



2023 BANK IOWA
AG INDEX



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Introduction

About the Bank Iowa Ag Index

The Bank Iowa Ag Index was developed in partnership with Bank Iowa agriculture clients to determine the sentiment of Iowa farmers on issues related to a range of topics – from the ag economy and labor challenges, to the integration of automation and the influence of agtech on the farm.

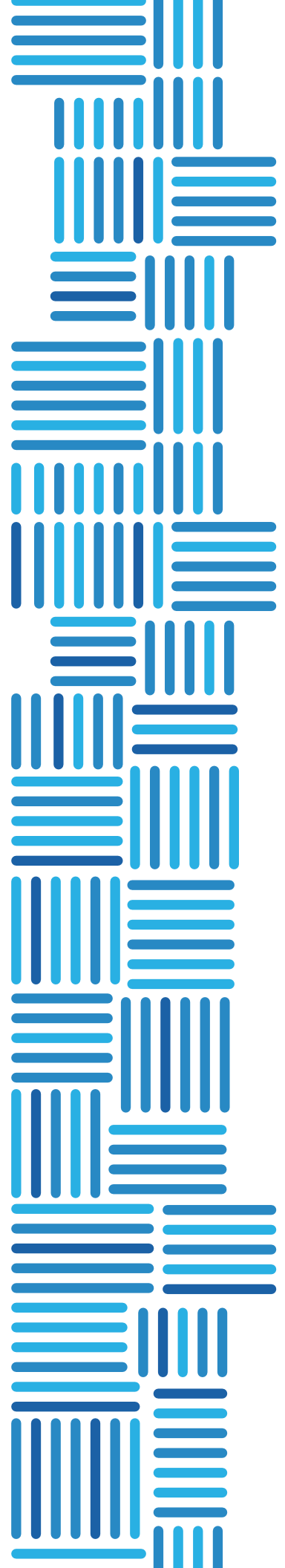
The following report includes the results of two years' worth of data; a 2021 survey that included responses from 407 Iowa farmers which was used to set a baseline, and a 2022 survey of 671 Iowa farmers to analyze against the prior year's results. Both reports are based on responses acquired in the fall of 2021 and 2022 respectively. Analysis is provided based on the time periods data was acquired and may not reflect current market conditions.

Bank Iowa's Interests

Bank Iowa is highly invested in the success of Iowa farmers as their ability to thrive provides opportunities for the communities we serve to sustain and enhance their way of life. The 23 Iowa communities in Bank Iowa's footprint include over 275+ team members that not only serve the agriculture community but also call these communities home.

About Bank Iowa

With more than \$1.9 billion in assets, Bank Iowa ranks as one of the leading independent ag banks and the second-largest family-owned bank in the state.

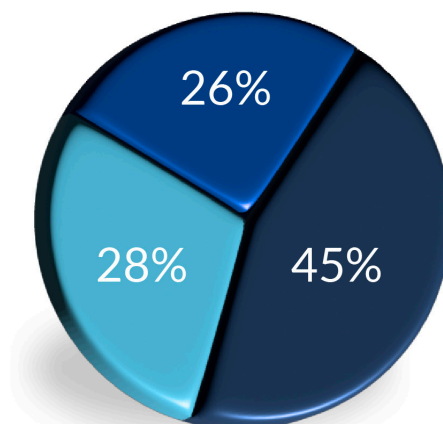


1 Outlook




2023 Iowa Ag Economy Outlook: Positive Overall

Optimism was a strong theme among the ag economy outlook-focused questions for participating Iowa farmers. The majority answered that the ag economy is in the same or better shape than it was a year ago. The same majority stated that the ag economy will be better off in 2023 than last year. This data strikes a similar chord to the fifty-six percent of responders who are happy about their operation's performance last year. Notably, smaller operations tended to be more optimistic than larger operations.

Compared to one year ago, how do you feel your operation stands today financially?



Responses

-  Better than last year
-  Worse than last year
-  About the same

Outlook

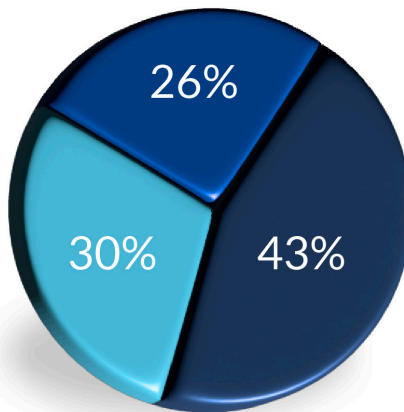
2023 Ag Economy Outlook: Positive Overall

While the majority of Iowa farmers' outlook on the 2023 ag economy is positive, national farmer sentiment remains weak. Sixty-seven percent of Iowa farmers participating in Bank Iowa Ag Index research said they believed the ag economy would be the same or stronger in 2023. Alternatively, the June 2022 Purdue Ag Barometer found readings two full points lower than those observed in May 2022. The Purdue Ag Barometer had not been that low since April/May 2020, during the height of the Covid-19 pandemic. Purdue attributed the weak sentiment to inflation on farmer inputs.

Why are Iowa farmers more optimistic? Jim Plagge, the CEO and President of one of Iowa's leading ag banks, Bank Iowa, offered some insight.

"The outlook for farm commodity prices is positive, which is the main contributing factor for the optimism of Iowa farmers," said Plagge. "Despite lower-than-average rainfall in most areas, Iowa's yields were generally better than expected. Those yields show the resiliency of modern genetics and helps improve farmer confidence in the possibilities of a good crop even when growing

Looking ahead, what do you think your operation's financial standing will be one year from now?



Responses

- Better than last year
- Worse than last year
- About the same

“The outlook for farm commodity prices is positive, which is the main contributing factor for the optimism of Iowa farmers.”

conditions are not ideal.”

The Bank Iowa research found an especially significant jump in optimism among smaller producers as compared to the previous year.

“Smaller producers generally own a larger percentage of the land they farm, so they are not as heavily impacted by increased farmland rental rates. In fact, landowners are often the beneficiaries of higher rates,” Plagge surmised. “With commodity

prices remaining high in 2022 and a positive outlook in 2023, the cost of production for larger producers will likely increase to a greater degree than smaller producers,” Plagge said.

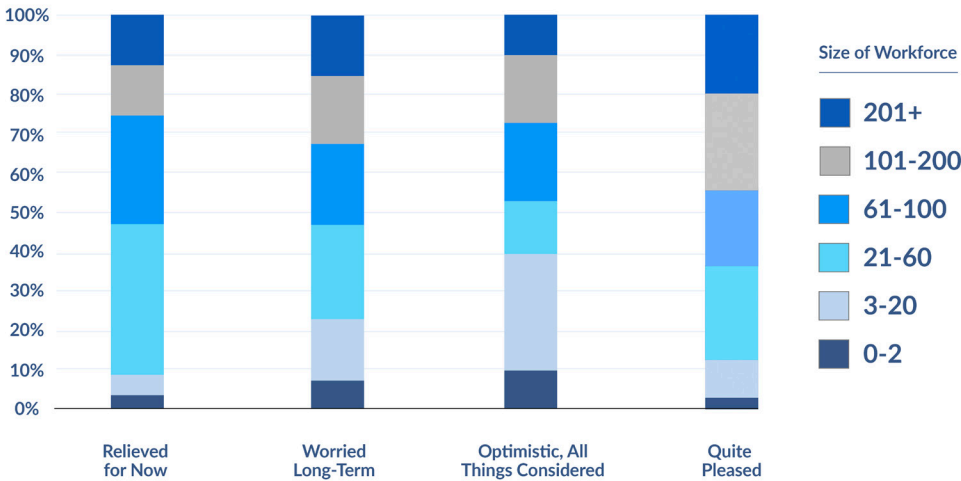
Given the unique nature of Iowa's commodity prices and the modern genetics of crops, Iowa farmers' positive outlook is valid. Additionally, farmland owners have greater reason for their sunny disposition as rental rates rise on farmland.

1 Outlook

Ag Economy Outlook Remains Strong, Despite Individual Operation Concerns

In both 2021 and 2022, Iowa farmers who participated in the Bank Iowa research expressed very similar sentiment from year-to-year. Roughly seventy percent of respondents felt their financial position was better than or equal to the prior year. Most were optimistic about the ag economy in general, but less certain about what the future held for their own operation.

Which word/phrase best describes your feelings about last year?



Outlook

Ag Economy Outlook Remains Strong, Despite Individual Operation Concerns

Optimism remained steady in the Iowa ag community with sixty-seven percent of Iowa farmers saying the ag economy is in better or similar condition relative to the prior year. Additionally, sixty-nine percent said their operation’s financial standing will be the same or better a year from now.

The economic hope Iowa farmers expressed in the survey may be rooted in national data. In 2022, the U.S. Department of Agriculture (USDA) correctly forecasted above-average farm-sector profits. By the end of 2022, net income had reached \$162.7 billion, an increase of \$21.8 billion from 2021.

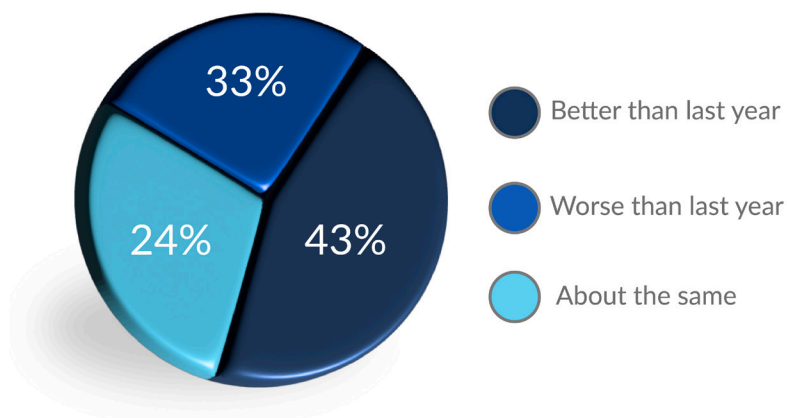
Despite these encouraging figures, farmers remained concerned about the financial health of their operations. This concern could be due to the rise in interest rates, leaving many anxious about the long-term effects the current state will have on the ag market. Operations with smaller cash reserves typically borrow to finance inputs, and higher rates result in higher input costs. Over time, this increase can weigh heavily on such operations.

“We expect farmers’ buying habits to become somewhat erratic as they watch, wait and eventually respond to cost pressures.”

In the November 2022 Purdue Ag Economy Barometer, twenty-one percent of respondents cited rising interest rates as a top concern. Just as inflation is impacting all Americans at the gas pump and the grocery store, Iowa farmers are experiencing the same spike in costs within their own operations. Undoubtedly, the cost of running a farm will continue to rise.

“We expect farmers’ buying habits to become somewhat erratic as they watch, wait and eventually respond to cost pressures,” said Plagge. “Especially when we consider that each decision on a farm impacts others down the supply and demand chain, we forecast an interesting next few years.”

In general, do you feel the ag economy is in better or worse shape than it was a year ago?



2 Workforce

Farmers Turn to Technology to Fill Labor Needs

One of the more notable findings in the 2023 Bank Iowa Ag Index was the significant year-over-year increase in administrative vs. physical jobs on the farm. Office jobs, such as bookkeepers and accountants, increased eighteen percent from the prior year. More than three in ten respondents reported that investments in technology have reduced the need to hire physical laborers. This may be a welcome trend, as many of the Bank Iowa Survey participants reported a lack of funds for hiring.

*What categories of workers do you employ on your operation?
(Choose all that apply)*



Workforce

Farmers Turn to Technology to Fill Labor Needs

Technology adoption on the farm has grown exponentially. In fact, less than one percent of 2023 Bank Iowa Ag Index responders said they were not planning on implementing agtech in their operation. This outlier group was comprised almost exclusively of farms with 0-2 employees.

Wide adoption of agtech appears to be reducing the need for traditional labor — a welcome outcome given the nationwide shortage of skilled workers. This shortage has certainly impacted farms in Iowa with more than three in ten Bank Iowa Survey participants reporting challenges finding labor in their areas.

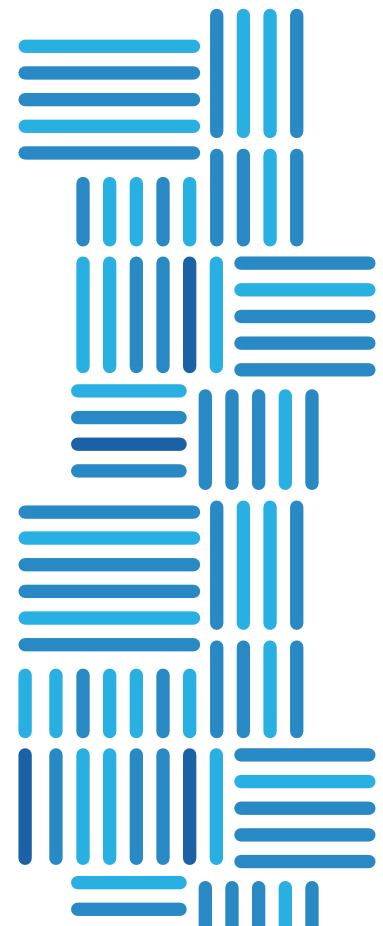
Farmers who participated in Bank Iowa's study have adopted several types of technology practices in their operations. Automation and livestock tech were cited as top investments, and thirty percent of farmers reported implementing artificial intelligence.

The rise of technology on the farm signals several opportunities for Iowa farmers. In addition to integrating automation, livestock tech and AI into their operations for better yields, improved efficiencies and cost control,

“Leaders of these organizations are anxious to prove sustainability to their stakeholders. They need to test and improve their solutions close to home and may be willing to give early adopters in Iowa lower-cost access to needle-moving technology.”

Iowa farmers are in the unique position to participate in the iteration and scalability of agtech.

“Our state is home to several agtech innovation hubs, as well large legacy agricultural corporations and one of the leading centers of agtech research and innovation, Iowa State University,” said Plagge. “Leaders of these organizations are anxious to prove sustainability to their stakeholders. They need to test and improve their solutions close to home and may be willing to give early adopters in Iowa lower-cost access to needle-moving technology.”

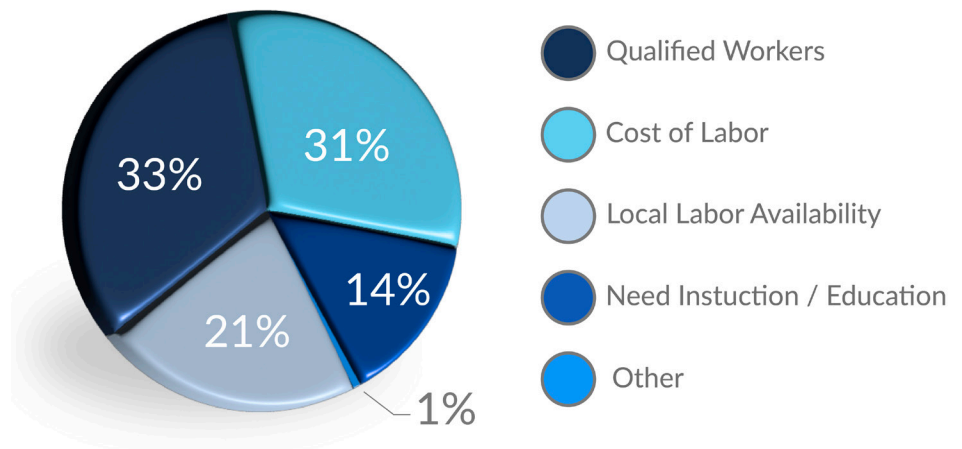


2 Workforce

Qualified Labor Becomes Primary Workforce Challenge

New research shows finding qualified labor has become the primary hurdle in ag employment. In 2021 Bank Iowa research, simply finding labor was ranked the No. 1 issue faced by farmers. In the latest survey, the availability concern ranked No. 3 behind finding qualified labor (No. 1) and labor expense (No. 2).

What's the biggest challenge you face regarding your farm's workforce?



Workforce

Qualified Labor Becomes Primary Workforce Challenge

Thirty-two percent of Iowa farmers reported general labor is no longer the largest issue facing the Iowa farming workforce. Labor availability has been replaced by finding qualified, skilled labor, and doing so has become more complicated.

Bank Iowa's ag lenders say it's vital for farmers to find qualified workers to keep their operations thriving for the future.

According to Emily Schwickerath, AVP Relationship Manager in Lawler, Iowa, "A majority of the available ag workforce requires additional experience and training. When Iowa farms lack specialized help, they have no choice but to outsource to sub-contractors, which is costing Iowa operations more each year."

Iowa farmers should consider both near and long-term methods for addressing the lack of qualified labor. Investing in current employees through better benefits, greater flexibility, upskilling programs and mentorship initiatives are just a few examples of methods for building lasting relationships.

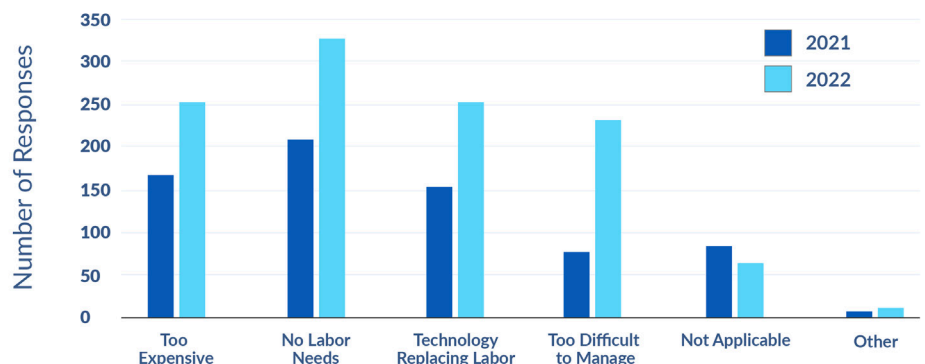
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Thinking of and treating employees as family is an effective mindset. And, it may not be much of a stretch. A farm family without a natural successor within its ranks may find it more palatable to sell to a long-time employee than a global conglomerate.

A nearer-term solution, of course, is using technology to either replace or augment labor. Iowa farmers cannot

afford to be complacent regarding labor. These changes are likely here to stay. Like other skilled industries, Iowa farmers may need to become their own universities, training the next generation with hands-on apprenticeships. Investing in the local workforce, in combination with investments in agtech, are two ways Iowa farmers can play an active role in changing the course for the future of farming.

*What are the reasons your farm has no workforce?
(check all that apply)*



3 Capital Investments

Agtech Augments Human Contributions On The Iowa Farm

For farmers with access to capital, technology appears to be leading the way in terms of investment decisions. Research also shows that plans for technology investments vary based on the size of a farm operation. Bank Iowa's 2023 Ag Index revealed nearly thirty-six percent of Iowa farmers were considering investing in technologies, compared to just twenty-two percent the previous year.

*Anticipated capital investments by farmers for next year
(Choose all that apply)*



Machinery & Equipment

45%



Infrastructure or Buildings

43%



Farmland

37%



Technology

35%

Capital Investments

Agtech Augments Human Contributions On The Iowa Farm

Iowa farmers are showing a growing interest in agriculture technology, or “agtech.” Data acquired shows that from 2021 to 2022, technology investments had the largest categorical growth increasing by fourteen percent, with the highest growth demonstrated among larger farm operations. Smaller operations reported fewer plans to integrate agtech into their operations.

Among smaller operations, just seventeen percent say agtech will be part of their capital investment strategy. Small farms seem to be considerably less invested than larger operations, given that thirty-six percent of all surveyed farmers reported plans to invest in technology in the coming year.

As qualified labor becomes more difficult to find, larger operations with a greater need for workers are naturally more drawn to alternatives than their small-farm counterparts. Investing more in technology can fill the employment gap. The 2023 Bank Iowa Ag Index found that forty percent of those anticipating to

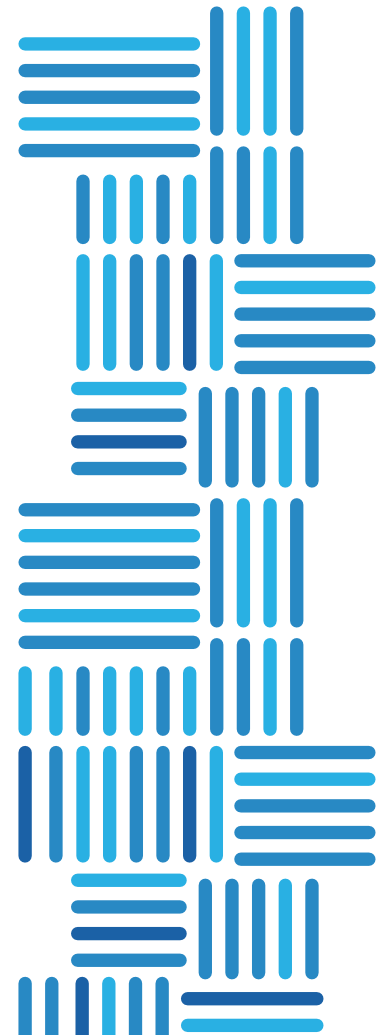
“When many farmers are running into slimmer margins, implementing tech can change the game in their operation.”

have smaller workforces in the next year are also planning to invest in technology to meet labor needs. According to Bank Iowa’s Austin Vrzak, VP Relationship Manager in Humboldt, Iowa, technology has helped launch a new era in farming.

“Precision and efficiency are the natural positives to integrating tech in farming,” Vrzak said. “When many farmers are encountering slimmer margins, implementing tech can change the game in their operation.”

Vrzak further explained that tech does not negate the need for labor on the farm. Rather, technology supports labor. “Many of the agtech solutions available on the market today are designed to make everyday work more enjoyable, reducing manual tasks and allowing farm employees to contribute at higher cognitive and creative levels. Greater job satisfaction leads to greater loyalty, which is important in today’s labor-scarce marketplace.”

As the need for qualified labor rises, so will the need for technology to augment human contributions. Farmers may want to consider early adoption as a strategy for competing for and retaining top talent.



3 Capital Investments

Iowa Farmers Invest Heavily In the Automated Farming Future

Nearly ninety-eight percent of survey respondents reported having implemented some type of ag technology on their operation. It's clear technology is helping Iowa farmers perform a variety of job functions necessary to thrive in a low-labor market. Automation technology is the most popular, followed by livestock tech and artificial intelligence.

*What types of technology have been implemented on your farm?
(Choose all that apply)*



Artificial Intelligence

31%



Automation

45%



Livestock Technology

46%

Capital Investments

Iowa Farmers Invest Heavily In the Automated Farming Future

*What is your reason for not making capital investments in the next year?
(Choose all that apply)*



Although the benefits of technology adoption on the farm is gaining more momentum, farmers still have a some reservations. The Association of Equipment Manufacturers (AEM) found five concerns in particular are standing in the way: cost, security, lack of ROI, no local support and the lack of available labor to implement.

As farmers witness the successful implementation of agtech by peers, their skepticism is slowly fading. The 2023 Bank Iowa Ag Index uncovered a seventeen percent year-over-year increase in Iowa farmers' plans to make technology-specific capital investments. What's more, the number of Iowa farmers who said they are approaching capital investments "with extreme caution" decreased five

percent when compared to the year prior. A large number of respondents referred to technology investments as purchases they are making out of necessity.

Forty percent of those Iowa farmers participating in the Bank Iowa research had already adopted automation and anticipated making additional tech investments in the next year. Larger farms are more likely to invest in multiple layers of technology in their operation as compared to smaller operations.

Technology has changed every aspect of farming in the last several years. "Thinking back just a couple decades ago, self-navigating tractors were essentially science fiction," said Darrin

Bouray, Senior Relationship Manager in Bank Iowa's Shenandoah, Iowa. "Today, we find versions of automated implements on nearly every farm." Indeed, a 2022 study conducted by AEM and Farm Journal found a full ninety-three percent of farmers had adopted autosteer systems.

Farmers are finding new forms of value in technology with every passing growing season. A large portion of those that have already invested in agtech to augment their human contributions to the farm are doubling down, looking to earn even greater returns on their investments in an automated farming future.

Conclusion

Notable Findings

Iowa farmers are more optimistic than the national average in sentiment, and rightfully so. This positive outlook is valid, especially given the unique nature of our state's commodity prices, land values and the modern genetics of crops. At the same time, farmers expressed less confidence in the financial health of their own operations. Some had ongoing worries about the long-term effects of the current state will have of the ag market.

In addition to the high input prices and rising interest rate environment,

farmers also face challenges in finding qualified labor. Thirty percent of surveyed farmers reported having difficulties finding the right workers. At the same time, wide adoption of agtech appears to be reducing the need for traditional labor.

While early adopters reap the benefits of being ahead of the curve, those that haven't already invested in agtech to augment their current workforce should prepare for the future of automated farming with a sound succession plan to keep their farms thriving for generations to come.

