NATIONAL CORN GROWERS ASSOCIATION

NCGA Economic Update 2024: 2Q

Quarterly overview of U.S. corn industry trends, challenges, opportunities, and market conditions.

Corn Industry Overview

The United States is a global leader in corn production, producing a record 15.3 billion bushels of corn on 94.6 million planted acres in 2023.

Founded in 1957, the National Corn Growers Association represents nearly 40,000 dues-paying corn growers and the interests of more than 300,000 farmers who contribute through corn checkoff programs in their states. NCGA and its 50 affiliated state associations and checkoff organizations work together to help protect and advance corn growers' interests.

IN THIS ISSUE

War Worries: Higher Oil & Fertilizer Prices Ahead?

With escalations in the Middle East, disruptions to oil supplies and fertilizer supplies is a concern that could lead to higher oil, energy, and fertilizer prices.

From January to April 2024, crude oil and Urea Ammonium Nitrate (UAN) prices increased more than 20%. Oil prices closed over $90 per barrel. Aside from the oil price spike on initial market reactions to war in Israel, prices hit the highest point since November 2022. Corn price dropped over 8% in the same period, moving opposite of oil and UAN.

The average number of bushels of corn needed to buy a barrel of crude oil has increased 61% since 2020. The number of bushels needed to buy one ton of UAN has fluctuated over time. Fertilizer prices have declined, but the large relative drop in corn price means it takes more bushels to buy a ton of UAN in 2024 than it did in 2023.

Bushels of Corn Needed To Buy One:

	Barrel of Crude Oil	Ton of UAN
2020	11.9	34.1
2021	12.2	58.3
2022	14.3	76.8
2023	14.6	46.7
2024 YTD	19.1	59.8

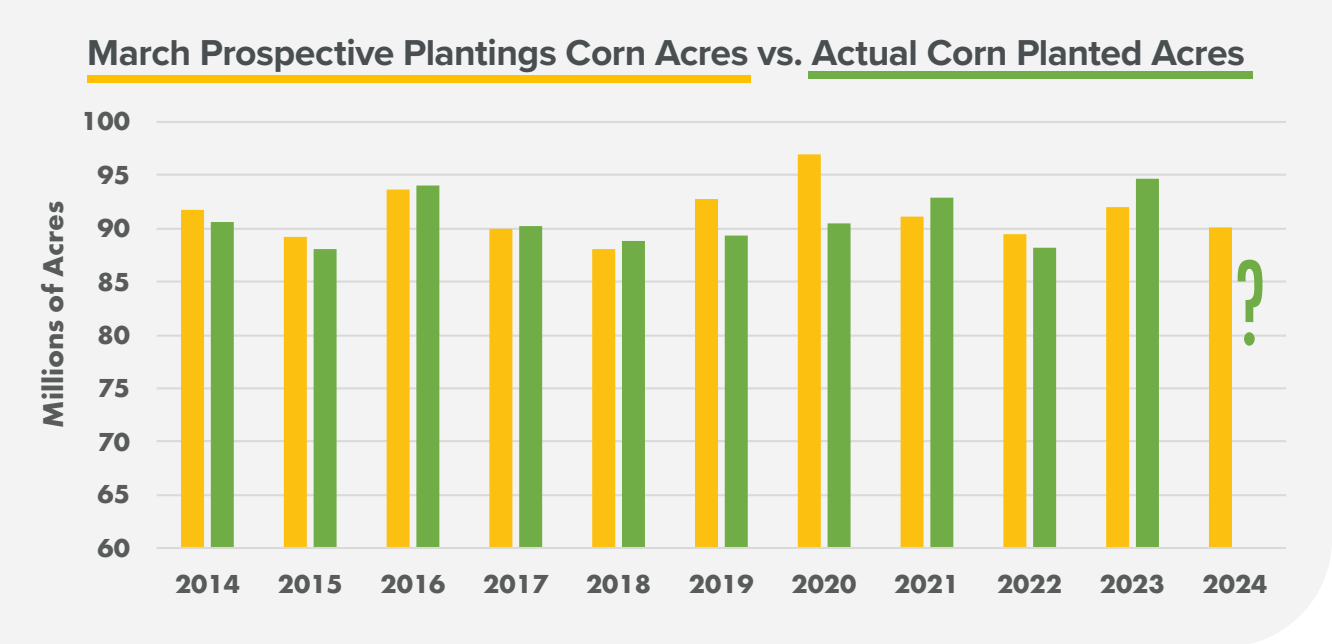
Takeaway: Increasing prices in the oil, energy, and fertilizer sectors can trigger higher inflation in a time where global economies are making strides to lower inflation. For farmers, this means it takes more corn to purchase these important inputs.

Prospective Plantings: The Great Acreage Debate

The USDA March 2024 Prospective Plantings report indicated farmers intent to plant 90.0 million acres of corn, 86.5 million acres of soybeans, and 47.0 million acres of wheat. Corn and soybeans share many of the same acres across years, but the farmer expectations result in each crop at one million acres below the estimates released by the USDA as part of the Agricultural Outlook Forum in February, driven by a notable drop in total principal crop acres.

The decline in principal crop acres may be due to several factors. Given grim crop profitability outlooks, not planting may be the lowest loss scenario on some farms. Farmers in severe-drought areas may not anticipate planting due to poor soil moisture conditions. There could be a higher number of cropland acres enrolled in the Conservation Reserve Program in 2024 given USDA opened sign-up for multiple CRP options in the first quarter of this year. Expansion in renewable energy projects and urban sprawl could also consume additional cropland acres.

The 90.0-million-acre survey-based expectation for corn in 2024 is 4.6 million lower than planted in 2023 but remains higher than the 88.2 million corn acres planted in 2022 and the 20-year average of 89.3 million acres.



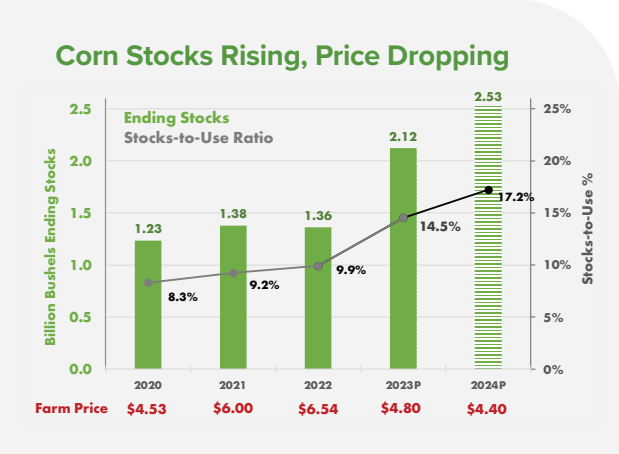
There have been more corn planted acres than indicated by March prospective plantings 11 of the past 20 years. In that time, actual corn plantings have averaged 69 thousand acres over March prospective planting estimates, excluding 2019 with exceptionally high total prevent plant area. However, year to year differences are often much higher. In the past two years alone, the final planted acres have ranged from 1.3 million acres lower to 2.6 million acres higher than March prospective planting estimates.

Takeaway: Anticipated corn planted acres for 2024 are lower than 2023 but well within the normal range of recent years. Large swings from the March survey to final planted acres are common, even in years without major weather influences during planting.

Price Prospects for 2024 with Burdensome Stocks

U.S. corn farmers produced a record 15.3-billion-bushel corn crop in 2023. Despite an increase in demand, surplus corn is projected at 2.12 billion bushels, a taxing level in the market. The forecast stocks relative to use is 14.5% after three years under 10%. Generally higher stocks-to-use means lower prices, which is concerning given the outlook for the 2024 crop.

The February USDA Outlook for 2024/25 ending stocks at 2.53 billion bushels and stock-to-use at 17.2% would be the highest levels since 1987 and 2005, respectively. The price outlook for 2024 at $4.40 is below the $4.80 USDA average cost of production. Other row crops face similar outlooks.

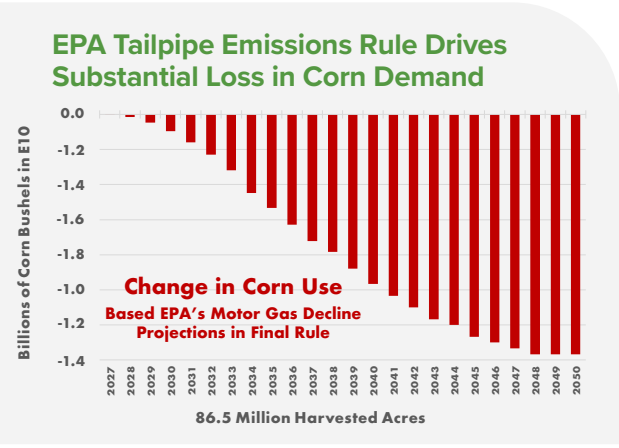


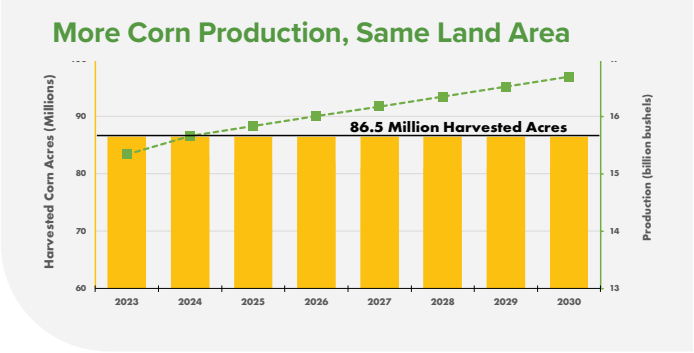
Takeaway: While planting their 2024 crop, farmers face poor price prospects and outlook for negative margins. Market conditions and policy that bolster demand are needed.

EPA Tailpipe Emissions Rule Hurts Corn Farmers

The Environmental Protection Agency (EPA) March 2023 final rule for vehicle emissions hastens electric vehicle sales from a market-driven baseline, reducing motor gasoline use. Using EPA's projections for decline in gasoline use due to the rule, NCGA analysis finds corn demand reduced by 550 million bushels from 2027 to 2032. The annual loss exceeds 1 billion corn bushels in 2041 and grows over time.

Other recent studies show forecasted timing and size of corn loss could be accelerated as real-world factors are layered in the projection.





Given expected yield driven productivity gains, an extra 1 billion bushels of corn could be produced annually by 2030 on 86.5 million harvested acres, the same area as 2023.

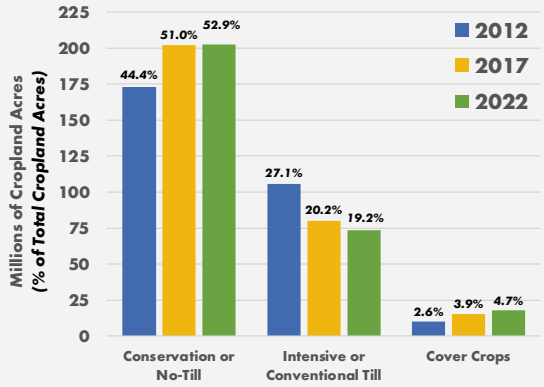
Takeaway: Losing 1 billion bushels of corn demand each year while capable of producing an extra 1 billion bushels would be doubly detrimental to U.S. corn farmers and the rural economy. This accentuates the need for higher ethanol blends that allow for decarbonizing the internal combustion engines on the road today with infrastructure already in place.

Farm Conservation Grows, Ag Emissions Decline

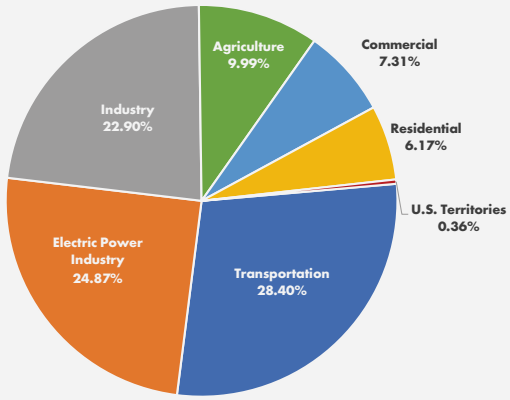
Farm conservation progress was proven in the 2022 Census of Agriculture published by USDA in February 2024, including the following highlights:

- Cover crop plantings increased 16.9% from 2017 to 18 million acres, 4.7% of total cropland.
- Use of intensive or conventional tillage practices declined 8.2% from 2017.
- Number of farms using no-till and conservation tillage grew 7.7% and 5.1%, respectively.
- No-till and conservation tillage grew to 52.9% of total cropland acres, while intensive or conventional tillage dropped to 19.2% of total cropland acres.

Cropland Farm Conservation Practices



U.S. Emissions by Economic Sector



The success of farmer adoption of voluntary, market-based and incentive-driven conservation practices is highlighted in the latest edition of the Environmental Protection Agency's Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2022 published April 2024. This annual report providing estimates of man-made greenhouse gas emission sources in the U.S.

From 2021 to 2022, U.S. agriculture emissions declined 1.8%, dropping to 634 million metric tons of CO2 equivalents, the lowest level since 2012. This represents just under 10% of total U.S. GHG emissions. While agriculture emissions declined, overall U.S. GHG emissions rose slightly but remain lower than pre-COVID levels.

The land use sector closely tied with agriculture is a net carbon sink. In 2022, land-use, land-use changes, and forestry (LULUCF) practices trapped 854 million metric tons of carbon in the soils, sequestering 13.5% of total U.S. emissions.

Takeaway: Expansion of sustainability practices on cropland acres and farms is happening counter to an overall decline in cropland acres and number of farms. Lower emissions from U.S. agriculture counter to an overall increase in emissions showcases the achievement of voluntary, market-based programs that incentivize farmer adoption of conservation practices.

Resources Referenced:

- USDA March 2024 Prospective Plantings Report
- USDA Grains & Oilseeds Outlook, February 2024
- EPA Final Rule: Multi-Pollutant Emissions Standards for Model Years 2027 and Later Light-Duty and Medium-Duty Vehicles
- Corn Demand Takes a Hit in EPA's New Tailpipe Rule
- 2022 USDA Census of Agriculture
- EPA's Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2022

Krista Swanson
NCGA LEAD ECONOMIST
swanson@ncga.com