

Ag Decision Maker

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A BUSINESS NEWSLETTER FOR AGRICULTURE

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UPDATES

The following **Information Files** have been updated on extension.iastate.edu/agdm:

A1-76 How to Grow and Sell Carbon Credits in US Agriculture

A3-12 Historical Iowa Farm Custom Rate Survey

C2-87 Computing the Iowa Corn Suitability Rating for your Farm

The following **Videos and Decision Tool** have been updated on extension.iastate.edu/agdm:

A1-10 Chad Hart's Latest Ag Outlook

A3-12 Historical Iowa Farm Custom Rate Survey

C2-03 Importance of Using a Written Lease

C4-55 Building Your Professional Team

The following **Profitability Tools** have been updated on extension.iastate.edu/agdm/outlook.html:

A1-85 Corn Profitability

A1-86 Soybean Profitability

A2-11 Iowa Cash Corn and Soybean Prices

A2-15 Season Average Price Calculator

D1-10 Ethanol Profitability

D1-15 Biodiesel Profitability



The focus shifts to planting

By Chad Hart, extension crop market economist

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The April World Ag Supply and Demand Estimates (WASDE) report is the last report before the addition of the projections for the new crop year. So it represents the period of time when the markets transition from being global supply and demand focused to domestic supply focused. For the first four months of the year, the focus on demand has led to concerns as USDA has generally reduced crop usage for feed, industrial, and export sectors. The lighter disappearance has been accompanied by lower prices for both corn and soybeans. Meanwhile, global supplies continue to tighten, but not enough to support prices.

Since the beginning of the year, global corn production estimates have shrunk by 11.4 million tons or roughly 450 million bushels. The vast majority of this crop loss is occurring in Argentina as drought has ravaged their crops. The smaller global corn crop has not led to higher US corn use. Since the beginning of the year, USDA estimates of corn usage for ethanol has dropped 25 million bushels, usage for corn

sweeteners has fallen 10 million, and corn exports have been lowered by 75 million. So global corn supplies are shrinking, while US corn stocks have risen.

While global corn supplies are smaller year-over-year, global soybean production continues to rise, but the pace of growth has been dramatically cut back. Back in January, the global production estimate stood at 388 million tons. Now, it's been reduced by 18.4 million tons or 675 million bushels. As with corn, the vast majority of the massive cut is occurring in Argentina, where the production estimate has basically been cut in half. However, the market seems to be paying more attention to Brazilian supplies. Unlike Argentina, Brazil is still on pace for a record soybean crop. Within the US, domestic usage has slipped a bit, while export potential looks a bit brighter. Since January, USDA lowered domestic crush by 25 million bushels, but raised soybean exports by the same amount, leaving US ending stocks at 210 million bushels.



While crop usage has declined and prices have fallen, the economic outlook for crops is still positive. The rise in input costs over the past couple of years has not fully caught up to prices. The potential for profits has farmers once again expanding acreage. Both corn and soybeans stand to gain land in 2023 based on farmer intentions, but corn grabbed the lion's share of the acreage. Figure 1 displays the prospective corn area in 2023, as farmers across the nation are looking to expand corn plantings by four percent. While the expansion is fairly modest in the heart of the Corn Belt, the shift to corn in North Dakota and the Southeast is significant. The lingering impacts of the Western drought may have slowed the growth in corn area, but it definitely did not stop it. Given this increase in area and a look toward trendline yields, the 2023 US corn crop could be the largest on record, weighing in at 15.2 billion bushels. The soybean area expansion is set to be much smaller, growing by one-tenth of one percent, with the growth coming east of the Mississippi River or north of the Missouri River. Much like with corn, it is North Dakota and the Southeast leading the growth charge. A few of the large soybean production states, such as Iowa and Illinois, are holding steady on acreage. And five states could set or tie soybean planting records this year, Illinois, Nebraska, New York, Ohio, and Wisconsin. Although the acreage gain is minimal, a return to trendline yields would lead to a record 4.5 billion bushel soybean

Table 1. Global corn production. Source: USDA-WAOB.

Country or Region	2021-2022 estimate	2022-2023 forecast	Change from March 8	Change from 2021-2022
<i>Million tons</i>				
World	1,217.0	1,144.5	-3.0	-72.5
United States	382.9	348.8	--	-34.1
Foreign	834.1	795.8	-3.0	-38.4
Argentina	49.5	37.0	-3.0	-12.5
Brazil	116.0	125.0	--	9.0
Mexico	26.8	27.6	--	0.8
Canada	14.6	14.5	--	-0.1
European Union	71.4	53.0	-1.2	-18.4
Serbia	6.0	5.0	-0.4	-1.0
FSU-12	64.1	48.2	1.8	-15.9
Ukraine	42.1	27.0	--	-15.1
Russia	15.2	15.8	1.8	0.6
South Africa	16.1	16.7	--	0.6
China	272.6	277.2	--	4.6
India	33.7	34.6	--	0.9

Table 2. Global soybean production. Source: USDA-WAOB.

Country or Region	2021-2022 estimate	2022-2023 forecast	Change from March 8	Change from 2021-2022
<i>Million tons</i>				
World	359.8	369.6	-5.5	9.8
United States	121.5	116.4	--	-5.2
Foreign	238.3	253.3	-5.5	15.0
Argentina	43.9	27.0	-6.0	-16.9
Brazil	130.5	154.0	1.0	23.5
Paraguay	4.2	10.0	--	5.8
Canada	6.2	6.5	--	0.3
India	11.9	12.0	--	0.1
China	16.4	20.3	--	3.9

crop. So both crop markets are facing the potential for much higher supplies this fall.

When USDA released the prospective planting numbers at the end of March, the market quickly absorbed those numbers and immediately began to wonder if weather conditions would allow these shifts. An early taste of summer at the beginning of April had many Iowa farmers raring to plant. But the stubborn snowpack across North Dakota and Minnesota and a consistent stream of storms across the Southeast could delay the planned planting expansion in those areas. Timely planting is a strong key to reaching trendline yields and the markets tend to react quickly to any deviations in planting pace. At the beginning of the month, USDA restarted its weekly Crop Progress

reports. These reports will provide timely updates on planting progress, emergence, and crop conditions throughout the growing season. Figure 3 shows the range in corn planting pace since 1980, along with the most recent five-year average and last year's pace. As the graph displays, the bulk of corn planting occurs in the latter half of April and the first two-thirds of May.

Last year, there were sizable delays in corn planting throughout the month of April. While the pace of planting caught back up to the five-year average by the end of May, the delays provided enough concern for corn prices to reach their springtime peak in the middle of May. Any slippage of pace below the five-year average tends to support prices. The weather issues to the north and south of Iowa could create a similar run this year, but it would be starting at a lower point. Last year at this time, new crop corn futures were above \$7 per bushel and new crop soybean futures were in the \$15 range. As of April 14, new crop corn futures are in the \$5.60-5.70 range, pointing to a 2023-24 season average price of \$5.50 per bushel. New crop soybean futures are holding above \$13, indicating a 2023-24 season average price of roughly \$12.70 per bushel. With estimated production costs roughly \$5 per bushel for corn and \$12 per bushel for soybeans, prices have fallen from last year, but profits are available and could grow with any planting problems.

Listen to the latest [Market Outlook video](#), <https://youtu.be/AmPRRBmxt4k>, for further insight on outlook for this month.

Figure 1. Projected US corn plantings. Source: USDA-NASS; Units: 1,000 acres. Top number: 2023 acreage estimate; Bottom number: % change from last year

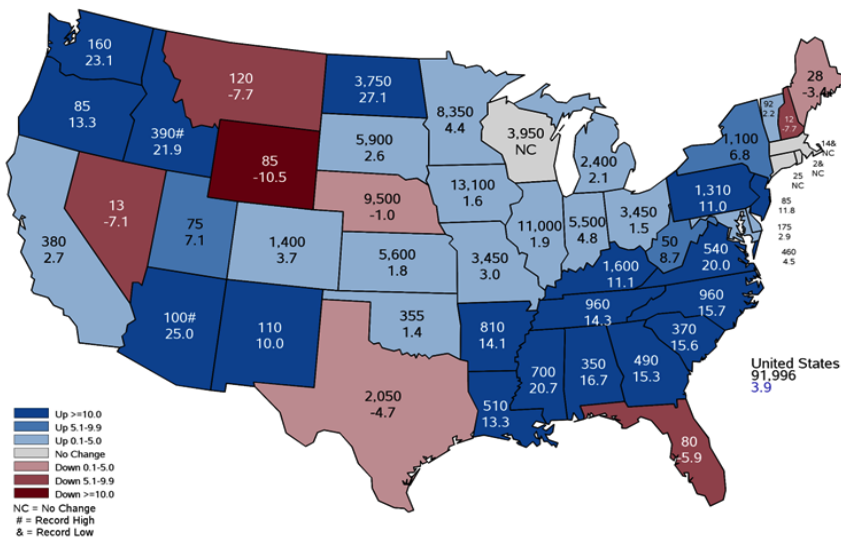


Figure 2. Projected US Soybean Plantings. Source: USDA-NASS; Units: 1,000 acres. Top number: 2023 acreage estimate; Bottom number: % change from last year

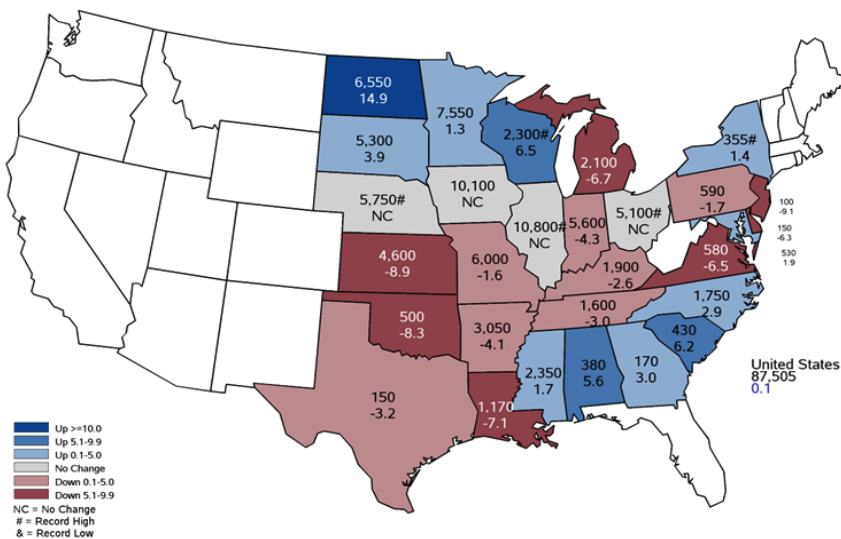
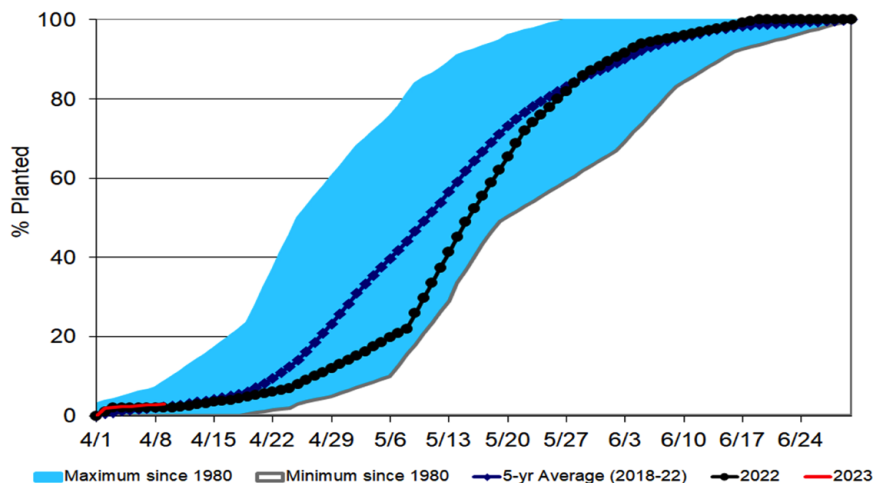


Figure 3. Corn planting progress. Source: USDA-NASS.





Climate change in Iowa

By Don Hofstrand, retired agricultural business specialist

Reviewed by Eugene Takle, retired professor emeritus, Iowa State University

This article is part of our series focused on the causes and consequences of a warming planet.

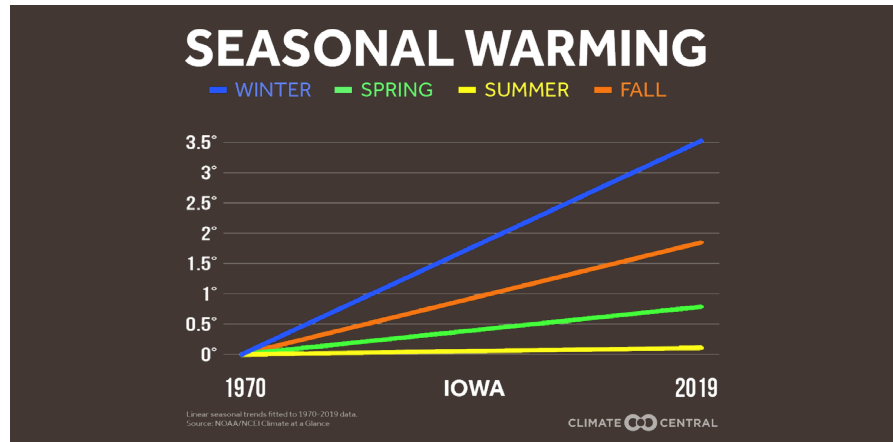
Iowa is warmer. It is approaching 1.5 degrees warmer today than it was in 1988. This does not mean that every year is warmer than the previous one. There is a considerable variation between years, but the overall trend is up.

This small increase in temperature may not seem like it could have a significant impact on climate. However, the difference in Earth's temperature between now and the ice age when glaciers reached down as far as Des Moines is only about 10 to 12 degrees.

Northwest Iowa has warmed the most and Southeast Iowa the least. Minnesota, Wisconsin, Nebraska, and Missouri have all warmed faster than Iowa.

Winters have warmed more than any other season. Falls have warmed more than springs. Summers have essentially remained unchanged, but this is expected to change in the future. Also, nights have warmed faster than days.

The Midwest is projected to see the largest future increases in temperatures in the US. So, Iowa's temperatures will likely ramp up. Five out of every 10 years, a five-day heat wave now averages 90 to 95 degrees in central Iowa.



Source: Climate Central State Trends

By 2050, the average is expected to climb seven degrees to 97 to 102 degrees. Once every 10 years, temperature will spike 13 degrees higher, pushing the five-day heat wave to 103 to 108 degrees. In addition, day-to-day and season-to-season temperature variability is expected to increase.

Iowa's annual precipitation has increased since the beginning of the 20th Century. This is due in large part to warmer waters in the Gulf of Mexico and the fact that warmer air can hold more moisture. Most of the wettest years on record have occurred since 1982. In the future, most of the increase in precipitation will come from wetter springs, with drier or little change in summers. However, summer precipitation will become more variable with longer stretches between rainfall events.

The intensity of rainfall events has also increased. Across the Midwest, very heavy rainfall events increased by 42% from 1958 to 2016. Iowa ranks fourth nationally in the number of floods since 1988. The increase in heavy rainfall events is expected to continue into the future.

Essentially, we are experiencing what the rest of the planet is experiencing. Wet areas are getting wetter, and dry areas are getting drier.

See the [Ag Decision Maker website](https://www.extension.iastate.edu/agdm/energy.html#climate), [extension.iastate.edu/agdm/energy.html#climate](https://www.extension.iastate.edu/agdm/energy.html#climate), for more from this series.



Outside forces cloud investment decision making for pork producers

By Lee Schulz, extension livestock economist, 515-294-3356 | lschulz@iastate.edu

Pork production is a low-margin business. Outside forces—interest rates, inflation, employment rate and consumer incomes, health of the general economy, fiscal policy and monetary policy all influence pork producer profits. Profit expectations drive expansion plans. Outside forces create uncertainty in profit projections.

Pork producers appear to be factoring in those outside uncertainties and tapping the brakes. The March 1, 2023 inventory of all hogs and pigs on US farms is 7.3% smaller than at its last peak of 78.583 million head on September 1, 2019 according to USDA’s latest Quarterly Hogs and Pigs report.

Inflation may push pork and hog prices higher, but inflation and higher interest rates will boost production costs. Even the most highly productive pork producers could end up handling more dollars, but pocketing fewer of them.

Some analysts say easy money policy, federal stimulus spending in response to COVID-19, and rising consumer spending combined with consumers buying now because “it” will cost more later all fuel inflation. Whatever the causes, inflation remains public economic enemy number one.

February 2023’s inflation rate, as measured by the year-over-year change in the consumer price index, was 6.0%. It slowed a tad from January’s 6.4%. While down from the June 2022 peak of 9.1%, inflation is still well above the Federal Reserve’s 2% target rate.

Days of easy credit are over

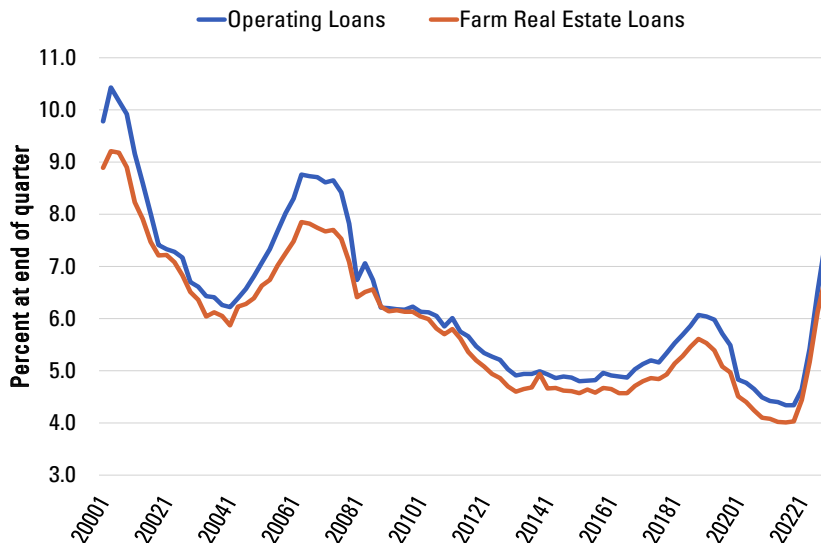
The Fed has been hiking interest rates to ease inflation. The notion is higher interest rates throttle buying power, which reduces upward pressure on the general price level. The Fed indicates that it is not done hiking interest rates.

The Seventh Federal Reserve District is made up of Iowa and most of Illinois, Indiana, Michigan, and Wisconsin. A survey of the District’s banks showed nominal interest rates on new farm operating loans averaged

7.50% as of December 31, 2022 (Figure 1). Farm real estate loans averaged 6.80%. These are the highest rates since the fourth quarter of 2007.

In March, the Food and Agricultural Policy Research Institute (FAPRI) at the University of Missouri released its latest ten-year baseline update for US agricultural markets. FAPRI forecasts suggest the prime rate will remain above the pre-pandemic level through 2032. The prime rate is generally the lowest rate of interest charged by a bank, with other variable rate loans (e.g., credit cards, lines of credit, variable rate mortgages, home equity loans, home equity lines of credit) calculated as a certain amount over prime.

Figure 1. Seventh district agricultural interest rates. Data source: Federal Reserve Bank of Chicago.



Dampening expansion plans

Rising interest rates make investing in land, buildings, machinery, equipment and inventory more expensive. As producers evaluate whether to invest, how much to invest and when to invest to expand production, they analyze the expected rate of return on the investment and the interest rate.

If pork producers think the rate of return on a project will be higher than the interest rate, they will carry out the project. Therefore, producers have more incentives to invest when interest rates are low. In contrast, higher interest rates boost investment costs, which deter investment. Less investment in production may tighten supply, therefore lifting prices and potentially hiking producer profits, but that takes time.

Investing requires capital. Producers can borrow to invest, or use owner's equity. Capital cost is either the cash interest paid if the business has debt, or the interest that would have been earned on equity had the money been invested elsewhere.

Ag attitude toward growth

The Ag Economy Barometer is a collaboration between Purdue University's Center for Commercial Agriculture and the CME Group to provide monthly nationwide measures of the health of the US agricultural economy. Each month, agricultural producers are surveyed to get a feel for monthly economic sentiment.

Seventy-two percent of producers in the February 2023 Ag Economy Barometer survey said it is a "bad time" to make large investments in their farming operation. Just 15% reported it is a "good time" to make such investments.

Of the respondents who said it is a "bad time" to make large investments, 45% said it was because of the rise in prices for farm machinery and new construction, while 27% of respondents chose "rising interest rates" as a primary reason for it being a poor time for making large investments. The percentage of respondents focused on rising interest rates as a key reason has doubled since July 2022 when this question was first included in the Ag Economy Barometer survey.

The February 2023 Ag Economy Barometer survey included a question focusing on farm growth. It asked respondents what annual growth rate they expect for their farm over the next five years. Of survey respondents:

- 33% have no plans to grow.
- 16% plan to exit or retire.
- 19% expect to grow less than 5% annually, up from 18% a year ago and up from 12% in February 2020.
- 22% expect to grow 5% to 10% annually, up from 19% in February 2022, but well below the 29% of February 2016 respondents who expected to grow rapidly.

Hog cycle could stretch

Hog production and price cycles have existed ever since hogs became a major enterprise in US agriculture. Hog cycles are recurring changes in production and/or prices. Cycles are typically several years in length. A complete cycle includes successive years of increase and decrease in either hog production or prices extending from one peak to the next peak (or one trough to the next trough). This is in contrast to seasonal patterns, which are recurring production or price changes that take place within a year.

Hog production cycles exist because hog producers respond to changing economic conditions in the hog business. When hogs have been profitable for a while, producers begin to expand production to take advantage of the expected profit opportunity. Expansion typically continues until larger supplies cause prices to drop to unprofitable levels for most producers.

However, hog prices and profits are not the only hog production cycle drivers. Financial position matters. Sometimes producers see profits ahead and would like to expand, but they cannot until they shore up finances after a series of losses.

Changes in production costs also affect profitability and can contribute to cyclical production trends. Recent sharply higher interest rates boost cash needed to service debt, which may be deterring current expansion

plans. Other outside forces heighten uncertainty, which may also dampen enthusiasm for expansion. Even after producers choose to boost the breeding herd and/or add facilities, biology dictates time needed to get more hogs to market.

Optimism for expansion remains scarce

The inventory of all hogs and pigs on US farms on March 1, 2023 was 72.860 million head (Table 1). This was up 0.2% from March 1, 2022, but down 2.1% from December 1, 2022. Other than March 1, 2022 this is the smallest swine herd since June 1, 2018.

US hog producers intend to have 2.930 million sows farrow during the March-May 2023 quarter (Figure 2). This would be down 1.2% from the actual March-May 2022 sows farrowing and down 3.4% from the same period in 2021. If producers do not change intentions this would be the smallest March-May sows farrowing since 2015. Intended sows farrowing for June-August 2023, at 2.973 million sows, would be down 2.9% from the actual sows farrowing during the same period one year earlier, and down 2.5% from the same period two years earlier. This would be the smallest June-August sows

farrowing since 2014. These are rather pessimistic farrowing intentions.

Pork production is a low-margin business. Rising interest rates boost cash producers need to service debt. Looking back, historically low interest rates from 2012 through 2021 helped spur investment and pork industry expansion. Low financing costs can sometimes cloud the determination as to whether good performance and changes in hog inventories resulted from strong operations or lower debt costs. The next several years will help answer that question.

Table 1. USDA quarterly hogs and pigs report summary. Source: USDA NASS

	United States			Iowa		
	2022	2023	2023 as % of '22	2022	2023	2023 as % of '22
Mar 1 inventory *						
All hogs and pigs	72,689	72,860	100.2	23,100	23,400	101.3
Kept for breeding	6,098	6,127	100.5	900	900	100.0
Market	66,591	66,734	100.2	22,200	22,500	101.4
Under 50 pounds	20,105	20,059	99.8	5,440	5,320	97.8
50-119 pounds	19,030	18,975	99.7	7,150	7,240	101.3
120-179 pounds	14,988	14,973	99.9	5,490	5,630	102.6
180 pounds and over	12,468	12,727	102.1	4,120	4,310	104.6
Sows farrowing **						
Sep–Nov	3,049	3,052	100.1	525	515	98.1
Dec–Feb ¹	2,919	2,910	99.7	475	470	98.9
Mar–May ²	2,967	2,930	98.8	500	490	98.0
Jun–Aug ²	3,062	2,973	97.1	510	505	99.0
Dec–Feb pigs per litter	10.95	11.02	100.6	11.30	11.45	101.3
Dec–Feb pig crop *	31,947	32,058	100.3	5,368	5,382	100.3

[Full USDA report](https://downloads.usda.library.cornell.edu/usda-esmis/files/rj430453j/hm50w529r/7d27b661x/hgpg0323.pdf): <https://downloads.usda.library.cornell.edu/usda-esmis/files/rj430453j/hm50w529r/7d27b661x/hgpg0323.pdf>

* 1,000 head; **1,000 litters; ¹ December preceding year. ² Intentions for 2023.

Commercial slaughter and price forecasts

Table 2 contains the Iowa State University price forecasts for the next four quarters. Prices are for the Iowa-Minnesota producer sold weighted average carcass base price for all purchase types. Basis forecasts along with lean hog futures prices are used to make cash price projections. The table also contains the projected year-over-year changes in commercial hog slaughter.

Figure 2. Quarterly United States sows farrowing and intentions. Data source: USDA-NASS.

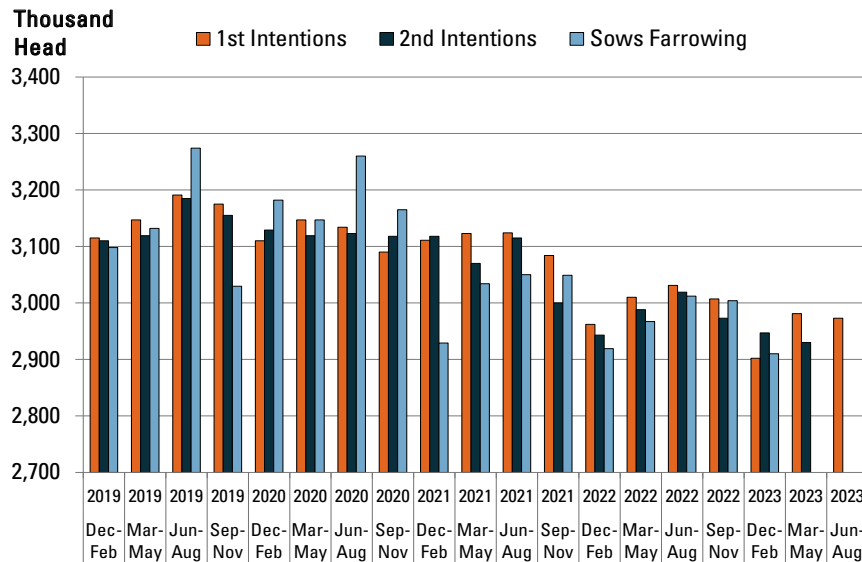


Table 2. Commercial hog slaughter projections and price forecasts, 2023-2024

	Year-over-Year Change In Commercial Hog Slaughter (%)	ISU Model Price Forecast, IA-MN Base Price, All Purchase Types (\$/cwt)	CME Futures (3/31/23) Adjusted for IA-MN Producer Sold Weighted Average Carcass Base Price for All Purchase Types Historical Basis (\$/cwt)
Apr-Jun 2023	-0.12	81-85	82.99
Jul-Sep 2023	-0.10	88-92	90.15
Oct-Dec 2023	0.79	79-83	80.86
Jan-Mar 2024	-2.50	80-84	81.65

Integrated Crop Management News offers timely solutions for growers

In-field answers from crop specialists provided throughout the year

Crop producers and the crop industry can get timely updates on growing-season challenges by subscribing to Integrated Crop Management News, a web service offered by the crops team with Iowa State University Extension and Outreach.

A team of agronomists, plant pathologists, entomologists, weather experts and others collaborate to write timely articles and blogs that are posted to the ICM News website and emailed directly to subscribers.

The information addresses everything from pre-plant to planting concerns, growing season issues, harvest and reflections on the past growing season. Articles are timely and address real-time concerns growers are experiencing.

“Our authors try to incorporate timely, research-based information that helps inform crop producers and the industry of their options related to crop protection, yield and profit,” said Erin Hodgson, crops team lead and extension entomologist at Iowa State. “With farming, there are a lot of things outside of the producers’ control, but we try to offer viable solutions so that producers can make good judgment calls about how they respond.”

To date, nearly 4,600 people subscribe to the ICM News service, and more than 1,600 subscribe to the ICM Blog. Anyone who wants to subscribe can enter their email, on the right side of the ICM News website: <https://crops.extension.iastate.edu/cropnews>.

During peak growing season, Hodgson said it’s common for multiple articles and blogs to be posted throughout the week, and subscribers receive an email each time new content is posted. All subscriptions are free.

The same website that hosts ICM News and blogs also hosts news releases and industry-specific information related to crops, soils, upcoming events and more. One part of the website, called the “Encyclopedia,” provides an encyclopedic explanation of common crop issues, A through Z.

While the primary goal is to inform producers and the industry, Hodgson said the content also sparks ideas for media and education.

The information is intended to be shared, and links to ICM news articles are strongly encouraged. Articles may be republished without further permission if published as written and if credit is given to the author, Integrated Crop Management News, and Iowa State University Extension and Outreach. If articles are used in any other manner, permission from the author is required.

For more information about ICM News or related content, Hodgson can be reached at 515-294-2847 or ewh@iastate.edu.

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