A weekly Cornbelt digest of marketing, economic, agronomic, and management information.

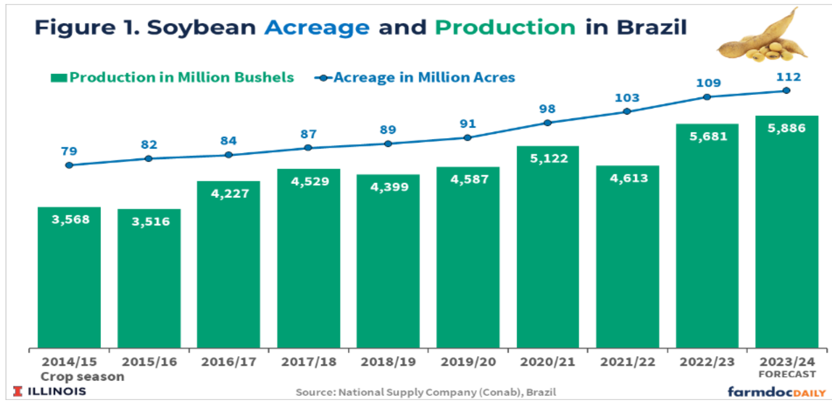
Commodity market price drivers—

- **Global coarse grain production** is projected higher due to higher corn production forecasts for Ukraine, Russia, and the European Union—partly offset by a reduction for Mexico. Barley production for Canada and Australia is also projected higher. [Coarse grain exports for the October-September trade year] are raised 90 mil. bu. The increased global exports are predominantly due to larger corn export forecasts for the US and Ukraine, which (except for the US) saw revisions to production estimates for 2023/24 this month. Corn imports are raised for Mexico, barley imports are boosted for China. The 2023/24 U.S. feed grain production forecast remains unchanged this month at 15.2 bil. bu. With no changes to the remaining supply components, the 2023/24 U.S. total feed grain supply remains at 16.7 bil. bu. Strong corn exports and healthy outstanding sales, particularly for Mexico, contribute to a 25 mil. bu. increase in the 2023/24 U.S. corn export forecast. The corn and sorghum season-average prices received by farmers remain unchanged; however, barley and oats prices are raised to align with reported prices to date.

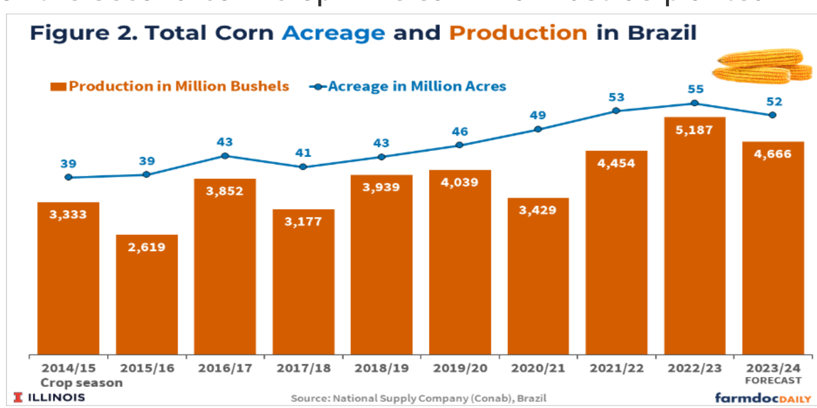
Figure 1
Monthly U.S. corn exports to Mexico and other trade partners

Source: USDA, Economic Research Service using data from USDA, Foreign Agricultural Service, *Global Agricultural Trade System*.

- **Brazilian farmers are still growing a big crop**, but corn and soybean production will not be as large as initially expected, thanks to weather adversities. That is the latest news from CONAB, the Brazilian government's supply agency for agriculture. IL Farmdoc ag economists report several factors that lead to the decision.
  - ✓ Soybean planting is behind schedule. Conab reduced its soybean production forecast for 2023/24 to 5.886 bil. bu., down 1.4% from last month's projection. Despite the adjustment, Brazil is still expected to produce a record crop, 3% greater than in the 2022/2023 season. However, some analysts are more conservative, projecting Brazil's soybean harvest to be lower than last year because of the weather in key agricultural regions, such as Mato Grosso. Brazilian soybean acreage is expected to grow 2.7% to 112 mil. acres. 90% of the soybean crop is in the ground, compared to 96% at the same time last year. This is the slowest planting pace since 2015/16, when the soybean yields declined 5% compared to the previous cycle. Dry weather and high temperatures in the last two months have forced the replanting of soybeans in some areas.

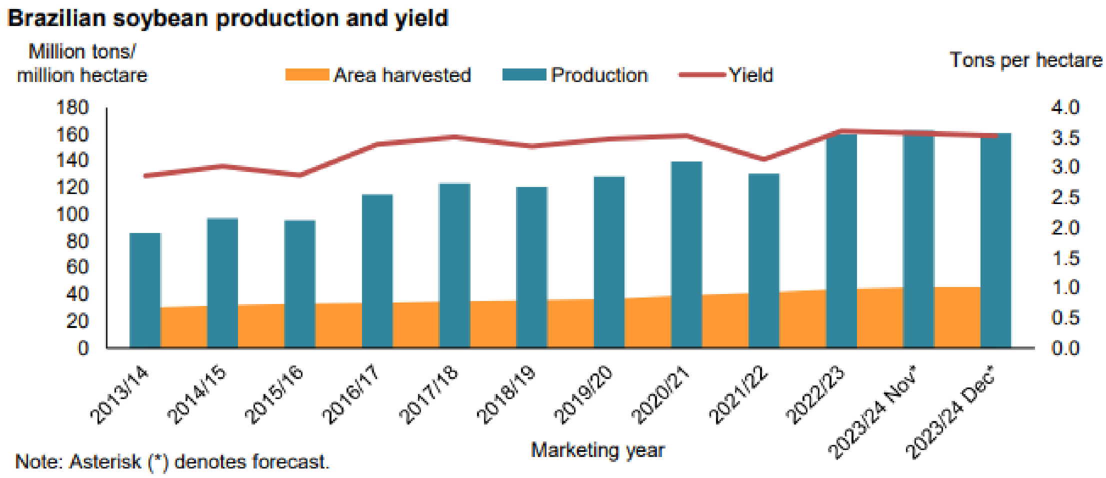


  - ✓ Slow planting progress in the central west of the soybean crop increases the likelihood of planting delays and further problems for the second corn crop. The safrinha must be planted within a specific date range, typically from January to the beginning of March, to avoid the crop maturing in the dry season, which starts in mid-April. The current delay in the crop season, combined with a smaller acreage, led to a 10% reduction in the corn production forecast compared to the previous season. Total corn production is projected to be 4.666 bil. bu. Because of high production costs and relatively unattractive futures prices, Brazilian total corn acreage is expected to decrease by 5% to 52 mil. acres, according to CONAB. Brazil's 1st and 2nd crop corn production are expected to decline by 8% and 11%, respectively, in the 2023/24.

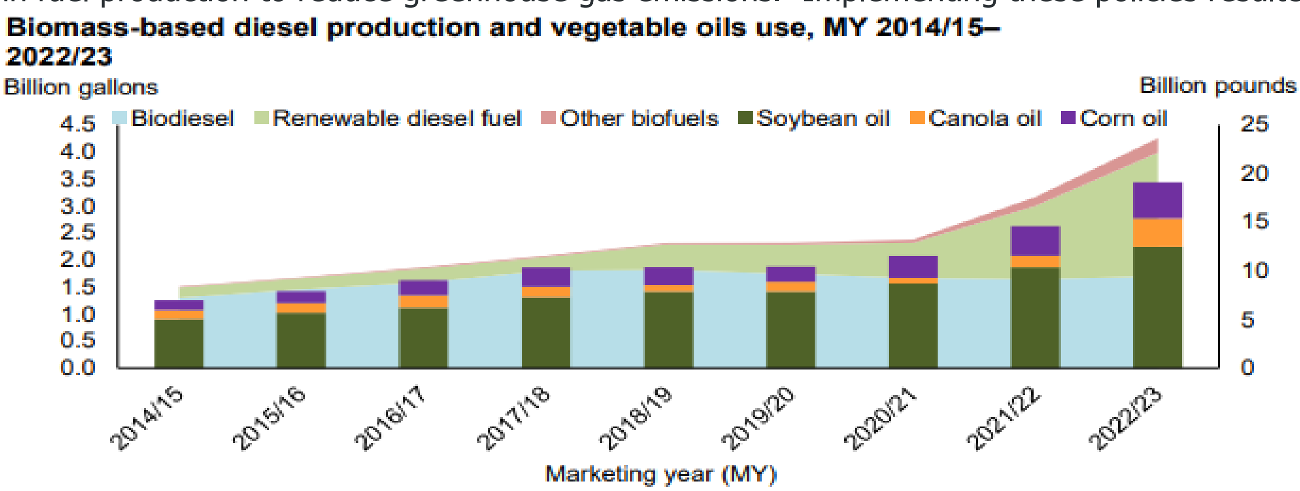


  - ✓ If Brazil's soybean planting season continues to run far behind in December or if El Niño takes a bite out of Brazilian yields, U.S. producers could benefit from opportunities for U.S. corn and soybeans to be more competitive in export markets. Although Chinese interest in U.S. grain market has slowed in the past year, the lower projection of the Brazilian harvest could potentially allow U.S. supplies to regain a share in global trade.

- **USDA's monthly Oil Crops Outlook for December** reduced Brazil's production forecast for marketing year 2023/24 by 75 mil. bu. to 5.91 bil. bu. on lower yield. Yield is forecast at 37.63 bu. per acre, down 1% from last month's forecast and 2% below last year's record yield. Harvested area is forecast at a record 112 mil. acres, unchanged from last month and up 4.5 mil. from last year. The shrinking prospects for Brazil's soybean production have increased the value of U.S. soybeans. In November, soybean cash prices at country elevators in Central Illinois increased by 68₵ per bu. to $13.08 per bu. Throughout the country, cash prices rallied above $13.00 per bu. by the middle of November and then prices declined to an average of $12.67 per bu. in the first week of December. Despite the gains, the forecast for average soybean price received by farmers for 2023/24 is unchanged this month at $12.90 per bu. as prices have begun to decline in December.

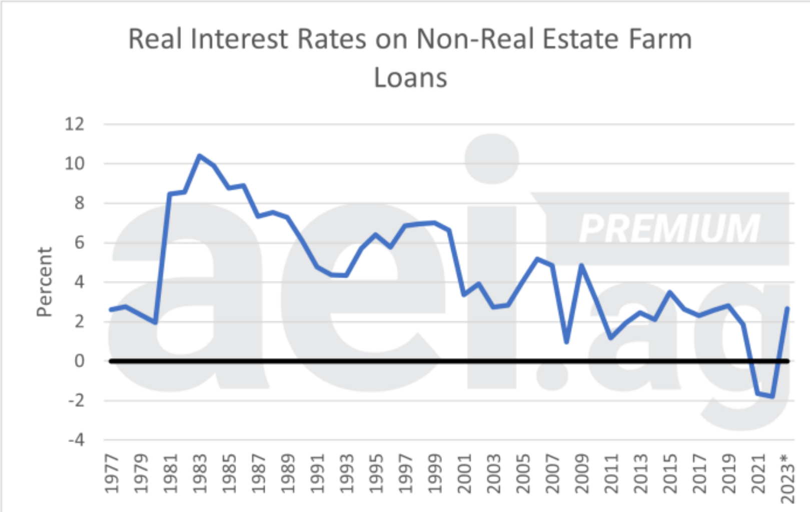


- **Higher US prices for soybean oil are attracting imports**. The US is not yet short of soybean oil, but could be, once the renewable diesel plants are completed and beginning pumping billions of gallons of their product into the aviation industry. USDA's latest Oilseeds Outlook says, "More recently, State and Federal biofuel policies have encouraged the use of various biomass feedstocks in fuel production to reduce greenhouse gas emissions. Implementing these policies resulted in significantly increased demand for vegetable oils as feedstock for biofuel production—particularly for renewable diesel. Soybean oil use for biofuel production in MY 2022/23 accounted for 47% of domestic consumption. The use of soybean oil in the food, feed, and other industrial category declined 2% and totaled 14.1 bil. lbs.



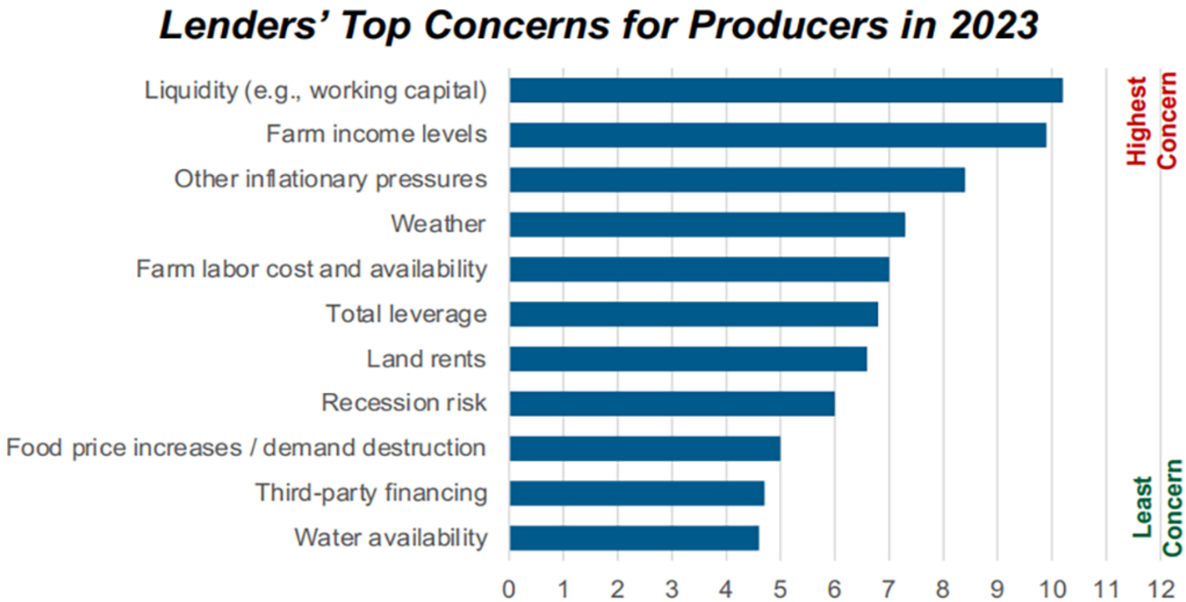
Ag Economy—

- **At the farm level,** preliminary data pegs real non-real estate farm interest rates at 2.67% in 2023, up from -1.78% in 2022 and -1.63% in 2021, says David Widmar of AEI.ag. These data are only available since 1977 – after the U.S. Prime Rate turned negative – but show that rates in 2021 and 2022 were the first time many agricultural producers lived through negative real interest rates. While rates will be higher in 2023, they will remain historically low. Between 1990 and 2010, real farm interest rates averaged 4.7%, considerably higher than today's levels. Negative real interest rates can have a way of fueling market exuberance. If borrowing money costs are less than inflation, it reduces the burden of servicing debt and leaves some wondering, "Why wouldn't I borrow at low nominal rates and repay with future, inflated dollars?" Negative interest rates certainly don't diminish inflationary pressures. With negative real rates behind us, it's worth considering how aggressive the Fed's rate hikes have been. In real terms, conditions have returned to something closer to normal. Furthermore, current levels are considerably lower than observations throughout the 1980s and most of the 1990s. One could argue that the recent rate hike hasn't been nearly as aggressive as the real hike deployed by the Fed during the early 1980s.



- **Lingering high prices** are expected to take a bigger toll on the economy in 2024. CoBank says the biggest problem for farm margins heading into 2024 is the elevated cost of production. While fertilizer prices have fallen, other production costs remain high. However, ag commodities will benefit from more upside price risk than down in 2024. Global grain and oilseed stock inventories are tight by historic measures, and the northern hemisphere will likely have a strong El Niño weather pattern during the growing season for the first time since 2015. The dollar will likely continue its recent decline, and global demand should return to a long-term growth trend. Also, the renewable diesel boom and the smaller U.S. soybean harvest of 2023 will drive an expansion of soybean acreage next year. Profitability for the livestock sector should modestly improve in 2024 as lower feed costs and domestic demand offset weak global exports. "By conventional measures, the U.S. economy is doing quite well," said **Rob Fox**, director of CoBank's Knowledge Exchange. "But consumers are increasingly feeling the pinch of higher prices for food, housing and other essential goods. People have anchored mental expectations about what prices should be and those anchors take a long time to move. Consumers are beginning to realize some prices aren't going back to where they were three years ago and changing their purchasing behaviors to reduce spending. That will create stronger headwinds for the U.S. economy in 2024."

- **Farmer Mac** and the Agricultural Bankers Association say interest rate volatility is their highest concern in the ag economy, the same top concern as last year. "The survey respondents were widely split on the direction they expect interest rates to take. Just over half (51.7%) believe short-term rates will continue to increase over the next year and 47.2% expect long-term rates to rise – though it's important to note the responses were given in August." The survey preceded the Fed action of last week to hold interest rates steady, and plan on several cuts in 2024. The interest rate environment has caused shrinking margins for lenders and is expected to cause increased competition – which respondents listed as their second highest concern. "As the Fed increases rates, the goal is to slow the economy. If you succeed in slowing down the economy, you're probably going to see a slowdown in loan demand from your borrowers," says Tyler Mondres, senior director of research at ABA. "I think that's why we're seeing that heightened concern around lender competition. As rates rise, banks and other ag lenders are going to be facing stronger competition for those good deals." The third most listed concern for lending institutions was credit quality. Mondres says, "When I read these survey responses that say they're expecting delinquencies and charge-offs to rise, my interpretation is that it's really just an expectation for things to normalize."



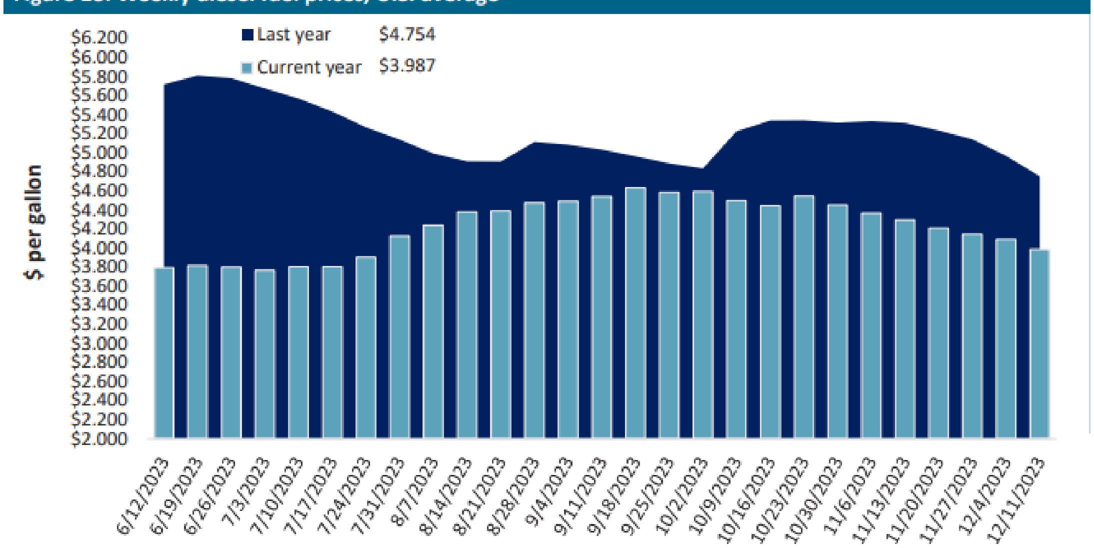
- **On the other side of the desk is the farmer** who is borrowing. What is he or she thinking? The survey found their top concerns as liquidity, farm income levels and other inflationary pressures – all of which can be linked together. "With farm incomes being as elevated as they have been, you wouldn't think working capital would be the No. 1 concern facing producers," says Blaine Nelson, senior economist at Farmer Mac. "What USDA is putting out is that folks are using their working capital, even with elevated incomes, to pay for things both because stuff costs more and because interest rates have spiked." Despite this combination, ag lenders estimated that more than three-quarters of their borrowers will remain profitable in 2023 and two-thirds will remain profitable through 2024.

Seed, Fertilizer, Fuel, Chemical Inputs—

- **"Biggest news of the week** has been the report that Senators Grassley / Baldwin / Ernst are filing a bill to look into the fertilizer markets. After 3.5 years of extreme volatility, D.C. seems to finally be taking notice," says fertilizer specialist Josh Linville at StoneX. And he has several diverse thoughts about the development:
  - ✓ "On the one hand, this could be beneficial. Phosphate import duty rates are still keeping the North American supply and demand very tight heading into a short winter. Certain companies in the field have a very large percentage of overall production of different products. With some rumors of facilities being for sale, those percentages could grow.
  - ✓ "On the other hand, how often has the government intervened…and it be beneficial? Ultimately, I think what they will find is that many of the issues from the last 3.5 years have been internationally, not domestically, driven. European natural gas prices spiking due to Russia shutting off flows. Chinese government export restrictions. Multiple global production plant unplanned downtime. Spikes in demand due to grain prices rallying.
  - ✓ "North America needs to be more concerned about logistics in my opinion. River systems doing decent, but never more than a week or two away with no rain from struggling again. Much of the system emptied this fall (very big run with favorable weather). Only 90-days between mid-December and mid-March when spring application begins. Big hole to fill."
- **More potash, means lower prices**, followed by increased demand and higher rates of application. But infrastructure may get in the way, in the shape of the eastern European conflict, and the low water on the Mississippi. Global fertilizer supplies overall are increasing and costs are declining says [fertilizer specialist Russ Quinn](). The outlook for 2024 suggests potash application could increase to about 5%, according to Rabobank. With the fertilizer prices at lower levels and affordability more positive, the world's farmers are expected to increase sales into 2024. The Israel-Hamas war has the potential to be another risk to the global fertilizer market, according to Josh Linville, director of fertilizer for StoneX. Israel is the fourth largest potash producer in the world and an unstable situation there is not positive news, he said. "A regional conflict would lower fertilizer supply and create many issues," Linville said. "I tell folks all the time to be aware of these global events as they can change things dramatically." Linville said more potash supply could be a positive aspect of the potash market in 2024. With more potash mines opening in various locations across the world, the supply of the nutrient appears to be solid into the next year. Mississippi River levels could have some influence on the potash market in the United States. Grain moves down the river system, but fertilizer moves up the river during winter to get to northern growing areas for spring application.

- **In global phosphate production**, China ranks No. 1, followed by the U.S., Morrocco, and Russia, says [Josh Linville of StoneX](). "Three of the biggest exporters of phosphate in the world have a hurdle to cross over to get to come here," Linville says referencing China, Morocco and Russian duties. While the trade policies are weighing on the global market, Linville says domestic logistics are the most concerning factor for Spring 2024. "We have an empty system right now, and we have three months until the middle of March when a lot of farmers start going to the field with phosphate and potash again—that is not a long time," he says pointing to low river levels and ongoing rail delays as key elements in moving product. He adds: "I'm more concerned about logistics to get everything ready for spring season. I know this is a situation that we have cried wolf on so many times. I'm not going to sit say 'oh you're just not going to go to get it,' but my fear is farmers will have to be willing to wait and be willing to pay." Linville's top takeaway from the dynamics of the phosphate market is to talk to your retailer—even if you aren't ready to buy. He says there is no better time than the present for everyone to set expectations for spring. "In this market, there's a lot of risk from the farm gates to the retail side. So, more conversation goes along way this year," Linville says.
- **Compared to the March/April 2022 high prices**, [StoneX fertilizer VP Josh Linville]() says the bottom has dropped out of fertilizer values. Urea is down 66%. UAN is down 62%. NH3 (spring pay) is down 57%, and potash is down 61%. Linville admits corn prices are also down, but not nearly as much as wholesale fertilizer.
- **Diesel Price Drops Below $4,** according to USDA's [Grain Transportation Report](). For the week ending December 11, the U.S. average diesel fuel price fell 10.5₵ from the previous week to $3.987 per ga.—76.7₵ below the same week last year. This marked the first time since July 24 that the average diesel price had dropped below $4 per gal. Among the regions, over the last week, the Midwest price declined most, by 12.5₵ to $3.90 per gal. Over the last 7 weeks— from the week ending October 30 to the week ending December 11—the U.S. average diesel price fell by 55.8₵ per gal. According to the Energy Information Administration's (EIA) December Short-Term Energy Outlook, retail on-highway diesel prices per gallon are expected to average $3.95 in 2024—down 30₵ from EIA's November forecast.

Figure 13. Weekly diesel fuel prices, U.S. average



Agronomy—

- **In this year's annual** National Corn Growers Association yield contest, David Hula of Charles City, VA, set a new world record of 623.84 bu. per acre with Pioneer hybrid P14830VYHR surpassing his previous world record of 616 bu. per acre set in 2019. [The top 3 national winners in each of the 9 categories are here.]() Of those 27 entries, 18 were Dekalb numbers, 7 were Pioneer hybrids, and AgriGold and Dyna-Gro each had a top winner. Only 11 of the top 27 were from a traditional Cornbelt state, indicating weather challenges in 2023. IL winners are on the NCGA site, beginning on page 11.

Rank	Entrant Name	City	Hybrid Brand	Number	Yield
IL					
B: Conventional Non-Irrigated**					
1	Troy Uphoff	Findlay	DEKALB	DKC64-21RIB	362.4982
2	Elmer Rahn Jr	Mount Carroll	Pioneer	P1742Q™	324.2379
3	Kurt Sudholt	Albers	DEKALB	DKC68-35RIB	319.5967
D: No-Till Non-Irrigated**					
1	Trent Uphoff	Findlay	DEKALB	DKC65-84RIB	324.8430
2	Kolby Haars	Geneseo	DEKALB	DKC64-35RIB	304.9197
3	Gary Reavis	New Berlin	Wyffels Hybrids	W7888RIB	298.6237
F: Strip, Min, Mulch, Ridge-Till Non-Irrigated**					
1	Tony A. Uphoff	Findlay	Dyna-Gro	D56TC44	322.5764
2	Randy Haars	Geneseo	DEKALB	DKC66-18RIB	321.7562
3	Alan Johnston	Galva	DEKALB	DKC66-06RIB	319.4827
G: No-Till Irrigated					
1	Dan Luepkes	Chana	AgriGold	A641-85STXRIB	319.8027
2	Melissa Yocum	Oregon	AgriGold	A6499STXRIB	307.9931
*	David Luepkes	Chana	AgriGold	A6499STXRIB	295.7623
3	Chase Sailer	Carmi	Pioneer	P1718AML™	275.5858
H: Strip, Min, Mulch, Ridge-Till Irrigated					
1	David Luepkes	Chana	AgriGold	A643-52VT2RIB	308.1858
2	Greg McClure	Saint Francisville	AgriGold	A647-79VT2PRO	307.0423
*	Dan Luepkes	Chana	AgriGold	A643-52VT2RIB	306.9527
*	Melissa Yocum	Oregon	AgriGold	A643-52VT2RIB	306.5372
3	Chance Lucas Meyer	Manito	Channel	218-44VT2PRIB	300.8473
I: Conventional Irrigated					
1	Kristen Spangler	Green Valley	Pioneer	P14830Q	322.1285
2	Phillip Friedrich	Green Valley	DEKALB	DKC66-18	316.8724
3	Matt Willits	New Boston	Pioneer	P1027AM™	311.4706

The Uphoff family has become a perennial name on the winner's list. Nationally, Troy, (pictured) was 2nd in the conventional non-irrigated category for Cornbelt states with his 362.49 yield. His brother Trent with a different hybrid and different part of the farm harvested a 324.84 yield in the no-till, non-irrigated category, placing 3rd in that division. Father Toney entered the strip-till, non-irrigated category with a different hybrid, from a different company and harvested 322.57 bu., tops in that category for IL, but barely missing 3rd place nationally in that category. Although they were not available for comment for this issue, [a video interview will be found later this week here](), as well as with the individual they credited for their success.

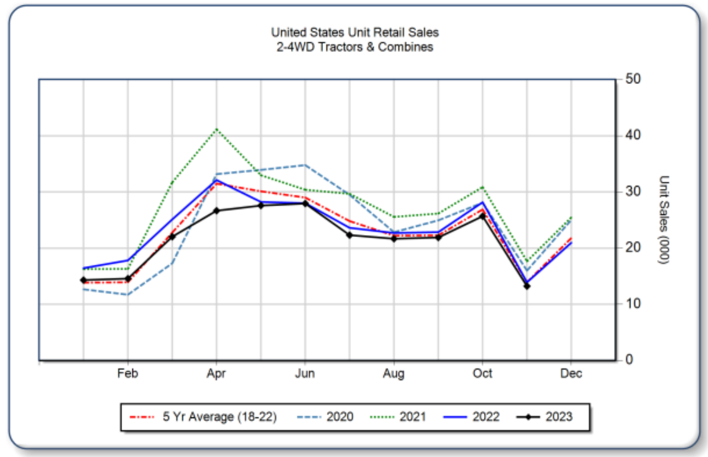
Biofuels--

- **Sustainable Aviation Fuel just got a huge boost** from the Treasury Department that could clear a major new corn ethanol market for take-off. Treasury's new tax guidance could create a 36 bil. gal. market for Sustainable Aviation Fuel made with biofuels like corn ethanol. The news follows Virgin Atlantic's first-ever 100% SAF trans-Atlantic test flight from London to New York. The COP 28 Climate Summit in Dubai agreed to triple the use of renewable fuels by 2030 and phase out fossil fuels by 2050. That is to keep the global average temperature from hitting a critical climate-changing benchmark. The U.S. Treasury Department will use a modified version of the GREET model as a measurement to determine reductions in greenhouse gas emissions. The agency will use the model as it allocates tax credits for sustainable aviation fuels under the Inflation Reduction Act. GREET, which stands for the Greenhouse Gasses, Regulated Emissions, and Energy Use in Transportation, was developed by the Energy Dept. to measure greenhouse emissions from the field to the car or plane.
    - ✓ **GREET is a really big deal**, says IL Farmdoc ag economist Scott Irwin, a biofuels economics specialist. In this video, Irwin says the airlines will depend on Cornbelt agriculture for their future fuel needs, which total billions and billions of gallons.
    - ✓ Renewable Fuels Association head Geoff Cooper says the Treasury's accepted a key modeling tool to measure carbon intensity and eligibility for a make-or-break tax credit, "We were looking for the inclusion of the Department of Energy's GREET model in this guidance, and we were happy to see that it is, in fact, listed as an approved methodology for doing that analysis." Cooper adds that SAF is a bulwark against a transition away from liquid fuels in the motor vehicle fleet, "Demand for liquid fuels in light-duty transportation we do expect to be flat or declining over the long-term, as we do see greater fuel economy and more electrification in the light-duty fleet. So, we look at aviation as a potential huge new market opportunity."
    - ✓ **The National Corn Growers Association** was pleased to hear the Treasury's decision. "Given that GREET was created by the government and is widely respected for its ability to measure reductions in greenhouse gas emissions from the farm to the plane, we're encouraged by this," says NCGA President Harold Wolle. "We're eager to help the aviation industry reduce its carbon footprint and look forward to helping ensure the final model helps achieve that goal."
    - ✓ **"America's soybean farmers** are always innovating in an effort to expand our markets and provide even more benefits to consumers," said Josh Gackle, American Soybean Association president. "We are very pleased with this guidance and the opportunities it could bring for soy. Biofuels continue to be not only a *viable* market but a *growing* market when it comes to U.S. roadways and workforce fleets. There is legislation on the table that would expand biofuels' great functionality and environmental benefits to ocean-going vessels. And now, with this guidance supporting soy and other plant-based feedstocks going into sustainable aviation fuel, the sky truly is the limit for soy."

- ✓ **"We are confident** in the scientific data backing the GREET model and look forward to the confirmation the administration finds as they analyze it's data," said IL Corn Growers President Dave Rylander. "The GREET model accurately depicts agriculture's environmental role and opens a world of new opportunities for sustainable aviation fuel."

Agribusiness—

- **As noted in some of the information from lenders**, fewer farmers are putting money down on new farm equipment. And that is also quantified by the Association of Equipment Manufacturers. Curt Blades of AEM says, "The sale of all tractors during November 2023, in the U.S. were down 5% from the same month last year. In November, a total of 12,958 tractors were sold which compares to 13,603 sold in 2022. Sales of 2-wheel drive 100+ HP are up 5%, while 4-wheel drive tractors are up 38%. Combine sales in November totaled 275, down 11% from last year. Year to date sales of combines in 2023 total 6,760, an increase of 4% from the same period in 2022."



- **Autonomy is the trend in agriculture**, and BASF is on that track. Corporate officials said several of their business units would begin to operate with autonomy. BASF plans to turn its agriculture, battery materials and coatings businesses into autonomous units to try to boost earnings, a major revamp for the German chemicals giant that has traditionally been highly integrated. However, "there is no intention to sell these businesses," CEO Martin Brudermueller said during an investor conference. Bayer, a rival maker of seeds and crop chemicals, last month said it was considering breaking up its business to improve a battered share price.

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