	\$3.75	\$3.91	\$4.06	\$4.22	\$4.38
170	\$2.65	\$2.79	\$2.94	\$3.09	\$3.24	\$3.38	\$3.53	\$3.68	\$3.82	\$3.97	\$4.12
180	\$2.50	\$2.64	\$2.78	\$2.92	\$3.06	\$3.19	\$3.33	\$3.47	\$3.61	\$3.75	\$3.89
190	\$2.37	\$2.50	\$2.63	\$2.76	\$2.89	\$3.03	\$3.16	\$3.29	\$3.42	\$3.55	\$3.68
200	\$2.25	\$2.38	\$2.50	\$2.63	\$2.75	\$2.88	\$3.00	\$3.13	\$3.25	\$3.38	\$3.50
210	\$2.14	\$2.26	\$2.38	\$2.50	\$2.62	\$2.74	\$2.86	\$2.98	\$3.10	\$3.21	\$3.33

<i>Specified Production Cost per acre for soybeans</i>											
<i>Price/bu</i>	<u>\$350</u>	<u>\$375</u>	<u>\$400</u>	<u>\$425</u>	<u>\$450</u>	<u>\$475</u>	<u>\$500</u>	<u>\$525</u>	<u>\$550</u>	<u>\$575</u>	<u>\$600</u>
\$9.50	36.8	39.5	42.1	44.7	47.4	50.0	52.6	55.3	57.9	60.5	63.2
\$9.85	35.5	38.1	40.6	43.1	45.7	48.2	50.8	53.3	55.8	58.4	60.9
\$10.20	34.3	36.8	39.2	41.7	44.1	46.6	49.0	51.5	53.9	56.4	58.8
\$10.55	33.2	35.5	37.9	40.3	42.7	45.0	47.4	49.8	52.1	54.5	56.9
\$10.90	32.1	34.4	36.7	39.0	41.3	43.6	45.9	48.2	50.5	52.8	55.0
\$11.25	31.1	33.3	35.6	37.8	40.0	42.2	44.4	46.7	48.9	51.1	53.3
\$11.60	30.2	32.3	34.5	36.6	38.8	40.9	43.1	45.3	47.4	49.6	51.7
\$11.95	29.3	31.4	33.5	35.6	37.7	39.7	41.8	43.9	46.0	48.1	50.2
\$12.30	28.5	30.5	32.5	34.6	36.6	38.6	40.7	42.7	44.7	46.7	48.8
\$12.65	27.7	29.6	31.6	33.6	35.6	37.5	39.5	41.5	43.5	45.5	47.4
\$13.00	26.9	28.8	30.8	32.7	34.6	36.5	38.5	40.4	42.3	44.2	46.2
\$13.35	26.2	28.1	30.0	31.8	33.7	35.6	37.5	39.3	41.2	43.1	44.9
\$13.70	25.5	27.4	29.2	31.0	32.8	34.7	36.5	38.3	40.1	42.0	43.8

Breakeven Analysis (cont.)

<i>Specified Production Cost per acre for soybeans</i>											
Bu/ac	\$350	\$375	\$400	\$425	\$450	\$475	\$500	\$525	\$550	\$575	\$600
25	\$14.00	\$15.00	\$16.00	\$17.00	\$18.00	\$19.00	\$20.00	\$21.00	\$22.00	\$23.00	\$24.00
30	\$11.67	\$12.50	\$13.33	\$14.17	\$15.00	\$15.83	\$16.67	\$17.50	\$18.33	\$19.17	\$20.00
35	\$10.00	\$10.71	\$11.43	\$12.14	\$12.86	\$13.57	\$14.29	\$15.00	\$15.71	\$16.43	\$17.14
40	\$8.75	\$9.38	\$10.00	\$10.63	\$11.25	\$11.88	\$12.50	\$13.13	\$13.75	\$14.38	\$15.00
45	\$7.78	\$8.33	\$8.89	\$9.44	\$10.00	\$10.56	\$11.11	\$11.67	\$12.22	\$12.78	\$13.33
50	\$7.00	\$7.50	\$8.00	\$8.50	\$9.00	\$9.50	\$10.00	\$10.50	\$11.00	\$11.50	\$12.00
55	\$6.36	\$6.82	\$7.27	\$7.73	\$8.18	\$8.64	\$9.09	\$9.55	\$10.00	\$10.45	\$10.91
60	\$5.83	\$6.25	\$6.67	\$7.08	\$7.50	\$7.92	\$8.33	\$8.75	\$9.17	\$9.58	\$10.00
65	\$5.38	\$5.77	\$6.15	\$6.54	\$6.92	\$7.31	\$7.69	\$8.08	\$8.46	\$8.85	\$9.23
70	\$5.00	\$5.36	\$5.71	\$6.07	\$6.43	\$6.79	\$7.14	\$7.50	\$7.86	\$8.21	\$8.57
75	\$4.67	\$5.00	\$5.33	\$5.67	\$6.00	\$6.33	\$6.67	\$7.00	\$7.33	\$7.67	\$8.00
80	\$4.38	\$4.69	\$5.00	\$5.31	\$5.63	\$5.94	\$6.25	\$6.56	\$6.88	\$7.19	\$7.50
85	\$4.12	\$4.41	\$4.71	\$5.00	\$5.29	\$5.59	\$5.88	\$6.18	\$6.47	\$6.76	\$7.06

<i>Specified Production Cost per acre for cotton</i>											
Price/lb	\$500	\$525	\$550	\$575	\$600	\$625	\$650	\$675	\$700	\$725	\$750
\$0.69	724.6	760.9	797.1	833.3	869.6	905.8	942.0	978.3	1014.5	1050.7	1087.0
\$0.71	704.2	739.4	774.6	809.9	845.1	880.3	915.5	950.7	985.9	1021.1	1056.3
\$0.73	684.9	719.2	753.4	787.7	821.9	856.2	890.4	924.7	958.9	993.2	1027.4
\$0.75	666.7	700.0	733.3	766.7	800.0	833.3	866.7	900.0	933.3	966.7	1000.0
\$0.77	649.4	681.8	714.3	746.8	779.2	811.7	844.2	876.6	909.1	941.6	974.0
\$0.79	632.9	664.6	696.2	727.8	759.5	791.1	822.8	854.4	886.1	917.7	949.4
\$0.81	617.3	648.1	679.0	709.9	740.7	771.6	802.5	833.3	864.2	895.1	925.9
\$0.83	602.4	632.5	662.7	692.8	722.9	753.0	783.1	813.3	843.4	873.5	903.6
\$0.85	588.2	617.6	647.1	676.5	705.9	735.3	764.7	794.1	823.5	852.9	882.4
\$0.87	574.7	603.4	632.2	660.9	689.7	718.4	747.1	775.9	804.6	833.3	862.1
\$0.89	561.8	589.9	618.0	646.1	674.2	702.2	730.3	758.4	786.5	814.6	842.7
\$0.91	549.5	576.9	604.4	631.9	659.3	686.8	714.3	741.8	769.2	796.7	824.2
\$0.93	537.6	564.5	591.4	618.3	645.2	672.0	698.9	725.8	752.7	779.6	806.5

<i>Specified Production Cost per acre for cotton</i>											
lbs/ac	\$500	\$525	\$550	\$575	\$600	\$625	\$650	\$675	\$700	\$725	\$750
750	\$0.67	\$0.70	\$0.73	\$0.77	\$0.80	\$0.83	\$0.87	\$0.90	\$0.93	\$0.97	\$1.00
800	\$0.63	\$0.66	\$0.69	\$0.72	\$0.75	\$0.78	\$0.81	\$0.84	\$0.88	\$0.91	\$0.94
850	\$0.59	\$0.62	\$0.65	\$0.68	\$0.71	\$0.74	\$0.76	\$0.79	\$0.82	\$0.85	\$0.88
900	\$0.56	\$0.58	\$0.61	\$0.64	\$0.67	\$0.69	\$0.72	\$0.75	\$0.78	\$0.81	\$0.83
950	\$0.53	\$0.55	\$0.58	\$0.61	\$0.63	\$0.66	\$0.68	\$0.71	\$0.74	\$0.76	\$0.79
1000	\$0.50	\$0.53	\$0.55	\$0.58	\$0.60	\$0.63	\$0.65	\$0.68	\$0.70	\$0.73	\$0.75
1050	\$0.48	\$0.50	\$0.52	\$0.55	\$0.57	\$0.60	\$0.62	\$0.64	\$0.67	\$0.69	\$0.71
1100	\$0.45	\$0.48	\$0.50	\$0.52	\$0.55	\$0.57	\$0.59	\$0.61	\$0.64	\$0.66	\$0.68
1150	\$0.43	\$0.46	\$0.48	\$0.50	\$0.52	\$0.54	\$0.57	\$0.59	\$0.61	\$0.63	\$0.65
1200	\$0.42	\$0.44	\$0.46	\$0.48	\$0.50	\$0.52	\$0.54	\$0.56	\$0.58	\$0.60	\$0.63
1250	\$0.40	\$0.42	\$0.44	\$0.46	\$0.48	\$0.50	\$0.52	\$0.54	\$0.56	\$0.58	\$0.60
1300	\$0.38	\$0.40	\$0.42	\$0.44	\$0.46	\$0.48	\$0.50	\$0.52	\$0.54	\$0.56	\$0.58
1350	\$0.37	\$0.39	\$0.41	\$0.43	\$0.44	\$0.46	\$0.48	\$0.50	\$0.52	\$0.54	\$0.56

Breakeven Analysis (cont.)

<i>Specified Production Cost per acre for rice</i>											
<i>Price/cwt</i>	<u>\$505</u>	<u>\$530</u>	<u>\$555</u>	<u>\$580</u>	<u>\$605</u>	<u>\$630</u>	<u>\$655</u>	<u>\$680</u>	<u>\$705</u>	<u>\$730</u>	<u>\$755</u>
\$12.00	42.1	44.2	46.3	48.3	50.4	52.5	54.6	56.7	58.8	60.8	62.9
\$12.25	41.2	43.3	45.3	47.3	49.4	51.4	53.5	55.5	57.6	59.6	61.6
\$12.50	40.4	42.4	44.4	46.4	48.4	50.4	52.4	54.4	56.4	58.4	60.4
\$12.75	39.6	41.6	43.5	45.5	47.5	49.4	51.4	53.3	55.3	57.3	59.2
\$13.00	38.8	40.8	42.7	44.6	46.5	48.5	50.4	52.3	54.2	56.2	58.1
\$13.25	38.1	40.0	41.9	43.8	45.7	47.5	49.4	51.3	53.2	55.1	57.0
\$13.50	37.4	39.3	41.1	43.0	44.8	46.7	48.5	50.4	52.2	54.1	55.9
\$13.75	36.7	38.5	40.4	42.2	44.0	45.8	47.6	49.5	51.3	53.1	54.9
\$14.00	36.1	37.9	39.6	41.4	43.2	45.0	46.8	48.6	50.4	52.1	53.9
\$14.25	35.4	37.2	38.9	40.7	42.5	44.2	46.0	47.7	49.5	51.2	53.0
\$14.50	34.8	36.6	38.3	40.0	41.7	43.4	45.2	46.9	48.6	50.3	52.1
\$14.75	34.2	35.9	37.6	39.3	41.0	42.7	44.4	46.1	47.8	49.5	51.2
\$15.00	33.7	35.3	37.0	38.7	40.3	42.0	43.7	45.3	47.0	48.7	50.3

<i>Specified Production Cost per acre for rice</i>											
<i>cwt/ac</i>	<u>\$505</u>	<u>\$530</u>	<u>\$555</u>	<u>\$580</u>	<u>\$605</u>	<u>\$630</u>	<u>\$655</u>	<u>\$680</u>	<u>\$705</u>	<u>\$730</u>	<u>\$755</u>
35	\$14.43	\$15.14	\$15.86	\$16.57	\$17.29	\$18.00	\$18.71	\$19.43	\$20.14	\$20.86	\$21.57
40	\$12.63	\$13.25	\$13.88	\$14.50	\$15.13	\$15.75	\$16.38	\$17.00	\$17.63	\$18.25	\$18.88
45	\$11.22	\$11.78	\$12.33	\$12.89	\$13.44	\$14.00	\$14.56	\$15.11	\$15.67	\$16.22	\$16.78
50	\$10.10	\$10.60	\$11.10	\$11.60	\$12.10	\$12.60	\$13.10	\$13.60	\$14.10	\$14.60	\$15.10
55	\$9.18	\$9.64	\$10.09	\$10.55	\$11.00	\$11.45	\$11.91	\$12.36	\$12.82	\$13.27	\$13.73
60	\$8.42	\$8.83	\$9.25	\$9.67	\$10.08	\$10.50	\$10.92	\$11.33	\$11.75	\$12.17	\$12.58
65	\$7.77	\$8.15	\$8.54	\$8.92	\$9.31	\$9.69	\$10.08	\$10.46	\$10.85	\$11.23	\$11.62
70	\$7.21	\$7.57	\$7.93	\$8.29	\$8.64	\$9.00	\$9.36	\$9.71	\$10.07	\$10.43	\$10.79
75	\$6.73	\$7.07	\$7.40	\$7.73	\$8.07	\$8.40	\$8.73	\$9.07	\$9.40	\$9.73	\$10.07
80	\$6.31	\$6.63	\$6.94	\$7.25	\$7.56	\$7.88	\$8.19	\$8.50	\$8.81	\$9.13	\$9.44
85	\$5.94	\$6.24	\$6.53	\$6.82	\$7.12	\$7.41	\$7.71	\$8.00	\$8.29	\$8.59	\$8.88
90	\$5.61	\$5.89	\$6.17	\$6.44	\$6.72	\$7.00	\$7.28	\$7.56	\$7.83	\$8.11	\$8.39
95	\$5.32	\$5.58	\$5.84	\$6.11	\$6.37	\$6.63	\$6.89	\$7.16	\$7.42	\$7.68	\$7.95

<i>Specified Production Cost per acre for grain sorghum</i>											
<i>Price/bu</i>	<u>\$275</u>	<u>\$300</u>	<u>\$325</u>	<u>\$350</u>	<u>\$375</u>	<u>\$400</u>	<u>\$425</u>	<u>\$450</u>	<u>\$475</u>	<u>\$500</u>	<u>\$525</u>
\$4.20	65.5	71.4	77.4	83.3	89.3	95.2	101.2	107.1	113.1	119.0	125.0
\$4.35	63.2	69.0	74.7	80.5	86.2	92.0	97.7	103.4	109.2	114.9	120.7
\$4.50	61.1	66.7	72.2	77.8	83.3	88.9	94.4	100.0	105.6	111.1	116.7
\$4.65	59.1	64.5	69.9	75.3	80.6	86.0	91.4	96.8	102.2	107.5	112.9
\$4.80	57.3	62.5	67.7	72.9	78.1	83.3	88.5	93.8	99.0	104.2	109.4
\$4.95	55.6	60.6	65.7	70.7	75.8	80.8	85.9	90.9	96.0	101.0	106.1
\$5.10	53.9	58.8	63.7	68.6	73.5	78.4	83.3	88.2	93.1	98.0	102.9
\$5.25	52.4	57.1	61.9	66.7	71.4	76.2	81.0	85.7	90.5	95.2	100.0
\$5.40	50.9	55.6	60.2	64.8	69.4	74.1	78.7	83.3	88.0	92.6	97.2
\$5.55	49.5	54.1	58.6	63.1	67.6	72.1	76.6	81.1	85.6	90.1	94.6
\$5.70	48.2	52.6	57.0	61.4	65.8	70.2	74.6	78.9	83.3	87.7	92.1
\$5.85	47.0	51.3	55.6	59.8	64.1	68.4	72.6	76.9	81.2	85.5	89.7
\$6.00	45.8	50.0	54.2	58.3	62.5	66.7	70.8	75.0	79.2	83.3	87.5

Familiar Political Players are Back for the Farm Bill Debate

The “four corners” of the 2023 farm bill will be the same four lawmakers who led the House and Senate ag committees for the past two years. Georgia Rep. David Scott and Pennsylvania Rep. Glenn Thompson will swap roles in January, when Republicans will hold a majority in the House. Thompson will become Agriculture chair, and Scott, the first Black to lead the committee, will become the ranking member. Michigan Sen. Debbie Stabenow will continue as chair of the Senate Agriculture Committee, with Arkansas Sen. John Boozman as the senior Republican.

The Congress that convenes next year will feature a Senate with a narrow Democratic majority and a House that, so far, has a slim Republican majority. What’s not clear is how that split in control will affect one of the biggest pieces of legislation on the agenda next year: the Farm Bill. The massive piece of legislation (the 2018 version cost \$428 billion) covers matters including how farmers are protected in case of major losses, SNAP benefits for the food insecure, and policy on environmental and land use issues.



The size and scope of the law that is typically renewed every five years makes it atypical when it comes to politics. Those murky partisan lines, along with split control of congressional chambers, makes it difficult to predict just how the Farm Bill will play out. Here are some of the bigger issues facing lawmakers as they delve into the massive bill.

The Supplemental Nutrition Assistance Program The biggest part of the Farm Bill in terms of dollars is SNAP. The program that replaced food stamps in 2008 is the primary program to help low-income Americans afford food for their families. It made up 75% of the spending in the 2018 Farm Bill. Even though the exact level of SNAP benefits is changed as prices go up, current inflation is putting a bigger strain on families that rely upon the program.

Commodities and crop insurance, the heart of the name “Farm Bill”. While most of the spending in the Farm Bill relates to nutrition programs, the heart of the bill is on farming policy, and the big portions of that section relate to commodities and crop insurance. Commodities policies refer to the price and income support for the farmers who raise crops, like corn, soybeans, wheat, and rice — as well as dairy and sugar. This section also includes provisions on aiding farmers in case of natural disasters like drought, floods and storm damage to crops. Crop insurance programs subsidize private crop insurance companies whose policies protect farmers against losses either due to low market prices or decrease in harvests. Inflation, high fertilizer prices and global market insecurity due in part to the Russian invasion of Ukraine are all adding up to a tough year for farmers. And that timing might play out how these issues are addressed in the Farm Bill.

Climate change may be the biggest debate point. Several environmental, conservation and farming groups plan to use the 2023 Farm Bill as an opportunity to codify significant changes to agriculture policy to help combat the effects of global climate change. About 25% of greenhouse gas emissions come from agriculture, according to the U.S. Environmental Protection Agency. The primary sources are the production and use of nitrogen-based fertilizers and the production of large numbers of livestock in concentrated areas. Sustainable agriculture advocates want the Farm Bill to work toward taking more land out of production so it can better absorb and retain carbon that would otherwise go into the atmosphere, as well as incentivize more carbon neutral farming practices. While most of the Farm Bill may be somewhat protected from partisanship, climate change provisions may not have that benefit.

U.S. Seasonal Farm Price Outlook

The following table represents national seasonal average farm prices (\$/unit), as per the USDA WASDE report.

Crop	2019/20 Estimate	2020/21 Estimate	2021/22 Estimate	2022/23 November	2022/23 December
Corn	\$3.56	\$4.53	\$6.00	\$6.80	\$6.70
Cotton	\$0.596	\$0.663	\$0.914	\$0.850	\$0.850
Rice (LG)	\$12.00	\$12.60	\$13.60	\$16.50	\$16.50
Rice (Southern MG)	\$11.60	\$13.00	\$13.90	\$17.40	\$17.40
Sorghum	\$3.34	\$5.04	\$5.94	\$6.65	\$6.70
Soybeans	\$8.57	\$10.80	\$13.30	\$14.00	\$14.00

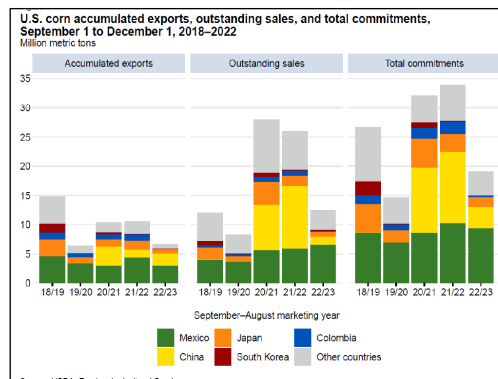
Crop Market Situation for the 2022 Marketing Year

The information that is presented in this market update reflects current information as of December 20, 2022.

Corn

The USDA, Foreign Agricultural Service (FAS) reported total U.S. corn export commitments (shipments plus outstanding sales of December 1, 2022) at 19.0 million metric tons (down 48 percent from last year and 32 percent below the 5-year average). Sales are slow (relative to last year) due to high export prices, driven by limited exportable supplies and difficult inland logistics, resulting from historically low water levels on the Mississippi River—a critical channel that moves corn from the Midwest to export terminals in the Louisiana Gulf.

The 2022/23 corn ending stocks forecast increased in December on reduced exports, while domestic use remained unchanged at 12,025 million bushels. The forecasted corn season-average farm price for 2022/23—of \$6.70 per bushel—fell \$0.10 from November on a lower-than-expected October national corn price received (of \$6.50 per bushel) reported by USDA, National Agricultural Statistical Service (NASS).



Soybeans

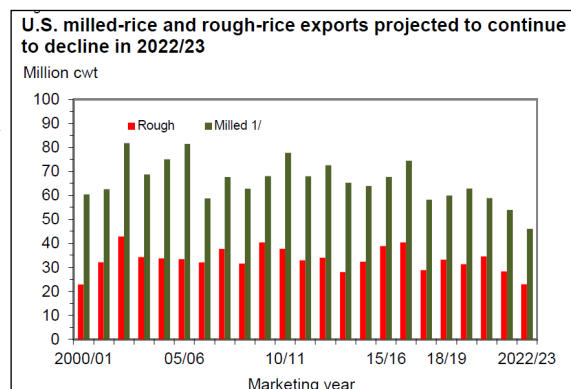
The 2022/23 U.S. soybean balance sheet remains unchanged this month. Export and crush volumes are in line with current forecasts. Although soybean meal is off to the projected start, the opposite is true for soybean oil. Abysmal export volumes and commitments have resulted in a lower soybean oil export forecast for the 2022/23 campaign. In addition, the U.S. Environmental Protection Agency (EPA) recently released their renewable fuel obligation targets for 2023–2025. Moreover, the EPA approved and finalized a pathway for canola oil use in renewable diesel production. As a result, U.S. soybean and canola oil balance sheets are changed to nearly offset the expected impacts on domestic use. Ultimately, the soybean oil ending stocks forecast is raised to 1.9 billion pounds.

No changes are made to the 2022/23 U.S. soybean balance sheet this month. Export volumes and total commitments indicate the United States is on pace to reach the current forecast that sits at just more than 2 billion bushels. Through October, processors have crushed nearly 365 million bushels of soybeans. With capacity expansions set to materialize later in the marketing year, the United States is expected to crush 2.25 billion pounds of soybeans in 2022/23. Domestic and foreign demand for soybean meal remains strong and steady, providing support for current forecasts that remain unchanged from last month. The soybean meal price forecast for 2022/23 is revised up \$10.00 per short ton to \$410.00.

Rice

There were no supply-side revisions this month to the 2022/23 U.S. rice balance sheet. On the use-side, the all-rice export forecast was lowered 2.0 million cwt—all long-grain rough-rice—to 69.0 million cwt, the lowest since 1991/92. The lower export forecast raised the 2022/23 ending stocks forecast 2.0 million cwt to 38.1 million cwt, still 4 percent below a year earlier. The 2022/23 U.S. season-average farm price (SAFP) forecasts for medium- and short-grain and for all-rice were lowered this month based on a smaller share of marketings accounted for by the higher-priced California medium- and short-grain rice.

U.S. 2022/23 all-rice exports are forecast at 69.0 million cwt, 2.0 million below the previous forecast, 16 percent below a year earlier and the lowest since 1991/92. The downward revision was largely based on sales and shipments through late November, expectations regarding shipments for the remainder of the market year, and uncompetitive prices. The U.S. rough-rice export forecast was again lowered 2.0 million cwt and is now projected at 23.0 million cwt. Rough-rice imports are projected to be almost 19 percent below a year earlier and are the lowest since 2000/01. Long-grain shipments to Latin America are expected to again account for the bulk of these exports. However, the United States is facing increasing competition from South American suppliers in the region, especially in Mexico, the top U.S. rough-rice export market, as well as in several Central American markets.



Cotton

USDA's December Crop Production report forecasts 2022 U.S. cotton production at 14.2 million bales comes in slightly above last month's forecast but 19 percent (3.3 million bales) below the 2021 crop. Harvested area this season is estimated at only 7.9 million acres—the lowest since 2013—as drought conditions in the Southwest reduced the area harvested and crop size significantly. The implied U.S. abandonment rate for 2022 is estimated at a record 43 percent, compared with the previous record of 36 percent in 2011. The 2022 national yield, however, is forecast at a relatively high 868 pounds per harvested acre, the highest in 4 years. Upland cotton production is estimated at approximately 13.8 million bales, while the extra-long staple (ELS) crop is forecast at 470,000 bales.

In-depth Crop Market Update (Cont.)

The information that is presented in this market update reflects current information as of December 20, 2022.

Cotton (cont.)

U.S. cotton demand for 2022/23 is projected at 14.45 million bales in December, 16 percent below 2021/22 and the lowest level since 2015/16. U.S. cotton exports account for most of the demand and are projected at 12.25 million bales in 2022/23, with mill use forecast to contribute the remaining 2.2 million bales. Uncertainties regarding world cotton mill use prospects amid current global economic conditions have reduced cotton trade expectations for 2022/23. In addition, increased foreign competition and the smallest U.S. cotton supply in 7 years is expected to limit U.S. exports this season. Based on the December projections, the 2022/23 U.S. share of global trade is forecast at 29 percent—5 percentage points below last season and the smallest in 7 years.

Sugar

Total domestic sugar production is lowered by 47,000-STRV from last month to 9.039 million and would be lower than the previous 2 years. Beet sugar production is down by 67,000 STRV to 4.927 million based on processors' reduced forecast of sugarbeets available for slicing reported in the USDA, Farm Service Agency (FSA) Sweetener Market Data (SMD). This would represent a 228,000 STRV reduction (or 4.4 percent) from last year's 5.155 million and would be the second lowest since 2015/16.

Louisiana cane sugar production is raised by 18,460 STRV to 2.025 million on processor reporting of an increased estimate of sucrose recovery and of cane area dedicated to sugar relative to seedcane. If realized, this would be 100,000-STRV higher than last year's 1.924 million (5.2 percent) and would set a record for the State, surpassing the prior record of 1.938 million in 2018/19 by 86,000 (4.5 percent). Cane sugar production in Texas is increased slightly by 1,000 STRV to 97,000 on processor reporting but is still the lowest since 1997/98.

Beet sugar production in fiscal year 2022/23 is down by 67,000 STRV to 4.927 million based on processors' reduced forecast of sugarbeets available for slicing reported in the USDA, FSA SMD. This would represent a 228,000-STRV reduction (4.4 percent) from last year's 5.155 million and would be lower than that of the previous 2 years. The cumulative sucrose recovery through October of 14.61 percent appears to be in line with the current estimate and recent years.

The fiscal year 2022/23 cane sugar production is raised from last month by 20,000 STRV to 4.111 million, a 130,000-STRV increase from last year (3.3 percent) and would be the second highest below 2021/22's 4,142 million. The upward adjustment is mainly driven by increased production expectations for Louisiana, which offsets projections for a relatively low production in Texas.

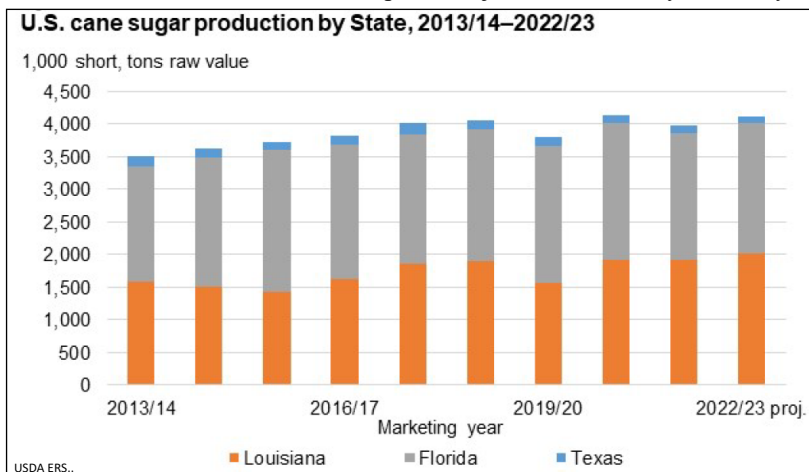
Louisiana cane sugar production in FY 2022/23 is raised from last month by 18,460 STRV to 2.025 million. If realized, the 2.025 million STRV would be 100,000 higher than last year's 1.924 million (5.2 percent) and would set a record for the State, surpassing the prior record of 1.938 million in 2018/19 by 86,000 (4.5 percent). USDA, National Agricultural Statistics Service (NASS) reduced the Louisiana sugarcane yield in its Crop Production report from last month's 32.4 tons per acre to 32.2 tons, but crop year 2022/23 cane sugar production is raised 20,000 STRV to 2.030 million on processor reporting of increased sucrose recovery and cane area dedicated to sugar relative to seedcane.

Florida cane sugar production is unchanged from last month at 1.989 million STRV. This reflects a 57,000-STRV increase (2.9 percent) from last year's crop that was affected by an unusual freeze event in January 2022. Harvest of this year's crop has faced delays due to rain events around Thanksgiving and hurricanes Ian and Nicole made landfall on September 28th and November 10th, respectively. While neither hurricane caused damage to cane fields and factories, the wet conditions briefly paused harvest operations.

There were no changes to the 2022/23 import categories except for those coming from Mexico. Mexican imports are raised 53,000 STRV to 1.477 million to fulfill a December stocks-to-use ratio at 13.5 percent per the terms of the U.S.-Mexico Suspension Agreements. This brings the total imports to 3.494 million STRV, which is about 152,000-STRV lower (4.2 percent) than last year (figure 5, table 4). This is mostly due to an over-the-year decline among several import categories, led by a 315,000-STRV (81 percent) decline in high-tier imports, followed by 48,000-STRV (16 percent) in re-export program imports, and 23,000-STRV (9 percent) in free trade agreements (FTA). The decline is partially offset by over-the-year increases from the World Trade Organization (WTO) raw sugar tariff-rate quota (TRQ) (131,000 STRV or 12 percent), WTO refined sugar TRQ (4,000 or 2 percent), and Mexico (98,000 or 7.1 percent).

Aside from a lower import level projected in 2021/22, the pace of entry is also behind compared with last year (table 5). The total imports entered between October–November are 494,000 STRV, down 222,000 from the same time last year, and represents 14 percent of the total fiscal year projection of 3.494 million—lower than the 20-percent share of October–November in 2021/22. The import categories in 2021/22 are behind compared with last year's pace, mostly for the WTO raw sugar TRQ (behind by 141,000) and Mexico (behind by 50,000). The WTO refined sugar TRQ is the sole category that is up year-over-year, but only by 1,000 STRV.

Continued next page



In-depth Crop Market Update (Cont.)

The information that is presented in this market update reflects current information as of December 20, 2022.

Sugar Cont'd

If this year's projection of 1.477 million-STRV imports from Mexico is realized, it would be 98,000-STRV higher (7 percent) than last year's 1.379 million and would be the largest since 2014/15 (1.532 million), which was about the first year of the suspension agreements (table 4). This translates to Mexico's 42-percent share of the projected total 2022/23 imports of 3.494 million STRV, which is 4 percentage points larger than 2021/22's 38 percent and the largest share since 2014/15. In addition, 2022/23 would mark the first time, also since 2014/15, that the Mexican share of total projected U.S. imports (42 percent) would be larger than the WTO TRQ (35 percent).

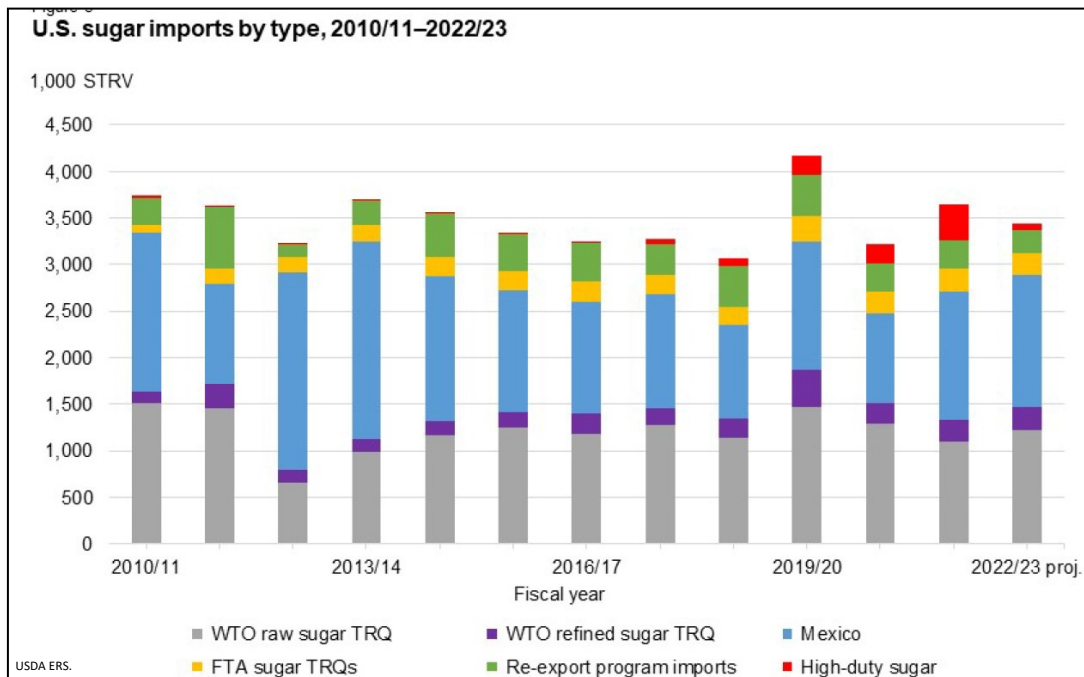
However, being the residual supplier of imports to the U.S. market to achieve a U.S. stocks-to-use ratio of 13.5 percent as stipulated in the suspension agreements, Mexico's quota is largely affected by any changes in the U.S. supply and use balance sheet. For instance, holding U.S. total sugar use constant, if the forecast for U.S. sugar production increased or if the projected imports from other sources such as high-tier

sugar are raised, Mexico's quota would be reduced. But while the U.S. Needs calculation can change in March when it will be recalculated using the March WASDE, Mexico is guaranteed a minimum export volume of at least 1.182 million STRV—the Export Limit equal to 80 percent of U.S. Needs for December.

Mexican capacity to fulfill U.S. Needs hinges upon its supply-and-use balance sheet. With Mexican cane sugar production projected to be 333,000-STRV lower (equivalent to 285,000 metric tons, actual weight) than last year, the 1.477 million-STRV of U.S. Needs calculated off of the December WASDE's components can be fulfilled only if all of Mexican exports are directed to the U.S. and if Mexican domestic deliveries for sugar-containing product re-export program known as Industria Manufacturera, Maquiladora y de Servicios de Exportación (IMMEX) program are lowered.

Raw sugar TRQ imports entering in 2022/23 remain unchanged from last month at 1.227 million STRV, which is 131,000-STRV higher (12 percent) than last year's 1.096 million. The over-the-year increase is mainly due to USDA's action to extend the entry of fiscal year 2021/22 WTO raw sugar TRQ through December 31, 2022. The extension applies to the additional sugar expected from 2 USDA actions on WTO raw sugar TRQ: 222,172 STRV from the shortfall reallocation on April 18 and 100,000 STRV from the increase on July 11. The USDA, Foreign Agricultural Service (FAS), in its Sugar Monthly Import and Re-Export Data report, estimates that 250,167 STRV of fiscal year 2021/22 WTO raw sugar TRQ will instead enter in fiscal year 2022/23 (between October to December 2022), thus serving to offset a projected 254,632-STRV shortfall out of the 2022/23 WTO minimum quantity of 1,231,497 STRV (1,117,195 metric tons, raw value on the Federal Register announcement).

The 2022/23 high-tier sugar is also unchanged from last month at 75,000 STRV, of which 47,000 STRV have already entered through the first 2 months of the fiscal year. This is comparable to the quantities entered in the prior 2 years during the same period: 51,000 STRV in 2021/22 and 44,000 STRV in 2019/20. Of the 47,000 STRV total high-tier imports through November, raw sugar makes up 25,000 or 54 percent. Even though the 2022/23 pace to date is lower than 2021/22 in terms of quantity (35,000 STRV) and share in total October–November (69 percent), the current market conditions—continued tightness of the beet sugar supplies and the current arbitrage between the U.S. and world prices—can potentially incentivize more of these imports despite paying out-of-quota tariff of (15.36 cents per pound for raw and 16.21 cents for refined).



Farm Management Planning Tools Available for 2023 Crop Year from the LSU AgCenter

The LSU AgCenter has released the 2023 enterprise budgets for corn, cotton, rice, sorghum, soybeans, sugarcane, and wheat. The purpose of these reports are to provide planning information regarding crop production costs and market returns for the 2023 crop year.



Crop enterprise budgets in this report are presented in two budget formats. The first budget format (table A) is a summary of costs and returns for the crop enterprise. The second budget format (table B) provides a table listing the sequence of production operations, indicating the equipment and implements used, month of operation, labor required, machine time required, and materials used. Labor costs, material costs, custom costs, and direct and fixed costs for tractors and equipment are also included for each operation. All costs are summed giving the total cost per operation or practice.

The budgets included in this report are categorized by per acre total direct expenses and per acre total fixed expenses for a production season. Projected crop enterprise budgets in this report include a calculation of expected market returns for the crop. Expected crop yields and market prices are selected at the beginning of the crop year. Projected crop yields are determined based on recent production history for expected yield given normal weather conditions. Projected market prices are specified as expected marketing year average prices for the commodity, based on harvest time futures price quotes as well as other market information at the beginning of the crop year. No estimate of income from farm program participation or crop insurance is included in this budgets due to the wide variety of farm program and crop insurance choices available to producers.

These projected cost and return documents, as well as other farm management decision tools can be accessed using the following direct links. Enterprise budget publication presents estimates of projected costs and returns for corn, cotton, rice, sorghum, soybean, sugarcane, and wheat production in Louisiana for the 2023 crop year. Enterprise budgets for the 2023 crop year are presented in MS Excel and PDF format.

The following budget links can be pasted into your web browser.

Corn: <https://www.lsuagcenter.com/topics/crops/corn/budget>

Cotton: <https://www.lsuagcenter.com/topics/crops/cotton/budget>

Grain Sorghum: <https://www.lsuagcenter.com/topics/crops/grain%20sorghum/budget>

Rice: <https://www.lsuagcenter.com/topics/crops/rice/budget>

Soybeans: <https://www.lsuagcenter.com/topics/crops/soybeans/budgets>

Sugarcane: <https://www.lsuagcenter.com/topics/crops/sugarcane/economics>

Wheat: <https://www.lsuagcenter.com/sitecore/content/lsuagcenter/topics/crops/wheatoats/budget>

Additionally, specific farm management decision tools (spreadsheets) are available. On the LSU AgCenter's webpage (www.lsuagcenter.com), click *crops* on the page ribbon. When all the crop icons appear, select the desired crop. Next, click on the *budget* icon to be directed to the webpage for farm management tool download. Available farm management tools are:

Corn, Cotton, Soybean, and Grain Sorghum Net Return Comparison Tool

Rice Farm Cash Flow Model

Rice Rental Evaluation Model

Furrow Irrigated Rice Budget

Provisia® Rice Budget

Sugarcane Farm Costs and Returns Model

Newsletter Information

A group of growers inquired about a quarterly newsletter being delivered to them containing relevant market news and agricultural policy events. As a result, this publication is delivered electronically per a quarterly release schedule. Please contact Dr. Mike Deliberto at mdeliberto@agcenter.lsu.edu to be added to the email distribution list. As always, subscription is free of charge.

QUARTER	Reporting Period	Release Date
1	January 1 through March 31	April 15
2	April 1 through June 30	July 15
3	July 1 through September 30	October 15
4	October 1 through December 31	January 15

Please direct questions and comments to Dr. Michael Deliberto, Department of Agricultural Economics and Agribusiness, LSU AgCenter. Mailing Address: 101 Martin D. Woodin Hall, LSU Campus, Baton Rouge, LA 70803. Office Phone: 225-578-7267. Email: mdeliberto@agcenter.lsu.edu Staff Report 2023-07. January 2023.

